

PROVEN

IUD GUIDELINES *for* FAMILY PLANNING SERVICE PROGRAMS

A PROBLEM-SOLVING REFERENCE MANUAL

editors

Noel McIntosh
Barbara Kinzie
Ann Blouse

JHPIEGO
CORPORATION

IUD GUIDELINES
for **FAMILY PLANNING**
SERVICE PROGRAMS

A PROBLEM SOLVING REFERENCE MANUAL

editors

Noel McIntosh
Barbara Kinzie
Ann Blouse



1615 Thames Street
Baltimore, Maryland 21231

IUD GUIDELINES
for FAMILY PLANNING
SERVICE PROGRAMS

A Problem-Solving Reference Manual

Copyright 1992, JHPIEGO Corporation. The material in this publication can be used or adapted freely by anyone.

Published in the United States of America

by

JHPIEGO Corporation
1615 Thames Street, Suite 200
Baltimore, Maryland 21231

To purchase copies of this manual, contact
JHPIEGO Materials Control Division (telephone 410-614-0538)

ACKNOWLEDGEMENTS

This manual was developed to meet the growing need of family planning trainers and service providers for concise, up-to-date information on the newer copper-bearing IUDs, specifically the Copper T 380A IUD. These guidelines were adapted from recent publications developed for The Population Council by the Program for Appropriate Technology in Health (PATH) and the Program for International Training in Health (INTRAH), the Johns Hopkins Center for Communication Programs (Population Information Program), JHPIEGO and the World Health Organization. Specific publications which were most helpful were: *The Copper T 380A IUD: A Manual for Clinicians* (The Population Council and PATH); *Guidelines for Clinical Procedures in Family Planning and Sexually Transmitted Diseases: A Reference for Trainers* (INTRAH); *Population Reports*, Series J, 35 and 36, 1987 (PIP), *Infection Prevention for Family Planning Service Programs* (Tietjen, LG et al) and *Mechanism of Action, Safety and Efficacy of Intrauterine Devices* (WHO). Throughout this manual, reference to these documents is specifically cited within the text or acknowledged at the end of each chapter.

Although writing these guidelines was the responsibility of Noel McIntosh and Barbara Kinzie, other staff at JHPIEGO provided much needed editing and suggestions in preparing initial drafts. In addition, special thanks go to the Directors of JHPIEGO's affiliated training centers in Egypt (Dr. Roushdi Ammar), Morocco (Dr. M. Tahar Alaoui), the Philippines (Dr. Virgilio Oblepias) and Thailand (Dr. Kobchitt Limpaphayom), who generously gave of their time as reviewers. In addition, we wish to express our sincere appreciation to the Thailand training center staff who field-tested the manual and other IUD training materials and evaluated the humanistic training approach (i.e., the use of anatomic models to develop skill acquisition and skill competency) on which these guidelines are based. Finally, sincere thanks to the JHPIEGO Communications and Publications staff who directed the word processing and assembly of the manuscript and production of the manual.

Financial support for this publication was provided by the United States Agency for International Development (USAID) Missions in Cairo, Egypt and Nairobi, Kenya, and by the JHPIEGO Cooperative Agreement DPE-3045-A-00-7004-00 with the Agency for International Development. The views expressed in these guidelines are those of the editors and do not necessarily reflect those of USAID.

TABLE OF CONTENTS

	Preface	viii
ONE	INTRODUCTION TO INTRAUTERINE DEVICES	
	Background	1-1
	Types of IUDs	1-2
	Description of the Copper T 380A	1-2
	Mechanism of Action	1-3
	Effectiveness	1-3
	Continuation	1-5
	Shelf Life and Effective Life	1-7
	References	1-8
TWO	COUNSELING	
	Background	2-1
	Client Rights	2-1
	Counseling Process	2-2
	Types of Counseling	2-3
	Rumors and Facts	2-4
	Who Should Do Counseling	2-6
	Being an Effective Counselor	2-6
	Tips on Good Counseling	2-7
	Counseling and Continuation	2-7
	Client Screening	2-8
	References	2-8
THREE	INDICATIONS AND PRECAUTIONS	
	Background	3-1
	Indications for Use	3-2
	Precautions for Use	3-3
	References	3-6
FOUR	CLIENT ASSESSMENT	
	Background	4-1
	Medical History	4-1
	Physical Examination	4-2
	Laboratory Studies	4-3
	References	4-3

FIVE	IUDS AND GENITAL TRACT INFECTIONS (GTIS)	
	Background	5-1
	What are Genital Tract Infections (GTIs)	5-1
	Importance of GTIs	5-2
	Screening for GTIs	5-2
	Problem-Oriented Approach to Managing GTIs	5-3
	Diagnosis of GTIs	5-4
	Treatment	5-4
	References	5-10
SIX	INFECTION PREVENTION	
	Background	6-1
	Definitions	6-1
	Which Process to Use	6-2
	Protective Barriers	6-5
	Handwashing and Gloves	6-5
	Antisepsis	6-6
	Processing Used (Soiled) Instruments, Gloves and Other Items	6-7
	Infection Prevention Tips: IUD Insertion	6-12
	Infection Prevention Tips: IUD Removal	6-12
	Disinfecting Bulk-Packaged IUDs and Other Problems	6-13
	Tarnishing	6-13
	Maintenance of a Safe Environment	6-14
	References	6-15
SEVEN	IUD INSERTION AND REMOVAL	
	Background	7-1
	Guidelines for IUD Insertion	7-1
	IUD Replacement and Removal	7-9
	References	7-11
EIGHT	POST-INSERTION AND FOLLOW-UP CARE	
	Background	8-1
	Client Instructions	8-1
	Follow-up Care	8-5
	References	8-6

NINE	MANAGEMENT OF SIDE EFFECTS AND OTHER HEALTH PROBLEMS	
	Background	9-1
	Pregnancy	9-1
	Extrauterine (Ectopic) Pregnancy	9-2
	Pelvic Inflammatory Disease (PID)	9-2
	Uterine Perforation, Embedding and Cervical Perforation	9-2
	References	9-9
TEN	ORGANIZING AND MANAGING AN IUD SERVICE	
	Background	10-1
	Facilities	10-1
	Client Flow	10-2
	Follow-up and Referral	10-4
	Personnel Requirements	10-5
	Staffing Patterns	10-6
	Supervision	10-6
	Materials Requirements	10-7
	Relative Costs of Different Methods	10-7
	Equipment and Instruments	10-8
	Ordering and Storing IUDs	10-9
	Record Keeping	10-10
	Characteristics of Successful Programs	10-10
	Additional Information	10-11
	References	10-12

APPENDICES

A.	FRAMEWORK FOR FAMILY PLANNING COUNSELING	
	Section One: Framework for Family Planning Counselling	
	The Counseling Process in the Family Planning Service Setting	A-2
	Helping Clients Derive the Most From Counseling	A-3
	Basic Principles	A-3
	Essential Content of Family Planning Counseling	A-4
	Section Two: How to Hold Group Discussions	A-6
	Section Three: Steps in Family Planning Counseling	A-7
	References	A-8

B.	SAMPLE SCREENING CHECKLISTS FOR IUD USE	
	Indications and Precautions	B-1
	Is the IUD Medically Appropriate for Your Client?	B-2
C.	SAMPLE CLIENT ASSESSMENT CHECKLIST	
	Family Planning History Checklist for Potential IUD Users	C-1
	Physical Examination Checklist for IUD Users	C-5
	Speculum Examination Checklist for IUD Users	C-6
	Bimanual Examination Checklist for IUD Users	C-7
D.	EVALUATION OF CLIENTS WITH POSSIBLE GTIS	
	Client Assessment	D-1
	Supplementary GTI History	D-1
	GTI Physical Examination	D-1
E.	GTI FLOWCHARTS	
	Vaginal Discharge: Vulvovaginitis	E-2
	Diagnostic Tips	E-3
	Family Planning Considerations	E-3
	Vaginal Discharge: Cervicitis	E-4
	Diagnostic Tips	E-5
	Family Planning Considerations	E-5
	Urethral Discharge: Urethritis	E-6
	Diagnostic Tips	E-7
	Family Planning Considerations	E-7
	Genital Ulcers and Buboos	E-8
	Diagnostic Tips	E-9
	Family Planning Considerations	E-9
	Pelvic Inflammatory Disease	E-10
	Diagnostic Tips	E-11
	Family Planning Considerations	E-11
F.	GTI TREATMENT GUIDELINES	
	Vaginal or Urethral Discharge	F-1
	Genital Ulcers and Buboos	F-2
	Lower Abdominal Pain	F-3

G.	PROCESSING REUSABLE GLOVES	
	How to Decontaminate and Clean Rubber Gloves Before High-Level Disinfection or Sterilization	G-1
	How to Sterilize Gloves	G-1
	How to High-Level Disinfect Gloves	G-3
	Accidental Contamination of Sterile or HLD Gloves	G-4
	Regloving After Contamination	G-4
	References	G-5
H.	INFECTION PREVENTION PROCESSES FOR INSTRUMENTS AND OTHER ITEMS	
	Decontamination	H-1
	Cleaning	H-2
	High-Level Disinfection	H-2
	Sterilization	H-7
	References	H-8
I.	CONTENTS OF IUD INSERTION/REMOVAL KIT (MEDICAL KIT NO.2) PROVIDED BY USAID	
J.	INSTRUCTIONS FOR LOADING THE COPPER T 380A IN THE STERILE PACKAGE	
K.	PASSING A UTERINE SOUND	
	Purpose of Sounding the Uterus	K-1
	Procedure for Sounding the Uterus	K-1
L.	INSERTING THE LOADED COPPER T 380A IUD	

TABLES AND FIGURES

Table 1-1	Intrauterine Devices (IUDs): Estimated Use Worldwide in Selected Countries	1-1
Figure 1-1	Copper T 380A IUD	1-2
Figure 1-2	Copper T 380A IUD Inside the Uterus	1-3
Figure 1-3	Estimated Range of Failure Rates for Major Contraceptive Methods Under Use Worldwide	1-4
Table 1-2	Cumulative Termination and Continuation Rates per 100 Copper T 380A Users	1-5
Table 5-1	Clinical Features (Signs and Symptoms) of Specific GTIs	5-5
Table 6-1	Decontamination, High-level Disinfection and Sterilization	6-3
Figure 6-1	Processing Instruments, Gloves and Other Items	6-4
Table 6-2	Infection Prevention Guidelines for IUD Insertion and Removal	6-9
Table 6-3	Infection Prevention for IUD Services: Steps in Processing Instruments and Equipment	6-10
Figure 7-1	Instruments and Equipment for IUD Insertion	7-2
Table 7-1	Safe and Gentle IUD Insertion Method	7-5
Table 7-2	Steps in Removing an IUD	7-10
Figure 7-2	Instruments to Retrieve Missing Strings from the Uterine Cavity	7-11
Figure 8-1	Sample Information Card for IUD User	8-4
Table 9-1	Management of Side Effects and Other Health Problems	9-3
Figure 10-1	Client Flow for IUD Services	10-3
Figure 10-2	Potential Links Between the Client, the Service Delivery Channels and Referral Facilities	10-4
Table 10-1	Cost Estimates for Contraceptives	10-8

Figure D-1	Anatomy of the Perineum	D-2
Figure D-2	Performing a Speculum Examination	D-3
Figure D-3	Performing a Bimanual Examination	D-4
Figure G-1	Gloves with Gauze Inside Glove and Under Fold	G-1
Figure G-2	Tips to Help Avoid Glove Problems	G-2
Table H-1	Preparing a 0.5% Chlorine Solution from Bleach	H-1
Table H-2	Preparing and Using Chemical Disinfectants	H-5

PREFACE

The purpose of this manual is to provide clinicians (physicians, nurses and midwives) essential information on how to use IUDs, specifically the Copper T 380A IUD, safely. The material is arranged sequentially according to the usual way in which clients are cared for - starting with general counseling and ending with management of common side effects and other problems. Moreover, it is provided in concise packets for ease in learning and recall. Finally, key points are repeated in several sections to emphasize their importance.

Specific objectives are to:

- Describe the basic process of counseling clients about using the IUD
- Explain the indications and precautions for IUD use
- Define the items necessary to include in the assessment of a potential IUD acceptor, including medical history, physical examination and simple laboratory testing (if needed)
- Describe how to screen and evaluate potential IUD acceptors for sexually transmitted genital tract infections (GTIs)
- Detail easy-to-use, inexpensive infection prevention practices which minimize disease transmission for clients and health care staff.

- Describe a step-by-step procedure for the safe and gentle insertion of the Copper T 380A
- Describe the important elements in the follow-up of IUD users
- Provide a guide to the management of possible side effects and complications of IUD use
- Describe a step-by-step procedure for IUD removal
- Describe the management skills needed to organize and provide quality IUD services

Successful IUD programs are those in which the staff exhibit:

- Good clinical judgment in selecting acceptors
- Care, sensitivity and thoroughness in informing the client about IUDs and common side effects
- Skill in inserting (and removing) the IUD
- Knowledge and ability to recognize real or potential problems
- Capability to take appropriate clinical action in response to these problems, including knowing when (and where) to refer clients with serious complications

ONE

INTRODUCTION TO INTRAUTERINE DEVICES

IUDs, an increasingly popular method of contraception, have been used for over 30 years. Women throughout the world have found them to be effective, safe and convenient. Currently IUDs are the most commonly used reversible, long-acting contraceptive method in the world.

BACKGROUND

At present it is estimated that over 100 million women are now using IUDs, of whom nearly 40% are in China (Table 1-1). By contrast, in other areas of the world IUD

use is much less common, ranging from about 6% in some developed countries to 0.5% in sub-Saharan Africa.

TABLE 1-1. Intrauterine Devices (IUDs): Estimated Use Worldwide in Selected Countries

Country	% Married Women 15-44 Years of Age Using IUDs	Year	% Married Women with Knowledge of IUDs	Laws or Regulations Relating to IUDs	IUD Most Commonly Inserted
China	32	1985	-	Non-physicians may insert	Stainless steel ring
Indonesia	13	1987	88	Midwives may insert	Lippes Loop
Mexico	11	1987	87	Non-physicians may insert	Copper T 220C
Turkey	9	1986	75	Midwives may insert	Lippes loop
Egypt	8	1986	71	Physicians only	Copper T 380A
United Kingdom	7	1983	-	Midwives may insert	MultiLoad
United States	5	1982	-	Midwives may insert	Copper T 380A
Japan	4	1986	-	Physicians only	Stainless steel ring
India	4	1986	43	Midwives may insert	Copper T 200
Pakistan	1	1985	64	Physicians only	Copper T 380A
Brazil	1	1986	67	Physicians only	Copper T 380A
Nigeria	1	1987	4	Nurse-midwives may insert	Copper T 380A
Bangladesh	1	1985	34	Non-physicians may insert	Copper T 380A
World	10	1987	-		

Source: Adapted from Hatcher R et al: *Contraceptive Technology: International Edition*. New York, New York, Irvington Publishers, 1989.

The first modern IUDs (the Lippes Loop and the Margulies Spiral) appeared in the early 1960s. They were made of polyethylene, a biologically inert plastic. In the late 1960s, researchers discovered that adding copper to a plastic IUD frame increased its effectiveness. The first copper IUDs - the Cu 7 and Tcu 200 - were smaller than the all-plastic devices and caused fewer side effects, but they were just as effective in preventing pregnancy. The newest copper IUDs are even more effective, longer-lasting - at least eight years for the Copper T 380A (TCu 380A) - and have even fewer side effects. Now that these improved IUDs are becoming widely available, attention is shifting toward identifying appropriate IUD users and providing quality counseling and services to maximize safety and acceptability.

TYPES OF IUDS

Although in the past IUDs have been made in various shapes and of different materials, currently there are only three types of IUDs available worldwide:

- Inert - made of plastic (Lippes Loop) or stainless steel (the Chinese ring)
- Medicated with a steroid hormone such as the progesterone-containing Progestasert[®] and the newly-developed levonorgestrel-containing LevoNova[®]
- Copper-bearing, which include the TCu 380A, TCu 200C, Multiload (MLCu 250 and 375) and the Nova T

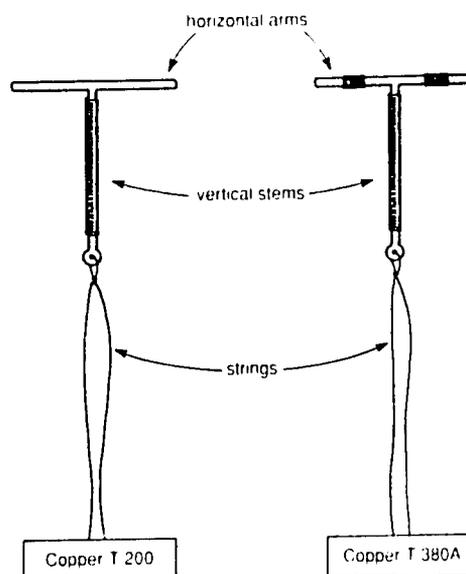
The United States Agency for International Development (USAID), one of the major international donors of IUDs, began supplying the TCu 380A in 1985. Since

1987 USAID has been supplying only this device to its programs because of its greater effectiveness, ease of insertion and removal, wide margin of safety and low cost. By contrast, the International Planned Parenthood Federation (IPPF) and some other donor agencies provide the Nova T and MultiLoad as well as the TCu 380A. Except in a few countries, notably China, where the stainless steel ring is the most widely used IUD, the TCu 380A is likely to become the predominant IUD used in most country programs.

DESCRIPTION OF THE COPPER T 380A

The Copper T 380A IUD looks like the letter "T". This design has proven to be highly effective, safe and adaptable. There are small copper bands on each arm of the IUD and the stem of the T is wound with copper wire.

Figure 1-1: Copper T 380A IUD

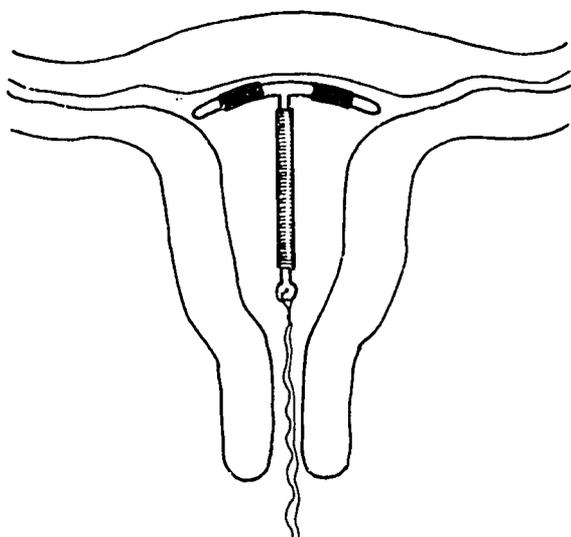


Source: The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989

Two factors which account for the greater effectiveness of the Copper T 380A are:

- No other currently available IUD has as large a surface area of copper (380 mm²).
- The copper collars mounted on the arms ensure that copper will be released high in the fundus of the uterus (see **Figure 1-2**).

Figure 1-2. Copper T 380A IUD Inside the Uterus



Source: The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989

Like other copper-bearing IUDs, the TCu 380A is inserted by the **withdrawal technique**. Therefore, clinicians familiar with inserting other copper IUDs will have no problem learning to insert the TCu 380A with practice. By contrast, those learning to insert an IUD for the first time or those experienced only in inserting the Lippes Loop (**push-in technique**) will require more

supervised practice before they begin inserting the TCu 380A.

MECHANISM OF ACTION

Until quite recently it had been thought that IUDs act only at the uterine level, either to prevent implantation or to destroy developing embryos in the uterus before implantation. Scientific evidence from a number of studies now indicates that copper-bearing IUDs act primarily as contraceptives, preventing fertilization (blocking the woman's egg and the man's sperm from joining) and decreasing the number of sperm reaching the Fallopian tube and inactivating them. Also, if the IUD contains a progestin, sperm are blocked from passing through cervical mucus and are destroyed by white blood cells (leukocytes) present in the IUD-altered uterine fluid. Thus, although it is unlikely that a single mechanism of action accounts for the antifertility effect of IUDs, their primary mode of action clearly is interference with fertilization, rather than with implantation. Prevention of implantation resulting from biochemical and histological changes in the endometrium plays only a minor role in their action - especially with the copper-releasing IUDs.

EFFECTIVENESS

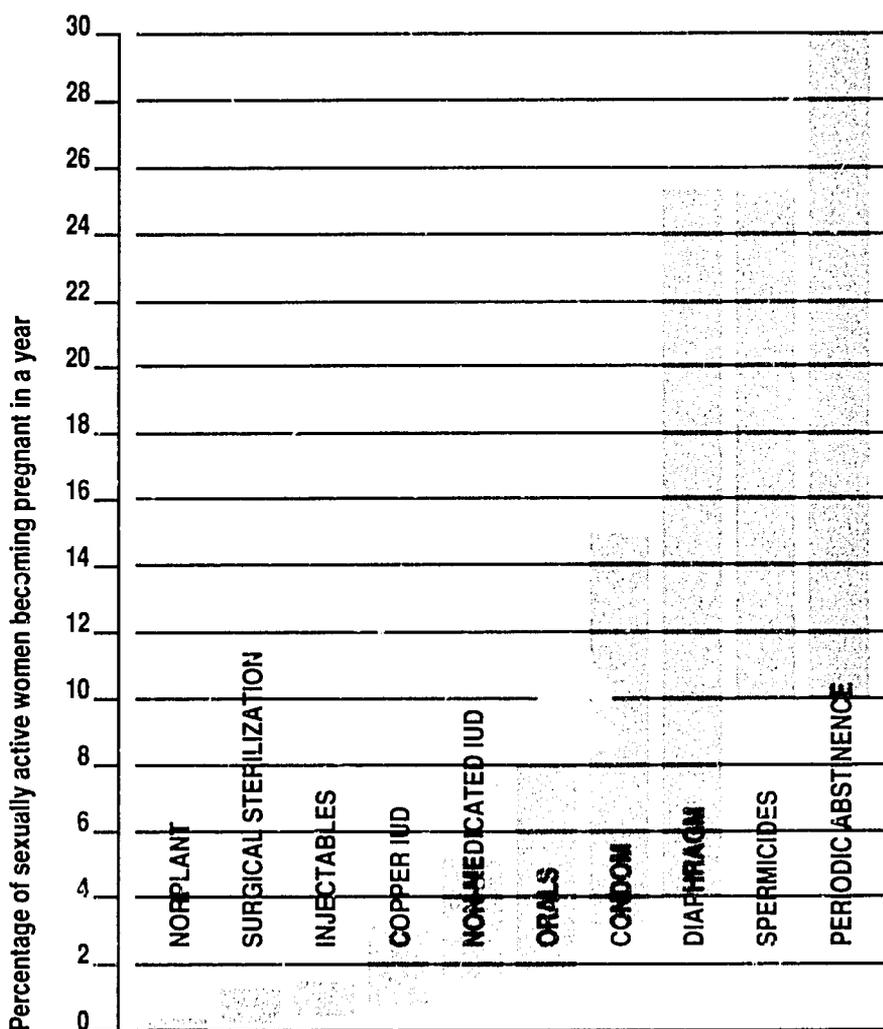
The effectiveness of a contraceptive method is usually the most important factor both for the individual (or couple) trying to choose a method and for the family planning provider involved in counseling them. Potential users also need to know how reliable a given method is, while family planning providers

need to know how much they can depend on the various methods to prevent pregnancies.

Presenting meaningful information regarding failure (pregnancy) rates for couples choosing a contraceptive method is difficult. For valid comparisons to be made among

the methods, failure rates must be presented both for couples who use the method consistently and correctly and for typical users of the method. Data presented in this way for the first year of use for a number of contraceptive methods are shown in Figure 1-3.

Figure 1-3. Estimated Range of Failure Rates for Major Contraceptive Methods Under Use Worldwide



Source: Adapted from Mauldin WP et al: *Prevalence of Contraceptive Use*. New York, New York, The Rockefeller Foundation, 1986.

In general, non-medicated IUDs, such as the Lippes Loop (size D) and the stainless steel ring, have the highest first-year failure rates, 2-6 per 100 women. In contrast, the copper-releasing IUDs (TCu 380A and MLCu 375), which have the largest surface areas of copper, are the most effective with rates of 1 or less. As shown in **Table 1-2**, the first year and cumulative pregnancy rate at eight years are 0.6 and 2.3 for the Copper T 380A. Finally, those IUDs with less surface area of copper (TCu 200, TCu 220C and TCu 7) and the progesterone-releasing IUD (Progestasert) have intermediate-level rates of 1-3 per 100 at one year. (By contrast, the levonorgestrel IUD, which currently is approved only in Finland, has a much lower first year failure rate - approximately 1.) Of the hormone-

releasing IUDs, only the Progestasert is approved by the USFDA.

CONTINUATION

According to large multicenter trials, from 70 to 90% of women were still using their IUDs one year after insertion. As shown in **Table 1-2**, the use effectiveness of the Copper T 380A calculated as gross continuation rates through eight years of experience is 28%. These clinical data were derived from two separate clinical trials of the Copper T 380A; one study conducted in the U.S. representing 3,536 acceptors and the second study sponsored by the World Health Organization using 13 centers in nine countries and involving 1,396 acceptors.

Table 1-2: Cumulative Termination and Continuation Rates per 100 Copper T 380A Users

RATE OR ITEM	YEAR							
	1	2	3	4	5	6	7	8
Pregnancy	0.6	0.9	1.5	1.6	1.9	2.1	2.1	2.3
Expulsion	5.7	8.0	9.4	10.5	10.8	10.8	11.1	12.5
Bleeding/Pain	11.9	20.6	26.1	28.6	31.3	33.0	34.4	36.0
Other Medical	2.5	4.5	5.9	7.4	7.5	7.9	8.4	9.0
Continuation	76.8	60.2	48.9	42.1	37.6	36.6	31.7	28.5
No. of Women								
At start of year	4932	3151	2020	1129	721	626	570	446
At end of year	3151	2020	1123	721	626	570	446	297

Source: The Population Council. New Drug Application (NDA 18-680), October 1990. Approved August 13, 1991.

Continuation rates vary markedly between different populations and centers. Increased menstrual bleeding, often with lower abdominal discomfort (pain), is the most common reason for removing an IUD. Approximately 4 to 15% of women stop using IUDs for this reason during the first year. Rates of removal for bleeding and pain are lower in older women and those with children.

As shown in **Table 1-2**, nearly 12% of users in this large study discontinued the IUD for this reason during the first year and a total of 36% by the end of the eighth year. Another medical problem that may lead to removal is persistent/severe anemia (Hgb less than 9 gm/dl or Hct less than 30%). Whether IUDs increase the risk of anemia is uncertain. Because an estimated 40% of nonpregnant women in developing countries are anemic, however, the increased bleeding associated with the copper IUD is a cause for concern. By contrast, progesterone-releasing IUDs, such as the Progestasert and LevoNova, actually decrease menstrual bleeding.

It is important to remember that with all IUDs, abnormal bleeding and pain may **not** be due to the IUD itself, but to pelvic inflammatory disease (PID), ectopic pregnancy or other conditions. Therefore, the health care provider should consider all conditions that might cause bleeding and pain before attributing them to the IUD.

Other reasons for removal are **spontaneous expulsion, pregnancy and infection**. After IUD insertion, uterine contractions can push the device downward, causing partial or complete expulsion. Expulsion rates vary from less than one to more than 10 per 100 women in the first year of use. In general, inert IUDs, because they are larger, are

expelled more often than copper devices. Most expulsions occur in the first year and especially during the first three months after insertion. Because undetected partial or complete expulsion can lead to unplanned pregnancy, IUD users should know **how** to check for the IUD strings to make sure that the device is still in place.

Several factors influence the chances of expulsion. Younger women and women who have never been pregnant or had children are more likely to expel their IUDs. Also, correct insertion, with the IUD placed high in the fundus, is thought to reduce the chances of expulsion.

During the first year of use, pregnancies, both intrauterine and ectopic, account for 1 to 2% of IUD removals, and pelvic infection, approximately 2 to 6%. Spontaneous abortion is the most frequent complication of pregnancy with an IUD in place. Some 50 to 60% of uterine pregnancies spontaneously abort if the IUD is not removed. This is 2 ½ to 5 times more frequent than the rate for other pregnant women. Septic (infected) second trimester spontaneous abortion - a rare but life-threatening event - is 26 times more common in women whose IUDs are left in place than in women not using IUDs at the time of conception, according to a U.S. study.

Regarding ectopic pregnancy, when the risk is given in relation to 1,000 sexually active, non-pregnant, non-contracepting women, which is the appropriate control group, then IUD users with inert or copper-releasing devices have a **reduced risk**. However, if the risk is given for the number of ectopics expected in 1,000 pregnancies, then IUD users have a slightly higher risk. What this means is that if a woman becomes

pregnant with an IUD in place, she is somewhat more likely to have an ectopic pregnancy. But, because she is less likely to become pregnant - less than 1 chance in 100 - the overall risk of pregnancy, including an ectopic, is lower. In fact, recent studies with IUDs containing more than 250 mm² of copper (TCu 380A and MLCu 375) have shown the ectopic pregnancy rate for users to be lower than for controls (sexually active, non-pregnant, non-contracepting women).

In general, women using IUDs are about twice as likely to develop **pelvic inflammatory disease** (PID) as those using no contraception. This increased risk of PID, however, occurs mainly during the first four months after insertion, and thereafter only among women exposed to sexually transmitted genital tract infections (GTIs). Furthermore, according to a recent study by Family Health International, which involved 10,000 women in 23 countries, there is no significant link between use of copper-bearing IUDs and PID for women **not exposed** to sexually transmitted genital tract infections (GTIs) or other STDs. Finally, and most importantly, recent data indicate that the risk of PID does not increase with long-term use.

IUD Use and the Risk of AIDS. While the increased risk of PID in IUD users exposed to STDs is well established, at present there is no evidence that IUD users may be at increased risk for getting HIV, the AIDS virus (i.e., the possibility that the IUD itself could be considered a risk factor for transmitting HIV to the woman). Because IUDs do not protect women who are at risk for STDs, including HIV, IUD users should use a barrier method (condoms) with a spermicide to minimize the risk of STDs.

Uterine perforation is a rare (less than 1 per thousand insertions) but potentially serious complication of IUD use. Perforations are associated almost exclusively with poorly performed insertions and are inversely related to the skill and experience of the health provider inserting the IUD (i.e., inexperienced or poorly trained clinicians have the highest rates).

In summary, use of an IUD, such as the Copper T 380A, provides highly effective protection against pregnancy. When compared with women who use other reversible methods of contraception, those who use IUDs have the lowest number of deaths directly attributable to its use and to the consequences of unwanted pregnancy.

SHELF LIFE AND EFFECTIVE LIFE

Each presterilized Copper T 380A IUD insertion package has a four-year shelf life. This means that unopened packages are guaranteed to remain sterile until the expiration date which is printed on the identification card and on the side of the box containing the packages. After the shelf life has expired, the IUD should be discarded.

Sometimes the color of the copper on the arms and stem of the Copper T 380A IUD darkens a bit. Do not be concerned if this happens. **Copper T 380A IUDs with dark-colored copper are safe to use and are still sterile.** (See Chapter 6 for discussion of tarnishing.) When the copper becomes dark, it does not mean that the IUD has become contaminated. The IUD can become contaminated only if the package is torn or opened or if the shelf life has expired. If you think that the IUD may be contaminated, use another Copper T 380A IUD from an unopened, sterile package.

The Copper T 380A IUD recently has been approved for contraceptive use for up to eight years (effective life) by the United States Federal Drug Administration. Originally the Copper T 380A was approved for only four years. The extension is based on new data from a multinational study on the long-term use of the Copper T 380A and was submitted to

the FDA by The Population Council, developer of this IUD. This study is expected to continue until women have used the devices for 10 years. Once additional data on the long-term use of the TCu 380A IUD is analyzed, the effective life may be increased further. Thus, the Copper T 380A IUD represents one of the most effective long-term, reversible methods of contraception currently available.

REFERENCES

Center for Communication Programs (Population Information Program): IUDs - a new look. *Population Reports Series B(5)*, 1988.

Champion C et al: A three-year evaluation of the TCu-380Ag and multiload Cu-375 intrauterine devices. *Contraception* 38(6): 631-9, 1988.

Chi I-C: An evaluation of the levonorgestrel-releasing IUD: its advantages and disadvantages when compared to the copper-releasing IUDs. *Contraception* 44(6): 573-588, 1991.

Family Health International: Use of IUDs in developing countries: a comparative study. *Network* 12(2), 1991.

Farley TM et al: Intrauterine devices and pelvic inflammatory disease: an international perspective. *Lancet* 339(8796):785-8, 1992.

Hatcher R et al: *Contraceptive Technology: International Edition*. New York, New York, Irvington Publishers, 1989.

Parker MW et al: *Prevalence of Contraceptive Use*. New York, New York, The Rockefeller Foundation, 1986.

The Population Council: *USFDA extends effective use of Copper T 380A from six to eight years*. News Release, October 7, 1991.

The Population Council and the Program for Appropriate Technology in Health (PATH): *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.

Sivin I: IUDs are contraceptives, not abortifacients: a comment on research and belief. *Studies in Family Planning* 20:355-359, 1989.

Sivin I, Schmidt F: Effectiveness of IUDs: a review. *Contraception* 36: 55-84, 1987

World Health Organization (WHO): *Mechanism of Action, Safety and Efficacy of Intrauterine Devices*. Geneva, WHO, 1987 (Technical Report Series 753).

World Health Organization (WHO): *Study 77915* Geneva, WHO, 1988.

TWO

COUNSELING

BACKGROUND

There are various reasons why individuals and couples decide to start, continue or stop practicing family planning. Some people may wish to delay the birth of their first child, while others may want to space the birth of their children, and some may want to ensure that only a desired number of children are born. There is another group of people who may wish to use family planning services not so much for protection from unplanned or unwanted pregnancy, but for other reasons, including achieving pregnancy or for the protection of their reproductive and sexual health.

CLIENT RIGHTS

Any member of the community who is of reproductive age should be considered a potential client of family planning services. All individuals in the community have a right to information about family planning for themselves and their families, regardless of their ethnic origin, socio-economic status, religion, marital status or political belief. All persons also have a right to decide freely whether or not to practice family planning.

Family planning programs should assist people in the practice of informed free choice by providing unbiased information, education and counseling, as well as an adequate range of contraceptive methods. Clients should be able to obtain the method they have decided to use provided the method is available.

A client's concepts of acceptability and appropriateness change with circumstances. Therefore, the client has the right to decide when to start, stop or switch methods.

Clients also have the right to discuss their concerns in an environment in which they feel confident. The client should be aware that her conversation with the counselor or service provider will not be listened to by other people.

When a client is undergoing a physical examination it should be carried out in an environment in which her right to bodily privacy is respected. The client's right to privacy also includes the following aspects related to quality of services:

- When receiving counseling or undergoing a physical examination, the client should be informed about the role of each individual inside the room (e.g., service providers, individuals undergoing training, supervisors, instructors, researchers, etc.).
- A client should know in advance the type of physical examination which is going to be undertaken. The client also has a right to refuse any particular type of examination if she doesn't feel comfortable with it.

A client should feel comfortable when receiving family planning services. To a certain extent this is related to the adequacy of service delivery facilities (e.g., proper ventilation, lighting, seating and toilet facilities). Moreover, the time the client spends at the premises to receive requested services should be reasonable.

Counseling

The service provided to a client should not be discontinued unless a decision is made jointly between the provider and the client. In particular, a client's access to other services should not depend on the continuation or refusal of contraceptive services. Additionally, referral and follow-up are two other important aspects of a client's right to continuity of services.

Finally, the client has a right to express her views about the service she receives. Her opinions on the quality of services, either thanks or complaint, together with her suggestions for changes in the service provision, should be viewed positively in a program's ongoing effort to monitor, evaluate and improve its services.

COUNSELING PROCESS

Counseling is a vital, though often poorly performed, component of family planning services that helps clients arrive at an informed choice of reproductive options, including pregnancy and contraceptive use. If the client chooses to use a family planning method, counseling also should help the client select a method she is satisfied with and prepare the client to use the method effectively.

Counseling is an ongoing process integrated into all aspects of family planning services. The medical and technical information important to effective counseling should not just be presented and discussed at one point in the provision of services. Rather, good counseling techniques should be applied and appropriate technical information provided and discussed in an interactive and culturally appropriate manner throughout the client's visit.

Counseling enables the client to make a voluntary informed choice. Moreover, clients who have made an informed choice of method are more likely to be satisfied with it and, by talking about their positive experience, become the most effective means of promoting it.

To effectively counsel clients, health workers must be properly informed about the contraceptive methods offered and potential users must be able to make an informed choice from the methods available. Information should be given to aid client choice, **not to persuade, press or induce a person to use a particular method.** Furthermore, the decision to refuse a method offered must be based on adequate information just as much as a decision to accept it. This implies an understanding not only of the effectiveness of that method, but also of the risks involved and the alternative choices available. To achieve this objective, a variety of interpersonal skills are essential. All health workers dealing with family planning clients must be trained in counseling techniques and appropriate educational materials must be produced for both for literate and non-literate clients.

In reviewing contraceptive alternatives with clients, all available contraceptive methods should be discussed. Health workers should be aware of a number of factors that may be of relevance, depending on the method in question. These include:

- Reproductive goals of the woman (spacing or timing births)
- Subjective factors associated with the use of any services required, and the time, travel costs, pain or discomfort likely to be experienced

- Accessibility and availability of other products that may have to be procured to use the method
- Advantages and disadvantages of the method
- Reversibility
- Long- or short-term side effects
- Asking questions in such a way that the client is not simply reduced to answering "yes" or "no"
- Ensuring that control of the discussion is not entirely in the hands of the health worker

Family planning counseling is a function that should be **integrated** into all phases of the client's interaction with clinic staff. (See **Appendix A.1** for details of the counseling process.)

TYPES OF COUNSELING

Several types of counseling are needed by IUD users. Because the information preferably should come from more than one source, clinic staff need to work as a team.

To encourage the client to express her views, several verbal and non-verbal techniques that may be used are:

- Listening attentively when the client speaks
- Nodding (or other non-verbal gestures as appropriate) to encourage the client to continue
- Paraphrasing what the client says to make it more specific but without changing its meaning
- Reflecting the feelings expressed by the client back to her in a non-judgmental way

Initial counseling (or education) prior to a decision on IUD use is intended to familiarize the client with **all** contraceptive methods and other health care services provided by the clinic. When objectively provided, initial counseling helps clients select an appropriate method of contraception.

Counseling in waiting areas with individuals or groups provides:

- The right atmosphere for services through a warm and personalized welcome
- Education about all available contraceptive methods
- Education about the effectiveness of breastfeeding as a contraceptive method for postpartum clients
- Explanation about what the client should expect during the clinic visit

Guidelines for conducting group sessions can be found in **Appendix A.2: How to Hold Group Discussions**.

Method-specific counseling provides the client with an opportunity to:

- Ask questions about specific contraceptives in which she is interested and discuss her experience

Counseling

- Be given more detailed information about available contraceptives in which she is interested
- Be helped to choose a suitable method
- Receive further explanation about how to use the method safely, effectively, and with satisfaction

If she chooses an IUD, counseling should provide specific information about:

- How it prevents pregnancy
- Advantages and disadvantages including side effects (particularly those related to menstrual bleeding, cramping and expulsion) and other problems
- Insertion/removal procedure and effective life of the Copper T 380A IUD
- Timing of insertion and which contraceptive method to use if insertion is delayed
- Freedom of the client to discontinue the method whenever desired
- No delay in return of fertility after removal

Post-insertion counseling is usually given immediately after IUD insertion; however, some elements of such counseling should be given earlier and reinforced at this time (e.g., post-insertion care). Post-insertion counseling should focus on the need for follow-up and on warning signs for a quick return to the clinic if problems occur.

Follow-up counseling should reinforce information given post-insertion. Counselors need to listen attentively and be

prepared to answer questions about any problems the client has encountered. Answering questions helps a client to cope with any problems or side effects. Again, counselors should reassure clients that removal is available on demand.

RUMORS AND FACTS

Correcting false rumors and misinformation is an important job of family planning providers. When you talk to the client about rumors and misinformation, do not just say that what they have heard is not true. Always explain politely or show why it is not true, and explain what is true. Be careful not to embarrass the client because she has a mistaken idea or belief. The following are some of the more common mistaken ideas:

False Rumor. The IUD might travel through the woman's body, maybe to her heart or her brain.

Response. Explain that the IUD usually stays in the uterus until it is removed. If it does come out by itself, it comes out through the vagina. In the rare event that the IUD perforates the uterus (travels through the wall of the uterus) it will remain in the abdomen. An IUD is too big to travel to the heart or to the brain. (Show her a picture or model of the uterus with the IUD in it.)

False Rumor. IUDs prevent pregnancy by causing abortion.

Response. Explain that recent studies show that copper IUDs work primarily by delaying sperm transport and blocking their capacity to fertilize a woman's egg, rather than by destroying a fertilized egg.

To help the client understand and remember the most important facts about IUDs, be sure to explain them to her clearly and simply, and repeat them several times.

How It Works. The IUD is a small plastic object usually containing copper or a steroid hormone that is placed inside the uterus. Copper IUDs like the TCu 380A work primarily by preventing fertilization (blocking the woman's egg and the man's sperm from joining), decreasing the number of sperm reaching the oviduct and inactivating them.

Effectiveness. The IUD is an extremely effective temporary method of birth control (with copper-releasing IUDs the pregnancy rate is less than 1.0 at one year of use).

Advantages

- The IUD is safe, very effective and does not interfere with intercourse.
- It is suitable for breastfeeding women.
- It is a suitable method for a woman of any age provided she is at low risk for STDs.
- Only one follow-up visit is required until the IUD needs to be replaced or removed unless there are problems.
- Once it is in place there is nothing the woman has to do except to check for the strings.
- It requires no extra supplies to get or use once inserted.

- The method is reversible, and there is no delay in return of fertility after removal.

Disadvantages

- Insertion and removal may be somewhat painful.
- Some women with copper-bearing IUDs may have lower abdominal discomfort and heavier menstruation as well as spotting and cramping between menstrual periods (this usually diminishes by the third menstrual period). (Hormonal IUDs can actually decrease menstrual bleeding.)
- There is a small risk of perforation during insertion which can be minimized if proper insertion technique is used.
- It may come out of the uterus through the cervix and be expelled into the vagina.
- It does not protect against sexually transmitted genital tract infections (GTIs), such as gonorrhea and chlamydia, other STDs, or AIDS.
- There is a greater risk of pelvic infection (PID) in IUD users with a recent past history of sexually transmitted genital tract infections (GTIs) and/or those who have multiple sex partners.

For additional information on IUD insertion and removal, see **Chapter 7**.

WHO SHOULD DO COUNSELING?

Every health worker who talks to women (or couples) about contraception should understand why counseling is important and the role it plays in increasing the user's satisfaction with a family planning method. The importance of the provider being sensitive to the needs of users is heightened with IUDs because this method is dependent upon the provider for both insertion and removal. Because use and discontinuation of this method require the cooperation of medical personnel whose cultural backgrounds, social positions, and often gender may distinguish them from their clients, special efforts must be made to ensure that clients make informed, free choices.

Even though only a few staff may be involved in IUD insertion or counseling, other staff will probably be curious about the method. If they also are given information about IUDs, they will be able to talk knowledgeably about the method in the clinic and the community.

Remember: The more people who have accurate information about IUDs, the less likely it is that incorrect rumors will develop and spread.

Good counseling of potential clients helps to ensure that users will be satisfied and also reduces unnecessary returns to the clinic or discontinuation due to misunderstanding of the method. **By taking the time to train your staff to counsel effectively now, you will benefit your program in the future.**

BEING AN EFFECTIVE COUNSELOR

A good counselor understands the perceptions of the client and her partner and takes a few minutes to put them at ease and allow the beliefs and feelings about contraceptive methods to emerge. Producing such an atmosphere will be cost-effective in the long run. For example, when counseling is done effectively, clients will be more satisfied with their choices and less likely to discontinue use after a short period of time or because of unexpected menstrual bleeding changes.

A good counselor should provide information and reassurance to clients or couples so that they can make their own decisions about contraception and feel comfortable with their decisions. Sound knowledge and good communication skills are essential if the counselor is to discuss the IUD (and other methods) appropriately.

These skills also help reduce method discontinuation due to ignorance or unnecessary anxiety. The counselor must recognize the potential importance of the views of other members of a client's family and should help the client deal with them. Finally, the counselor should present the relevant information clearly and concisely. Overly technical information and academic language and jargon should be avoided. Questions, particularly about the negative aspects of the method, should be answered honestly.

A good counselor has:

- *Understanding and respect for client's rights*
- *A sensitivity that earns the trust of the client*
- *A good understanding of all available family planning methods in addition to the IUD*
- *An understanding of the cultural and psychological factors that affect a woman's (or a couple's) decision to use the IUD or another family planning method*
- *A non-judgmental approach, treating the client with respect and kindness*
- *Ability to present information in an unbiased, client-sensitive manner*
- *A way of encouraging clients to ask questions*
- *Ability to listen actively to the client's concerns*
- *Ability to recognize when he or she cannot sufficiently help a client and to refer the client to someone who can*
- *Appreciation of non-verbal communication (body language)*

TIPS ON GOOD COUNSELING

- Listen effectively
- Answer questions objectively
- Reinforce important information on side effects, danger signs, etc.
- Let the client make her own decision

Counseling on IUD use can be done in small groups or individually. When possible, counseling should be done in privacy or at least in an area set aside for that purpose. **Although there may be other staff in your clinic who counsel family planning clients, do not assume that sufficient IUD-specific counseling already has been provided.**

If a client expresses an interest in knowing more about IUDs, let her examine a sample IUD while you explain general information about its use and insertion. Demonstrate to her on a plastic model how the IUD is inserted or place the IUD on a drawing of the uterus. Tell her that the IUD must be inserted and removed by a trained health care provider (physician, nurse or midwife).

Remember: Counseling should be integrated into each interaction with the client.

COUNSELING AND CONTINUATION: REALISTIC EXPECTATIONS

Though the rationale for some nations' family planning programs is the desire to limit their population growth, service providers must put the interests of individual users before other concerns. It is both ethically and programmatically important that providers pay close attention to individual needs.

Although continuation rates with the IUD generally have been high - from 70 to 90 percent after one year, and nearly 30 percent even after eight years - it should be remembered that a high continuation rate alone does not necessarily reflect user

Counseling

satisfaction. The most valid continuation rates are those achieved where clients have adequate access to removals.

A summary of the steps in counseling family planning clients is diagrammed in **Appendix A.3**.

CLIENT SCREENING

An important component of the counseling process is screening the client to determine:

- Indications for IUD use

- Whether any conditions requiring precautions for use exist

- Whether there are any special medical problems

In screening clients, a checklist often is useful to see if an IUD is medically appropriate. Use of a checklist, such as the samples presented in **Appendix B**, helps ensure that no important information is left out. These checklists are intended only as a guide. The health care provider, in conjunction with the client, should make the final decision as to the appropriateness of using an IUD.

REFERENCES

Center for Communication Programs (Population Information Program). Counseling makes a difference. *Population Reports* Series J(35) 1987.

Center for Communication Programs (Population Information Program): Counseling Guide. *Population Reports* Series J(36) 1987.

Huezo C, Briggs C: *Medical and Service Delivery Guidelines*. London, International Planned Parenthood Federation, 1992.

THREE

INDICATIONS AND PRECAUTIONS

BACKGROUND

A contraindication is a condition or a disease that makes a drug or treatment unsafe or inadvisable for a client. In the past, to protect the client from contraceptive complications, lists of contraindications have been developed for each contraceptive method. Although such lists are produced with the best interest of the client in mind, potentially serious, but often rare, complications are over-emphasized. As a consequence, clients often are prevented arbitrarily from choosing their preferred contraceptive method rather than guided in their decision making.

Another disadvantage is that while **contraindications** change over time, the **lists** tend to become set in stone. (The same is true to a certain extent for lists of indications.) Moreover, what may be an appropriate contraindication in one country, when applied to another setting with different reproductive health characteristics, may not be appropriate. For example, in countries where maternal mortality rates are high, there may be less concern about the very low risk of cardiovascular or venous thromboembolic complications associated with use of the newer combination oral

contraceptives (COCs) currently available. Finally, in many countries, new information is slow in arriving and the contraindication list remains "the word" for many years.

A partial solution to this problem is to require that every list of indications and contraindications be dated, and state clearly the country or setting for which the list was intended. Beyond this, one could consider alternatives to the use of the word contraindication, which carries such dire implications.

In this manual, we have chosen to replace **contraindications** with **precautions**. Making this change, however, does not solve the problem entirely. Therefore, in addition to listing the **indications** and those conditions requiring **precautions** for IUDs, a brief statement is included explaining the reason(s) for categorizing the condition as such. Finally, to minimize confusion, the list of precautions is **limited to those conditions on which there is universal agreement**. For these conditions, service providers need to assess the appropriateness of IUD use for **each client**, not only in terms of her special needs but also in relation to the health care climate in which she lives.

INDICATIONS FOR USE

The IUD is an appropriate method for a woman who:

SITUATION	RATIONALE
Prefers a method which does not require taking contraceptive action daily or before sexual intercourse. (This includes women who have trouble using barrier methods or remembering to take a pill every day.)	Once the IUD is in place it requires only monthly checking by the client for the presence of the strings and routine checkups according to local clinic protocols.
Prefers a method which provides highly effective, long-term contraception but does not want a permanent method (voluntary sterilization) at this time.	In countries where voluntary sterilization is not legal or routinely available, inert IUDs (e.g., Lippes Loop) can be left in place indefinitely and copper IUDs (e.g., TCU 380A) for up to eight years. (For other IUDs, consult the manufacturer's instructions.)
Is breastfeeding and needs a contraceptive.	Breastfeeding is not affected by the presence of an IUD. (IUDs can be safely inserted immediately following delivery, during the first 48 hours postpartum and after six to eight weeks.) In addition, if a client is fully breastfeeding, insertion can be delayed for 6 months provided she: <ul style="list-style-type: none">• remains amenorrheic (no vaginal bleeding), and• gives no supplementary feeding.
Prefers not to use a hormonal contraceptive method such as combination oral contraceptive pills or is a heavy smoker (more than 15 cigarettes per day) and is over 35 years of age.	Copper IUDs do not affect the cardiovascular system, blood clotting or any body organs beyond the reproductive tract.
Has successfully used an IUD in the past.	IUDs tend to be well tolerated by women who have used them successfully in the past.
Has one or more children.	IUDs are better tolerated by women who have borne a child, probably because the uterine cavity is a bit larger and accommodates the IUD better.
Is at low risk of contracting a sexually transmitted genital tract infection (GTI), (i.e., is in a mutually faithful sexual relationship).	IUDs do not protect women against hepatitis B or AIDS or against GTIs, such as gonorrhea and chlamydia, which can cause pelvic infection (PID) and lead to infertility.

PRECAUTIONS FOR USE

Precautions should be taken before inserting an IUD in a woman who:

CONDITION	PRECAUTION	RATIONALE
Could be pregnant (by history, symptoms or signs).	If the possibility of pregnancy cannot be excluded by examination and/or pregnancy testing, insertion of an IUD should be delayed until her next menstrual period. In the interim, the client should be given a barrier contraceptive method to use.	If a woman is pregnant at the time an IUD is inserted, she is at increased risk for spontaneous abortion (miscarriage) as well as serious uterine infection.
Has current, recent or recurrent PID (or postabortal/postpartum endometritis within the past 3 months).	She should use another contraceptive method. For a woman who has had postabortal or postpartum endometritis, an IUD should not be her first choice.	A history of recent or recurrent PID not associated with pregnancy or abortion strongly suggests the woman is at risk for sexually transmitted genital tract infections or other STDs.
Has acute purulent (pus-like) discharge from the cervical canal or gonorrheal or chlamydial cervicitis.	If, after treatment, she elects to have an IUD inserted, she should be followed closely for changes in social habits or signs of re-infection and a barrier contraceptive method should be used as well.	Sexually transmitted genital tract infections, with the exception of candidiasis and bacterial vaginosis, may increase a woman's risk for PID and subsequent infertility.
Has undiagnosed vaginal bleeding.	The cause of any vaginal bleeding should be determined and treated before an IUD is inserted.	Because IUDs can cause intermenstrual spotting or bleeding, an underlying problem such as normal or ectopic pregnancy, cervicitis and rarely genital tract cancer, may be masked.

OTHER PROBLEMS

When considering the insertion of an IUD for a woman with any of the following problems, the health care provider should carefully weigh the risks and benefits of the IUD as well as those of the alternatives.

PROBLEM	PRECAUTION	RATIONALE
Has painful, long or heavy menstrual periods. (This problem does not apply to IUDs containing progestins, which often decrease menstrual blood loss and cramping.)	Counsel the client about this problem.	The copper-releasing IUDs may increase menstrual bleeding, probably because the IUD disturbs the blood vessels in the endometrium (lining of the uterus). Menstrual cramping (dysmenorrhea) also may be increased due to prostaglandin release.
Is at high risk for GTIs and other STDs.	A woman who has more than one sexual partner or whose partner has more than one sexual partner should be counseled about this. If she elects to use an IUD, she also should use a barrier method.	IUDs do not protect against GTIs and other STDs such as hepatitis B and AIDS.
Has vaginal infection (candidiasis or bacterial vaginosis without cervicitis). (The IUD should not be used by a woman who has infectious or purulent cervicitis).	If a vaginal infection is present, it should be treated and resolved before an IUD is inserted.	During IUD insertion, the IUD can carry microorganisms from the vagina into the uterine cavity. Women with an untreated vaginal infection may be more likely to develop pelvic infection after IUD insertion.
Has had an ectopic pregnancy.	IUDs do not prevent all ectopic pregnancies. If, after counseling, the IUD is still the client's chosen method, she should be taught the warning signs for ectopic pregnancy.	Women who have had prior ectopics are at increased risk for another ectopic, and should use a very effective contraceptive method, preferably one that blocks ovulation, and thereby prevents both ectopic and intrauterine pregnancies.
Has severe anemia (e.g., hemoglobin less than 9 grams/dl or hematocrit less than 30).	Choose the IUD only if it is the best overall method for that client.	The increased menstrual blood loss from the IUD can worsen anemia (does not apply to progestin-containing IUDs).

PROBLEM	PRECAUTION	RATIONALE
Has abnormalities on pelvic exam suggestive of large fibroids or abnormal uterine anatomy.	Choose the IUD only if it is the best overall method for that client.	Distortions of the uterine cavity could cause difficulties in insertion, increase the chance of expulsion of the IUD and decrease effectiveness.
Has severe cervical stenosis. Counsel the client about this problem. (If indicated, refer client to a center where cervical dilation with local anesthesia is available.)	Severe narrowing of the cervical canal (entrance into the uterus) may make IUD insertion more difficult and painful.	
Has symptomatic rheumatic (valvular) heart disease.	Choose the IUD only if it is the best overall method for that client. Women with symptomatic valvular disease, however, should receive antibiotic prophylaxis at the time of insertion (see Chapter 4).	Neither IUD insertion nor removal cause sufficient bacteremia to promote endocarditis among women with asymptomatic congenital or rheumatic valvular disease.
Has medical conditions such as: <ul style="list-style-type: none">● leukemia● diabetes● AIDS or other immunological disorders● is on high doses of corticosteroids (chronically) or immunosuppressive therapy	Choose the IUD only if it is the best overall method for that client.	These women are at increased risk for infections, including PID. At the time of insertion, microorganisms which normally are present in the vagina can be carried into the uterine cavity. If the immune system does not function adequately, the risk of pelvic infection may be increased. (Use of recommended infection prevention practices as stated in Chapter 5 can minimize this risk.)
Has impaired blood coagulation response.	Choose the IUD only if it is the best overall method for that client.	Anticoagulant therapy or pathology of the clotting mechanism may predispose the IUD user to increased vaginal blood loss.

REFERENCES

Abdalla MY et al: Contraception after heart surgery. *Contraception* 45: 73, 1992.

Center for Communications Programs (Population Information Program): IUDs - a new look. *Population Reports* Series B(5) 1988.

Dajani AS et al: Prevention of bacterial endocarditis: recommendations by the American Heart Association. *JAMA* 264(22):2919, 1990.

Gray RH et al: *Manual for the Provision of Intrauterine Devices (IUDs)*. Geneva, World Health Organization, 1980.

Hatcher R et al: *Contraceptive Technology: International Edition*. New York, New York, Irvington Publishers, 1989.

FOUR

CLIENT ASSESSMENT

BACKGROUND

Medical assessment of potential IUD users should include a brief history, a **limited** general examination and **complete** pelvic examination. In addition, when warranted (and available), simple diagnostic testing may need to be done. This medical assessment process, if conscientiously performed, will help to distinguish those women who will be more likely to successfully use an IUD.

MEDICAL HISTORY

Specific information which should be obtained as part of the medical history includes:

General

- Symptomatic valvular or rheumatic heart disease, a history of endocarditis, cardiopulmonary shunts or artificial heart valves¹
- Diabetes, AIDS, or leukemia

Reproductive

- Menstrual history (pain, amount and duration of bleeding) and date of last menstrual period (LMP)

- Parity, pregnancy outcomes and desire for more children
- Previous use of contraception
- PID (substantiate if possible) or ectopic pregnancy
- Midline, right or left lower quadrant abdominal pain which may be worse on walking or after intercourse
- Postpartum or postabortal endometritis
- Multiple sexual partners for either spouse
- Cervical or uterine malignancy

Current Medications

- Anticoagulant therapy
- Corticosteroids (daily or high-dose)
- Immunosuppressive drugs
- Radiation therapy

¹ These women are at "high risk" and should receive antibiotic prophylaxis. Tetracyclines, including Doxycycline, are **not** effective. Appropriate antibiotic prophylaxis includes:

- Amoxicillin 3.0 g orally 1 hour before procedure, then 1.5 g 6 hours after the initial dose
- Erythromycin 1.0 g 2 hours before the procedure, then 500 mg 6 hours after the initial dose (for persons allergic to amoxicillins)

PHYSICAL EXAMINATION

When performing the physical examination be sure to check the following:

General Examination

Where facilities are not available for hematocrit (Hct) or hemoglobin (Hgb) determination, check for anemia by:

- Noting pallor
- Taking blood pressure and pulse
- Auscultating the heart (listen carefully for murmurs)

Breast Examination

Check for masses or other abnormalities (should include teaching the client self-breast exam and having client give a return demonstration as part of general health care).

Abdominal Examination

Check for:

- Suprapubic or pelvic tenderness
- Masses or gross abnormalities

Pelvic Examination (make sure the client has voided before performing the exam)

- Speculum
 - Inspect external genitalia for ulcers and buboes (enlarged groin nodes)
 - Check for vaginal discharge and other signs of lower genital tract infections (GTIs)

- Check cervix for purulent cervicitis, erosions or narrowing of cervical canal (stenosis)

- If indicated by history and physical findings, and if microscope available, obtain necessary specimens of vaginal and cervical secretions for diagnostic studies

- If supplies are available, it is good medical practice to perform a Pap smear, or any other valid test, for cervical cancer screening purposes

- **Bimanual**

- Determine size, shape and position of uterus

- Check for enlargement or tenderness of the adnexa, active PID, etc.

- Check for pregnancy

- Check for uterine abnormalities

- **Rectovaginal**

- Perform if findings on bimanual examination are confusing (e.g., position or size of uterus not determined)

- Determine size of retroverted (posterior-directed) uterus

- Check for cul-de-sac mass or tenderness

When conducting the medical assessment, it may be helpful for the service provider to use a checklist so that no important information is left out. A sample **Client**

Assessment Checklist is presented in **Appendix C**.

LABORATORY STUDIES

The following simple laboratory tests (if available) need be done only when the history and physical findings warrant further investigation:

- Hemoglobin/Hematocrit (Hgb/Hct) for those clients who possibly are severely anemic (e.g., Hgb less than 9 gm/dl or Hct less than 30).
- Vaginal/Cervical smears

- Saline and KOH wet mounts and pH test of vaginal discharge for trichomoniasis, monilia (yeast) and gardnerella (bacterial vaginosis)
- Gram stain of cervical or urethral discharge
- Urinalysis
 - Urine pregnancy test
 - Urine test for sugar and protein

For additional information on the management of vaginal, cervical or urethral discharge and/or genital ulcers, see **Chapter 5** and **Appendices D to F**.

REFERENCES

Center for Communications Programs (Population Information Program): IUDs - a new look. *Population Reports Series B(5)* 1988.

Dajani AS et al: Prevention of bacterial endocarditis: recommendations by the American Heart Association. *JAMA* 264(22):2919, 1990.

Gray RH et al: *Manual for the Provision of Intrauterine Devices (IUDs)*. Geneva, World Health Organization, 1980.

Hatcher R et al: *Contraceptive Technology: International Edition*. New York, New York, Irvington Publishers, 1989.

FIVE

IUDS AND GENITAL TRACT INFECTIONS (GTIS)

BACKGROUND

The increasing occurrence of sexually transmitted genital tract infections (GTIs), such as gonorrhea, chlamydia and syphilis, requires that potential IUD acceptors be screened before an IUD is inserted. The best way to do this would be to perform a thorough investigation, including microbiologic and serologic studies on all clients. **In most countries this is not possible.** What then can be done to minimize the risk of inserting an IUD in a woman with a GTI? And conversely, what can be done to enable a woman who only has an easily treated, non-sexually acquired vaginal infection get an IUD? Both are important questions which until recently were difficult to answer.

WHAT ARE GENITAL TRACT INFECTIONS (GTIS)

Genital tract infections (GTIs) are caused by a small number of microorganisms which usually are transmitted through sexual contact. GTIs have been around a long time - thousands of years or more. By contrast, the AIDS virus (HIV) was discovered only in 1981. GTIs in both developed and developing countries constitute enormous health problems.

GTIs are encountered frequently in family planning clients, especially in certain high risk groups such as prostitutes and couples where one or both members have other sexual partners.

Clients suspected of having a GTI usually present with one of the following problems:

- Vaginal or urethral discharge
- Genital ulcers or sores with or without enlarged glands (buboes) in the groin
- Lower abdominal pain

If she has a vaginal and/or urethral discharge the cause could be:

- Candidiasis (yeast infection)
- Trichomoniasis
- Gonorrhea
- Chlamydia
- Bacterial vaginosis
- Genital herpes

If the client has a genital ulcer with or without swollen glands (buboes) it could be:

- Chancroid
- Syphilis
- Lymphogranuloma venereum (LGV)
- Granuloma inguinale
- Genital herpes
- Genital warts

If there is lower abdominal pain, she may have:

- Pelvic inflammatory disease (PID)

IMPORTANCE OF GTIs

Currently the most neglected area of health care in developing countries is the management of genital tract infections (GTIs) - particularly vaginitis, cervicitis and pelvic inflammatory disease (PID). PID, a frequent complication of GTIs, is a serious problem in all countries. For example, more than 40% of acute admissions to gynecology wards in Africa are related to PID, with the majority due to gonorrhea or chlamydia. In Southeast Asia, where the prevalence of penicillinase-producing *Neisseria gonorrhoeae* (PPNG) strains is high, management of PID has become very difficult. Furthermore, a high incidence of low fertility both in males and females is associated with gonorrhea and chlamydia. The resulting infertility is not only a health problem for the individual but also can result in divorce, the effect of which is particularly severe on women in many developing countries.

In view of the enormous health problems due to sexually transmitted GTIs coupled with the limited resources available in developing countries, the objective of reducing the **incidence** of GTIs is unrealistic. A more realistic aim is to reduce the number of **GTI complications**, such as PID, urethral stricture and male and female infertility. This aim can be realized by:

- Good management of clients with sexually transmitted GTIs at the earliest possible stage of the disease process, (i.e., before the cervicitis or urethritis ascend to become PID)
- Screening high-risk groups known to have a high prevalence of GTIs

Because family planning and GTI clinic services overlap substantially, it is important to provide GTI surveillance for FP clients - even if the likelihood of GTI acquisition is low. Effective surveillance need not require the use of complicated protocols which include costly laboratory tests. Health care providers may provide GTI surveillance for large client populations by:

- Being aware of the signs and symptoms of GTIs in general
- Being aware of which GTIs are particularly common in their client population
- Carefully evaluating clients in whom GTIs are suspected based on the medical history or physical examination findings

SCREENING FOR GTIs

The **first step** in screening a potential IUD acceptor is to do a GTI screening history. It should include the following questions:

- Are you having a vaginal discharge?
- Have you had abnormal vaginal bleeding with the last two menstrual periods?
- In the past year, have you had a genital tract problem such as a vaginal discharge, ulcers or skin lesions in your genital area?
- Has your sex partner (husband) been treated for a genital tract problem, such as discharge (drip) from the penis, an ulcer or swollen groin glands in the last three months? Which?

- Does your sex partner (husband) have other sex partners that you know of?
- Have you had more than one sex partner in the last two months?
- Do you think that you might have a genital tract infection?

If the client answers "yes" to any of the above questions, she should undergo further evaluation for a possible GTI (see **Appendix D** for how to evaluate clients with possible GTIs). In addition, she should be counseled concerning the risks of transmission and the possible consequences of untreated GTIs.

Remember: Because some of these questions are very sensitive, it may not be possible to ask them in a direct way; the clinician should obtain this information in a respectful and culturally sensitive manner. **Confidentiality must be assured for all clients.**

The second step in screening a potential IUD acceptor for possible sexually transmitted GTIs is to perform a careful abdominal and pelvic examination (see **Appendix D** for details).

It is important to check for:

- Lower abdominal pain or tenderness
- Genital ulcers, sores or swellings (buboes) in the groin
- Presence of a purulent (containing mucopus) discharge, friable (easily bleeding) cervix or unrecognized vaginal discharge
- Pain on cervical motion

- Suprapubic, adnexal or pelvic mass

Safety Tip: In the presence of any of the above, the decision as to whether or not an IUD should be inserted should be deferred until the client has been further evaluated.

PROBLEM-ORIENTED APPROACH TO MANAGING GTIS

The World Health Organization (WHO) has developed a strategy for the management of sexually transmitted GTIs at the primary and secondary health care levels. Simplified problem-solving protocols (flowcharts), based solely on clinical findings, have been developed for use in primary health care facilities. For secondary health care facilities, however, where pelvic examinations can be done and a microscope is available, the flowcharts have been refined to provide greater **specificity** and **sensitivity** in managing the most frequently encountered sexually transmitted GTIs.

Field testing of these refined flowcharts has shown them to be well accepted, **especially when the health care provider has been properly trained in how to use them.** Furthermore, when one compares the management strategies outlined in these flowcharts with actual medical practice followed in most developing countries, it is clear that they are a distinct improvement. Finally, because of the increasing cost and magnitude of the health problems caused by failure to prevent or treat GTIs, this approach is the only one feasible.

DIAGNOSIS OF GTIs

The clinical features of specific GTIs are summarized in **Table 5-1**. To assist the clinician in determining the cause of the client's problem, diagnostic flowcharts which are based not only on clinical findings but also on results obtained from microscopic and other simple tests are presented (**Appendix E: Flowcharts 1-6**). When correctly performed, these tests can detect the presence of most microorganisms which cause GTIs in women. To make using and interpreting these flowcharts easier, each is accompanied by a brief discussion of **Diagnostic Tips** and **Family Planning Considerations**.

Remember: to get the most out of using the problem-oriented approach, the clinician should prepare a clinical assessment for each client presenting with a possible GTI. This brief, clearly-worded assessment should summarize:

- An interpretation of clinical findings (signs and symptoms) and diagnostic tests
- Any uncertainties in the diagnosis

It also should include a management plan with specific recommendations for:

- Treatment (name of medication, exact dose, frequency and duration of treatment)

- Follow-up
- Contacting (and treating) the client's sexual partner(s), if indicated

TREATMENT

Once the presumptive diagnosis has been made, specific treatment then can be initiated (see **Appendix F**). The regimens described are based on current WHO recommendations. Although the higher cost of newer drugs, especially those needed to treat resistant strains of *Neisseria gonorrhoea*, *Haemophilus ducreyi* (chancroid) and *Trichomonas vaginalis*, is a major obstacle to successfully treating GTIs, the cost of inadequate therapy (including complications, relapse, further spread and selection for antimicrobial resistance) must be considered. **As a consequence, before using the flowcharts, treatment regimens and the other information provided in these guidelines, they should be reviewed and adapted to the particular conditions prevalent in each country or region.** Factors that need to be considered are:

- Local disease patterns
- Basic drugs list
- Personnel
- Available supplies and equipment

TABLE 5-1. CLINICAL FEATURES (SIGNS AND SYMPTOMS) OF SPECIFIC GTIs

GTI	CAUSE	SIGNS/SYMPTOMS	DIAGNOSIS
Vaginal/Urethral Discharge			
Bacterial vaginosis	No single bacteria; overgrowth of anaerobes (e.g., <i>Gardnerella vaginalis</i>) (Not necessarily sexually transmitted)	Vaginal discharge with fishy odor, grayish in color	>20% "clue cells" (vaginal epithelial cells covered with bacteria) on saline wet mount; elevated vaginal pH (Appendix E: Flowchart 1)
Candidiasis (yeast)	Fungus, <i>Candida albicans</i> (Frequently not sexually transmitted)	Women <ul style="list-style-type: none"> • curd-like vaginal discharge, whitish in color • moderate to intense vulvar itching (pruritus) Men <ul style="list-style-type: none"> • itchy penile irritation (balanitis) 	Presumptive diagnosis by symptoms, confirmed by saline wet mount or KOH preparation examined microscopically (Appendix E: Flowchart 1)
Trichomoniasis	Parasitic disease caused by <i>Trichomonas vaginalis</i>	May produce few symptoms in either sex. Women often will have a frothy (bubbly), foul smelling, greenish vaginal discharge. Men will have a urethral discharge.	In both sexes, diagnosis is easily made microscopically by observing the flagellating (whipping motion) of the parasite on saline wet mount (Appendix E: Flowchart 1)

G·TI	CAUSE	SIGNS/SYMPTOMS	DIAGNOSIS
Gonorrhea (clap or drip)	Gram-negative intracellular diplococcus (GNID), <i>Neisseria gonorrhoea</i>	<p>Women</p> <ul style="list-style-type: none"> • purulent (containing mucus) vaginal discharge • pain (or burning) on passing urine (dysuria) • inflamed (red and tender) urethra <p>70% of women are asymptomatic at this stage</p> <p>If left untreated, can result in:</p> <ul style="list-style-type: none"> • infection of the pelvic organs (PID) • infertility due to tubal blockage • increased risk of ectopic pregnancy (tubal scarring) 	<p>Women: 40-60% positive GNIDs on cervical smear (Appendix E: Flowchart 2)</p>
		<p>Men</p> <ul style="list-style-type: none"> • pain (or burning) on passing urine (dysuria) • purulent (containing mucus) urethral discharge (drip) <p>If left untreated, can result in:</p> <ul style="list-style-type: none"> • infection of the epididymis (coiled tube leading from the testis to the spermatic cord) • urethral abscess or stricture (narrowing) • infertility (blockage of the epididymis) <p>Infection of the eye due to self-infection is rare in adults</p>	<p>Men: up to 98% positive GNIDs microscopically on Gram stain (Appendix E: Flowchart 3)</p>
Chlamydia	Bacteria, <i>Chlamydia trachomatis</i>	<p>Women: produces few symptoms, even with upper genital tract infection ("silent PID"). On exam, purulent vaginal or cervical discharge, frequently a "beefy" red cervix which is friable (bleeds easily).</p> <p>Men: most frequent cause of NGU (50%)</p>	<p>Presumptive diagnosis based on observation of GNIDs. Definitive diagnosis by serologic tests or culturing (Appendix E: Flowcharts 2 and 3)</p>

GTI	CAUSE	SIGNS/SYMPTOMS	DIAGNOSIS
Genital Ulcers and Bubo	<i>Haemophilus ducreyi</i> (the Ducrey bacillus) (Most common cause of genital ulcers in most parts of the developing world)	Painful , "dirty" ulcers located anywhere on the external genitalia in women and men. In 25-60% of cases, an enlarged lymph node (bubo) develops in the groin.	Presumptive diagnosis often rests on clinical features and a negative darkfield (microscopic) exam or serology (RPR or VDRL) (Appendix E: Flowchart 4). Confirmation sometimes can be made if the causative bacteria are seen (Gram-negative coccobacilli in chains - the so-called "school of fish")
Syphilis	<i>Treponema pallidum</i> , a spirochete (worm-like) bacteria	Occurs in two forms - early (primary and secondary) and late <ul style="list-style-type: none"> • Initially, painless chancre (ulcer): in women on the external genitalia (labia); in men on the penis; and enlarged rubbery lymph nodes • Later (several months): non-itchy body rash Tragically, both types of lesions disappear spontaneously. Late syphilis develops in about 25% of untreated cases and is often fatal due to involvement of the heart, great vessels and brain.	Definitive diagnosis made by darkfield microscopy of secretions from a primary or secondary lesion (Appendix E: Flowchart 4); or serology (RPR or VDRL) in equivocal cases or during the latent stage (no signs or symptoms)

GTI	CAUSE	SIGNS/SYMPTOMS	DIAGNOSIS
Lymphogranuloma venereum (LGV)	Bacteria, <i>Chlamydia trachomatis</i> (different strain than that causing chlamydia)	<ul style="list-style-type: none"> • Small, usually painless papules (like pimples) on the penis or vulva, followed by • Buboec in the groin which ultimately break down forming many fistula (draining openings) <p>If untreated, the lymphatic system may become blocked, producing elephantiasis (swelling of the genitals).</p>	Clinical findings may not be helpful. Microscopic diagnosis rests on seeing inclusion bodies in white cells (PMNs) of bubo aspirate (Appendix C: Flowchart 4).
Granuloma inguinale (Donovanosis)	Bacteria, <i>Calymmatobacterium granulomatis</i>	An uncommon cause of ulcerative GTIs. Typically, the infected person develops lumps under the skin which break down to form "beefy" red, painless ulcers.	Diagnosis rests on identifying intracytoplasmic (inside the cell) "Donovan bodies" in Giemsa-stained smear from the groin or perineal buboes (Appendix E: Flowchart 4).
Genital herpes	Herpes simplex virus	Multiple, painful, shallow ulcers which clear in 2 to 4 weeks (first attack), which may be accompanied by watery vaginal discharge in women. Recurrence (multiple bouts) more than 50% of the time.	Presumptive diagnosis by signs and symptoms and often exclusion (Appendix E: Flowcharts 1 and 4)
Genital warts (condyloma acuminata)	Human papilloma virus (HPV)	Single or multiple, soft, painless, "cauliflower" growths which appear around the anus, vulvovaginal area, penis, urethra and perineum	Presumptive diagnosis by signs and symptoms. Exclude syphilis by darkfield exam or serology (Appendix E: Flowchart 4).

GTI	CAUSE	SIGNS/SYMPTOMS	DIAGNOSIS
<p>Lower Abdominal Pain</p> <p>Pelvic inflammatory disease (PID)</p>	<p>PID is the general name for pelvic infections in women involving the uterus, tubes and ovaries which most commonly are caused by the following GTIs:</p> <ul style="list-style-type: none"> • gonorrhea • chlamydia <p>or by anaerobic bacteria</p>	<p>Acute: lower abdominal tenderness, cervical motion tenderness (CMT) on pelvic exam and one or more of the following:</p> <ul style="list-style-type: none"> • purulent (containing mucopus) vaginal/cervical discharge • temperature > 38°C • GNIDs on cervical smear • presence of a pelvic mass 	<p>GNIDs on cervical smear (Appendix E: Flowchart 5)</p>

REFERENCES

Dixon-Mueller R, Wasserheit JN: *The Culture of Silence: Reproductive Tract Infections Among Women in the Third World*. New York, New York, International Women's Health Coalition, 1991.

Holmes KK: Lower genital tract infections in women: cystitis, urethritis, vulvovaginitis and cervicitis. In: Holmes KK et al (eds), *Sexually Transmitted Diseases*, 2nd ed. New York, New York, McGraw-Hill, 1990.

JHPIEGO: *Genital Tract Infection Guidelines For Family Planning Service Programs*. JHPIEGO Corporation, Baltimore, Maryland, 1991.

Judson FN: Clinical facilities for sexually transmitted diseases control. In: Holmes KK et al (eds), *Sexually Transmitted Diseases*, 2nd ed. New York, New York, McGraw-Hill, 1989.

Judson FN: Does OC use affect the risk of HIV infection. *Outlook* 8(4):2, 1991.

Latif A, Laing R (eds): *Sexually Transmitted Diseases*. Harare Zimbabwe, Zimbabwe Essential Drugs Action Programme (ZEDAP). Ministry of Health, 1989.

Meheus A et al: Development of prevention and control programs for sexually transmitted diseases in developing countries. In: Holmes KK et al (eds), *Sexually Transmitted Diseases*, 2nd ed. New York, New York, McGraw-Hill, 1990.

Osoba AO: Microscopic techniques for the diagnosis of pelvic inflammatory disease in developing countries. *Am J Obstet Gynecol* 138:1091, 1980.

Stamm WE et al: *The Practitioner's Handbook for the Management of STDs*. Seattle, Washington, Health Sciences Center for Educational Resources, 1988.

Wasserheit JN: The significance and scope of reproductive tract infections among third world women. *Int J Gynecol Obstet* 3(Suppl):145-168, 1989.

Wasserheit JN et al: Reproductive tract infections in a family planning population in rural Bangladesh: a neglected opportunity to promote MCH-FP programs. *Stud Fam Plann* 20:69, 1989.

Westrom L, Mardh PA: Acute pelvic inflammatory disease (PID). In: Holmes KK et al (eds), *Sexually Transmitted Diseases*, 2nd ed. New York, New York, McGraw-Hill, 1984.

World Health Organization (WHO): STD treatment strategies. *Programme for Sexually Transmitted Diseases*, Geneva, WHO (VDT/89.447), 1989.

World Health Organization (WHO): Simplified approaches for sexually transmitted disease (STD) control at the primary health care level. *Working Group Report*, Geneva, WHO (VDJ/85.437), 1984.

INFECTION PREVENTION¹

Providing a safe environment for the delivery of IUD services, regardless of a facility's size and location, is essential. Soap, water and careful attention to detail are the hallmarks of good infection prevention practices. These, coupled with ingenuity in selecting effective, affordable methods or agents to decontaminate, clean and high-level disinfect (or sterilize) instruments and equipment, can minimize disease transmission for both clients and staff.

BACKGROUND

The potential for infection in IUD users is increased in areas where **genital tract infections (GTIs)** such as gonorrhea and chlamydia are prevalent. By following recommended infection prevention practices, however, health workers can reduce the risk to clients of post-IUD insertion infections and the danger of transmitting diseases, even hepatitis B² or AIDS, to their clients, their coworkers or themselves.

The emphasis in this chapter is on the use of infection prevention procedures that are practical and feasible in any country. For example, many family planning and health clinics usually only provide reversible contraceptive methods such as oral pills, injectables and barrier methods. Therefore, they may not have an autoclave or dry heat sterilizer. Even for clinics such as these, it is not necessary to have sterile instruments or gloves; **high-level disinfection by boiling or with special chemicals** is sufficient to provide **low-risk** IUD services for both clients and health care providers.

DEFINITIONS

Microorganisms are the causative agents of infection. They include bacteria, viruses, fungi and parasites. For infection prevention purposes, bacteria can be further divided into three categories: vegetative (staphylococcus), mycobacteria (tuberculosis) and endospores (tetanus), which are the most difficult to kill.

Infection prevention often relies on placing barriers between the host and the agent. **Protective barriers** are physical, mechanical or chemical processes which help prevent the spread of infectious microorganisms from client to client, clinic staff to client, or vice versa, due to lack of infection prevention practices or from contaminated instruments or equipment.

The terms **asepsis, antisepsis, decontamination, cleaning, disinfection, and sterilization** often are confusing. For the purposes of these guidelines, the following definitions will be used:

¹ Adapted from Tietjen LG et al: *Infection Prevention for Family Planning Service Programs*. Durant, Oklahoma, EMIS, 1992.

² Throughout this manual, when hepatitis B (HBV) is mentioned, hepatitis C (HCV) and Delta Hepatitis (HDV) are referred to also as their occurrence is worldwide and their modes of transmission/prevention are similar.

- **Asepsis** or **aseptic technique** are general terms used in health care settings to describe the combination of efforts made to prevent entry of microorganisms into any area of the body where they are likely to cause infection. The goal of asepsis is to reduce to a safe level, or eliminate, the number of microorganisms on both animate (living) surfaces (skin and tissue) and inanimate objects (surgical instruments).
- **Antisepsis** is the prevention of infection by killing or inhibiting microorganisms on skin and other body tissues.
- **Decontamination** is the process that makes objects safer to be handled by staff, especially cleaning personnel, **before** cleaning. Such objects include large surfaces (e.g., pelvic examination or operating tables) and surgical instruments and gloves contaminated with blood or body fluids during or following surgical procedures.
- **Cleaning** is the process that physically removes all visible blood, body fluids or any other foreign material such as dust or dirt from skin or inanimate objects.
- **Disinfection** is the process that eliminates most, but not all, disease-causing microorganisms. **High-level disinfection** (HLD), through boiling or the use of chemicals, eliminates all microorganisms except some bacterial endospores.

- **Sterilization** is the process that eliminates **all** microorganisms (bacteria, viruses, fungi and parasites), including bacterial endospores from inanimate objects.

WHICH PROCESS TO USE

As summarized in **Table 6-1**, **decontamination** is the first step in processing contaminated (soiled) surgical instruments, reusable gloves and other items. For example, soaking contaminated items in 0.5% chlorine solution (bleach) for 10 minutes rapidly kills hepatitis B and AIDS viruses, thereby making the instruments safer to be handled during cleaning. Larger surfaces such as examination and operating tables, laboratory bench tops and other equipment, which may have come in contact with blood or other body fluids, also should be decontaminated. Wiping them down with a suitable disinfectant (e.g., 0.5% chlorine or 1-2% phenol) is a practical, inexpensive way to decontaminate these items.

Once surgical instruments and other items have been decontaminated, they need to be further processed by thorough cleaning and then either high-level disinfected (HLD) or sterilized. As outlined in **Table 6-1**, which method (i.e., sterilization or high-level disinfection) is used depends on whether the instruments will touch only intact mucous membranes/broken skin or come in contact with the blood stream, tissue deep beneath the skin or tissue which normally is sterile.

Table 6-1. Decontamination, High-level Disinfection and Sterilization

To Make Instruments/Items Safer to Contact:	Appropriate Infection Prevention Process	Example
Intact (unbroken) skin	Decontamination destroys viruses (such as HBV and HIV), bacteria, fungi and parasites	Contaminated instruments and gloves prior to cleaning; pelvic exam table or other surfaces contaminated by body fluids
Intact mucous membranes or broken skin	High-level disinfection (HLD) destroys all microorganisms except some endospores [*] ; HLD should be preceded by decontamination and cleaning	Uterine sounds, specula, IUDs (packed in bulk), IUD inserters, gloves for pelvic exams
Blood vessels or tissue beneath the skin	Sterilization destroys all microorganisms, including endospores; sterilization should be preceded by decontamination and cleaning	Instruments such as needles and syringes, scalpels, trocars for Norplant ^R , reusable gloves for surgery

* Bacterial endospores are forms of bacteria which are very difficult to kill because of their coating; types of bacteria which can produce endospores include the bacteria causing tetanus and gangrene (*Clostridia sp.*). Bacterial endospores can be reliably killed only by sterilization.

Source: Adapted from Spaulding EH: Chemical disinfection of medical and surgical materials. In: Lawrence CA et al (eds): *Disinfection, Sterilization and Preservation*, 1st ed. Philadelphia, Pennsylvania, Lea & Febiger, 1968.

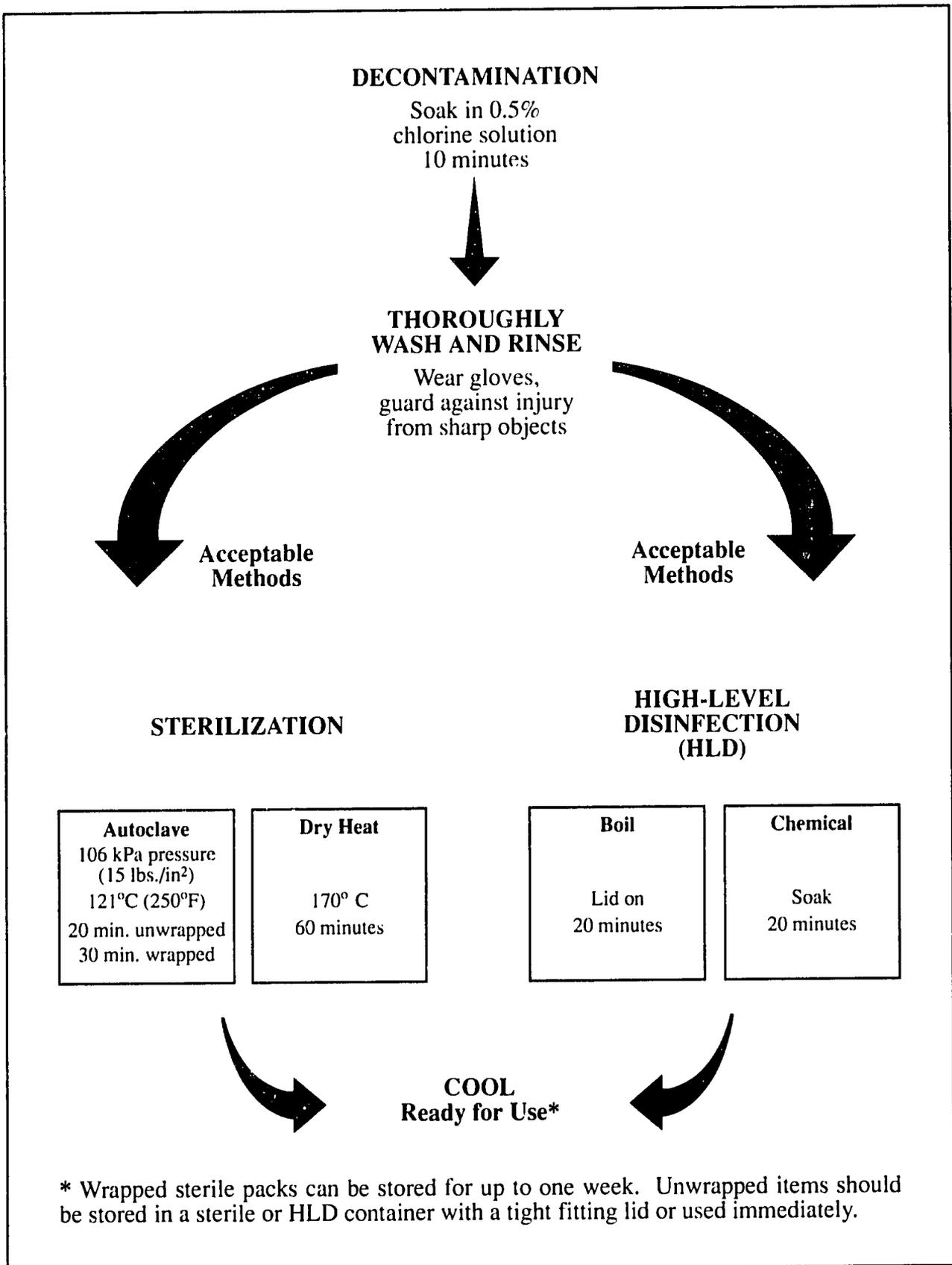
Because intact mucous membranes generally are resistant to infections caused by common bacterial endospores, **HLD satisfactorily renders surgical instruments and gloves safe for use in inserting or removing IUDs**

When is sterilization absolutely essential? When can high-level disinfection (HLD) be an acceptable alternative?

Most authorities recommend that instruments and other items used for surgical contraceptive procedures such as voluntary sterilization (minilaparotomy or vasectomy) or Norplant^R insertion/removal, should be sterile. Some guidelines are more flexible, however, and state that when sterilization equipment is not available, high-level

disinfection (HLD) can be used. In fact, the sole use of sterilization is not possible or practical in many service delivery sites, not only in developing countries, but also in developed ones. For example, laparoscopes, which would be damaged if submitted to either autoclaving or dry heat sterilization, usually are processed between cases by HLD. Sterilization, when correctly performed, is clearly the safest and most effective method for processing instruments; however, if it is neither available nor suitable, then HLD is the only acceptable alternative (**Figure 6-1**). For IUD insertion and removal, either sterilization or HLD are acceptable procedures.

Figure 6-1. Processing Instruments, Gloves and Other Items



Remember: For either the HLD or sterilization process to be effective, decontamination and cleaning of instruments and other items must be done properly.

PROTECTIVE BARRIERS

Placing a physical, mechanical or chemical "**barrier**" between microorganisms and an individual, whether a client or health worker, is an effective means of preventing the spread of disease (i.e., the barrier serves to break the disease transmission cycle). **Protective barriers** in infection prevention include:

- Handwashing
- Wearing gloves (both hands), either for surgery or when handling contaminated waste materials or used (soiled) instruments
- Using antiseptic solutions for cleaning wounds or prepping the skin prior to surgery
- Decontaminating, cleaning and high-level disinfecting or sterilizing surgical instruments, reusable gloves and other items

HANDWASHING AND GLOVES

Thorough handwashing and the use of protective gloves, when inserting or removing an IUD or handling contaminated waste materials, are key components in minimizing the spread of disease and in

maintaining an infection-free environment. Understanding when HLD or sterile gloves are required and, equally important, **when they are not**, can reduce costs while maintaining safety for both clients and staff.

Handwashing may be the single most important procedure in preventing infection. The vigorous rubbing together of all surfaces of lathered hands mechanically removes and often inactivates most organisms. To encourage handwashing, program managers should make every effort to provide a continuous supply of fresh water, either from the tap or a bucket, and soap.

For most activities, a brief handwashing with plain or antimicrobial soap for about 15 to 30 seconds followed by rinsing in a stream of water is sufficient.

Handwashing is indicated **before**:

- Examining (direct contact with) a client
- Putting on **high-level disinfected** or **sterile** gloves for IUD insertion or removal

Handwashing is indicated **after**:

- Any situation in which hands may be contaminated, such as:
 - Handling used (soiled) instruments and other items
 - Touching mucous membranes, blood or other body fluids (secretions or excretions)
- Removing gloves

Wash hands **after** removing gloves because gloves may have invisible holes or tears.

Microorganisms grow and multiply in moisture and in standing water. Therefore:

- If bar soap is used, provide small bars and soap racks which drain
- Avoid repeatedly dipping hands into basins containing standing water, even with the addition of an antiseptic agent, such as Dettol^R or Savlon^R
- Choose from several options when no running water is available:
 - Use a bucket with a tap which can be turned off to lather hands and turned on again for rinsing, or a bucket and pitcher
 - An alcoholic handrub which does not require water
- Dry hands with a clean towel or air dry; shared towels can become readily contaminated
- Collect used water in a basin and discard in the latrine if a drain is not available

When to Wear Gloves

As a precaution, gloves should be worn by all staff prior to contact with blood and body fluids from any client. **A separate pair of gloves must be used for each client to**

avoid cross contamination. Using **new, single-use (disposable) gloves** is preferable. However, gloves can be washed and sterilized by autoclaving, or washed and high-level disinfected by boiling before reuse. Gloves may be made of latex, natural materials or synthetic materials such as vinyl.

Which Gloves to Choose

- **Clinicians:** When performing pelvic exams or inserting or removing IUDs, new examination (disposable) or HLD (reusable) gloves should be used (sterile gloves are not necessary).
- **Cleaning Staff:** **Clean, thick household** (utility) gloves should be used for cleaning instruments and equipment as well as contaminated surfaces.

Do not use gloves which are cracked, peeling, or have detectable holes or tears.

Because most clinic staff may not know **how** to high-level disinfect reusable gloves by boiling, or **how** to dry and store them safely, the instructions are provided in **Appendix G.**

ANTISEPSIS

Infection following minor procedures such as IUD insertion or removal may be caused by microflora from the skin or vagina of the client or from the hands of the health care worker. Washing hands and cleaning the client's vagina and cervix with antiseptic solution prior to inserting or removing an IUD are important infection prevention measures.

Selection of Antiseptics

Antiseptics do not have the same killing power as the chemicals used for high-level disinfection (HLD). Thus, antiseptic solutions **never** should be used to HLD inanimate (non-living) objects such as instruments and reusable gloves.

Many chemicals qualify as safe skin antiseptics. The following antiseptic solutions are commonly available in different parts of the world:

- Alcohols (60 to 90%), ethyl, isopropyl or "methylated spirit"
- Cetrimide and chlorhexidine gluconate, various concentrations (e.g., Savlon^R)
- Chlorhexidine gluconate (4%) (e.g., Hibiclens^R, Hibiscrub^R, Hibitane^R)
- Parachlorometaxylenol (PCMX or chloroxylenol), various concentrations (e.g., Dettol^R)
- Hexachlorophene (3%) (e.g., Phisohex^R)
- Iodines (1 to 3%), tincture and aqueous (e.g., Lugol's)
- Iodophors, various concentrations (e.g., Betadine^R)

For **vaginal and cervical preps** prior to inserting or removing an IUD, use an aqueous (water-based) antiseptic, such as an iodophor or chlorhexidine gluconate. **Do not use alcohol.** Alcohols burn; they also dry and irritate mucous membranes, which

in turn promotes the growth of microorganisms.

Instructions for Performing Vaginal and Cervical Preps

- Step 1.** Ask the client about allergic reactions (e.g., to iodine) before selecting an antiseptic.
- Step 2.** After inserting the speculum, thoroughly apply antiseptic solution two or three time to the vagina and cervix. (It is not necessary to prep the external genital area if it appears clean. If heavily soiled, it is better to have the client wash the genital area thoroughly with soap and water before starting the procedure.)
- Step 3.** If iodophors are used, allow 1-2 minutes before proceeding. (Iodophors require time to release free iodine, the active substance.)

PROCESSING USED (SOILED) INSTRUMENTS, GLOVES AND OTHER ITEMS

In working to create an infection-free environment, it is important that the rationale for each of these recommended infection prevention processes (and their limitations) be clearly understood by clinic staff at all levels - from service providers to cleaning and maintenance staff.

With either IUD insertion or removal, the infection prevention steps which should be used to reduce disease transmission from

Infection Prevention

contaminated instruments, gloves and other items are:

- Waste disposal and decontamination,
- Cleaning and rinsing, and
- High-level disinfection or sterilization

The sequence and details for performing each of these processes are summarized in **Figure 6-1** and **Table 6-2**.

After completing either an IUD insertion or removal, and while still wearing gloves, properly dispose of contaminated objects (gauze, cotton and other waste items) in a leak-proof container or plastic bag. Following this, surgical instruments and reusable gloves, which were in contact with blood or body fluids, should be **decontaminated** by soaking for 10 minutes in a disinfectant (0.5% chlorine solution) immediately after use. Surfaces such as examination tables that may have been contaminated by body fluids also should be decontaminated before reuse. Next, instruments and reusable gloves should be thoroughly **cleaned** with detergent and water and completely rinsed before further treatment. Finally, instruments that touch only broken skin or mucous membranes (such as vaginal specula) should be **high-level disinfected** by boiling - a process that

destroys all microorganisms except some bacterial endospores. (For a detailed description of the processes for decontamination, cleaning, high-level disinfection or sterilization of instruments and other items, see **Appendix H**.)

Table 6-3 outlines the steps in processing the instruments, gloves and other items used for inserting and removing IUDs. This system was specifically developed to meet the infection prevention requirements for providing safe, low-risk IUD services in family planning and health clinics. When used in conjunction with a "no-touch" (aseptic) IUD insertion technique (described in **Chapter 7**) this approach has several advantages:

- Does not require the use of sterile instruments (high-level disinfection by boiling of decontaminated and cleaned instruments is sufficient)
- Eliminates the need for expensive single-use (disposable) sterile gloves (if IUDs are loaded in the sterile package as recommended)
- Employs readily available, inexpensive materials and methods for decontamination (chlorine solution), cleaning (detergent and water) and disinfection (boiling)

Table 6-2. Infection Prevention Guidelines for IUD Insertion or Removal**WASTE DISPOSAL AND DECONTAMINATION**

- STEP 1** After completing either an IUD insertion or removal, and while still wearing gloves, dispose of contaminated objects (gauze, cotton and other waste items) in a properly marked leak-proof container (with a tight fitting lid) or plastic bag.
- STEP 2** Fully immerse all metal instruments in a plastic bucket containing 0.5% chlorine solution (bleach) for 10 minutes before allowing staff and cleaning personnel to handle or clean them. (This pre-wash soak kills most microorganisms, including HBV and HIV.)
- STEP 3** All surfaces (such as the procedure table or instrument stand) that could have been contaminated by blood and mucus also should be decontaminated by wiping down with chlorine solution.
- STEP 4** If single-use (disposable) gloves were used, carefully remove them by inverting, and place in the leak-proof waste container. However, if the gloves are reusable, first briefly immerse both gloved hands in the bucket containing the chlorine solution and then carefully remove by inverting. Deposit the gloves in the chlorine solution.

CLEANING AND RINSING

After decontamination, thoroughly clean instruments with water, detergent and soft brush, taking care to brush all teeth, joints and surfaces. Next, rinse well after cleaning to remove all detergent (some detergents can render chemical disinfectants inert). Dry instruments before further processing.

HIGH-LEVEL DISINFECTION

High-level disinfection through boiling or the use of chemicals is the recommended practice. Surgical (metal) instruments and reusable gloves should be boiled for 20 minutes. Alternatively, instruments can be soaked for 20 minutes in a glutaraldehyde or 8% formaldehyde solution. After cooling (if boiled) or rinsing in boiled water (if chemical disinfectants used) and drying, instruments are ready to use. Use immediately or store for up to one week in a clean, dry, HLD container with a tight-fitting lid or cover.

STERILIZATION

Alternatively, instruments and reusable gloves used for IUD insertion and removal can be sterilized by autoclaving (121°C [250°F] and 106 kPa [15 lb/in²] for 20 minutes if unwrapped and 30 minutes if wrapped). Note: Dry heat sterilization (170°C [340°F] for 60 minutes) can be used **only** for metal or glass instruments.

STORAGE

Unwrapped instruments must be used immediately. Wrapped instruments, gloves and drapes can be stored for up to one week if the package remains dry and intact; one month if sealed in a plastic bag.

Table 6-3. Infection Prevention for IUD Services: Steps in Processing Instruments, and Equipment

Process	Decontamination is the first step in handling dirty instruments; reduces risk of hepatitis B and AIDS	Cleaning removes particulate matter and improves the quality of subsequent high-level disinfection or sterilization	High-level disinfection destroys all viruses, bacteria, parasites, fungi and some endospores	Sterilization destroys all microorganisms, including endospores
Instruments/Equipment	Decontamination	Cleaning	High-Level Disinfection	Sterilization ¹
Pelvic exam table top, or other large surface areas	Wipe off with 0.5% chlorine solution	Wash with detergent and water if organic material remains after decontamination procedure.	Not necessary	Not necessary
Gloves (rubber or plastic)	Soak in 0.5% chlorine solution for 10 minutes prior to cleaning (rinse or wash immediately ²)	Wash with detergent and water, removing all particles. Rinse with clean water and check for holes. If to be sterilized, dry inside and out (air or towel dry).	<ul style="list-style-type: none"> • Boil for 20 minutes in a pot with a lid (start timing when water begins to boil). • Gloves must be covered completely with water (See Appendix G). • Do not add anything to pot after water begins to boil. • Air dry before use or storage (See Appendix G). 	<ul style="list-style-type: none"> • Autoclave at 121°C (250°F) and 106 kPa (15 lbs/in²) for 20 minutes. • Do not use for 24-48 hours.
Instruments for pelvic exam and IUD insertion (e.g., specula, tenacula, forceps, and uterine sounds)	Soak in 0.5% chlorine solution for 10 minutes prior to cleaning (rinse or wash immediately ²)	Using a brush, wash with detergent and water, removing all particles. Rinse with clean water. If to be sterilized, air or towel dry.	Boiling: <ul style="list-style-type: none"> • Boil for 20 minutes in a pot with a lid (start timing when water begins to boil). • Instruments must be covered completely during boiling. • Do not add anything to pot after water begins to boil. 	<ul style="list-style-type: none"> • Dry heat for 1 hour after reaching 170°C (340°F), or • Autoclave at 121°C (250°F) and 106 kPa (15 lbs/in²) for 20 minutes if unwrapped, 30 minutes if wrapped.

5

Table 6-3 (continued)

Instruments/Equipment	Decontamination	Cleaning	High-Level Disinfection	Sterilization ¹
Instruments for pelvic exam and IUD insertion (e.g., specula, tenacula, forceps, and uterine sounds) (continued)			<ul style="list-style-type: none"> Air dry before use or storage. Chemical: soak for 20 minutes in: <ul style="list-style-type: none"> 8% formaldehyde, or a glutaraldehyde, and rinse well in water which has been boiled for 20 minutes. 	
IUDs and inserters (never reuse)	Not necessary	Not necessary	If bulk packaged, high-level disinfect with: <ul style="list-style-type: none"> a glutaraldehyde, or 8% formaldehyde, and rinse in water which has been boiled for 20 minutes. 	Most IUDs come in sterile packages. Discard if package seal broken.
Storage containers for instruments	Soak in 0.5% chlorine solution for 10 minutes prior to cleaning (rinse or wash immediately ²)	Wash with detergent and water removing all particles. Rinse with clean water, air or towel dry.	Boil container and lid as above. If container is too large, then: <ul style="list-style-type: none"> Fill container with 0.5% chlorine solution and soak for 20 minutes. Rinse with water which has been boiled for 20 minutes and air dry before use. Re-disinfect weekly, when empty or contaminated.	<ul style="list-style-type: none"> Dry heat for one hour after reaching 170°C (340°F), or Autoclave at 121° (250°F) and 106 kPa (15 lbs/in²) for 20 minutes if unwrapped 30 minutes if wrapped. Re-sterilize weekly, when empty or contaminated.

¹ If unwrapped, use immediately; if wrapped, may be stored up to one week prior to use.

² Avoid prolonged exposure to chlorine solution to minimize corrosion of instruments and deterioration of rubber or cloth products.

Source: Adapted from Perkins JJ: The central service department. In: *Principles and Methods of Sterilization in Health Sciences*, 2nd ed. Springfield, Illinois, Charles C. Thomas, 1983.

INFECTION PREVENTION TIPS: IUD INSERTION

To minimize the client's risk of post-insertion infection clinic staff should strive to maintain an infection-free environment. To do this:

- Exclude clients who are by history and physical examination at risk for sexually transmitted GTIs.
- Wash hands thoroughly with soap and water **before** and **after** each procedure.
- When possible, have the client wash her genital area **before** doing the screening pelvic examination.
- Use **clean, high-level disinfected** (or sterilized) instruments and gloves (**both hands**). Alternatively, disposable (single-use) examination gloves can be used.
- After inserting the speculum and while looking at the cervix, thoroughly apply antiseptic solution several times to the cervix and vagina before beginning the procedure.
- Load the IUD in the sterile package.
- Use a "**no touch**" insertion technique to reduce contamination of the uterine cavity (i.e., do **not** pass the uterine sound or loaded IUD through the cervical os more than once).
- Properly dispose of waste material (gauze, cotton and disposable gloves) after inserting the IUD.

- Decontaminate instruments and reusable items **immediately** after using them.
-

When these tips are followed, post-insertion infection rates are low; therefore, use of prophylactic antibiotics is **not** recommended.

INFECTION PREVENTION TIPS: IUD REMOVAL

IUD removal should be performed with similar care. To minimize risk to service providers and their co-workers during IUD removal:

- Wash hands thoroughly with soap and water **before** and **after** each procedure.
- When possible, have the client wash her genital area **before** doing the pelvic examination.
- Use **clean, high-level disinfected** (or sterilized) instruments and gloves (**both hands**). Alternatively, disposable (single-use) examination gloves can be used.
- After inserting the speculum and while looking at the cervix, thoroughly apply antiseptic solution several times to the cervix and vagina before beginning the procedure.
- Properly dispose of waste material (gauze, cotton and disposable gloves) after removing the IUD.
- Decontaminate instruments and reusable items **immediately** after using them.

DISINFECTING BULK-PACKAGED IUDs AND OTHER PROBLEMS

IUDs should **never** be reused

If supplied in bulk, inert IUDs **must** be high-level disinfected using chemical agents before use. (IUDs **should never be boiled or autoclaved** because heat deforms them.)

If it is necessary to HLD bulk-packaged IUDs, the following should be taken into consideration:

- Glutaraldehydes are expensive, often difficult to supply and, additionally, are toxic to human tissue. Once disinfected, the IUDs must be **thoroughly** rinsed with boiled water to remove the chemical residue.
- Following rinsing and air drying, the IUDs must be transferred to an HLD container with a tight-fitting lid without contaminating them.
- The IUDs can be considered disinfected only for about one week - less if the container is repeatedly opened or the IUDs are inadvertently touched by a non-sterile instrument such as a sponge forceps or lifter.
- A disinfected IUD can easily be contaminated during loading in the inserter tube.

Iodophors and alcohols are not classified as HLDs and therefore they should **not** be used

for disinfecting IUDs. In addition, low-level disinfectants such as benzalkonium chloride (Zephiran[®] or Savlon[®] which is a mixture of cetrime and chlorhexidene) should **never** be used to disinfect IUDs.

Fortunately, the vast majority of IUDs inserted worldwide, both copper and hormone-releasing, are supplied in pre-sterilized packages. Because they can be loaded easily in the package in a few seconds, sterility prior to insertion is assured. Even IUDs packaged in a sterile wrapper can become contaminated, however, if the package is torn or opened or if the shelf life has expired (e.g., the shelf life of the TCU 380A is four years). If the package seal is broken or there is any possibility the IUD may be contaminated, it is recommended that the IUD be discarded and another IUD from an unopened, sterile package be used. Attempting to disinfect a contaminated IUD by soaking in a high-level chemical disinfectant is **not** recommended in this instance.

TARNISHING

The occasional presence of tarnish on the surface of copper-releasing IUDs has caused unnecessary concern among family planning providers and other clinic staff. In particular, providers often think that a tarnished IUD may not be sterile or the tarnish may block the release of copper in the uterus, thereby reducing the effectiveness of the device.

The copper wire or sleeves on IUDs tarnish because moisture and gases penetrate the

All available evidence suggests that tarnished IUDs are safe and effective and can be inserted and used in the same way as untarnished IUDs.

IUD package, causing an oxide film to form on the copper. The IUD packaging material is designed to be permeable to ethylene oxide gas, which is used to sterilize packaged IUDs) but **not** to disease-causing microorganisms, including endospores.

Because tarnish can form even when IUD packages remain sealed, its presence does not suggest a non-sterile device. (As noted above, before an IUD is inserted, the packages always should be examined to check for visible breaks in the seal.)

The extremely thin layer of tarnish (about 0.016% of the copper wire radius) is not harmful and is unlikely to interfere with the release of copper ions in the uterus, based on a recent report from The Population Council's Center for Biomedical Research. This study showed that the copper release rate of the Copper T 380A IUD remained

the same even when the device was **tarnished**. Moreover, tarnished devices that had been inserted and later removed after successful use showed satisfactory evidence of copper dissolution (release of copper ions). In conclusion, research suggests that the tarnish sometimes observed on copper IUDs does **not** pose a risk to the user or reduce its effectiveness.

MAINTENANCE OF A SAFE ENVIRONMENT

Maintaining a safe, infection-free environment for the delivery of IUD services is an on-going process which requires frequent retraining and close supervision of clinic staff. With diligent application of recommended practices, infections following IUD insertion and removal and transmission of diseases, such as hepatitis B and AIDS, can be avoided. However, the practices described in this chapter must be conscientiously applied before and after each procedure. Laxity at any point in the routine can have disastrous results for the safety level of the next procedure.

REFERENCES

- American Association of Operating Room Nurses (AORN): Clinical Issues. *AORN J* 52:613-615, 1990.
- Centers for Disease Control: Recommendation for prevention of HIV transmission in health care settings. *Morbidity and Mortality Weekly Report* 36:2S, 1987.
- Department of Health and Mental Hygiene: Occupational exposure to human immunodeficiency virus. *Communication Disease Bulletin* (December) State of Maryland, 1990.
- Favero M: Chemical disinfection of medical and surgical material. In Block SS (ed): *Disinfection, Sterilization and Preservation*, 3rd ed. Philadelphia, Pennsylvania, Lea & Febiger, 1983.
- Favero M: Sterilization, disinfection and antisepsis in the hospital. In Lennette EH et al (eds) *Manual of Clinical Microbiology* 4th ed. Washington, D.C., American Society for Microbiology, 1985.
- Gardner J, Favero M: CDC guidelines for handwashing and hospital environment control. *Infect. Control* 7:231-235, 1986.
- Lowbury EJL et al: *Control of Hospital Infection: A Practical Handbook*, 2nd ed. Philadelphia and Toronto, JP Lippincott Co., 1981.
- Perkins JJ: The central service department. In *Principles and Methods of Sterilization in Health Sciences*, 2nd ed. Springfield, Illinois, Charles C. Thomas, 1983.
- Porter CW: Prevention of infection in voluntary surgical contraception. *Biomedical Bulletin* 6(1):1-7, 1987.
- Program for International Training in Health (INTRAH): *Sterilization, Disinfection, Decontamination and Cleaning of FP/MCH Clinic Equipment*. Chapel Hill, NC, INTRAH, 1989 (Training Information Packet).
- Spaulding EH et al: Chemical disinfection of medical and surgical materials. In Lawrence CA et al (eds) *Disinfection, Sterilization and Preservation*, 1st ed. Philadelphia, Pennsylvania, Lea & Febiger, 1968.
- Tietjen LG et al: *Infection Prevention for Family Planning Service Programs*. Durant, Oklahoma, EMIS, 1992.
- Tietjen LG, McIntosh N: Infection control in family planning facilities. *Outlook* 2:2-8, 1989.
- Wenzel RP (ed): *Prevention and Control of Nosocomial Infections*. Baltimore, Maryland, Williams & Wilkins, 1987.
- World Health Organization (WHO). *AIDS Series 2: Guidelines on Sterilization and High-Level Disinfection Methods Effective Against Human Immunodeficiency Virus (HIV)*, 2nd ed. Geneva, WHO, 1989.

IUD INSERTION AND REMOVAL

BACKGROUND

Many of the problems still associated with IUDs (expulsion, infection and perforation) are due to improper or careless insertion. To minimize post-insertion problems, all phases of the insertion process must be performed carefully and gently. **Finally, because insertion methods differ for different types of IUDs, always read and follow the manufacturer's instructions.**

GUIDELINES FOR IUD INSERTION

Timing of Insertion. Although an IUD may be inserted at any time during the menstrual cycle, there are certain advantages to insertions performed during or toward the end of menstruation including:

- There is little likelihood that the woman is pregnant
- Bleeding and cramping may be less noticeable at this time and hence less apt to cause anxiety

IUD insertions also may be done at the following times:

- Any time during the menstrual cycle if it is certain that the woman is not pregnant
- Postpartum: immediately following delivery, during the first 48 hours postpartum, or six to eight weeks or more after delivery (insertions after one week or before six weeks should be avoided because of the potentially greater chance of complete or partial uterine perforation during insertion)

- Immediately after menstrual regulation (MR) or spontaneous or induced first trimester abortion, provided there is no evidence of infection (e.g., no fever, no tenderness in the uterus and no purulent or foul-smelling vaginal or cervical discharge)

Recently, immediate post-delivery (within 10 minutes) placement of IUDs has been introduced in Latin America and other areas of the world. This procedure requires special skills and training, as well as coordination of counseling to ensure voluntarism and informed choice. Because guidelines for counseling, client selection and technical standards for immediate post-delivery insertion have not been established, instructions for performing this procedure are **not** included in this manual.

Preparation for Insertion. Have the instruments and supplies required for insertion readily available. This will shorten the time between conclusion of the screening pelvic examination and insertion of the IUD. **If the instruments come in a sterile or HLD pack, do not open the pack before the screening pelvic examination has been completed and a final decision to insert an IUD has been made.**

Instruments and Equipment for IUD Insertion

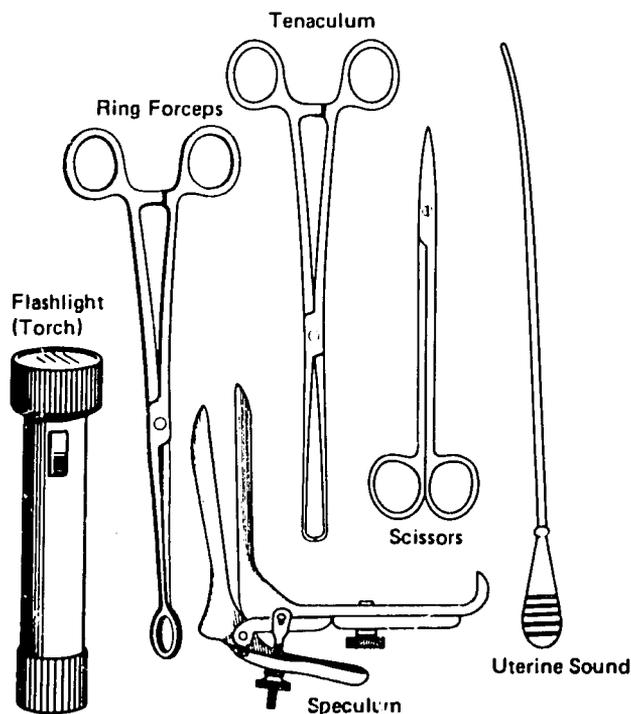
The IUD insertion/removal kit supplied by USAID (Medical Kit No. 2) contains all the instruments and equipment needed to insert and remove an IUD (see **Figure 7-1** and **Appendix I**). For insertion these include:

- Bivalve speculum (small, medium or large)

IUD Insertion and Removal

- Uterine tenaculum
- Uterine sound
- Sponge forceps or ring forceps
- Scissors
- Bowl for antiseptic solution

Figure 7-1. Instruments and Equipment for IUD Insertion



Source: Hatcher RA et al: *Family Planning Methods and Practice: Africa*. Atlanta, Georgia, Centers for Disease Control, 1983.

Additional items required are:

- Gloves (reusable high-level disinfected or sterilized or new disposable [single-use] examination gloves)
- Antiseptic solution for cleaning cervix (preferably an iodophor such as povidone iodine)
- Gauze or cotton balls
- Light source sufficient to visualize cervix (flashlight will suffice)
- Copper T 380A IUD in unopened, undamaged sterile package

In most developing countries, the IUD is inserted at the first clinic visit. Under these circumstances, clients need to be screened carefully to assure that they are at **low-risk** for GTIs (i.e., in a mutually faithful relationship). To minimize the risk of inserting an IUD in a woman with a previously unrecognized GTI, it is strongly recommended that after completing the abdominal examination, the speculum exam be performed **before** the bimanual. **Only if both the speculum and bimanual examinations are normal should the IUD be inserted.** In areas where the prevalence of sexually transmitted genital tract infections, such as gonorrhea and chlamydia, are high (10% or greater), the availability of simple microscopic testing (saline wet preparation and/or Gram stain of vaginal/cervical smear) adds a further measure of safety.

Safety Tip: In clinics where no testing is available, the presence of a foul-smelling vaginal discharge, purulent cervical discharge or friable (easily bleeding) cervix should warn the clinician to proceed with caution.

Minimizing the risk of infection. Basic infection prevention guidelines for minimizing the risk of disease transmission to clients and clinic staff, including housekeeping and cleaning personnel, were presented in **Chapter 6**. With proper training of clinic staff and diligent application of recommended procedures, post-IUD insertion pelvic infection and transmission of diseases such as hepatitis B and AIDS can be avoided. To achieve an infection-free environment, however, correct infection prevention practices must be followed during each insertion and removal procedure. These proven practices include:

- Thorough handwashing with soap and water
- Use of clean, **high-level disinfected** (but not necessarily sterilized) instruments and gloves on **both hands**
- Cleaning the cervix with an effective antiseptic before placing the tenaculum or inserting the uterine sound
- Proper decontamination of contaminated (soiled) instruments and reusable gloves immediately following the procedure. (This step decreases the risk of serious disease transmission if cleaning staff accidentally stick or cut themselves with a sharp instrument.)
- Proper handling and disposal of contaminated waste items (gauze,

cotton and disposable gloves soaked with blood or mucus)

Laxity at any point in the routine can have disastrous results for the safety of clients and clinic staff.

Recent studies show that neither IUD insertion nor IUD removal cause sufficient bacteremia to promote endocarditis among women with asymptomatic congenital or rheumatic valvular disease.

Women who are at "high risk" for endocarditis, however, **should** receive antibiotic prophylaxis against endocarditis. "High risk" women include those with:

- **Symptomatic** valvular disease
- Cardiopulmonary shunts
- Artificial heart valves

Appropriate antibiotic prophylaxis for "high risk" clients includes:

- **Standard oral regimen:** When it is not possible or affordable to give antibiotics by injection, the following **oral regimen** may be used:
 - Amoxicillin 3.0 g orally 1 hour before procedure; then 1.5 g 6 hours after initial dose.
 - Oral regimen for persons allergic to ampicillin/amoxicillin penicillin:

IUD Insertion and Removal

- Erythromycin ethylsuccinate 800 mg or erythromycin stearate 1.0 g orally 2 hours before procedure, then half the dose 6 hours after initial dose
- Clindamycin 300 mg orally 1 hour before procedure and 250 mg 6 hours after initial dose

Insertion Technique. The ten steps for inserting the Copper T 380A IUD using a safe and gentle method are outlined in **Table 7-1**.

This method, which is based on the "no touch" technique, emphasizes the importance of:

- Loading the IUD in the sterile package. **(This simple but extremely important step helps prevent the IUD from being contaminated before it is inserted.)**
- Thoroughly applying an effective antiseptic solution, such as povidone iodine, several times to the cervix (especially the os) and vagina. **(This step greatly reduces the load of contaminating microorganisms normally present.)**
- Avoiding contamination of the HLD (or sterile) uterine sound and loaded IUD by inadvertently touching the vaginal wall or speculum blades.
- Passing both the HLD sound and loaded IUD inserter only **once** through the cervical canal. **(This minimizes contamination of the uterine cavity with microorganisms introduced during uterine sounding and IUD insertion.)**

The 10-step method provides a systematic approach to safe and gentle insertion of the Copper T 380A. When correctly performed, this method minimizes the chance of post-insertion infection, perforation and expulsion. Recent studies in Kenya and Nigeria have shown that when correctly done using recommended infection prevention practices, IUD insertion is very safe and the risk of pelvic infection is **very low**. Because data are lacking to show that prophylactic antibiotics would reduce the already small risk of post-insertion infection, their use, which can be expensive and may cause allergic reactions, is **not recommended**. Key additional features of this IUD insertion method are that it:

- Incorporates steps for screening potential IUD clients where genital tract infections (GTIs) are a problem
- Outlines steps to ensure proper client assessment (size of uterus and sounding) and IUD insertion techniques to minimize risk of infection or perforation
- Uses high-level disinfected instruments (sterile items are not required)
- Eliminates the need for expensive (reusable or single-use) sterile gloves, **provided the IUD is loaded in the package**

Finally, an equally important advantage of this approach is that once the health care provider understands the rationale for each step, it is easy to use and teach.

TABLE 7-1

SAFE AND GENTLE INSERTION METHOD: COPPER T 380A IUD

TASK	RATIONALE	COMMENTS
STEP 1		
Tell client what you are going to do and encourage her to ask questions.	This helps client relax, making insertion easier and less painful.	Avoid saying things like "This won't hurt" - when it might cause discomfort - or "I'm almost done" -when you are not!
Tell her that she may feel discomfort during some of the steps and that you will tell her in advance.	This helps build confidence and trust.	Talk to client throughout the procedure.
Be sure the client has emptied her bladder.	This helps the client relax, making the bimanual exam easier.	
STEP 2		
Inspect external genitalia.	Check for ulcers, sores and groin swellings (buboes). Check for tenderness, swelling or discharge from Bartholin's and Skene's glands	Wear gloves on both hands (if reusable, they must be decontaminated, cleaned and HLD or sterilized after each use).
Perform vaginal speculum exam.	Check for vaginal discharge, cervicitis or urethral discharge; collect specimens, if indicated.	Speculum must be decontaminated, cleaned and HLD or sterilized after each use.
Perform bimanual pelvic examination.	Determine size, position, consistency, mobility and tenderness of uterus. Assess for cervical motion tenderness and adnexal or cul-de-sac masses or tenderness.	If any concern about possible pelvic infection or pregnancy, do not insert IUD.

IUD Insertion and Removal

Table 7-1, continued

TASK	RATIONALE	COMMENTS
STEP 3		
If indicated and available, perform microscopic exam.	Check for yeast, trichomonas or bacterial vaginosis (saline and KOH wet mounts and pH test). Check for GC or chlamydia (Gram stain).	If simple vaginitis, treat before inserting IUD. If suspected GC (positive for Gram negative intracellular diplococci [GNID]) or chlamydia, treat (and re-evaluate). Do not insert IUD.
STEP 4		
Load Copper T 380A in sterile package. (See Appendix J for instructions.)	HLD or sterile gloves not necessary if IUD loaded in the package.	Do not load more than 5 minutes before inserting. Otherwise, IUD may not return to original shape when inserted.
STEP 5		
Insert speculum and prep vagina and cervix.	Antiseptic solution reduces infection.	Thoroughly apply solution to vagina and cervix (2 or more applications). Inject local anesthesia at this point, only if necessary.
Apply tenaculum to cervix ¹ .	Stabilizes uterus and minimizes risk of perforation.	Apply gently at the 10 or 12 o'clock position, slowly closing the jaws of tenaculum to minimize discomfort.

¹ The tenaculum should be used by all persons learning to do IUD insertions. Experienced clinicians may find a tenaculum is needed only when the uterus is sharply flexed (i.e., to help straighten out the cavity) or when the internal os is tight.

Table 7-1 continued

TASK	RATIONALE	COMMENTS
STEP 6		
Pass uterine sound. (See Appendix K for instructions.)	Sounding confirms position of uterus and depth of uterine cavity.	Gently apply counter-traction when passing sound. Do not insert IUD if uterine cavity less than 6.5 cm.
	Pass sound only once through cervix ("no-touch" technique) to minimize chance of infection.	Do not touch side walls of vagina or speculum blades to avoid contamination.
STEP 7		
Inserting the Copper T 380A IUD. (See Appendix L for instructions.)	Set depth-gauge to measured depth. Carefully pass loaded inserter tube until depth-gauge touches cervix or until resistance felt.	Do not force insertion if resistance encountered.
	Release arms of IUD using with-drawal technique.	Apply gentle counter-traction with tenaculum when releasing arms of IUD.
	After arms of IUD are released, gently push in (up) on inserter tube.	Assures high (fundal) placement of IUD.
	Slowly and gently remove the rod and then the inserter tube; cut strings to 3-4 cm. length.	Minimizes chance of tail (strings) being trapped between rod and side wall of inserter tube and dislodging IUD.

IUD Insertion and Removal

Table 7-1, continued

TASK	RATIONALE	COMMENTS
STEP 8		
Before removing gloves, dispose of contaminated waste.	Minimizes risk of disease transmission (HBV and HIV) to staff.	Place contaminated (blood or mucus stained) cotton or other waste items in covered container or bag and incinerate.
Wipe down contaminated surfaces.	Minimizes risk of disease transmission (HBV and HIV) to staff.	Use 0.5% chlorine solution liberally.
STEP 9		
Immediately decontaminate instruments and reusable gloves.	Minimizes risk of disease transmission (HBV and HIV) to staff.	Soak instruments for 10 minutes in 0.5% chlorine solution prior to cleaning and disinfecting. Place disposable gloves in waste container. For reusable gloves, first immerse both gloved hands in 0.5% chlorine solution, then remove by inverting and place gloves in chlorine solution. Soak for 10 minutes.
STEP 10		
Teach client how to check for strings (use model if available).	Decreases risk of pregnancy from unsuspected lost IUD.	If culturally acceptable and privacy available, have client perform check before leaving.
Have client wait in clinic for 15 to 30 minutes after insertion.	Observe for excessive cramping, nausea or fainting, which may necessitate removal if not relieved by simple analgesics (aspirin or ibuprofen).	This occurs infrequently with the smaller copper IUDs and in women who have borne children.

IUD REPLACEMENT AND REMOVAL

As mentioned previously, inert IUDs, if not causing any problems, may be left in place indefinitely. However, for copper-releasing IUDs such as the TCu 380A, the manufacturers currently recommend that they be removed/replaced after eight years. Unless an IUD is being removed for a medical reason or at the client's request, a new IUD can be inserted **immediately** after removing the old, if the client so desires.

General Guidelines

- IUD removal is usually a routine, uncomplicated and painless procedure provided the clinician is gentle and careful. For routine removals, especially if you plan to replace the IUD, it may be easier to remove it during the menses.
- To avoid breaking the strings, apply gentle, steady traction and remove the IUD slowly.
- As with IUD insertion, to minimize the risk of infection with IUD removal, the same infection prevention practices must be followed.
- Instruments and equipment for removal are the same as for insertion. In addition, an alligator forceps should be available. (All instruments should be high-level disinfected [or sterilized] as described in **Chapter 6**.)

The steps for removing an IUD are detailed in **Table 7-2**.

An international multicenter study found that less than 2% of attempted removals of

standard IUDs proved difficult. One common reason for difficult IUD removal is that the IUD strings are "missing" - that is, they cannot be located in the vagina near the cervix. Usually, the strings have slipped up into the cervical canal, sometimes because they were cut too short at insertion. After ruling out pregnancy, the health care provider should use narrow forceps, such as a Bozeman or alligator forceps to probe the cervical canal and draw out the strings. A study in the UK found that missing strings could be retrieved this way in 50% of cases.

If the strings cannot be located, either they have retracted into the uterine cavity, or the IUD may have been expelled without the woman's knowledge. A sound can be used to check whether the IUD is in place. If it is, then attempt to draw out the strings using the Bozeman or alligator forceps.

Once the strings are retrieved, and if the woman wishes, it is often possible to leave the IUD in place if it has not been dislodged.

If the strings cannot be retrieved and the client wants the IUD removed, alligator forceps or any other type of retrieval instrument may be used. In doing this, the health care provider must be very careful not to injure the uterus. (Only a trained health care provider should attempt to remove an IUD where use of these instruments is needed; otherwise, refer the client for removal.)

An uncommon reason for missing strings or difficult removal is that the IUD has partially or completely perforated the uterus or become embedded in the uterine wall. Management of this problem is discussed in **Chapter 9**.

TABLE 7-2

STEPS IN REMOVING AN IUD

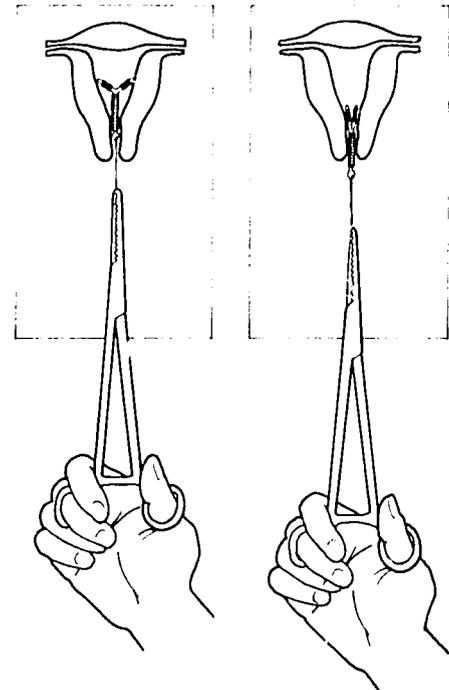
- STEP 1. Tell the client what you are going to do and encourage her to ask questions.
- STEP 2. Insert a speculum to visualize the cervix and IUD strings.
- STEP 3. Thoroughly apply antiseptic solution such as povidone iodine to the vagina and cervix two or three times.
- STEP 4. Tell the client that you are now going to remove the IUD. Ask her to take slow, deep breaths and relax. Inform her that there may be some cramping, which is normal.

Normal Removal. Grasp the strings close to the cervix with HLD or sterilized hemostat or other narrow forceps and pull slowly and firmly. The device can usually be removed without difficulty and you should not apply excessive force. To avoid breaking the strings, apply steady, but gentle, traction and remove the IUD slowly. If the strings break off, but the IUD is still visible, grasp the device with the forceps and remove it.

Difficult Removal. If the strings are not seen, probe gently for them in the cervical canal with HLD or sterilized hemostat or other narrow HLD or sterilized forceps. If the strings cannot be located in the cervical canal, the uterine cavity may be probed with HLD or sterilized alligator forceps, which can be used to grasp the strings or the IUD itself.

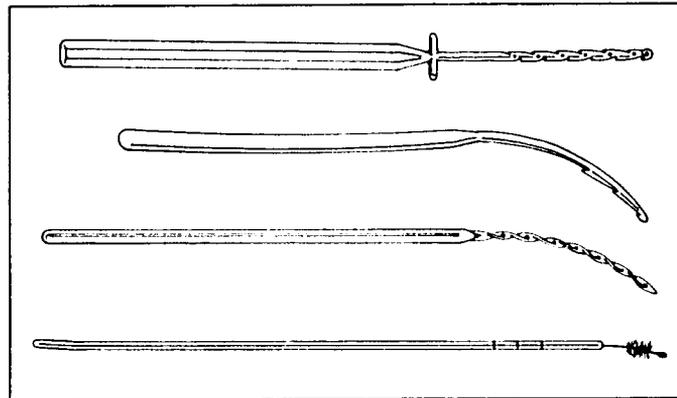
If you have partially removed the device but have difficulty drawing it through the cervical canal, attempt gentle, slow twisting while applying outward traction, as long as the client remains comfortable. If, from your bimanual exam, you believe a sharp angle between the uterus and cervix exists, place an HLD or sterilized tenaculum on the cervix and apply gentle traction downwards and outward, while repeating the gentle twisting of the IUD. Do not use force.

- STEP 5. Insert a new IUD if client wishes and conditions are appropriate.



Source: The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.

Figure 7-2. Instruments to retrieve missing strings from the uterine cavity include (top to bottom) the Emmett IUD thread retriever, the Retrievette, the Mi-Mark Helix and the experimental FHI string retriever.



REFERENCES

- Burnhill MS. Inserting IUDs safely. *Am J Gynec Hlth* 3(3):11-18, 1989.
- Burnhill MS et al: *Safely Using IUDS*. New York, American Journal Gynecology Health, Supplement, May/June 1989.
- Center for Communication Programs (Population Informatio Program) Intrauterine devices. *Population Reports*, Series B(5), 1989.
- Dajani AS. Prevention of bacterial endocarditis: recommendations by the American Heart Association. *JAMA* 264(22):2919-22, 1990.
- Hatcher RA et al: *Family Planning Methods and Practice: Africa*. Atlanta, Georgia, Centers for Disease Control, 1983.
- Farley TM et al: Intrauterine devices and pelvic inflammatory disease: an international perspective: *Lancet* 339(8796):785-8, 1992.
- Ladipo OA et al. Prevention of IUD-related infection: the efficacy of prophylactic doxycycline at insertion. *Adv Contracept* 7(1):43-54, 1991.
- The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.
- Seaworth B, Durack D. Infective endocarditis in obstetric and gynecologic practice. *Am J Obstet Gynec* 154(1):180-8, 1986.
- Seiler JS. Laparoscopic tubal sterilization combined with removal of an intrauterine contraceptive device: a report of 49 cases. *J Reprod Med* 31(5):339-42, 1986.
- Sinei SKA et al. Preventing IUD-related pelvic infection: the efficacy of prophylactic doxycycline at IUD insertion. *Brit J Obstet Gynaec* 97:412-9, 1990.

EIGHT

POST-INSERTION AND FOLLOW-UP CARE

BACKGROUND

Long-term success, as defined by satisfied clients and high continuation rates, will occur only if clinic staff recognize the importance of providing follow-up care (including counseling) and prompt management of side effects as well as other problems should they occur.

Most clients will not experience problems following IUD insertion. Where they do occur, however, immediate problems may include:

- Nausea
- Mild-to-moderate lower abdominal pain (cramping)
- Rarely, syncope (fainting)

Because of these potential problems, it is recommended that all clients remain at the clinic for 15 to 30 minutes before being discharged. **Remember:** Because counseling does not end once the IUD is inserted, this time can be put to good use.

CLIENT INSTRUCTIONS

Telling a client about the common IUD side effects, as well as what to do if certain problems occur, promotes continued use. In particular she should know:

What kind of IUD she has and when it needs to be replaced

- Following insertion, the effective life of the Copper T 380A IUD is at least eight years. The provider should give her a

card with the date of insertion and the IUD's effective life.

When to come back for a check-up

- Normally clients should return for a routine check after the first post-insertion menses (4-6 weeks) but not later than three months after insertion. (Give her a follow-up appointment before she leaves.)

What are the health risks with IUDs

- IUDs do not completely protect the woman from having an "ectopic" (outside the uterus) pregnancy.
- A woman who has an IUD is at a somewhat greater risk of developing infections in the uterus and/or fallopian tubes during the first month following insertion. These infections are called pelvic inflammatory disease (PID). Thereafter, unless she is at risk for STDs (e.g., either she and/or her partner have more than one sexual partner) it is unlikely that she will get a pelvic infection. Also, a woman who has an IUD should avoid douching if possible, as douching may increase the chance of infection.
- IUDs, although extremely effective, may fail, even if they are correctly in place. **If a woman who has an IUD thinks she is pregnant, she should go to the clinic as soon as possible for a check-up.** If she is pregnant, the IUD should be removed because there is a greater chance of miscarriage (losing the pregnancy during the first few months of

the pregnancy) and the possibility of developing a pelvic infection.

How she can tell if she has one of these health problems

- A woman with an IUD should come to the clinic as soon as possible if any of the following occur:
 - Period late with pregnancy symptoms (nausea, breast tenderness, etc.)
 - Persistent or crampy lower abdominal pain, especially if accompanied by not feeling well, fever or chills (these symptoms suggest possible pelvic infection)
 - Strings missing or the plastic tip of the IUD can be felt when checking for the strings
 - Either the woman or her partner begin having sexual relations with more than one partner; IUDs do not protect women from getting sexually transmitted genital tract infections (GTIs), including hepatitis B and AIDS.

How soon after insertion the IUD is effective

- It is effective immediately, and unless she has just had a baby, she can have sex as soon as she wants. **The client should be told that there might be some bleeding or spotting during the first few days after insertion.** She should not worry if this happens.

When to check the IUD strings

- During the first month after insertion, the client should check the strings several times, including after her next menstrual period. After the first month, she should check the strings after each menstrual period.

Also check the strings if any of the following occur:

- Cramping in the lower part of the abdomen
- Spotting between periods or after intercourse
- Pain after intercourse, or if her husband or partner experiences discomfort during sex

Any of these symptoms may suggest that the IUD is being expelled. If they persist, or on checking if the strings are longer or the hard part (plastic) of the IUD can be felt in the vagina, she should return to the clinic for a check-up.

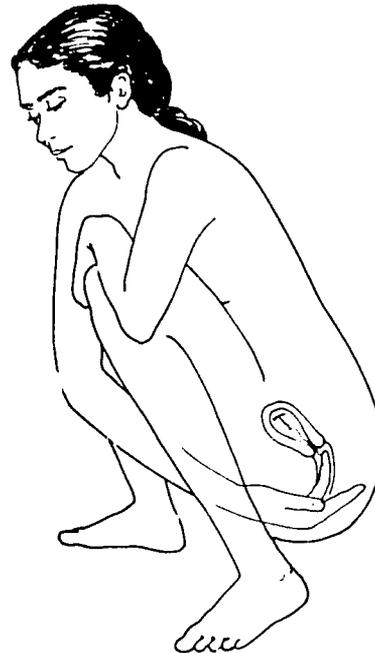
- Since most expulsions occur during menstruation, the IUD user should check menstrual cloths, pads or tampons, as well as the toilet or latrine during menstrual periods. **If the device is expelled accidentally, she should return to the clinic for possible insertion of another IUD. She should use another contraceptive method until her IUD is replaced.**

Why and how to check the IUD strings

- She should know that it is important to check the IUD strings so that she can be sure the IUD is still in place.
- To check the IUD strings, the woman should:
 - Wash her hands.
 - Sit in a squatting position or put one foot up on a step or a ledge.
 - Insert either her second or middle finger into the vagina to find the opening to the uterus (the cervix). She will know it because it feels firm, like the tip of her nose.
 - Feel for the strings. If she feels the strings, it means that the IUD is correctly in place. **She must never pull on the strings.** This could cause the IUD to come out and could damage the cervix.
 - If she cannot feel the strings, if they feel longer or shorter than normal or if she feels the stem of the IUD protruding from the cervix, she should return to the clinic for a check-up. She should **not** have sex until the IUD is replaced unless she uses another contraceptive method.

What to do if there are changes in her menstrual periods

- For most women the first few periods will be heavier, last longer and she may have more cramping (unless she is using an hormonal IUD). This is not harmful. However, if the bleeding lasts twice as long as usual or if she uses twice as



Source: The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.

many pads, cloths or tampons, she should see a health care provider.

How to protect herself from exposure to GTIs and other STDs, including hepatitis B and AIDS

- Use condoms and/or spermicides in addition to the IUD if she thinks there is any chance she or her partner is at risk for exposure to sexually transmitted GTIs and other STDs.

When to have the IUD removed

- If the client desires
- If the client wants to get pregnant

Post-Insertion and Follow-up Care

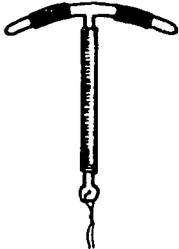
- If there are persistent side effects or other health problems
- At the end of the effective life of the IUD. For example, the TCu 380A should be removed after eight years.

To have the IUD removed, the woman should return to the clinic. She should **never** try to remove the IUD herself or ask an untrained person to remove the IUD. Normal fertility returns soon after IUD removal. If the client does not want to become pregnant, another IUD can be

inserted immediately. There is no need for a "rest period" before inserting another IUD. Finally, remember to tell the client that **she can have the IUD removed at any time for any reason** and choose another contraceptive method.

To help the client understand and remember the most important points, be sure to explain them to her clearly and simply, and repeat them several times. It also is useful to give the client printed material, if available, with the name and a picture of the IUD as well as the date of insertion and time for removal (see **Figure 8-1**).

Figure 8-1. Sample Information Card for IUD User

FRONT	BACK
<p>YOUR IUD IS A TCu-380A</p>  <p>User's Name: _____ Please come for your next visit on: _____ / _____ / _____ / _____ / _____ /</p> <p style="text-align: center;">Family Planning Clinic</p> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><p>Date IUD inserted: _____ Return for IUD removal on: _____</p></div>	<p>WARNING SIGNS FOR IUD USERS</p> <p>You should see a health worker immediately if you have:</p> <ul style="list-style-type: none">● Period late (pregnancy), abnormal spotting or bleeding● Abdominal pain, pain with intercourse● Infection (such as gonorrhea), abnormal discharge● Not feeling well, fever, chills● Strings missing, shorter or longer

Source: The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989

FOLLOW-UP CARE

Normally, clients should return after the first post-insertion menses (4 to 6 weeks), but not later than three months, for their first check-up. At the first regular check-up:

- Inquire about problems, questions, complications or side effects
- Answer the client's questions or concerns
- Perform a speculum and bimanual exam to:
 - See the strings
 - Check for vaginal discharge or cervicitis suggestive of a genital tract infection
 - Gently palpate the cervical os for any plastic which might indicate that the IUD is dislodged from the fundus (partially expelled)
 - Check for uterine and adnexal tenderness or other signs of infection
- Provide oral iron supplementation if she appears to be anemic (e.g., Hgb less than 9 gm/dl or Hct less than 30)
- If the client is satisfied with the IUD and there are no precautions for continued use:

- Remind her about the warning signs which require that she come back immediately
- Schedule her for a return visit in about 12 months
- Remind her at each annual visit of the date (month/year) her IUD needs to be removed/replaced

Continuing users normally need follow-up visits only annually.

It is important to remember that successful IUD programs require well trained staff who exhibit:

- Good clinical judgement in selecting acceptors
- Care, sensitivity and thoroughness in informing the user about IUDs and common side effects
- Skill in inserting (and removing) the IUD
- Knowledge and ability to recognize real or potential problems
- Capability to take appropriate clinical action in response to these problems, including knowing when (and where) to refer clients with serious complications

Long-term success, as defined by satisfied clients and high continuation rates, will only occur if clinic staff recognize the importance of providing follow-up care.

REFERENCES

The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.

The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Guide for Health Workers*, 2nd ed. Seattle, Washington, PATH, 1989.

MANAGEMENT OF SIDE EFFECTS AND OTHER HEALTH PROBLEMS

BACKGROUND

Most side effects and other health problems associated with the use of IUDs are not serious. As mentioned previously, changes in the menstrual pattern, especially some increase in the amount and duration of menstrual bleeding, are the most common adverse side effects. In addition, during the first few menstrual cycles, clients may experience increased discomfort (dysmenorrhea) with their menses.

In this section supplemental information regarding the most important health problems and serious side effects associated with IUD use is provided. These include:

- Management of early pregnancy with an IUD in place
- Extrauterine (ectopic) pregnancy
- Pelvic infection (PID)
- Management of uterine perforation

Finally, also included in this section is a **Problem, Assessment and Management** matrix (Table 9-1) which outlines the steps in evaluating and managing most of the commonly-encountered side effects and other problems.

PREGNANCY

Approximately one-third of IUD-related pregnancies are due to undetected partial or complete expulsion of the IUD. Pregnancies may occur, however, even if

the IUD is correctly in place. As mentioned previously in **Chapter 1**, there is an increased incidence of septic abortion, associated in some instances with septicemia, septic shock and death, in clients becoming pregnant with an IUD in place. For this reason, if pregnancy is diagnosed, the IUD should be removed.

When pregnant:

- If the strings are visible and the pregnancy is less than 13 weeks (first trimester), the IUD should be removed. If the IUD is removed within this period, there should be no adverse effect other than a slightly increased risk of spontaneous abortion. If the woman consents, remove the IUD with gentle traction. Instruct her to return if she experiences bleeding, cramping or signs of infection.
- If the **strings cannot be located** at the cervical os or in the distal cervical canal and/or the pregnancy is beyond the first trimester, removal is more difficult. If this is the case, carefully discuss with the woman the option of a therapeutic abortion, if legally available.
- If the woman wants to continue her pregnancy but does **not** want her IUD removed, advise her that there may be an increased risk of spontaneous abortion and sepsis, and the pregnancy should be followed closely. Stress the importance of reporting all abnormal symptoms (fever, lower abdominal pain and/or bleeding) immediately.

EXTRAUTERINE (ECTOPIC) PREGNANCY

Because IUDs provide less protection against extrauterine pregnancies than intrauterine pregnancies, a pregnancy that occurs while a woman is using an IUD is somewhat more likely to be extrauterine (see **Chapter 1** for discussion). Therefore, those women in whom pregnancy occurs should be carefully evaluated with this complication in mind.

PELVIC INFLAMMATORY DISEASE (PID)

Pelvic inflammatory disease occurring with an IUD in place can cause serious complications, such as tubo-ovarian abscesses or general peritonitis, which may lead to loss of fertility. Symptoms of pelvic infection include abnormal vaginal discharge, abdominal or pelvic pain, pain with sexual intercourse (dyspareunia) and fever. These symptoms are especially significant if they begin several cycles after insertion. (Appropriate tests, such as a Gram stain, a cervical smear or culture of cervical discharge, should be done if possible.) If the diagnosis of PID is made, the IUD should be removed and antibiotic therapy initiated. If the client does not show marked improvement within 24 to 48 hours, the treatment should be reassessed. If no cultures were taken initially, the client should be referred to a facility where this can be done and intravenous antibiotic therapy is available.

UTERINE PERFORATION, EMBEDDING AND CERVICAL PERFORATION

The incidence of uterine perforations varies greatly from program to program and from clinician to clinician. Reported incidence may vary also because perforations are often "silent" or asymptomatic, occurring without bleeding or pain. Cervical perforations may occur when the IUD is being expelled spontaneously. In these cases, the IUD may be embedded in the uterine wall and be partially expelled through the lateral fornices (space between the outer surface of the cervix and the vaginal walls). Only an experienced clinician should attempt to remove an IUD that is perforating the cervical wall. (To remove it, grasp the exposed tip with an alligator or Bozeman forceps, push it back up into the uterine cavity and then gently remove it in the usual manner.)

Objective findings of uterine perforation include the absence of IUD strings, inability to withdraw the IUD if the strings are still present and demonstration of a displaced IUD by x-ray, hysteroscopy or ultrasound. Ultrasound may be used to locate metallic IUDs but is ineffective when large fibroids are present or when the IUD has migrated from the pelvis. If the IUD is free-floating in the abdomen, it usually will not be possible to locate it with ultrasound.

If uterine perforation is documented, removal of the IUD can be considered, the earlier the better. Laparoscopy is the

preferred method, but should not be attempted unless the surgeon is experienced in IUD removal using a laparoscope. Recent evidence suggests that although copper-releasing IUDs become completely or partially encased in fibrous adhesions, they rarely if ever cause problems and are better left in place intra-abdominally. Removal often is accompanied by pelvic abscess or other complications.

In summary, IUD perforations occur in 0.5 to 1.5 of every 1,000 insertions. Ultrasound is not a good way to locate intra-abdominal IUDs - anterior-posterior (AP) and lateral x-rays are still preferable.

Removal of an intra-abdominal IUD should be considered **only** if the perforation is discovered within the first few days (or weeks) after insertion and should be performed **only** by a surgeon experienced in removing IUDs by laparoscopy; otherwise, leave it in place.

Table 9-1

MANAGEMENT OF SIDE EFFECTS AND OTHER HEALTH PROBLEMS

SIDE EFFECT OR PROBLEM	ASSESSMENT	MANAGEMENT
Amenorrhea	Ask client when she had her last menstrual period (LMP).	<p>If pregnancy less than 13 weeks (by LMP) and strings visible, explain that IUD should be removed to minimize risk of pelvic infection.</p> <p>Do not attempt to remove IUD if:</p> <ul style="list-style-type: none"> • Strings are not visible, or • Pregnancy greater than 13 weeks (by LMP)

¹ Oligomenorrhea (menstrual interval greater than 35 days) and secondary amenorrhea (menstrual interval greater than 3 months) frequently occur with progestin-containing IUDs (Progestasert[®] and LevoNova[®]). Therefore, be sure to ask the client what type of IUD she has.

SIDE EFFECT OR PROBLEM	ASSESSMENT	MANAGEMENT
Cramping	Do abdominal and pelvic (speculum and bimanual) exams to check for PID and other causes of cramping, such as partial expulsion of the IUD, cervical or uterine perforation or ectopic pregnancy.	Client has had IUD less than 3 months: <ul style="list-style-type: none">• If no cause found and cramping not severe, reassure the client, provide aspirin or similar analgesic.• If no cause found but cramping severe, remove the IUD. Replace with a new IUD or help the client choose another method. Client has had IUD more than 3 months: <ul style="list-style-type: none">• If no cause found, remove IUD. If there is no evidence of infection, replace with a new IUD or help the client choose another method.
Ectopic Pregnancy	Irregular bleeding with or without symptoms of pregnancy or infection, pelvic pain or tenderness, or palpable adnexal mass.	Refer to appropriate facility for complete evaluation

SIDE EFFECT OR PROBLEM	ASSESSMENT	MANAGEMENT
Irregular or Heavy Bleeding	<p>Perform speculum and bimanual exams to insure there is no cervical pathology nor evidence of intrauterine or ectopic pregnancy or spontaneous abortion.</p>	<p>Client has had IUD less than 3 months:</p> <ul style="list-style-type: none"> • If exam is normal, reassure and give iron tablets (1 tablet daily for 1-3 months). Ask client to return in 3 months for another check. Use locally approved drugs, such as ibuprofen, during bleeding episode, if available. • If bimanual exam shows enlarged or irregular uterus due to fibroids, tell client of the problem. Remove if client is anemic or requests removal, and help client select another method.
	<p>How much has she bled?</p> <ul style="list-style-type: none"> • Check for signs of marked anemia (pale conjunctivae or nail beds, low hemoglobin/hematocrit) 	<p>Client has had IUD more than 3 months:</p> <ul style="list-style-type: none"> • If negative exam and short (less than 3 weeks) bleeding intervals, suspect anovulation; if longer intervals (more than 6 weeks) suspect delayed ovulation or if with hot flashes, suspect menopause (age over 35) or other gynecologic endocrine problem. Refer to specialist. <p>Recommend removal if severe anemia present (e.g., less than 9 gm/dl Hgb or 30 Hct) and help client choose another method. If IUD is inert (Lippes Loop) and IUD is still client's choice, remove current IUD and insert a new IUD; give three more months of iron tablets and re-examine in three months. If client already has copper IUD, remove IUD and help client select another method.</p>
IUD Sterile Package Damaged		Discard IUD and use another IUD from a sterile package

SIDE EFFECT OR PROBLEM	ASSESSMENT	MANAGEMENT
Missing Strings	Ask the client whether she knows if the IUD has come out/been expelled.	If client knows the IUD fell out, check for pregnancy, provide back-up method and reinsert IUD during her next period if client desires.
	If client does not know if IUD was expelled, ask her: <ul style="list-style-type: none">• When she had her LMP• When she last felt the strings• If she has any symptoms of pregnancy• If she used a back-up method (e.g. condom) from the time she noticed the missing strings	Strings may be found high up in the vagina: <ul style="list-style-type: none">• If exam reveals suspected pregnancy, refer to appropriate facility for complete evaluation.• If no strings are seen on vaginal exam, it may mean that the IUD has fallen out or strings may be in the cervical canal (not visible).• If strings not found by carefully probing the cervical canal, client should use a non-hormonal method and return with menses or in 4 weeks if her period does not start (see Chapter 7).
	Do speculum and bimanual examination; check for signs of pregnancy.	
	If she comes back while having her period, do a speculum examination.	Strings may come down with menses. If strings are seen, reassure client that strings are present, and help her feel them.
	If strings are still not seen, rule out perforation.	Refer to check for IUD either by carefully sounding the uterus, x-ray or ultrasonography. (See Chapter 7 .) <ul style="list-style-type: none">• If IUD not found on referral, IUD may have been expelled without being seen. Insert another IUD, or help client choose another method.
If she comes back with delayed (>4 weeks) menses, check for pregnancy.	If pregnant, see "Amenorrhea," above.	
Partner complains about strings	Check to be sure that IUD is in place (i.e., not partially expelled)	Counsel client that one option is to cut string even with cervical os (inform client that she will no longer be able to feel string and record in chart that string has been cut even with cervix for future removal).

SIDE EFFECT OR PROBLEM	ASSESSMENT	MANAGEMENT
Pelvic Infection Cramping accompanied by abdominal tenderness, fever, flu-like symptoms, headache, chills, nausea or vomiting, vaginal discharge, painful intercourse, palpable pelvic mass.	Perform abdominal and pelvic (speculum and bimanual) exams and GTI testing if available. If urethritis or cervicitis (purulent discharge or beefy red cervix) check Gram stain of cervical discharge. (See Appendix E: Cervicitis for details.)	<ul style="list-style-type: none">• If abdominal and pelvic exams confirm uterine and/or adnexal tenderness and/or microscopic testing supports the diagnosis of PID:<ul style="list-style-type: none">• Remove IUD.• Treat with antibiotic.• If diagnosis equivocal, treat with antibiotics without removing IUD. Observe carefully for results of antibiotic treatment.• If diagnosis equivocal and client follow-up is not possible, remove IUD and treat with antibiotics.
Suspected Uterine Perforation		<p>When sounding the uterus:</p> <ul style="list-style-type: none">• Stop the procedure. Observe for signs of intra-abdominal bleeding (i.e., falling BP, rising pulse, severe abdominal pain, tenderness, guarding and rigidity).• Take BP and pulse every 15 minutes for 90 minutes. From resting position, have client sit up rapidly. Observe for syncope or pulse greater than 120/min.• If negative after 2 hours, discharge with instructions for warning signs which require immediate return to clinic. Return after 1 week for check up. <p>When inserting the IUD (complete or partial):</p> <ul style="list-style-type: none">• Stop the procedure. Remove the IUD and initiate steps as above.

SIDE EFFECT OR PROBLEM	ASSESSMENT	MANAGEMENT
Syncope, bradycardia, vasovagal episode during IUD insertion or removal	Is woman anxious? Does she have a small uterus or relative cervical stenosis? (These characteristics increase risk for syncope and/or vasovagal reaction.)	Everything done at time of IUD insertion and removal should be done slowly and gently. <ul style="list-style-type: none">• Maintain a calm, relaxed unhurried atmosphere with a gently reassuring approach to the client.• At the earliest sign of fainting, stop the insertion.• Put a cool, wet cloth to the client's forehead.• If severe pain occurred as the IUD was being inserted through the cervical canal, leave the IUD in place and allow the patient to rest. Keep the client supine, the head lowered and legs elevated to ensure adequate blood flow.• Maintain a clear airway by supporting the chin. (Do not hyperextend the neck.) Loosen any tight clothing, especially around the neck.• Avoid overtreatment; observation and support usually are all that is required. Use analgesics (aspirin or ibuprofen) for abdominal pain/cramping.• Remove IUD if pain persists and is not relieved by analgesics or if client request removal. Help her choose another method.

SIDE EFFECT OR PROBLEM	ASSESSMENT	MANAGEMENT
Vaginal Discharge	<p>Check history for GTIs or other STD exposure and examine for vaginitis or purulent cervicitis or beefy red cervix.</p> <p>Examine saline and KOH wet mounts of vaginal discharge for trichomonas, monilia (candida), gardnerella. (See Appendix E: Vulvovaginitis for details.)</p> <p>Prepare Gram stain of vaginal or cervical discharge. Observe for Gram negative intracellular diplococci (GNID) and WBC (PMNs). (See Appendix E: Cervicitis and Urethritis for details.)</p>	<p>If saline or KOH wet mounts are positive, treat for specific organism.</p> <p>If positive for GNID, treat for GC. If negative for GNID and purulent cervicitis or beefy red cervix, treat for chlamydia. Do GC culture if available.</p>

Source: Adapted from Program for International Training in Health (INTRAH): *Guidelines for Clinical Procedures in Family Planning and Sexually Transmitted Diseases: A Reference for Trainers*. Chapel Hill, North Carolina, INTRAH, 1989.

REFERENCES

Burnhill MS et al: *Safety Using IUDs*. American Journal of Gynecologic Health, New York, Supplement, May/June 1989.

Program for International Training in Health (INTRAH): *Guidelines for Clinical Procedures in Family Planning and Sexually Transmitted Diseases: A Reference for Trainers*. Chapel Hill, North Carolina, INTRAH, 1989.

The Population Council and the Program for Appropriate Technology in Health (PATH). *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.

ORGANIZING AND MANAGING AN IUD SERVICE

IUD services, although not as easy to provide as other types of reversible contraceptives such as pills and injectables, often can be introduced into family planning programs using existing personnel, facilities, referral and service delivery channels.

BACKGROUND

In order to make contraceptive methods readily available to as many people as possible, most family planning program managers employ a combination of service delivery strategies within the health care system. Some methods, such as oral contraceptives and condoms, can be provided through both clinic-based and community-based services. Because of the infection prevention practices required to insert and remove IUDs and the need for GTI screening, this service should be delivered **only** through clinic-based services.

Clinic-based services. There are two main types of clinic-based services: those that provide family planning as part of an integrated MCH/FP primary health care service and those that provide only family planning services. In integrated service clinics, family planning is provided as part of the maternal and child health and other primary health care services. Such clinics may be part of a national health service or may be paid for and run by nongovernmental organizations, women's groups, etc. In addition, private medical practitioners provide clinic-based family planning services as part of their family health care. In many settings, they form an important group of health care providers who supply IUD services. Ideally, IUDs should be available whenever and wherever other family planning methods are offered.

Clinics are used largely by people living in cities, suburban areas and towns. Potentially, the standard of care can be high (i.e., side effects can be treated on the premises and, if the facilities are available, individuals can be screened for anemia and GTIs). Also, the cost per user-year tends to be low for all methods because of the large number of people served. In most countries, however, 40 to 90% of the population live in rural areas and urban slums and have only limited access to clinics. Such people often are not willing to travel long distances for preventive, as opposed to curative, care. One solution to this problem is to provide services in rural areas through mobile facilities, usually operated out of large clinics or hospitals. The advantage of this approach is that it takes the service to the community, but operating costs can be very high per client served. Moreover, assuring quality services, especially follow-up care and voluntary removal on demand may be more difficult.

FACILITIES

IUDs can be offered in a number of different permanent and temporary locations. Although most clinics providing primary health care services will be able to incorporate IUD services within their existing facilities, there are certain space requirements that should be met to provide

high-quality, comprehensive services. Space needs are as follows:

- A comfortable waiting-room
- Toilet and washing facilities for clients and staff
- Space for counseling, preferably private
- An examination/procedure room which is private, with adequate lighting and a sink, and where clients can be examined (general and pelvic) and IUDs inserted and removed
- Area where vaginal and/or cervical specimens can be examined microscopically
- Cleaning area/utility room where instruments and reusable gloves can be cleaned and linen washed
- Area for high-level disinfection or sterilization of IUD instruments and space for their storage
- Storage area for medical supplies; it should be cool, dry, secure and well-ventilated
- Area for office work, maintenance and storage of records, and the storage of information materials

Several of these functions may share a common space, especially in health facilities that are not very busy. As the caseload increases, a separate area may need to be assigned to each function.

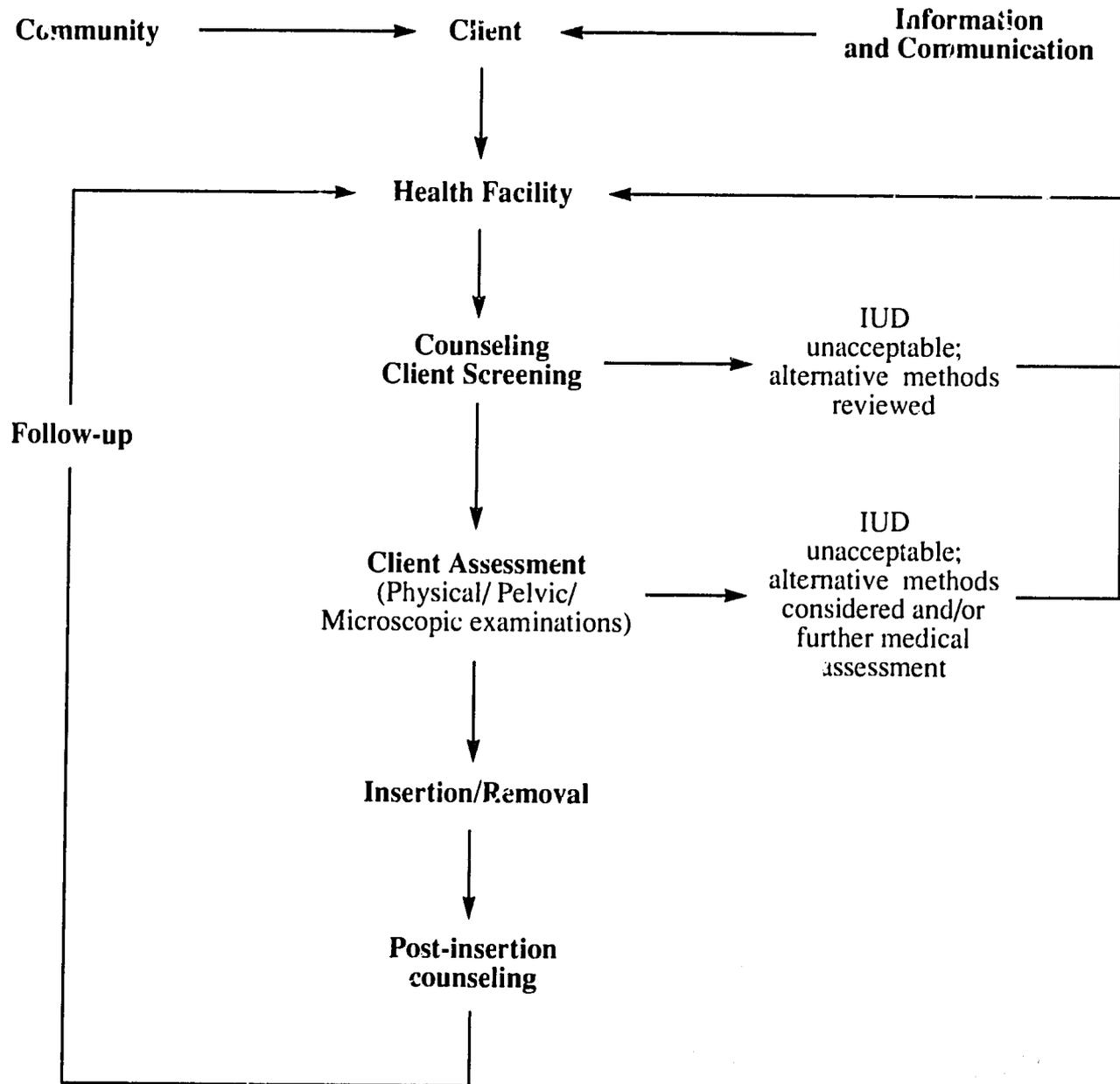
CLIENT FLOW

The design of the facility should permit an orderly flow of clients in order to ensure comprehensive, cost-effective services and client satisfaction.

Figure 10-1 shows how a potential IUD user might enter and proceed through a well-arranged health facility offering family planning services. It is important to note that a certain number of clients entering the IUD service site may not be suitable candidates on medical grounds, because they are at high risk for GTIs or may decide not to use an IUD after receiving additional information and counseling. Consequently, the program must be able either to provide alternative contraceptive methods, or to refer clients for these services.

If a new health facility is being established, its location should be assessed in relation to potential client accessibility. Can enough clients get to the clinic easily? Are the clinic hours convenient for working people? Providing services after normal working hours or on weekends may increase accessibility for the clients. If the service point is too distant, a client may not return for follow-up visits - both because of the distance involved and the possible expense (fares, loss of pay for time off, child care fees). Moreover, acceptability studies have shown that educating men about contraceptives makes an important contribution to ensuring overall acceptability of a particular method. A man could be more involved in family planning activities if a clinic were open some evenings. Evening hours also would enable employed

Figure 10-1. Client Flow for IUD Services



Source: Adapted from World Health Organization (WHO): *Norplant[®] Contraceptive Subdermal Implants*, Geneva, WHO, 1990

women to visit without taking time off from work, which is often difficult and costly.

FOLLOW-UP AND REFERRAL

The manager should be aware of the service and referral network in his or her community and employ it appropriately. **Figure 10-2** illustrates the potential links between the client, the service delivery channels and the referral facilities. The various components of the system are defined below.

Client: A potential or continuing user of contraceptive services.

Public sector (community based): A non-clinic facility run by the community dealing with health in general and especially with mother and child welfare (e.g., a village community association or a mothers' association).

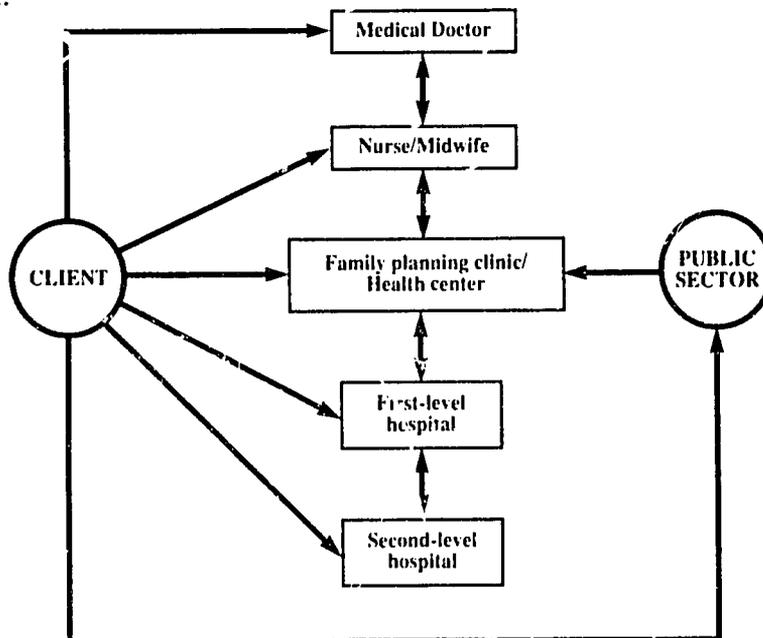
Paramedical or volunteer health workers at this level must be trained to identify problems and to refer the client to the nearest health center when serious problems are encountered.

Nurse/midwife: A certified nurse/midwife who has been trained in family planning in general and specifically in IUDs. He or she should be backstopped by a physician and trained to recognize and manage most problems and refer serious ones early.

Family planning clinic/health center: A health facility providing basic health care to a community in a certain area.

First-level hospital: a district or regional hospital with approximately 50-100 beds, and facilities for dealing with moderately serious problems, but few, if any, medical specialists.

Figure 10-2. Potential links between the client, the service delivery channels and referral facilities. For explanation, see text.



Source: Adapted from World Health Organization (WHO): *Injectable Contraceptives: Their Role in Family Planning Care*. Geneva, WHO, 1990.

Second-level hospital: a larger or national hospital with approximately 300 beds and a larger number of specialized personnel.

IUD services may be provided in any of the above facilities. Most simple complaints or side effects can be handled at all sites. A small percentage (5 percent or less), however, may require referral to the nearest higher facility (first or second level hospital) for management of more serious problems (e.g., acute PID or possible ectopic pregnancy). (For additional information on follow-up care and management of problems associated with IUD use, see **Chapters 8 and 9.**)

PERSONNEL REQUIREMENTS

The number and type of staff needed in a clinic offering IUD services will vary with the size of the clinic, the other services provided, service hours, and caseload. **Consideration should be given to employing female staff to provide contraceptive services because they may be more culturally acceptable in certain circumstances than men - especially where intimate interviews or home visits and physical examinations, including pelvic examinations, may be necessary.**

Staff Functions

Focusing on the tasks required to operate a family planning clinic will make staffing plans easier. Tasks should be delegated to staff with appropriate training, consistent with delivering medically safe services. The manager should specify the person in the clinic who will be responsible for carrying out a given function, taking into account the training and ability of each staff member. In some clinics several functions may be carried out by the same person. The

functions that should be assigned to a specified person or persons are as follows:

- Managing clinic
- Supervising staff
- Cleaning the facility
- Ordering IUDs and other supplies
- Storing and logging in IUDs and other supplies
- Bookkeeping
- Scheduling appointments for clients
- Providing information materials to clients and ensure continuing availability of these materials for clients and staff
- Counseling clients (at various times)
- Taking medical history of clients
- Screening clients for medical precautions
- Performing and recording general physical examination
- Performing microscopic examination of specimens (where available)
- Processing used (soiled) instruments and other items (infection prevention)
- Preparing supplies needed for each insertion and removal
- Inserting and removing IUDs
- Managing common side effects and other problems, and making referrals for serious complications

Organizing and Managing an IUD Service

- Scheduling follow-up visits
- Responsibility for any outreach activities initiated at the clinic to recruit new clients
- Following up clients who do not return for appointments
- Assessing user satisfaction with IUD services
- Maintaining medical records
- Collecting and reporting data

STAFFING PATTERNS

Little practical information is available to guide program managers on the best staffing patterns for clinic-based family planning services, including additional staff needed (if any) for IUD services. Some of the factors which influence decisions regarding staffing include:

- **Type and mix of family planning services to be offered or added.** The more effective methods of contraception (i.e., IUDs, implants, and voluntary sterilization) tend to be more labor- and time-intensive than other methods; these require staff with specialized skills and additional logistical support and supervision.
- **Volume of services.** Low volume clinic-based facilities generally can operate with one person managing both the clinical and administrative aspects of service provision. High volume services, which require 5 or more service providers, usually need a full time manager as well as a clinical director.

- **Mode of service provision.** Whether services are to be offered only at the base facility or in conjunction with mobile units or temporary clinics will influence staffing patterns, generally by increasing the numbers of staff and costs.
- **Allocation of responsibilities.** In clinics with small caseloads, a nurse-midwife or a physician and an assistant usually can handle multiple functions and provide a complete range of services. In clinics with large caseloads, staff tend to be more specialized. As a consequence, while client flow may be more efficient, steps must be taken to ensure continuity in the way services are provided. In all types of facilities, however, functions should be allocated **only** to staff with appropriate training, consistent with safe clinical practice. For example, a properly trained assistant might easily receive the client, take the preliminary medical history and provide initial counseling. Next, the nurse-midwife or physician can review the history, perform the physical/pelvic examination (if necessary), handle the microscopic specimen examinations, insert/remove the IUD, and provide client instructions and exit counseling. The assistant can also oversee/perform instrument cleaning, disinfection, or sterilization and general cleaning services. As the caseload increases, more personnel, each responsible for one area or task, may be needed.

SUPERVISION

Supervisors are responsible for seeing that work which is being carried out by others for whom they are responsible, is being done efficiently and effectively. **The task**

of a supervisor is a demanding one. The supervisor's function is that of supporting, guiding and directing the worker, and not giving orders or finding fault (criticizing). At the same time, supervisors must develop the ability to carry out their job despite dealing with and overcoming many obstacles placed in their way. Above all, they must be a role-model. **They must be expert at problem-solving where resources are limited, trained staff in short supply and equipment and facilities often poorly maintained.**

At all levels, supervision should be dynamic. Supervisors should maintain open lines of communication with their staff. Most importantly, to be effective, they must observe staff in their normal work environments to determine how services are being provided. Working side-by-side with staff to solve problems is a key element in providing quality IUD services and maintaining high staff morale.

MATERIALS REQUIREMENTS

Before starting to provide IUDs, it is essential to arrange for supplies to ensure the continuous availability of the method. This includes all related materials, such as pregnancy test kits and the equipment and consumable items needed for IUD services.

Introducing IUDs on a limited basis, in one center or district, may be a way to assess potential demand on a nationwide basis. There must be some degree of coordination between availability of IUDs and staff training. If many staff are trained for IUD insertion and removal but few supplies (e.g., IUDs and/or medical kits) are available, few clients can be served. As a consequence, provider competency and proficiency in

inserting IUDs may diminish and the effectiveness and acceptability of the program may be lessened.

RELATIVE COSTS OF DIFFERENT METHODS

It is not possible to compare accurately the costs of providing different contraceptive methods because they have markedly different unit costs, durations of use per unit, continuation rates, costs of distribution, and service delivery costs. The data in **Table 10-1** is an example of the way in which a partial comparison can be made. It must be stressed that the costs given are estimates based on a large-scale purchases by public sector donor agencies. Estimates do not include transport to the destination country, import fees, distribution costs, or service delivery costs.

As an example, consider a unit cost of \$0.95 per Copper T 380A IUD at the point of manufacture. When used over the 8-year duration, the annual cost of an IUD would be \$0.12. However, not all women will use the IUD for a full 8 years. International experience with IUDs indicates that 40-50% of users continue use beyond the first year. Based on such continuation rates, the expected duration of use would be in the range of 2-2.7 years. Discontinuation earlier than 8 years obviously increases the annual cost. Thus the adjusted annual cost might be expected to range from \$0.25 to \$0.30. Accurate first year continuation rates for most of the other methods are not available, though for Norplant[®] the rate is estimated at 80%, and for oral contraceptives, 40-50%. Annual costs for single-use methods, for example, condoms, are based on eight episodes of intercourse per month. (A certain amount of waste, estimated at

Table 10-1: Cost Estimates for Contraceptives

METHOD	UNIT COST* (US\$)	DURATION PER UNIT	ANNUAL COST (US\$)	AVERAGE USE IN PRACTICE	ADJUSTED ANNUAL COST (US\$)
IUD (Copper)	0.95	8 years	0.12	2-2.7 years	0.25-0.30
Norplant	23.00	5 years	4.60	3-3.9 years	5.90-7.70
Oral Contraceptive	0.17	1 month	2.21	-	2.40-2.80
Injectable	0.80	3 months	3.26	-	3.50-4.00
Diaphragm	3.30	1 year	3.30	-	3.50-4.00
Spermicide	1.52	20 uses	7.30	-	8.00-9.00
Condom	0.03	1 use	2.98	-	3.25-3.75

Source: Adapted from World Health Organization (WHO): *Norplant Contraceptive Subdermal Implants: Managerial and Technical Guidelines*. Geneva, WHO, 1990

10-25%, must be considered in adjusting the expected annual costs for methods like oral contraceptives, injectables, spermicides, and condoms.

As shown in this table, the adjusted annual cost for IUDs is significantly less than for all other reversible methods. This conclusion, however, is somewhat misleading. It does not take into account service delivery costs, which for IUDs, are much higher than for the other methods.

EQUIPMENT AND INSTRUMENTS

IUD insertion or removal does not require an operating room, but high-level disinfected or sterile instruments and clean conditions are absolutely necessary. Items needed can be divided into three categories:

- Basic instruments and equipment normally found in a comprehensive family planning clinic
- Items specific to IUDs (insertion/removal kit) (see **Chapter 7 and Appendix I**)
- Materials and equipment needed to prevent infections and minimize transmission of serious diseases such as hepatitis B and AIDS

The quantities needed in a particular clinic will be based on the predicted demand for IUD insertions and expected removals. The basic needs are:

- An examining/procedure table (preferably with stirrups for pelvic examinations)
- Instruments for carrying out gynecological examinations

- Good light, artificial or natural

In areas where there is concern about GTIs and/or where there is a high prevalence of GTIs (10 to 15% or more), additional items recommended are:

- Microscope and materials for examining vaginal and cervical smears

It cannot be overemphasized that equipment for high-level disinfecting or sterilizing instruments and personnel trained to use it must be available before any IUD program can begin to function.

The quantity of materials needed "on hand" for IUD insertions and removals is partly dependent on the availability of equipment for high-level disinfection or sterilization. Enough instruments must be available to continue doing insertions, while other instruments are being decontaminated, cleaned, high-level disinfected or sterilized. Shortening the time allowed to process instruments is never an acceptable solution (see Chapter 6).

ORDERING AND STORING IUDs

All contraceptive delivery systems require adequate supply systems and staff to manage those systems. IUDs should be ordered in time to ensure that services are not slowed by lack of them and that they are never in such excess that they cannot be used before their shelf life has expired (4 years for the TCu 380A IUD).

Supplies

Maintaining a consistently adequate supply of IUDs is extremely important. Ordering supplies requires knowledge of local IUD usage rates, frequency of ordering and receiving supplies, anticipated delays, and available storage space. The following guidelines are commonly used in ordering and storing supplies for established programs and are based on recommendations of the Family Planning Logistics Management Project.

- Supplies can be more precisely estimated based on the projected number of person-months of use during the interval for which orders are placed.
- The number of person-months of use can be estimated based on average numbers of regular or continuing users and numbers of new users over a specified time interval (e.g., 12 months).
- Modifications will need to be made for rapidly changing programs. For example, planning for supplies for new users is based on the assumption that new users enroll in the program with nearly equal frequency during each month of the year.

Ordering

To calculate the supplies needed for one year:

- Only 1 IUD is required for each new user, but, in planning for expulsions and replacements, programs should order 3 IUDs for every 2 acceptors expected.

Calculating Reserve Stocks

Reserve stocks are the supplies on hand to ensure adequate services in the face of higher than expected usage or if previous orders do not arrive when expected. Ordering adequate reserve stocks based on projected usage rates is one of the simplest techniques to ensure adequate supplies. Each clinic should have an estimated maximum and minimum number of IUDs needed. A clinic which is resupplied every quarter may have a maximum of 6 months and a minimum of 3 months (e.g., if 200 IUDs are inserted per month, the maximum stock would be 1200 and the minimum stock would be 600).

Storing

IUDs should be stored in a well-ventilated, dry area. Do not stack the boxes more than 2.4 meters (8 feet) high. Keep supplies 30 cm (1 foot) away from the wall and 10 cm (4 inches) off the floor. The oldest supplies should be given out before newer supplies (first expired/first out [FEFO]).

RECORD KEEPING

Keeping specific and up-to-date records on each IUD user can improve follow-up and provide documentation for service statistics and program evaluation and help ensure that the clinic knows where the client is when the IUD removal time arrives (i.e., eight years for TCU-380A). It is not easy to maintain complete follow-up. Clients may

forget to return for visits, they may give vague or inaccurate addresses, they may lose interest in follow-up. The larger the number of clients and the longer the method is used by an individual client, the more difficult it is to maintain good follow-up.

There should be no difficulty in adapting client health records to include important information relevant to the use of IUDs. The personal and clinical data that should be recorded for each client are indicated in **Chapter 4**. The existing recording and reporting system should be reviewed in order to incorporate the use of IUDs in the program.

CHARACTERISTICS OF SUCCESSFUL PROGRAMS

Criteria for "success" vary from one program to another. In general, "successful" programs are characterized by:

- Setting realistic goals and achieving them
- An emphasis on quality and client satisfaction
- Provision of services in a manner convenient to the client
- An efficient and effective system of leadership, supervision and monitoring
- Efficient logistics
- A good referral system

ADDITIONAL INFORMATION

Centers for Disease Control: *Logistics Guidelines for Family Planning Programs*. Atlanta, Georgia, Centers for Disease Control, Center for Health Promotion and Education, Division of Reproductive Health 1987 (72 pp).

This manual is written for family planning program managers in developing countries. It contains guidelines for those individuals who are responsible for procuring family planning supplies and ensuring that they reach their ultimate destination. Divided into five sections, the manual addresses the following topics: the definition of logistics, logistics systems management, evaluation of the logistics system, supply data analysis, and forecasting. The manual also contains sample forms and checklists for use in logistics management.

John Snow, Inc. and the Centers for Disease Control. *Family Planning Logistics Management Training Curriculum*. Arlington, Virginia: Family Planning Logistics Management Project, John Snow, Inc, 1990 (200 pp).

This is a core training curriculum designed to improve technical logistics knowledge and skills of family planning personnel, to strengthen the commitment of family planning and AIDS control program managers to further improve their logistics systems, and to motivate and improve the self-image of the logistics worker. The core curriculum is targeted at mid-level family planning managers, but

is tailored to address all levels and the needs of specific countries. The curriculum consists of the following ten modules: Introduction to Contraceptive Logistics Systems, Logistics System Assessment, Logistics Management Information Systems, The Contraceptive Logistics Pipeline, Assessing Supply Status, Maximum-Minimum Inventory Control, Forecasting Contraceptive Requirements, Contraceptive Storage, Quality Control of Contraceptives, and the Logistics Management Simulation Exercise.

Management Sciences for Health. *The Family Planning Manager's Handbook*. West Hartford, Connecticut. Kumarian Press, 1991 (374 pp).

Written in easily understandable English, this handbook presents the basics of management: planning, coordination, staffing, supervision, training, management information, financial management, contraceptive logistics, and program sustainability. In addition, the handbook contains case studies illustrating how these management principles can be applied. Filled with practical management tools, sample forms and worksheets, and country examples from around the world, the handbook describes how organizations can improve their managerial performance. Managers can use this contemporary reference at all levels within a family planning organization to learn how to be a better manager, to train managers to improve their managerial effectiveness, and as a reference when management problems need to be solved.

REFERENCES

World Health Organization (WHO): *Strengthening of Supervisory Mechanisms in Maternal and Child Health/Family Planning Services*. Geneva, WHO, 1985.

World Health Organization (WHO): *Technical and Managerial Guidelines for Vasectomy Services*. Geneva, WHO, 1988.

World Health Organization (WHO): *Norplant Contraceptive Subdermal Implants: Managerial and Technical Guidelines*. Geneva, WHO, 1990.

World Health Organization (WHO): *Injectable Contraceptives: Their Role in Family Planning Care*. Geneva, WHO, 1990.

APPENDIX A

FAMILY PLANNING COUNSELING GUIDELINES

Contents

Section One: Framework for Family Planning Counseling

The Counseling Process in the Family Planning Service Setting
Helping Clients Derive the Most from Counseling
Basic Principles
Essential Content of Family Planning Counseling

Section Two: How to Hold Group Discussions

Section Three: Summary of Steps in Family Planning Counseling

Initial Counseling
Method-Specific Counseling
Follow-up/Return Visit Counseling

SECTION ONE

FRAMEWORK FOR FAMILY PLANNING COUNSELING¹

THE COUNSELING PROCESS IN THE FAMILY PLANNING SERVICE SETTING

While family planning services may vary widely with regard to staffing patterns, staff roles and responsibilities, integration with other services, etc., there are certain elements common to the provision of all family planning services; counseling is one. The counseling process is the application of certain interactive techniques to facilitate presentation, explanation and discussion of technical information and of client questions, experiences and concerns. There are several counseling points during which there occurs an interactive exchange between service providers and the client. The counseling process is integral to each of these situations, but should be adapted for each as appropriate to individual client needs and program resources.

The elements in which the counseling process plays a central role, include:

- **Greet** the client by introducing yourself by name. Engage client to create a friendly atmosphere; express personal interest in her visit. Explain policies and regulations such as confidentiality. Assure client that the record system and staff commitment are designed to uphold promised confidentiality. Ask what the

client's concerns are regarding family planning. Provide general education about family planning.

- **Ask** about information such as age, marital status, number of pregnancies, basic medical history and family planning history.
- **Tell** the client about information regarding family planning without losing sight of client's concerns. Explain all available methods, and their usage, benefits, side effects, disadvantages, effectiveness, etc. Use support materials such as pamphlets, brochures and samples to emphasize points. Let her handle samples of different methods.
- **Help** a client select method by informing her of the characteristics, advantages and disadvantages of each method. Do not decide for her; let the client choose the method. Give more details about the selected method and let the client repeat it back to you for clarification. After a method is selected, the service provider will confirm the suitability of the method by conducting the appropriate medical assessment. Once this is completed, the chosen contraceptive method is then approved.

¹ Source: Adapted from Population Communication Program (Population Information Program): Counseling makes a difference, *Population Reports Series J(35)*, 1987 and Counseling guide, *Population Reports Series J(36)*, 1987

- **Explain** to the client the instructions for use of the approved method. Ask the client to repeat all instructions. Encourage the client to ask questions or verbalize any remaining concerns.
- **Arrange a return visit** to follow-up on the client. Specific return visit instructions should be provided.

HELPING CLIENTS DERIVE THE MOST FROM COUNSELING

Since information about how to use a method may be new and sometimes difficult to understand, providers need to make it easy to remember. This can be a major challenge. Six key points in helping clients remember are:

- **Brevity**

Select the few most important matters to tell the client and emphasize which points need to be remembered. Asking clients what they already know is one way to find out what information they have and understand. This also allows the provider to ascertain if the client has misinformation about the method.

- **First things first**

Give most important instructions first - that is, what the client has to do to use the method effectively.

- **Simplicity**

Use short sentences and simple words that clients understand. Avoid technical terms and scientific explanations.

- **Repetition**

Repeat the most important information and instructions. Ask the client to repeat instructions. Give clients printed material and remind them of instructions.

- **Organization**

Organize information into categories and describe the system to the client. Use memory aids such as acronyms to remind users of the important information they need to remember. For instance: IUD users need to remember the warning signs of potentially serious complications for which they should return to the clinic as soon as possible.

- **Specificity**

Instructions should be specific and concrete rather than abstract and vague. For example: a vague instruction would be: "Check the IUD string regularly." The more helpful specific instruction might be: "At the end of each menstrual period, put your finger high up in the vagina and feel the IUD strings. If the strings feel longer or shorter, or if you can feel the plastic part of the IUD, come back to see us."

BASIC PRINCIPLES

An effective family planning counselor:

- Allows clients the maximum participation and involvement; helps the client to convince herself instead of trying to convince the client.
- Is an information giver, assistant and problem solver, suggests alternatives,

Family Planning Counseling Guidelines

helps clients to analyze and choose from known options, doesn't prescribe solutions, and helps client feel she is making a choice or decision.

- Helps the client reveal her personality and life situation rather than making assumptions.
- Not only provides information, but probes for client's fears, norms, concerns and other issues with emotional undertones which could serve as blockers or barriers to favorable decision making.

ESSENTIAL CONTENT OF FAMILY PLANNING COUNSELING

In a practical sense, the elements of counseling fit into the three major phases of providing family planning services, namely: initial counseling at reception, method-specific counseling prior to service provision and post-insertion/follow-up counseling. Counseling skills are particularly important to client reception, client education, client assessment, actual provision of contraceptives, and during follow-up visits. Staffing patterns of any particular service as well as client load may dictate a shifting of counseling activities to alternate staff or location to meet varying needs.

Initial Counseling

At the time of client reception, initial counseling by a social worker, counselor or nurse is provided. Counseling in waiting areas with individuals or groups provides:

- A comfortable atmosphere for services through a warm and personalized welcome

- Explanation about what the client should expect during the clinic visit
- Education about all available family planning contraceptive methods and what method may be best for her
- Education about the effectiveness of breastfeeding as a contraceptive method for postpartum clients
- Information that may help the client identify questions to ask the counselor on a one-to-one basis

Guidelines for conducting group sessions can be found in **Appendix A.2: How to Hold Group Discussions.**

Method-specific Counseling

After moving from the waiting room to a private room, counseling area or an examination room in which counseling may be done, method-specific counseling is undertaken. Method-specific counseling is given prior to, and immediately after, the provision of a specific contraceptive. During this phase of counseling, the service provider:

- Asks the client which method interests her and what she knows about the method. This gives the service provider the opportunity to correct false rumors and misinformation, and to provide true information.
- Tells the client about and discusses how each method works, its effectiveness, advantages and disadvantages.
- Helps the client to begin to choose a method. Based on the client's needs and history, the service provider should

advise the client on suitability of any method in which the client may express an interest. This process leads to preliminary selection of a contraceptive.

- Advises the client on the need for further evaluation depending on the method selected.

Note: At this time the service provider conducts the appropriate physical and laboratory investigations in the examination room to confirm the suitability of the chosen contraceptive method. The client record is completed as appropriate.

After the preliminary selection of a contraceptive by the client and completion of the client assessment, a suitable method is identified and provided to the client. At this time the service provider:

- Explains simply and clearly how to use the method (or as in the case of IUDs or Norplant, explains how it will be inserted) and its possible side effects.
- Allows the client to repeat instructions to ensure client comprehension.
- Discusses with the client the return visit. Emphasis can be placed on the continuing need for supplies and their availability, advice about side effects, detecting problems early, changing methods and removal services for IUDs.

It is important for the service provider and/or the client to recognize:

- Clients are less likely to stop family planning practice if they have frequent contact with providers. When appropriate reassurance is given, expected symptoms

and minor side effects do not lead to discontinuation.

- Frequent contact builds trust.
- Regular return visits can allow providers to detect problems unnoticed by clients (i.e., lost IUDs, pelvic infections, early pregnancy, etc.).

Counseling and Follow-Up Visits

In general, the specific objectives of follow-up visits are to:

- Find out whether the client is satisfied and is still using the method
- Make sure that the client is using the method correctly and, if appropriate, to repeat instructions about use
- Provide supplies as appropriate
- Answer client's questions
- Reassure and possibly treat minor side effects
- Check for medical complications and refer to medical evaluation if necessary
- Help the client change or stop a method when appropriate

Using this general framework, clients can be adequately counseled. Providers need to know what to do in each situation and how to adjust their counseling to each client. In particular, providers must be able to discriminate between serious problems that require referral and minor problems that are manageable.

SECTION TWO

HOW TO HOLD GROUP DISCUSSIONS

Hold group discussions to:

- Give information about family planning methods to more than one person at once which saves time
- Help people share their own experiences and support one another in their family planning decisions
- Answer questions some people may be too shy to ask

When to hold group discussions?

- While clients wait in clinics
- When community groups meet in schools, clubs, and other places

Suggestions about leading group discussions:

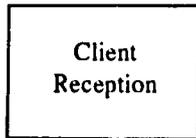
- Choose a quiet place with enough space. Avoid places where many people are coming and going.
- Limit groups to 10 people or fewer if possible. It is desirable that someone look after the others' children.
- Seat group members in a circle and sit with them.
- Introduce yourself and explain the subject of the discussion.

- Help group members feel at ease. This may be done by playing a short game or by asking group members to introduce themselves.
- Start the discussion by presenting clear information. For example, if the purpose of the discussion is to talk about family planning methods, begin by briefly describing the methods.
- Use words that all in the group can understand.
- Show samples of family planning supplies when you talk about them. Let group members hold them and look at them.
- Use flip charts, diagrams, or posters to help show important points.
- Ask many questions. Ask them in a gentle way. Encourage group members to talk with each other about the questions.
- Encourage group members to ask questions.
- Ask group members to tell about their own experiences with family planning.
- Summarize important points during the discussion and again at the end.

SECTION THREE

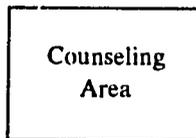
SUMMARY OF STEPS IN FAMILY PLANNING COUNSELING

Initial Counseling



- Greet client: Introduce yourself and welcome the client to clinic warmly.
- Provide general education about family planning.
- Explain what to expect during the clinic visit.
- Ask the client about her reproductive goals. Ask her if she wants to space or limit births. Be sure she understands the difference between reversible and permanent methods. Correct false rumors or misinformation about all methods.
- Explore any attitudes or religious beliefs that either favor or eliminate one or more methods.

Method-Specific Counseling



- Obtain biographic information (name, address, age, etc.).
- Give the woman information about all contraceptive choices available and the risks and benefits for each, including the Copper T 380A.
- Discuss the client's needs, concerns, and fears in a thorough and sympathetic manner.
- Help the client begin to choose an appropriate method.

If she chooses an IUD:

- Screen the client carefully to make sure there is no medical condition that would be a problem.
- Clearly discuss the advantages of the IUD emphasizing the following points:
 - It is very effective.
 - It is easy to use.
 - It provides continuous protection for up to 8 years.
 - It is convenient, comfortable and reversible.
- Explain common side effects and be sure they are fully understood.
- Describe the insertion and the removal process and what the woman should expect afterwards.

Family Planning Counseling Guidelines

Procedure/
Examination
Area



- Review screening and client assessment (physical and pelvic exam) data to determine if the client is an appropriate candidate for the IUD or if she has any problems that should be monitored while the IUD is in place.
- Insert the IUD.
- Give post-insertion counseling, including what to do if she experiences any side effects. Provide follow-up visit instructions.
- Assure client she can return to the same clinic at any time to receive advice, medical attention, and, if desired, to have the IUD removed.
- Have client repeat instructions.
- Answer client questions.
- Complete client record.

Follow-up/Return Visit Counseling

Counseling/
Examination
Area

- Ensure client satisfaction.
- Inquire about problems and respond to concerns about side effects or any problems.
- Conduct appropriate portions of client assessment as needed.

REFERENCES

Center for Communication Programs (Population Information Program). Counseling makes a difference, *Population Reports Series J(35)*, 1987.

Center for Communication Programs (Population Information Program). Counseling guide, *Population Reports Series J(36)*, 1987.

APPENDIX B

SAMPLE SCREENING CHECKLISTS FOR IUD USE

Indications and Precautions

The IUD may be an appropriate method for a woman with one or more of these characteristics:

- Has trouble using barrier methods or remembering to take a pill every day and wants a method with no bother
- Cannot use hormonal methods because she has high blood pressure, diabetes or severe headaches
- Smokes cigarettes
- Is breastfeeding
- Does not want more children
- Already has children and does not want another child soon
- Has successfully used an IUD in the past
- Is in a long-lasting, mutually faithful sexual relationship

The IUD should not be the first choice for a woman with any of these problems:

- Has painful or long menstrual periods
- Is not in a long-lasting, mutually faithful sexual relationship
- Wants children but has none
- Has had an ectopic pregnancy
- Is very anemic (e.g., hemoglobin is less than 9 gm/dl)
- Has medical conditions that make an internal infection especially risky: rheumatic heart disease or treatment with corticosteroids or other drugs that suppress the immune system
- Has fibroids or other conditions that change the shape of the uterus or cervix
- Has had repeated genital infections
- Has symptomatic valvular heart disease
- Has impaired response to infection
- Has impaired blood coagulation

The IUD should not be used by a woman with any of these conditions:

- May be pregnant
- Has an active recent, or recurrent pelvic infection (gonorrhea, chlamydia) or mucopurulent cervicitis
- Has undiagnosed vaginal bleeding or other signs of genital cancer

Source: Adapted from Center for Communication Programs (Population Information Program): Counseling guide, *Population Reports* Series J(36), 1987.

Sample IUD Screening Checklists

Is the IUD Medically Appropriate for Your Client?

If your client answers "YES" to any of the following questions, an IUD may not be the best method for her. Have a clinician experienced in using IUDs check her or help her select another method.

- | | YES | NO |
|---|--------------------------|--------------------------|
| 1. Are you still waiting to have your first child? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Do you think that you may be pregnant (is your last period late or have you missed a recent period)? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Do you now have, or have you recently had, a pelvic infection (with fever, chills, pain in the uterus area or unusual discharge) or inflammation of the cervix? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Have you ever had a pelvic infection? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Have you ever been told that you are very anemic? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Over the past three months have you had any abnormally heavy periods, bleeding between periods or bleeding after intercourse? (This may indicate a serious health problem which should be checked before an IUD is inserted.) | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Have you ever had a pregnancy occur outside the uterus (extrauterine pregnancy); for example, in one of your fallopian tubes? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Do you or your husband or sex partner have other sex partners? (If the client answers "yes," she may be at risk for sexually transmitted genital tract infections (GTIs) and other STDs. (IUDs offer no protection against GTIs and other STDs. She should be given further counseling and be checked by a clinician.) | <input type="checkbox"/> | |

Source: Adapted from The Population Council and the Program for Applied Technology in Health (PATH): *A Guide for Health Workers*, 2nd ed. Seattle, PATH, 1989.

APPENDIX C

SAMPLE CLIENT ASSESSMENT CHECKLIST

FAMILY PLANNING HISTORY CHECKLIST FOR POTENTIAL IUD USERS

Service Provider's Questions

Service Provider's Instructions

Ask the client the following questions:

NO **YES**

If the client's responses fall in the "YES" column, follow the instructions below:

1. Did your last full-term pregnancy end less than 6-8 weeks ago?

1. It is advisable **not** to insert an IUD after the first week postpartum or until 6-8 weeks postpartum. During this interval the risk of uterine perforation is greater due to the rapidly involuting (shrinking) uterus.

2. Have you had an abortion or miscarriage within the past four weeks?

2. Women who have recently had a miscarriage or abortion can have an IUD inserted if there is **no** sign of infection on pelvic examination.

If you are unsure, make appropriate referral.

3. Is there a chance that you could be pregnant; is your period late or have you missed a recent period?

3. If there is any chance that client is pregnant, do **not** insert the IUD. Do a urine pregnancy test (if available) if the pelvic exam is equivocal. Alternatively, have the client use a barrier method and return in four weeks or with her menses.

FAMILY PLANNING HISTORY CHECKLIST FOR POTENTIAL IUD USERS

Service Provider's Questions

Service Provider's Instructions

NO YES

Ask the client the following questions:

4. Do you consider the bleeding during your menstrual periods unusually heavy?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

4. If answer is "yes" to **either** question, encourage client to consider another effective method. If she still prefers the IUD, insert and ensure follow-up.

Do you often experience menstrual pains (cramps) severe enough to limit your daily activities?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

5. Over the past three months have you had any abnormally heavy periods, bleeding between periods or after intercourse?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

5. These symptoms may indicate a health problem, such as cervicitis, cervical polyp or, rarely, cancer. Pay special attention when performing the speculum and pelvic examination.

6. Over the past three months have you had fever or chills and pain in the lower abdomen?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

6. These symptoms may indicate pelvic inflammatory disease. Pay special attention to this possibility during pelvic examination.

FAMILY PLANNING HISTORY CHECKLIST FOR POTENTIAL IUD USERS

Service Provider's Questions

Service Provider's Instructions

NO YES

7. Have you recently had severe pelvic infection (with fever, chills, pain in the womb and/or discharge)? Or have you had problems with recurrent PID?

7. Do **not** insert IUD, as IUD users with a history of PID may have increased problems with infertility. Help client make an informed choice of another effective contraceptive method.

8. Assure the client of confidentiality before asking the following questions:

- Does your sex partner have other sex partners that you know of?

8. If "yes" to both questions, client needs to have detailed screening for possible GTIs or other STDs. Counsel client on risks associated with GTIs or other STDs, help her choose another contraceptive method and advise her to use condoms and/or spermicides to protect herself against these diseases.

- Do you have more than one sex partner?

9. Have you ever had a pregnancy in one of your tubes?

9. Because the IUD does not protect against ectopic pregnancies, it may not be the best choice unless the couple does not want more children. Help the client make an informed choice of another effective method, especially if she is not sure about having more children.

FAMILY PLANNING HISTORY CHECKLIST FOR POTENTIAL IUD USERS

Service Provider's Questions

Service Provider's Instructions

NO YES

10. Has a physician ever told you that you have a heart murmur (valvular or rheumatic heart disease)?

10. Symptomatic valvular or rheumatic heart disease (e.g., bacterial endocarditis) can be aggravated by infection due to bacteria entering the blood stream from any source. At the time of IUD insertion, there is the chance of bacteria entering the blood stream. (Some clinicians use prophylactic antibiotics at the time of IUD insertion in this situation, but the effectiveness in preventing problems is not known.)

11. Are you currently taking any medications, such as high-dose corticosteroids, immunosuppressive therapy, anticoagulant therapy or receiving radiation therapy?

11. People chronically using high-dose corticosteroids, immunosuppressive drugs or receiving radiation therapy are at higher risk of infection. Also, anticoagulant therapy may predispose the IUD user to increased vaginal blood loss.

PHYSICAL EXAMINATION CHECKLIST FOR IUD USERS

Service Provider's Observations

Service Provider's Instructions

NO YES

1. On general examination is there very marked pallor of the mucous membranes or conjunctiva suggestive of severe anemia?

1. If the answer is "yes", give iron supplement (ferrous sulfate 200 mg., once daily for 3 months). Counsel to consider another method. If client still requests IUD, insert, but re-evaluate after 3 months.

2. Is there symptomatic valvular heart disease?

2. Because of the possible increased risk of bacterial endocarditis, IUDs are not the first choice. If the client chooses to have an IUD inserted, prophylactic antibiotics should be given (see **Chapter 4** for instructions).

3. Is there lower abdominal pain or tenderness?

3. This finding may suggest possible pelvic infection (PID). Pay special attention when performing the speculum and pelvic examination. Do **not** insert an IUD if PID is strongly suspected.

SPECULUM EXAMINATION CHECKLIST FOR IUD USERS

Service Providers Observations

Service Provider's Instructions

Look for the abnormalities listed below:

NO YES

If the responses fall in the "YES" column, follow the instructions below.

1. Are there ulcers or sores on the external genitalia or enlarged glands (buboes) in the groin area?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

1. Any of these findings suggest a possible GTI such as syphilis, chancroid, lymphogranuloma or herpes. **Do not insert IUD. Help client make informed choice of another method. Refer if necessary for further evaluation.**

2. Is the vaginal wall inflamed, and is there a discharge in the vagina?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

2. This suggests vaginitis. Diagnose cause and treat vaginitis before considering insertion of an IUD. If cervicitis or PID suspected, **do not insert IUD.**

3. Is the cervix red and inflamed, and is there discharge from the cervical canal?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

3. This suggests cervicitis. **Do not insert IUD.** Diagnose and treat cervicitis. Help client make an informed choice of another method. Encourage her to use condoms and/or spermicides to protect against STDs, including AIDS.¹

4. Is there a mass, ulcer or bleeding on contact with the cervix?

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

4. This suggests possible cervical polyp, severe cervicitis or, rarely, cervical cancer. **Do not insert IUD.** See above, No. 1, for management. **Help client make informed choice of another method. Refer if necessary for further evaluation.**

¹ Include appropriate counseling concerning transmission, risk behavior, and possible consequences of sexually transmitted genital tract infections (GTIs).

BIMANUAL EXAMINATION CHECKLIST FOR IUD USERS

Service Provider's Observations

Service Provider's Instructions

Look for the abnormalities listed below:

NO **YES**

If the responses fall in the "YES" column, follow the instructions below.

1. Is there marked tenderness of the cervix, uterus or adnexal area?

1. This suggests pelvic inflammatory disease or cervicitis. Do **not** insert an IUD. Help client make an informed choice of another effective method. Encourage client to use condoms and/or spermicides to protect against GTIs and other STDs, including AIDS.

2. Is the cervix immobile, or is there a palpable mass or ulcer?

2. These abnormalities may indicate a tumor or, rarely, cervical cancer. Do **not** insert an IUD. Help client make an informed choice of another method and refer for further evaluation.

3. Are you unable to determine the position of the uterus?

3. If you are unsure of the position of the uterus after bimanual palpation, do **not** insert an IUD; seek consultation or refer for further evaluation.

4. Is the uterus enlarged, soft and smooth?

4. If the woman has missed a period she is likely to be pregnant. Do **not** insert an IUD unless you are certain she is not pregnant.

5. Is the uterus enlarged, firm and/or irregular?

5. This may indicate uterine fibroids which can distort (change the shape of) the uterine cavity. Attempt to insert the IUD only if you are experienced; otherwise, refer or help her to choose another method.

BIMANUAL EXAMINATION CHECKLIST FOR IUD USERS

Service Provider's Observations

Service Provider's Instructions

	YES	NO	
6. Is there a palpable mass in the adnexal area?	<input type="checkbox"/>	<input type="checkbox"/>	6. This may indicate pelvic inflammatory disease or tumor of the ovary or tube. Do not insert IUD. Help client make an informed choice of another method until problem solved. Make appropriate referral.
7. On sounding, is the uterine cavity irregular or deeper than 10 cm?	<input type="checkbox"/>	<input type="checkbox"/>	7. This finding suggests submucous fibroids, possible pregnancy or perforation by the uterine sound. If perforation suspected, observe the client for evidence of intra-abdominal bleeding - decreased BP, rising pulse and/or syncope; do not insert an IUD.

Source: Adapted from Program for International Training in Health (INTRAH): *Guidelines for Clinical Procedures in Family Planning and Sexually Transmitted Diseases: A Reference for Trainers*. Chapel Hill, North Carolina, INTRAH, 1989.

APPENDIX D

EVALUATION OF CLIENTS WITH POSSIBLE GTIS

CLIENT ASSESSMENT

All clinicians working in family planning clinics must be familiar with the clinical problems associated with sexually transmitted GTIs. Some clients are asymptomatic and have little or no suspicion that an infection is present. Others will have symptoms and request an evaluation. It is important to identify correctly those clients with GTIs, whether they are symptomatic or not. The best way to do this is to perform a thorough genital tract evaluation of all clients who visit the family planning clinic. However, because a thorough examination usually is not possible, **it is important to at least screen by history all clients** (see Chapter 5). For those answering "yes" to any GTI screening questions, further evaluation, as described below, should be undertaken.

SUPPLEMENTARY GTI HISTORY

It is important to obtain supplementary information about the following items:

- Medication history
 - Hormonal contraceptives (pills, injectables or Norplant)
 - Recent antibiotic use
 - Drug allergies or sensitivities
 - Other current medication
- Recent sexual history
 - Time since last sexual exposure - was this a regular, casual or new partner?
 - Number of partners in past month
 - Pain or bleeding during intercourse
 - Use of condoms

GTI PHYSICAL EXAMINATION

A complete GTI examination does **not** need to be performed on all family planning clients. This examination should be reserved only for those clients who respond positively to one or more questions on the screening or **supplementary GTI history**, or those who request it.

Female Examination

This examination need not be a time-consuming affair. The following tools are necessary in order to obtain the proper laboratory specimens:

- Vaginal speculum
- Dacron or cotton swabs (wire-handled for urethral smears)
- Large cotton swabs, such as those used for proctoscopy

Evaluation of Clients With Possible GTIs

- pH paper
- Glass slides with coverslips

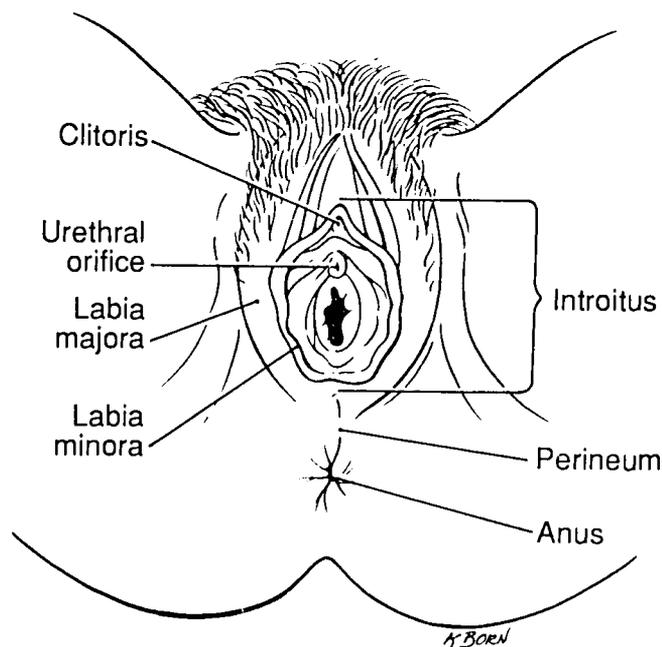
When performing a GTI screening examination, there are two important steps which must be remembered. First, it is important to inspect the perineum, vulva, vagina, and cervix carefully in order to obtain qualitative information to support the diagnosis of infection. Second, one must use appropriate sampling techniques to maximize the chance of identifying any existing infection.

Begin by asking the client to undress. Assure privacy at all times. Cover with a sheet or drape, exposing only the part being examined.

Pelvic Examination

Before proceeding to the pelvic examination, first perform an abdominal examination (inspection and palpation), and record the findings.

Figure D-1: Anatomy of the Perineum



Vulvar Inspection and Palpation

- Put clean gloves on **both** hands (if gloves are reusable, make sure they have been decontaminated, cleaned and high-level disinfected or sterilized after each use).
- Inspect thighs for rashes and lesions.
- Palpate groins for enlarged and/or tender nodes.
- Inspect pubic area for pubic lice, sores, and nodes.
- Inspect vulva, perineum and perianal skin for rashes, sores, warts, and swellings.
- Inspect labia and urethral opening for lesions or discharge (Skene's glands) and palpate the Bartholin's glands.
- Note the color, smell and characteristics of any discharge and take vaginal, cervical and/or urethral specimens for testing.

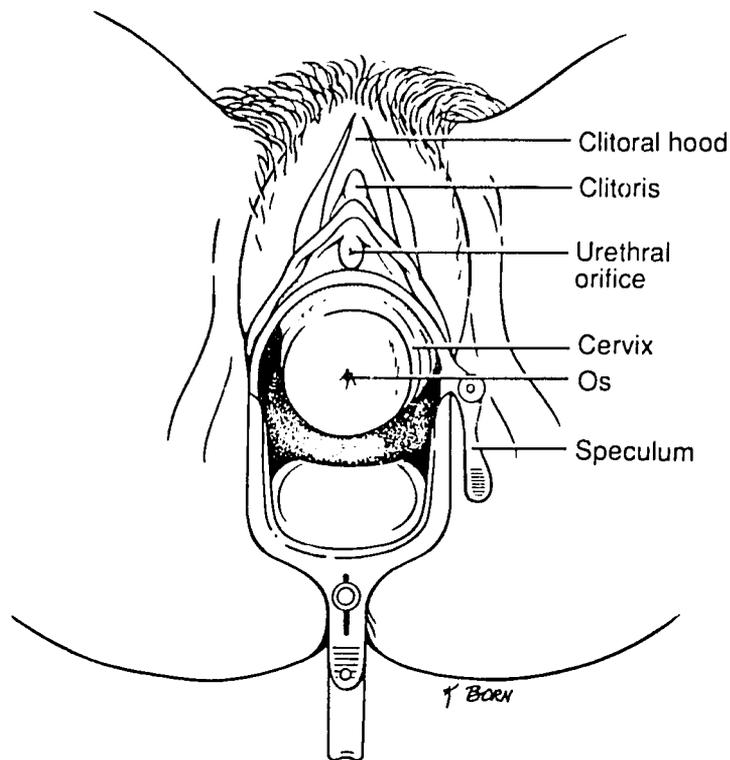
Speculum Examination

A good light source is essential.

- Gently insert the bivalve speculum into the vagina, inspecting the vagina for redness (erythema), discharge, ulcers or lesions. Use a cotton swab to obtain a sample of the vaginal discharge for pH and for the normal saline and KOH wet mounts.

- Look at the cervix and evaluate for exocervical and endocervical abnormalities.
- The exocervix should be cleaned of all vaginal secretions, using a large cotton swab such as those used for proctoscopy. At this time, an endocervical sample should be obtained for Gram stain.

Figure D-2: Performing a Speculum Examination



Evaluation of Clients With Possible GTIs

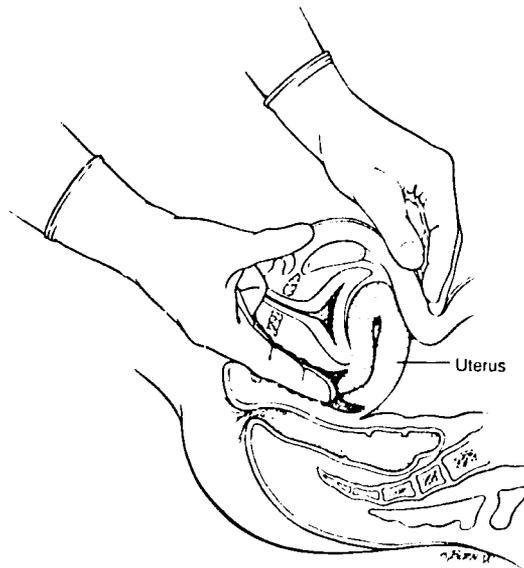
Bimanual Examination

Carefully and gently palpate the vaginal walls, cervix, uterus, and adnexa to identify presence of upper genital tract tenderness, which could be suggestive of pelvic inflammatory disease.

Reminder: Perform a rectovaginal examination if:

- The findings on bimanual examination are confusing (e.g., position or size of the uterus is not confirmed)
- The uterus is retroverted (posterior-directed)
- Cul-de-sac tenderness or a mass is noted on bimanual examination

Figure D-3: Performing a Bimanual Examination



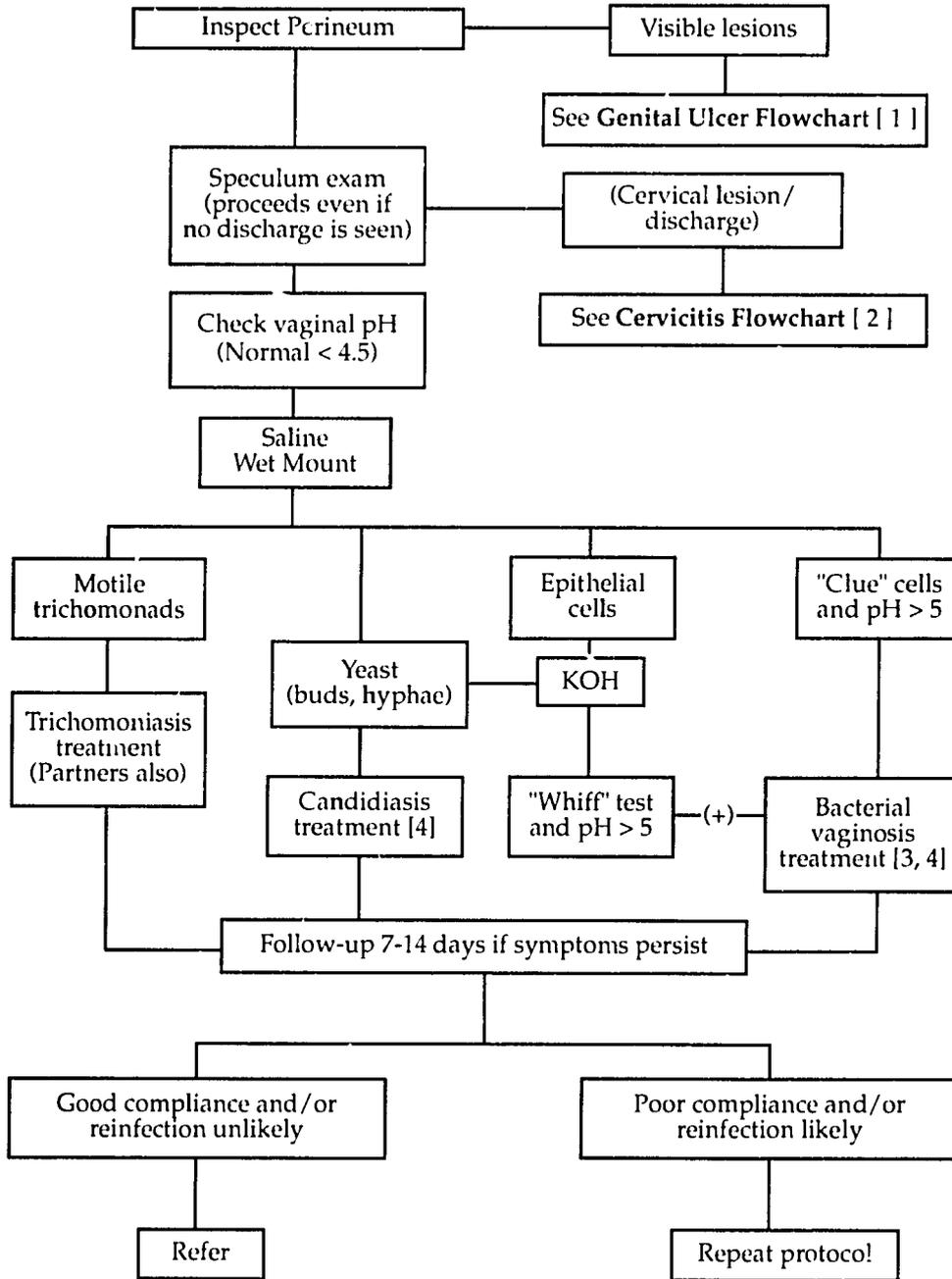
APPENDIX E

GTI FLOWCHARTS

- Flowchart One.** Vaginal Discharge: Vulvovaginitis
Diagnostic Tips
Family Planning Considerations
- Flowchart Two.** Vaginal Discharge: Cervicitis
Diagnostic Tips
Family Planning Considerations
- Flowchart Three:** Urethral Discharge: Urethritis
Diagnostic Tips
Family Planning Considerations
- Flowchart Four:** Genital Ulcers and Bubo
Diagnostic Tips
Family Planning Considerations
- Flowchart Five:** Pelvic Inflammatory Disease
Diagnostic Tips
Family Planning Considerations

FLOWCHART ONE

VAGINAL DISCHARGE: VULVOVAGINITIS



- [1] Even if perineal lesions are present, evaluate vaginal discharge as well. Before the client leaves the clinic, ensure that she has received treatment for all conditions presumed or found.
- [2] Do Gram stain of cervical smear to check for gonorrhea also (see Cervicitis Flowchart) before starting treatment.
- [3] If either >20% clue cells and/or positive "Whiff" test, consider as probable bacterial vaginosis; treat if symptomatic. If findings on wet prep equivocal, do Gram stain for confirmation.
- [4] Bacterial vaginosis and candidiasis tend to relapse, but are not considered to be sexually transmitted or require partner notification.

VULVOVAGINITIS

Diagnostic Tips

- A complete evaluation should be done on all clients with complaints of vaginal discharge and on all clients responding "yes" to any questions in the screening or supplemental GTI history. (The discharge may not be visible but the pathology may be there.)
- The evaluation can be done even if the client is menstruating; however, if she wishes to defer the examination, she should return as soon as possible after completing her menses.
- The vaginal pH generally is elevated (> 4.5) with trichomoniasis and bacterial vaginosis. Other causes for elevation of the vaginal pH are: pregnancy, presence of sperm, blood or menstrual fluid in the vaginal secretions.
- Trichomonads are best visualized in the saline wet mount. This test is not fool-proof, however, for they may be missed about 25% of the time even when the saline and KOH wet mounts are correctly prepared and carefully examined.
- Candida (yeast) are very hard to see on a saline wet mount because of the vaginal epithelial cells and other debris, such as red cells (RBCs). Even on the KOH wet mount, where it is easiest to see, it is identified only about 50-60% of the time. Because of this, a woman with signs and symptoms of candidiasis should be treated even if the saline and KOH wet mounts are negative.
- **Criteria for bacterial vaginosis:** Three of the following four criteria should be present to diagnose bacterial vaginosis:
 - Whitish, smooth discharge which adheres to vaginal side walls
 - Greater than 20% clue cells
 - A positive "Whiff" test - amine-like (fishy) smell when KOH is added to the specimen

In equivocal cases, a Gram stain of vaginal discharge showing predominance of Gram-negative organisms rather than Gram-positive lactobacilli (normal microflora) supports the diagnosis of bacterial vaginosis. **Remember:** Only symptomatic clients with bacterial vaginosis should be treated.

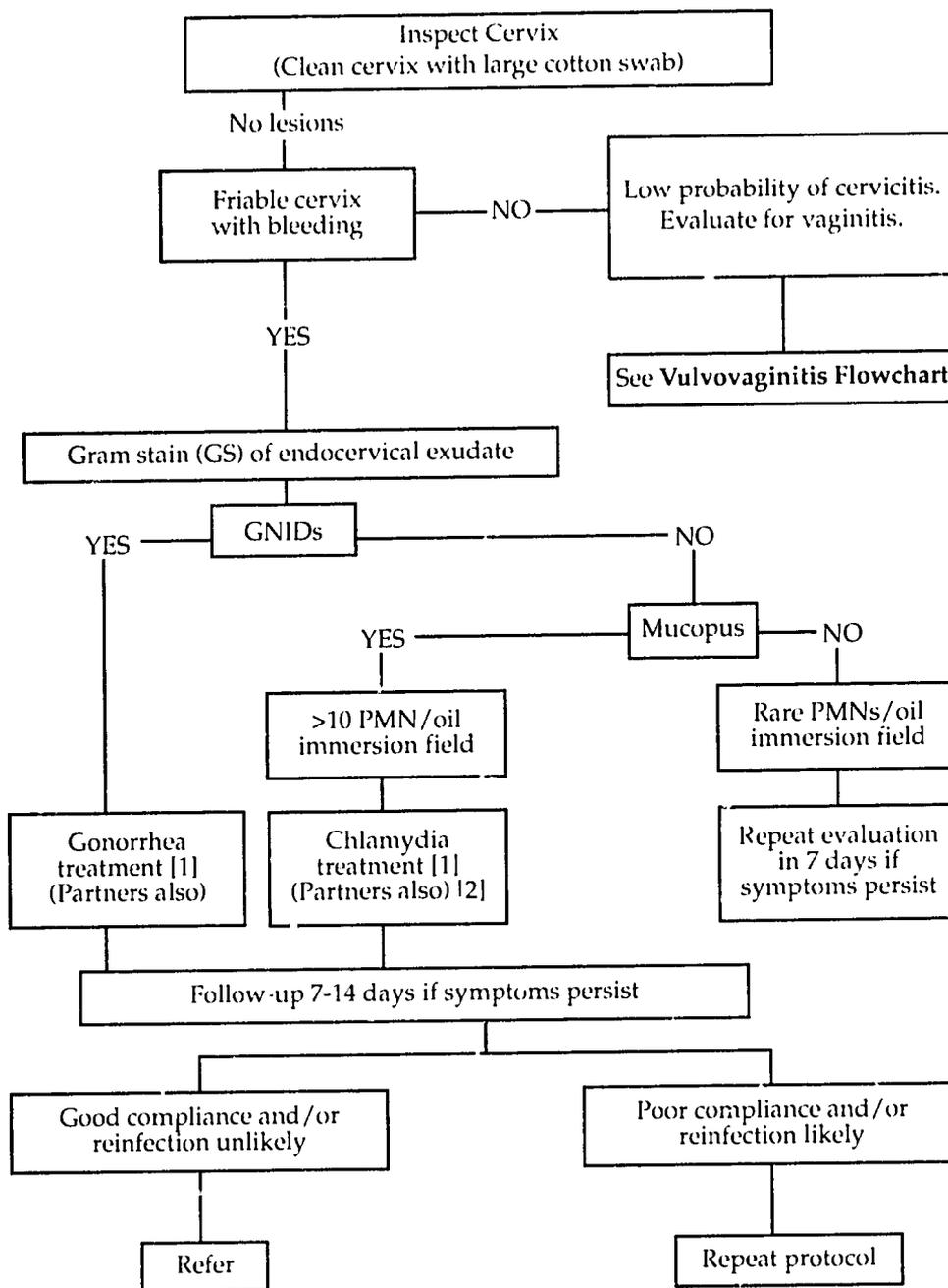
- Women with a history of symptomatic vaginal discharge but without a visible discharge on exam or microscopic evidence of vaginitis, should be re-examined within seven days, if the symptoms persist. **They should be advised not to douche, if they usually do so, for at least two days prior to the next exam.**

Family Planning Considerations

- Women with trichomonal vaginitis are at increased risk of acquiring other types of GTIs. Therefore, they should be counseled that IUDs should **not** be their first choice as a contraceptive method.
- IUDs **can be** inserted safely in women following treatment of simple vulvovaginitis (yeast or bacterial vaginosis) and in women with increased normal vaginal discharge (i.e., no pathogens identified).
- If an IUD user is having problems with recurrent, symptomatic bacterial vaginosis, she should be encouraged to use vaginal spermicides which may help to decrease the frequency of recurrences.

FLOWCHART TWO

VAGINAL DISCHARGE: CERVICITIS



GNIDs: Gram-negative intracellular diplococci
 PMNs: Polymorphonuclear white blood cells
 [1] If epidemiologic data indicate that mixed infections (gonorrhea and chlamydia) are quite common, treat for both.
 [2] Advisability of male partner notification in absence of confirmed diagnosis depends on local cultural and prevalence factors.

CERVICITIS

Diagnostic Tips

- An evaluation for cervicitis is needed **not only** when a client is found to have a cervical discharge, **but also** when:
 - A client's sex partner has urethritis, a genital ulcer or swollen lymph gland in the groin (hubo)
 - The client has a vaginal discharge which is positive for trichomoniasis.
- Under ideal circumstances, the **specificity** of cervical Gram stain in women is 97%. However, it is more difficult to identify Gram-negative intracellular diplococci (GNIDs) on cervical smears than on urethral smears because of contamination with other microflora. As a consequence, the **sensitivity** is much lower. In only about 40-60% of women with culture-positive gonorrhea are GNIDs seen on a cervical smear, compared to 98% or greater on a urethral smear.
- Of those women found to have gonorrhea on cervical smear, approximately 30-40% also will be culture positive for chlamydia and should be treated for both gonorrhea and chlamydia.
- Infectious (mucopurulent) cervicitis due to chlamydia should be suspected if any of the following is present:
 - Heavy mucoid cervical discharge
 - Purulent (yellow) endocervical discharge on physical exam
 - Friability, defined as spontaneous bleeding from the exocervix, or following the insertion of a cotton swab

This diagnosis is confirmed by culturing the chlamydia or by using one of the newer fluorescent antibody (FA) or monoclonal antibody (ELISA) tests. Because of their expense and/or the lack of laboratory facilities, these tests may be unavailable. Fortunately, using the above criteria and microscopic findings will identify most women with chlamydia cervicitis.

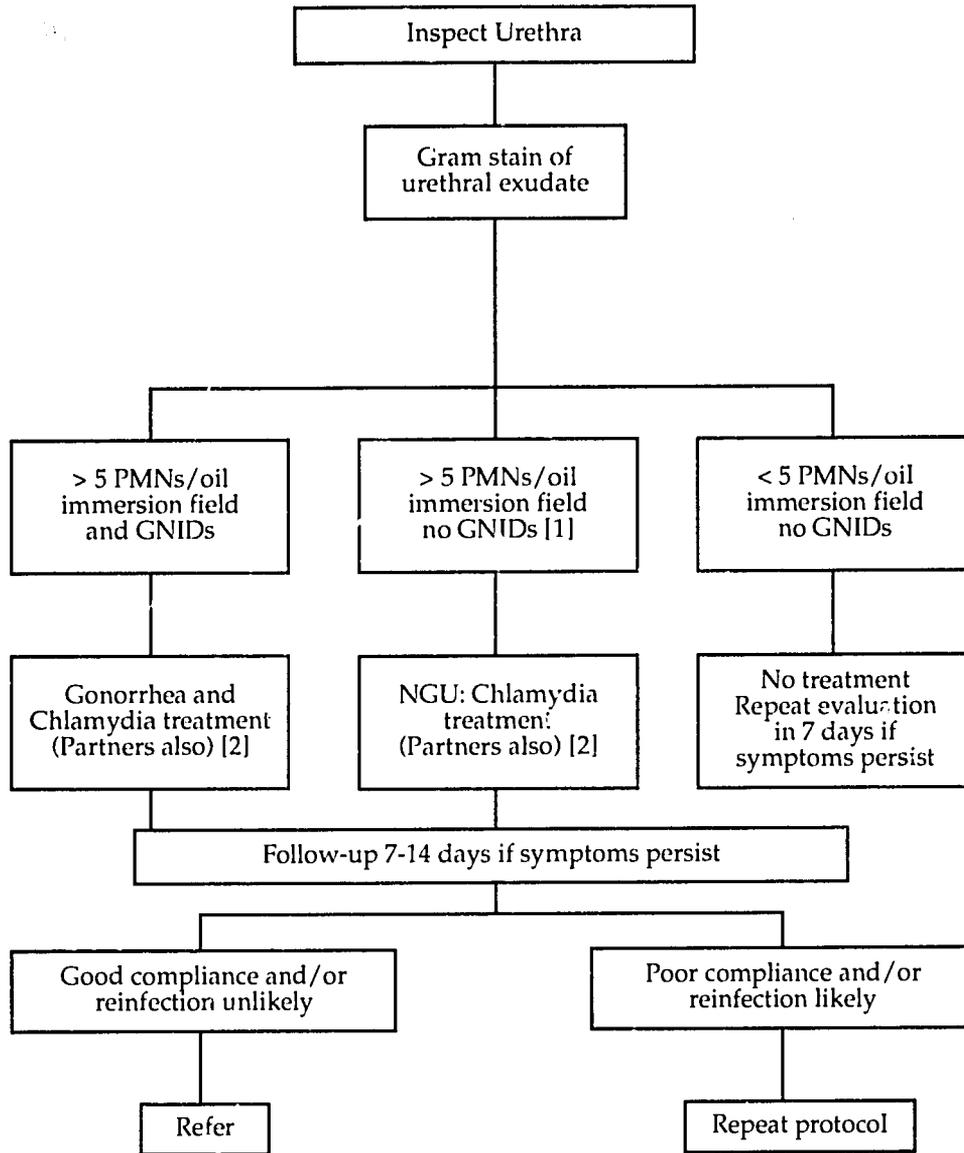
- Women with a purulent (mucopus) cervicitis should be treated for chlamydia even if the Gram-stained smear is negative for GNIDs.
- The prevalence of chlamydial cervicitis is greater in: women with ectopy (i.e., persistence or extension of endocervical cells on the face of the cervix) than in those without it. This happens because chlamydia more easily infect the columnar (round) epithelial cells exposed through ectopy than the squamous (flat) cells normally covering the exocervix.
- If the cervix is red due to eversion of the squamo-columnar junction (ectropion) an IUD may be inserted if the client is at low risk for GTIs; there is no evidence of vaginitis and the bimanual exam is normal.

Family Planning Considerations

- IUDs should **not** be inserted in women at risk for, or with a documented recent (3-6 months) history of gonorrhea, mucopurulent (chlamydial) cervicitis, septic abortion, postpartum uterine (endometritis) infection, or PID.
- IUDs should be removed from women who are diagnosed with gonorrheal cervicitis or nongonorrheal cervicitis (NGC).

FLOWCHART THREE

URETHRAL DISCHARGE: URETHRITIS



GNIDs: Gram-negative intracellular diplococci
 PNMs: Polymorphonuclear white blood cells

NGU: Non-Gonococcal urethritis

[1] Complaints of Urethral discharge or dysuria, without presence of urethral discharge, should be investigated similarly.

[2] Notification and treatment of female partner(s) is one of the best ways of identifying women at high risk of having asymptomatic gonococcal and/or chlamydial infections.

URETHRITIS

Diagnostic Tips

- A specimen of the discharge should be stained with Gram's stain and viewed under the microscope. Gram-negative intracellular diplococci (GNIDs) indicate the presence of gonorrhea. Five or more WBCs per oil immersion (100X) field without GNIDs will be seen if the client has non-gonococcal urethritis (NGU). The sensitivity and specificity of the urethral Gram stain is very high for gonorrhea, 98% in culture-proven cases.
- In most settings, cultures for isolation of *N. gonorrhoeae* are not routinely available. (Because the results would not be known for two or more days, obtaining a culture is not helpful in guiding the initial management decision). Cultures are only important when isolation of the gonococcus is required (e.g., screening for beta-lactamase production, or testing for antimicrobial susceptibility at a reference laboratory).

Cultures for *C. trachomatis*, *U. urealyticum*, and other microorganisms are rarely available except in specialized settings. **Even when available, they will not aid in the initial decision to treat the client.**

Newer non-culture tests for *C. trachomatis* (e.g., the florescent antibody and ELISA tests) and for *N. gonorrhoeae* (e.g., ELISA test) are being evaluated. These technologies are still expensive and insufficiently tested for widespread application.

- All individuals with a history of urethral discharge should have a urethral specimen Gram-stained and read. They may not have a urethral discharge at the time of examination due to their having urinated

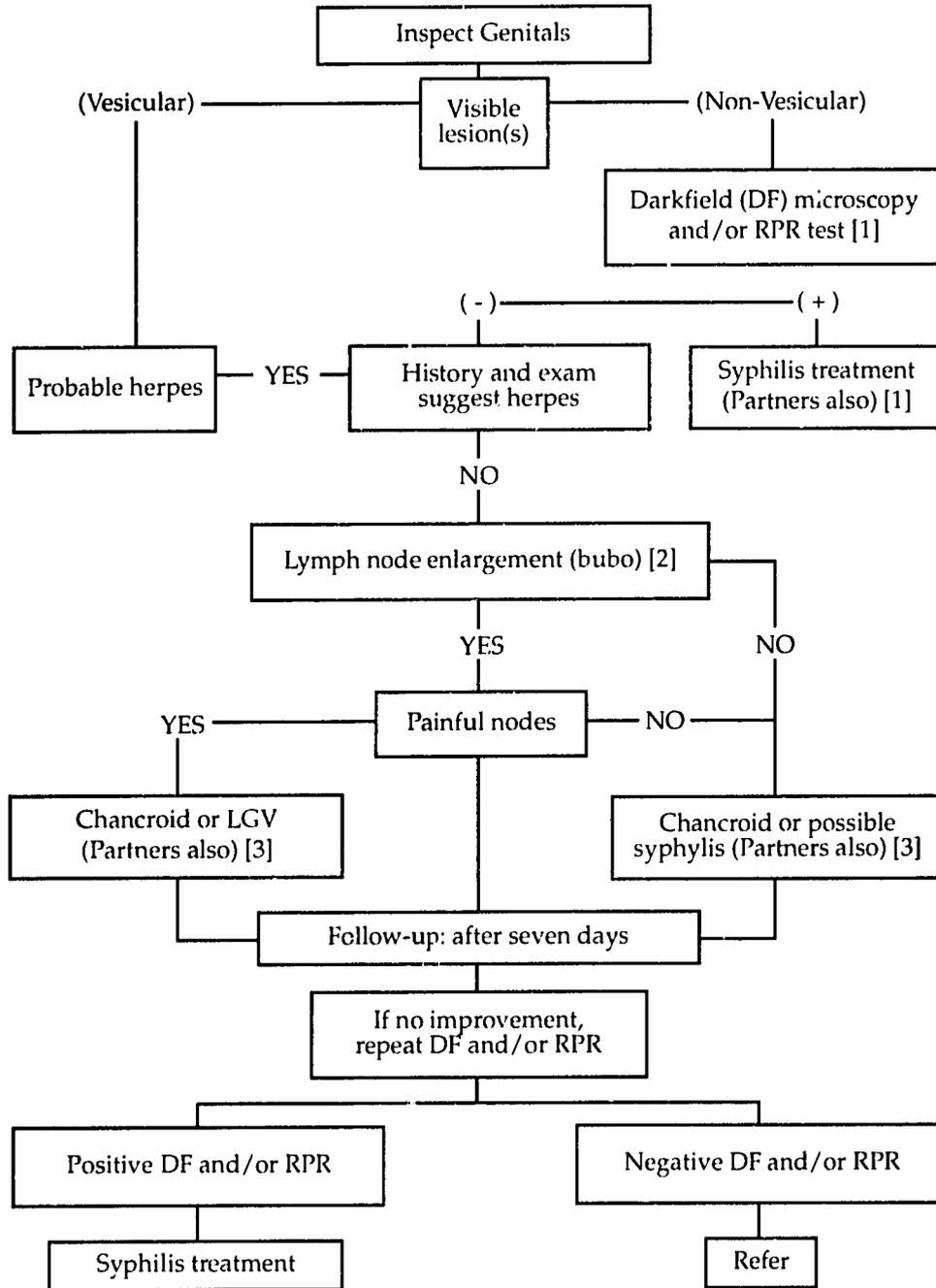
recently. Clients with symptoms of urethritis, but without a visible discharge on exam or microscopic evidence of urethritis (less than 5 PMNs per oil immersion field), should be re-examined within seven days and should not have urinated for at least two hours, preferably four to six hours prior to this examination.

- In women suspected of having cystitis, evaluation should include microscopic urinalysis. Clients should be carefully instructed on the "clean catch" technique for collecting midstream urine specimen. A methylene blue stain of an uncentrifuged ("unspun") urine sample showing 1 or more rods per oil immersion field correlates well with a colony count of greater than 10^5 organisms/ml and is consistent with cystitis.
- Women without evidence of vaginitis or cervicitis on examination but with pyuria and bacteriuria (pus cells and bacteria in the urine) usually have a bladder infection. **Remember:** the presence of epithelial cells or more than one type of microorganism suggests poor clean-catch technique (vaginal contamination). This finding reduces the diagnostic value of examining an "unspun" urine specimen.

Family Planning Considerations

- IUDs should **not** be inserted in women at risk for, or with a documented recent (3-6 months) history of, gonorrheal urethritis or nongonorrheal urethritis (NGU).
- IUDs should be removed from women who are diagnosed with gonorrheal urethritis or nongonorrheal urethritis.

FLOWCHART FOUR GENITAL ULCERS AND BUBOES



- LGV: Lymphogranuloma Venereum
 [1] Follow-up after 7 days. If no improvement, refer.
 [2] If node(s) fluctant, appear pus-filled, aspirate to relieve symptoms with a large needle (18-gauge) every two days. To avoid fistulation, aspirate through healthy adjacent skin.
 [3] Advisability of male partner notification in the absence of confirmed diagnosis depends on local cultural and prevalence factors.

GENITAL ULCERS AND BUBOES

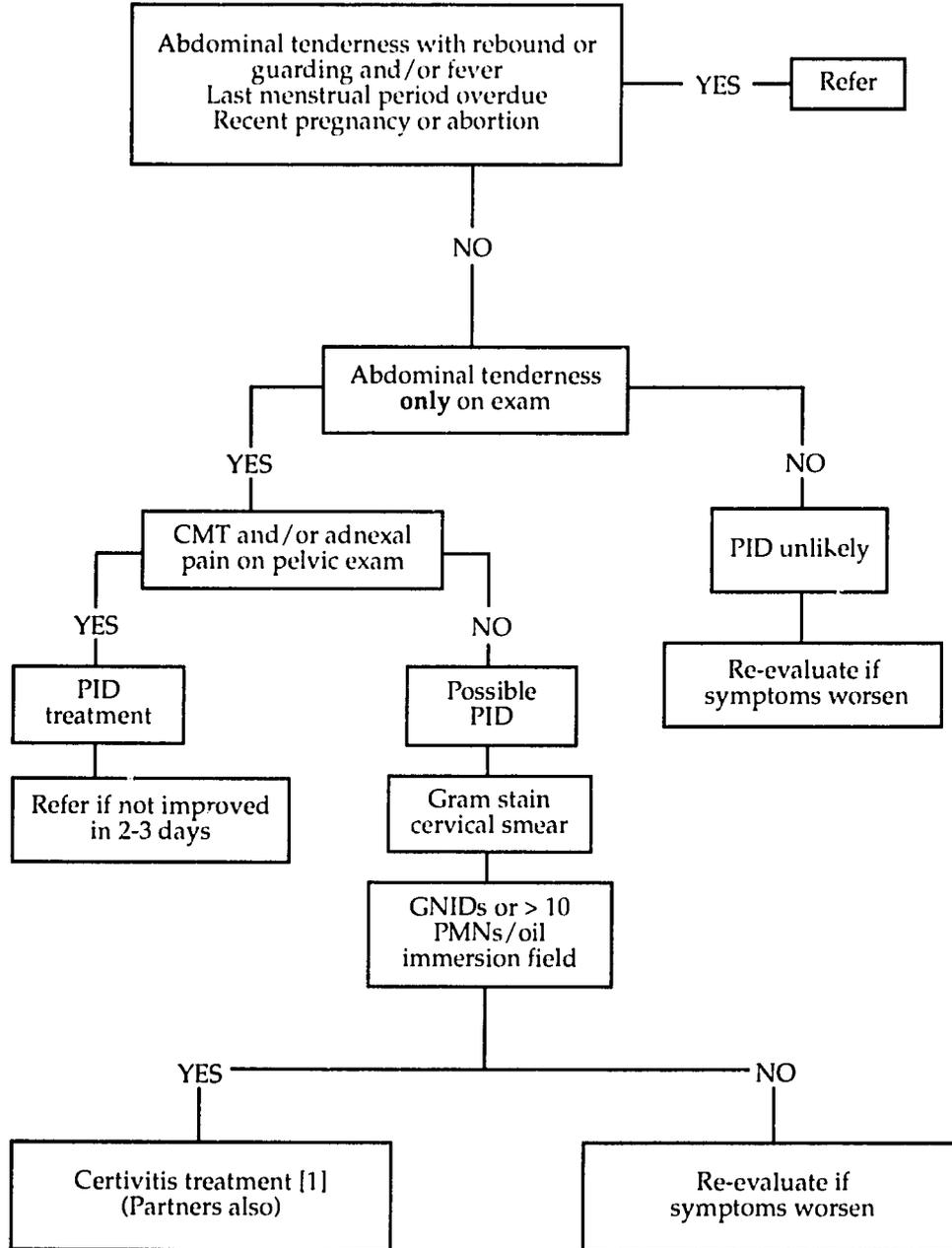
Diagnostic Tips

- Darkfield microscopy to demonstrate *Treponema pallidum*, if available, is most helpful if syphilis is being considered. (A positive darkfield may be present in primary syphilis before antibodies are present.)
- A negative darkfield does **not** eliminate the diagnosis of syphilis. A negative examination in primary syphilis may be secondary to inappropriate collection technique, an old, healing chancre, local antibiotic treatment applied to the chancre prior to obtaining the specimens, and/or superinfection of the chancre. **A negative darkfield examination should be repeated within seven days.** (If available, serology - an RPR or VDRL - should be performed.)
- If bright- and darkfield microscopy and the clinical findings are not helpful, evaluate the woman's partner if at all possible. **Two histories and examinations are better than one in the case of genital ulcers and buboes.**
- Lymph glands which are fluctuant and significantly enlarged probably are buboes. In this setting, chancroid or LGV is most likely. If, in addition, a painful ulcer is present, chancroid is the most likely of the two.
- Enlarged fluctuant buboes should be aspirated with a large bore (18 gauge needle) through **healthy adjacent skin** to avoid developing draining sinuses and/or abscesses. If your facility is not equipped to handle this procedure, the client should be referred.
- If ulcers are chronic, consider biopsy for possible malignancy; also consider scabies, fixed drug eruption or pyoderma.

Family Planning Considerations

- The IUD should **not** be the first choice for contraception in clients with genital ulcers, because of the risk of exposure to other GTIs.

FLOWCHART FIVE PELVIC INFLAMMATORY DISEASE



CMT: Cervical motion tenderness
 GNIDs: Gram-negative intracellular diplococci
 PMNs: Polymorphonuclear white blood cells
 [1] See Chapter 5 and Appendix F: GTI Treatment Guidelines

PELVIC INFLAMMATORY DISEASE

Diagnostic Tips

- Gram-negative intracellular diplococci (GNIDs) on a cervical smear strongly suggests gonococcal PID; absence of GNIDs in the presence of > 10 PMNs per oil immersion field is suggestive of nongonococcal cervicitis (NGC), which may be due to chlamydia.
- If the clinical findings are consistent with a diagnosis of acute PID, treat for both gonorrhea and chlamydia. In general it is better to over-diagnose and treat milder or questionable cases.
- Women with mild symptoms and signs of PID and negative cervical smear findings (no GNIDs and < 10 PMNs per oil immersion field) should be re-evaluated if symptoms persist or worsen.
- Women who are found to have acute PID must be followed closely until the infection begins to resolve. Treatment should begin immediately, and clients should be seen within three days following initiation of treatment. If they are not improved, they should be referred to a facility which manages more complicated cases (i.e., has microbiologic testing available).

Family Planning Considerations

- Because of the increased risk of PID in women who have (or whose spouses have) multiple sex partners, the IUD should not be their first choice as a contraceptive method.
- Women with documented PID are at a greater risk of ectopic pregnancy following recovery and should use highly effective contraception, such as oral contraceptives, injectables or Norplant[®] implants (if available).
- Family planning clients should be advised that no method of birth control will totally eliminate the risk of developing PID; however, barrier methods such as condoms, when used consistently and properly with spermicides, provide the best protection and reduce the risk of acquiring those pathogens associated with PID.
- Oral contraceptives are associated with reduced rates of PID, in part because the thick, tacky cervical mucus and decreased menstrual bleeding accompanying pill use reduces the likelihood of upward ascent of pathogens.

SAMPLE GTI TREATMENT GUIDELINES

VAGINAL OR URETHRAL DISCHARGE

Bacterial Vaginosis (Gardnerella-associated vaginitis)

This condition should be treated only if the client is symptomatic. Metronidazole, 400 mg given orally twice daily for seven days is recommended. Pregnant women requiring treatment should be treated with ampicillin, 500 mg orally four times daily for seven days.

Candidiasis

The first line of treatment is with gentian violet. The vagina should be painted with 1% aqueous solution of gentian violet. This should be done using a speculum. Before inserting the speculum prepare a gauze swab on a sponge or artery forceps. Soak this in the gentian violet solution, then insert the speculum. As you withdraw the speculum, paint the cervix and vagina wall with gentian violet until it is all purple. The client should be encouraged to continue treatment. The client should be supplied with the gentian violet and cotton wool so that pledgets (wads) of cotton wool soaked in gentian violet can be inserted high into the vagina each night and removed the next morning, for three nights.

Alternatively, two nystatin suppositories (each containing 100,000 units) are inserted into the vagina each night for seven nights.

In males with candida balanitis, topical application of a gentian violet solution or nystatin cream is advised.

Trichomoniasis

For both males and females, a single 2 g dose (8 x 250 mg tablets) of metronidazole is recommended. Alternatives:

- Tinidazole, 2 g, single oral dose
- Nimorazole, 2 g, single oral dose

Occasionally, retreatment, especially in males, may be necessary after 14 days.

Gonorrhoea

A choice of antibiotics is necessary, as the availability, cost and efficacy of the drugs varies from country to country.

Oral Regimens

- Amoxicillin, 3 g with clavulanic acid 250 mg, plus probenecid 1 g, as a single dose for males; given on two consecutive days for females
- Norfloxacin, 800 mg in a single dose
- Thiamphenicol, 2.5g, daily for two days
- Trimethoprim (80 mg)/sulfametrol (400 mg), 10 tablets given daily for two days

It must be noted that the effectiveness of the two-day regimens with trimethoprim/sulfonamide combinations may vary (cure rates of 70% to 95% and more). In principle, only drugs giving a cure rate of at least 95% should be used.

Sample GTI Treatment Guidelines

Intramuscular Regimens

- Aqueous procaine penicillin G, 4.8 million units plus probenecid 1g orally, plus amoxicillin 250 mg with clavulanic acid 125 mg orally
- Ceftriaxone, 250 mg
- Kanamycin, 2 g
- Spectinomycin, 2 g

It must be emphasized that surveys should continue to be carried out to determine failure rates and *in vitro* drug resistance to any of the above listed antimicrobial agents. A nationally recommended treatment schedule should achieve a cure rate of at least 95%; a number of schedules listed above might not reach that level and should be evaluated locally.

Chlamydial Infections and Non-Gonococcal Urethritis (NGU)

Tetracycline hydrochloride, 500 mg orally, should be given four times a day for seven days, or give doxycycline 100 mg orally twice daily for seven days. As an alternative to these, and in pregnancy, erythromycin, 500 mg orally four times a day for seven days, should be used. Some experts believe that it may be better to extend the treatment course to 10 or even 14 days.

GENITAL ULCERS AND BUBOES

Chancroid

Recommended treatments are:

- Co-trimoxazole (trimethoprim [80 mg]/sulfamethoxazole [400 mg]), eight tablets daily for two days
- Trimethoprim (250 mg)/ sulfamethopyrazine (200 mg), four tablets in a single oral dose
- Trimethoprim (80 mg)/sulfametrol (400 mg), eight tablets in a single oral dose
- Thiamphenicol, 2.5 g by mouth daily for two days
- Erythromycin, 500 mg orally every six hours for seven days
- Ceftriaxone, 250 mg by intramuscular injection, single dose
- Spectinomycin, 2 g by intramuscular infection, single dose

Syphilis

Early. Benzathine penicillin, 2.4 million units in a single dose by intramuscular injection, or, in clients allergic to penicillin, tetracycline or erythromycin, 500 mg, orally four times a day for 15 days.

Late. Aqueous procaine penicillin G, 600,000 units, by intramuscular injection daily for 21 days, or tetracycline or erythromycin, 500 mg, orally four times a day for 28 days.

Late syphilis, in particular neurosyphilis, is not a rare condition, and should be more looked out for.

Lymphogranuloma Venereum

Tetracycline, 500 mg, orally four times daily for 14 days. Alternatives to this regimen are doxycycline, 100 mg, orally twice daily for 14 days or erythromycin, 500 mg, orally four times a day for 14 days.

Granuloma Inguinale

The recommended regimens are trimethoprim (80 mg)/sulfamethoxazole (400 mg), two tablets by mouth twice daily for 10 days, or tetracycline (500 mg) orally four times a day for 10 days given with streptomycin 750 mg by intramuscular injection daily for 10 days.

Genital Herpes

Lesions should be kept clean by washing affected sites with soap and water and drying carefully. Avoid sexual contact while lesions are present and use barrier contraceptive method after lesions are healed.

If lesions become secondarily infected, treat for five days with Trimethoprim (80 mg)/sulfamethoxazole (400 mg), two tablets orally twice daily.

Genital Warts (Condyloma Acuminata)

No treatment is completely satisfactory. In most clinical situations, podophyllin (or podophyllotoxin) or trichloroacetic acid (TCA) are used to treat external genital and perianal warts. Cryotherapy with liquid nitrogen, solid carbon dioxide, or cryoprobe is preferred when available. Cryotherapy is nontoxic, does not require anesthesia, and if used properly, does not result in scarring.

20% podophyllin solution should be applied carefully to warts, left on for four hours and then washed off. Treatment is repeated weekly. Podophyllin should not be used during pregnancy and should not be applied to lesions on the cervix or inside the urethra. Keratinized warts on the penile shaft or perivulval skin will not respond to podophyllin; these should be treated with glacial trichloroacetic acid. Recurrences occur commonly and should be treated as above, making sure that partners are examined.

Since anal and genital warts have been linked to the development of cancer, atypical, pigmented, or persistent warts should be biopsied. All women with anogenital warts, especially cervical condyloma, should be examined annually to rule out development of cervical changes such as dysplasia.

Sexual partners should be examined for evidence of warts. Clients with anogenital warts should be made aware that they are contagious to sex partners. The use of condoms is recommended to help reduce transmission.

Sample GTI Treatment Guidelines

Buboes

The local management of fluctuant buboes is by aspiration with a wide-bore needle every second day. A bubo is ready for aspiration when the overlying skin is shiny and the area underneath is soft. Prepare a sterile 5-ml syringe and an 18-gauge needle. Clean the skin over the bubo with an antiseptic, such as povidone iodine (PVI) or 70% ethyl alcohol, on a cotton wool swab. Pierce the shiny skin entering only 2mm and suck out as much pus as possible into the syringe. Discharge the pus into a fresh solution of 0.5% chlorine solution to kill the bacteria. Soak syringe and needle, if not disposable, in 0.5% chlorine solution for 10 minutes to decontaminate them prior to washing.

LOWER ABDOMINAL PAIN

Pelvic Inflammatory Disease (PID)

For acute PID, treat for gonorrhea (Kanamycin), chlamydia (Tetracycline) and anaerobic bacteria (Metronidazole) infections as follows:

- Kanamycin, 2 g by intramuscular injection
- Tetracycline, 500 mg orally four times daily for 10 days
- Metronidazole, 400 mg orally three times daily for 10 days

If the client has evidence of peritonitis, an intravenous infusion of Ringers lactate is commenced and the client is transferred to the hospital. Severely ill clients need intravenous fluids and intravenous antibiotics, including penicillin, chloramphenicol and metronidazole. Serum electrolytes and urine output should be monitored.

If the client who has PID has an IUD, this must be removed or the client referred to a center where the IUD can be removed. Antibiotic treatment must be started immediately even if the IUD is still in place.

For mild symptoms with only moderate to absent cervical motion tenderness, treat only if pathogens are identified on Gram-stained cervical smear.

APPENDIX G

PROCESSING REUSABLE GLOVES

HOW TO DECONTAMINATE AND CLEAN RUBBER GLOVES BEFORE HIGH-LEVEL DISINFECTION OR STERILIZATION

STEP 1: Before removing reusable gloves which may be soiled with blood, body fluids or semen, immerse hands briefly in a bucket of 0.5% chlorine solution or other locally available and approved disinfectant.

STEP 2: Remove gloves by inverting them, and soak the gloves in the chlorine solution for 10 minutes before handling in order to kill hepatitis B and AIDS viruses (even though cleaning staff wear gloves). This insures that both surfaces of the gloves are decontaminated.

STEP 3: Wash gloves in soapy water. Clean gloves inside and out.

STEP 4: Rinse gloves in clean water until no detergent (soap) remains. (Detergent can interfere with disinfection.)

STEP 5: Test gloves for holes by inflating them by hand and holding them under

water. (Air bubbles will appear if holes are present.)

STEP 6: Gently dry gloves inside and out before proceeding with disinfection or sterilization. (Gloves which remain wet for long periods of time will absorb water and become tacky.)

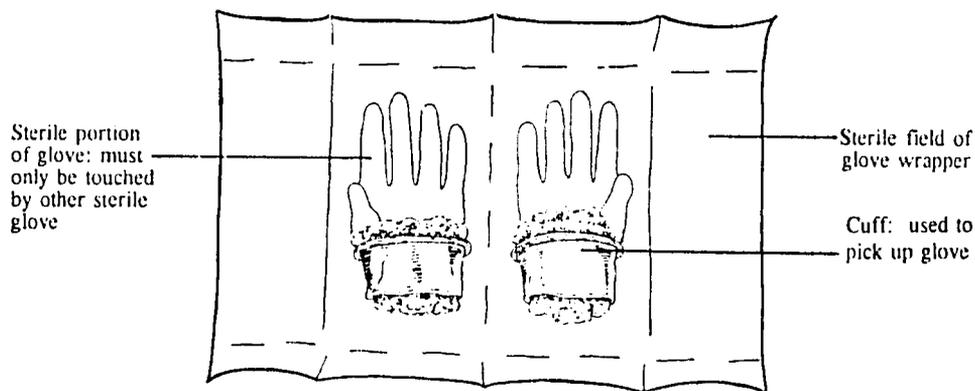
STEP 7: For gloves which are to be steam sterilized, package before further processing. For high-level disinfection, packaging is done after disinfection.

Note: Gloves should be discarded after processing three (3) times because invisible tears may occur.

HOW TO STERILIZE GLOVES

After decontamination, cleaning and thorough drying, gloves need to be packaged prior to autoclaving: the cuffs should be rolled up, so that the gloves can be put on after sterilizing without contamination. If autoclaving, put gauze inside each glove and under the fold of the cuff (**Figure G-1**) and

Figure G-1. Gloves with gauze inside glove and under fold.



Source: South East Asia Office (SEARO)/World Health Organization: *A Manual on Infection Control in Health Facilities*. New Delhi, SEARO Regional Health Papers No. 18., 1988.

place them in a wire basket on their sides to allow optimum steam penetration. (If gloves are stacked in piles, penetration of steam under the cuffs may be poor.) (Do not tie tightly or wrap glove packs with rubber bands.) Autoclave at 121°C (250°F) for 20 minutes and a pressure of 106 kPa (15 lbs/in²). **Remember:** Higher temperatures

and pressures are destructive to gloves. Immediately after autoclaving, gloves are extremely friable and tear easily. Gloves should not be used for 24 to 48 hours, to allow the elasticity to be restored and to prevent tackiness/stickiness (**Figure G-2**).

Figure G-2. Tips to Help Avoid Glove Problems

PROBLEM: TACKY OR STICKY GLOVES	
Probable Cause	Recommended Solution
Residual detergent (soap)	<ul style="list-style-type: none"> • Reduce amount of detergent used when washing gloves • Rinse gloves at least three times in clean water
Excessive exposure to high temperature	<ul style="list-style-type: none"> • Use 20 minutes sterilizing exposure at 121°C (250°F) and remove gloves from sterilizer as soon as cycle is completed
Gloves sterilized with other goods	<ul style="list-style-type: none"> • Sterilize gloves separately
Poor powdering	<ul style="list-style-type: none"> • Use absorbable glove powder and follow manufacturer's instructions to insure a film of powder on all surfaces
Surfaces of gloves touching each other	<ul style="list-style-type: none"> • Paper or cloth wicks should be inserted between the palm and back of hand of each glove and between the hand of the glove and turned-back cuff. This allows steam to contact all surfaces during sterilization and prevents surfaces from adhering to each other
Deterioration of rubber/latex	<ul style="list-style-type: none"> • Rubber/latex gloves deteriorate while stored even though they have not been used. They become soft, sticky and unusable. • Do not overstack gloves • Store in a dry, cool area • Do not store in direct sunlight
PROBLEM: EXCESSIVE TEARING OR RUPTURING	
Air testing too soon	<ul style="list-style-type: none"> • Air test only 8 hours or more after washing and drying
Gloves used too soon following sterilization	<ul style="list-style-type: none"> • Do not use gloves for 24-48 hours after sterilization. This allows gloves to regain their elasticity before use.

Source: Southeast Asia Office (SEARO)/World Health Organization: *A Manual on Infection Control in Health Facilities*. New Delhi, SEARO Regional Health Papers (No.18), 1988, p. 29

HOW TO HIGH-LEVEL DISINFECT GLOVES

After gloves have been decontaminated and thoroughly washed in detergent and water, they are then ready for high-level disinfection (HLD) by boiling for 20 minutes.

Instructions

STEP 1: Place gloves in a bag made of plastic or nylon netting. Cotton bags are less desirable because they dry slowly after use.

STEP 2: Place a weight in the bag so that all gloves and the bag are at least 1 inch below the surface of the water.

STEP 3: Close lid over pan and bring water to a full, **rolling** boil. (When water only simmers, very little steam is formed and the temperature at the water's surface may never get high enough to kill microorganisms.)

STEP 4: Reduce heat so that water continues to boil at a rolling boil. (When water boils too violently, it evaporates quickly and wastes fuel.)

STEP 5: Start timer or note time on clock and record time rolling boil began on sterilization log. (No objects or water should be added after timing starts.)

STEP 6: Boil gloves for **20 minutes**, starting from the time rolling boil begins.

STEP 7: After boiling for 20 minutes, remove netted bag using **high-level disinfected, dry** large forceps/pickups. Never leave boiled objects in water which has stopped boiling. (As the water cools and steam condenses, air and dust particles are drawn down into the container and may contaminate the gloves.)

STEP 8: Shake off excess water and hang the bag out to dry. (The netted bag will permit the gloves to dry quickly without being handled.) Avoid areas where dust or other particles may contaminate the contents of the bag.

STEP 9: Wearing previously HLD gloves, place bag in **dry, HLD** container. Open bag and remove gloves, reverse them and replace in bag. (This step permits the gloves to dry both inside and out.)

STEP 10: Shake off excess water and re-hang the bag to dry.

STEP 11: Using previously HLD forceps or glove, open bag and place gloves in a **covered, dry, high-level disinfected** container.¹

STEP 12: Fold cuffs over and place together by pairs for easy donning later.

STEP 13: Gloves which have been HLD by boiling and have air dried do not need paper wrapping. They should be stored in an HLD container and removed as needed with HLD large forceps/pickups. Ideally, these

¹ To prepare an HLD container, boil (if small) or fill a plastic container with 0.5% chlorine solution and soak for 20 minutes. (The chlorine solution can then be transferred to another container and reused.) Rinse the inside thoroughly with boiled water. Air dry before use.

Processing Reusable Gloves

gloves will have the cuffs folded over. Use gloves immediately, or cover and store for later use (up to one week). Avoid recontamination of gloves before use.

Note: If supplies of gloves are limited and/or they will be used immediately after boiling (see **STEP 6** above), they can be worn "wet".

Instructions

STEP 7: After boiling for 20 minutes, remove with HLD forceps/pickups.

STEP 8: Allow excess water to drip off gloves (shake gently) and place in an HLD container with a cover and allow to cool (about 5 minutes) before using.

ACCIDENTAL CONTAMINATION OF STERILE OR HLD GLOVES

There are several ways to contaminate HLD or sterile gloves:

- Tearing or puncturing the glove
- Touching any nonsterile object with the sterile glove
- Touching the outside of a sterile glove with an ungloved hand

(Service providers wearing sterile or HLD gloves should be careful **not** to contaminate gloved hands inadvertently by touching nonsterile objects, unprepped skin or mucous membranes.)

REGLOVING AFTER CONTAMINATION

There are two ways to reglove after contaminating a glove during a procedure:

- Remove contaminated glove by the cuff, and dispose of properly
- Have circulating nurse open a new sterile glove pack, laying the glove package on a clean surface
- Put on replacement glove in the usual manner

Alternatively:

- Remove contaminated glove by the cuff and dispose of properly
- Have scrub nurse open another sterile glove package, remove a sterile glove, and hold the glove open by the cuff. Put your hand into the glove without touching the outside of the glove
- Adjust the glove after the scrub nurse lets go of the cuff

REFERENCES

Program for International Training in Health (INTRAH): *Sterilization, Disinfection, Decontamination and Cleaning of FP/MCH Clinic Equipment*. Chapel Hill, North Carolina, INTRAH, 1989 (Training Information Packet).

Sorensen KC, Luckman J: *Basic Nursing: A Psychophysiologic Approach*. Philadelphia, Pennsylvania, WB Saunders Co., 1979, pp 934-938.

South East Asia Office (SEARO)/World Health Organization: *A Manual on Infection Control in Health Facilities*. New Delhi, SEARO Regional Health Papers No. 18., 1988.

Tietjen LG et al: *Infection Prevention for Family Planning Service Programs*. Durant, Oklahoma, EMIS, 1992.

Tomlinson, M: Personal reference, Chosen Mission Project, Erie, Pennsylvania, 1991.

APPENDIX H

INFECTION PREVENTION PROCESSES FOR INSTRUMENTS AND OTHER ITEMS

DECONTAMINATION

Decontamination is the first step in handling used (soiled) surgical instruments and gloves. Decontamination is important for pre-treating instruments and objects that may have been in contact with blood or body fluids. Immediately after use, instruments should be placed for 10 minutes in a 0.5% chlorine solution, which rapidly inactivates hepatitis B viruses and AIDS. (Table H-1 describes how to make a 0.5% chlorine solution using commonly available bleaches.) Decontamination makes items safer to handle by personnel who clean them.

After decontamination, instruments should be rinsed immediately with cool water to prevent corrosion and to remove visible organic material before being thoroughly cleaned. Personnel should wear gloves while handling used instruments. Inexpensive rubber or vinyl household (utility) gloves work well for this.

Surfaces (especially pelvic examination tables) that may have come in contact with contaminated body fluids also should be decontaminated. **Wiping with a suitable disinfectant such as a 0.5% chlorine solution before reuse, when visibly contaminated or at least daily, is an easy-to-do, inexpensive way to decontaminate large surfaces.**

Table H-1: Preparing a 0.5% Chlorine Solution from Bleach (Sodium Hypochlorite Solutions)¹

Type or Brand of Bleach (Country)	Chlorine % Available	How to Dilute to an 0.5% Solution
Household bleach (Canada, USA)	5%	1 part bleach to 9 parts water
Eau de Javel (France) (15 °chlorum ¹)	5%	1 part bleach to 9 parts water
Extrait de Javel (France) (48 °chlorum ¹)	15%	1 part bleach to 29 parts water
Chlorox (UK)	10%	1 part bleach to 19 parts water
JIK (Kenya)	3.5%	1 part bleach to 6 parts water

¹ In some countries the concentration of sodium hypochlorite is expressed in chlorometric degrees (°chlorum); 1 °chlorum is approximately equivalent to 0.3% available chlorine.

Source: Adapted from Program for International Training in Health (INTRAH), *Guidelines for Clinical Procedures in Family Planning and Sexually Transmitted Diseases: A Reference for Trainers*. Chapel Hill, North Carolina, INTRAH, 1989.

CLEANING

Cleaning is a crucial step in providing safe, infection-free equipment and instruments. A thorough cleaning with detergent and water physically removes organic material such as blood and secretions. Dried organic material can entrap microorganisms in a residue that protects them against sterilization or chemical disinfection. Organic matter also can partially inactivate disinfectants, rendering them less effective.

Gloves should be worn while cleaning instruments and equipment (thick household or industrial gloves work well). If torn or damaged, they should be discarded; otherwise they should be cleaned and left to dry at the end of the day for use the following day. In addition to wearing gloves, extreme care must be taken to prevent needle sticks or cuts.

Instruments should be cleaned with a brush (old toothbrushes work well) in soapy water. Particular attention should be paid to instruments with teeth, joints or screws where organic material can collect. (Because chlorine breaks down protein, decontaminating by soaking in a chlorine solution makes cleaning easier.) After cleaning, instruments should be thoroughly rinsed with water to remove detergent residue which can interfere with chemical disinfection.

HIGH-LEVEL DISINFECTION

Sterilization is the safest and most effective method for processing instruments which come in contact with the blood stream, tissue beneath the skin or tissues which are normally sterile. When sterilization equipment is either not available or not suitable, **high-level disinfection (HLD)** is

the only acceptable alternative. HLD destroys all microorganisms, including viruses causing hepatitis B and AIDS, but does not reliably kill all bacterial endospores. For example, in family planning facilities, either sterilization or HLD are acceptable for processing instruments and gloves used for pelvic exams and IUD insertion and removal, since problems with endospores have not been reported with IUD use.

HLD can be achieved through boiling in water or soaking instruments in chemical disinfectants such as a glutaraldehyde (e.g., Cidex[®]) or 8% formaldehyde. Because boiling requires only inexpensive equipment, which usually is readily available, it is the preferred method for small clinics or those located in remote areas. Regardless of the method selected, however, HLD can be effective only when used (soiled) instruments and gloves are first decontaminated and thoroughly cleaned and rinsed **before** disinfection. The whole procedure should be monitored regularly.

HLD by Boiling. Boil instruments for 20 minutes. Timing should begin when the water is at a rolling (bubbling) boil, all instruments should be totally submerged and nothing should be added to the container after boiling begins. Air dry disinfected items in a clean area of the room. Use instruments and other items immediately or place them in a covered, dry HLD container. Store for up to one week.

Moist heat at 80°C kills essentially all bacteria, viruses, parasites and fungi in 20 minutes. Therefore, unless the altitude of the health facility is over 18,000 feet (5500 meters) it is **not** necessary to increase the boiling time.

Boiling Tips

- Always boil for 20 minutes in a pot with a lid.
- Start timing when the water begins to boil.
- Items must be completely covered with water during boiling.
- Air dry before use or storage.
- Do not add anything to the pot after boiling begins.

Chemical Disinfection. A variety of chemical disinfectants are available worldwide which include:

- Ethyl or isopropyl alcohol
- Chlorine
- Formaldehyde (Formalin)
- Glutaraldehyde
- Hydrogen peroxide
- Iodine and iodophors

Table H-2 provides guidelines for preparing and using a number of these disinfectants.

Although alcohols and iodophors are inexpensive and readily available, they are no longer classified as HLDs. (Alcohols do not kill some viruses and *Pseudomonas* species [Gram-negative bacteria] have been known to multiply in iodophors.) They should be used for disinfection only when the HLDs listed below are not available or appropriate.

The major advantages and disadvantages of each high-level disinfectant are described below.

High-Level Disinfectants

- **Chlorine Solutions.** Chlorine solutions are fast-acting, very effective against hepatitis B and AIDS viruses, inexpensive and readily available. They are extremely useful for decontaminating large surfaces such as examination tables. A major disadvantage is that chlorine solutions can corrode metals; however, stainless steel instruments can be safely soaked in a 0.5% chlorine solution (using a plastic container) for up to 20 minutes. If they are then rinsed and dried promptly, corrosion is **not** a problem. Because chlorine solutions deteriorate rapidly, fresh solutions should be made at least daily or more often if the solution is visibly cloudy.
- **Formaldehyde.** Eight percent formaldehyde, which can be used as a chemical sterilant, also is an effective high-level disinfectant (HLD), but is highly toxic. Care must be taken to protect both staff and clients from the fumes when mixing and using formaldehyde solutions. **Do not dilute with chlorinated water as a dangerous gas (bis-chloromethyl-ether) can be produced.**
- **Glutaraldehydes** (e.g., Cidex[®]). Glutaraldehydes, which also can be used for chemical sterilization, are effective HLDs as well. Although less irritating than formaldehyde, they too should be used in well-ventilated areas. Avoid skin contact by using gloves and taking care not to splash the solution.

Because both glutaraldehydes and formaldehyde (formalin) leave a residue, instruments must be rinsed well with boiled water after disinfecting with these products to prevent skin irritation and remove residue.

- **Hydrogen Peroxide.** Hydrogen peroxide (H_2O_2), which must be diluted to a 6% solution, often is available locally and is less expensive than other chemical disinfectants. (The 3% H_2O_2 solutions used as antiseptics should not be used as disinfectants.) The major disadvantage of H_2O_2 is that it is corrosive and should not be used to disinfect copper, aluminum, zinc or brass. Also, it loses potency rapidly when exposed to heat and light, so needs to be stored carefully. **WHO does not recommend using H_2O_2 in tropical environments because of its instability in the presence of heat and light.**

Alternative Disinfectants

- **Alcohols** (ethyl or isopropyl). Alcohols are not corrosive to metal, can be used to disinfect rubber or latex as well as plastic items, and leave no chemical residue (therefore, rinsing is not required). The major disadvantages are that alcohols may be unable to penetrate organic material, evaporate rapidly, and do not kill some viruses.

- **Iodophors** (e.g., Betadine^R or Wescodyne^R). Iodophors (solutions of iodine mixed with a solubilizing agent) are usually readily available locally.

Povidone iodine (PVI) is a commonly available iodophor, usually sold as a 10% solution (1% iodine). Iodophors are not classified as HLDs; therefore, they should not be used for disinfecting bulk-packaged, inert (plastic) IUDs or their reusable inserters. Because iodine can damage copper wire, it was never recommended for disinfecting copper IUDs. Iodophors are good for disinfecting stainless steel equipment.

Storage of Disinfectants

- Disinfectants should be stored in a cool, dark area.
- Never store chemicals in direct sunlight or in excessive heat (e.g., upper shelves in a tin-roofed building).

Processing Used Chemical Containers

- Rinse glass container thoroughly with water. Glass containers may be washed with soap and water, rinsed, dried, and reused.
- For plastic containers used for toxic substances such as formaldehyde solutions (Formalin), rinse three times with water and dispose of by burning or burial.

Note: Plastic containers, which originally held toxic chemicals, must **not** be reused for other purposes.

Table H-2: Preparing and Using Chemical Disinfectants

Disinfectant (common solution or brand)	Effective Concentration	How to dilute	Skin Irritant	Eye Irritant	Respiratory Irritant	Corrosive	Leaves Residue	Time Needed for HLD	Time Needed for Sterilization	Activated Shelf Life ¹
Alcohol Ethyl Isopropyl "Methylated spirit"	60-90%	Use full strength	Yes (can dry skin)	Yes	No	No	No	Do not use ²	Do not use	Change weekly; daily if heavily used; sooner if cloudy
Chlorine	0.5%	Dilution procedures vary ³	Yes (with prolonged contact)	Yes	Yes	Yes	Yes	20 minutes	Do not use	Change daily; sooner if cloudy
Formaldehyde (35-40%)	8%	1 part 35-40% solution to 4 parts boiled water	Yes	Yes	Yes	No	Yes	20 minutes	24 hours	Change every 14 days; sooner if cloudy
Glutaraldehyde Cidex ^R	Varies	Varies: read instructions on container	Yes	Yes vapors	Yes	No	Yes	20 minutes at 25°C ⁴	10 hours for Cidex	Change every 14 days; sooner if cloudy
Hydrogen Peroxide (30%)	6%	1 part 30% solution to 4 parts boiled water	Yes	Yes	No	Yes	No	30 minutes	Do not use	Change daily; sooner if cloudy
Iodophors (10% povidone iodine-PVI)	Approximately 2.5%	1 part 10% PVI to 3 parts water	No ⁵	Yes	No	Yes	Yes	Do not use ²	Do not use	Change daily

¹ All chemical disinfectants are heat and light sensitive and must be stored appropriately.

² Alcohols and iodophors are not HLDs; however, they can be used as intermediate-level disinfectants. For this purpose, soak for 20 minutes.

³ See **Table H-1**, for instructions on preparing chlorine solutions.

⁴ Different commercial preparations of Cidex^R and other glutaraldehydes (e.g., Wavicide^R) are effective at lower temperatures (20°C) and for longer activated shelf life. Always check manufacturer's instructions.

⁵ Except in people with allergies to iodophors.

Source: Adapted from Wenzel, RP (ed): *Prevention and Control of Nosocomial Infections*. Baltimore, Williams & Wilkins, 1987.

Key Steps in Chemical Disinfection

- Decontaminate instruments that have been contaminated with blood and body fluids; thoroughly clean and dry all equipment and instruments.
- Cover all items completely with correct dilution of properly stored disinfectant.
- Soak for 20 minutes.
- Rinse well with boiled water and air-dry.
- Store for up to one week in a high-level disinfected (HLD), covered container or use promptly. To prepare HLD container, boil (if small) or fill a plastic container with 0.5 % chlorine solution and soak for 20 minutes. (The chlorine solution can be transferred to a plastic container and reused.) Rinse the inside thoroughly with boiled water. Air dry before use.

Products That Should Not Be Used as Disinfectants. Many antiseptic solutions are used incorrectly as disinfectants. While antiseptics (sometimes called "skin disinfectants") are adequate for cleaning skin before an injection or surgical procedure, they are not appropriate for disinfecting surgical instruments and gloves. **They do not reliably destroy bacteria and viruses and do not destroy bacterial endospores.** For example, Savlon^R (cetrimide with chlorhexidine gluconate), which is readily available worldwide, is a good antiseptic but is often mistakenly used as a disinfectant.

Antiseptics that should not be used as disinfectants are:

- Acridine derivatives (e.g., gentian or crystal violet)
- Benzalkonium chloride, a quaternary ammonium (e.g., Zephiran^R)
- Cetrimide (e.g., Cetavlon^R)

- Cetrimide with chlorhexidine gluconate (e.g., Savlon^R)
- Chlorinated lime and boric acid (e.g., Eusol^R)
- Chlorhexidine gluconate (e.g., Hibiscrub^R, Hibitane^R)
- Hexachlorophene (e.g., Phisohex[®]),
- Chloroxylenol (e.g., Dettol^R)
- Mercury compounds (**toxic and not recommended as an antiseptic or a disinfectant**)

Mercury solutions (such as mercury laurel), although low-level disinfectants, **cause birth defects** and are too toxic to use **as either disinfectants or antiseptics.**

Other products frequently used to disinfect equipment are 1-2% phenol (e.g., Phenol^R), 5% carbolic acid (e.g., Lysol^R) and benzalkonium chloride, a quaternary ammonium (Zephiran^R). These are low-level disinfectants and should be used only to decontaminate environmental surfaces when chlorine compounds are not available.

STERILIZATION

Whenever possible, instruments and other items that come in direct contact with the blood stream or tissues under the skin, such as needles, syringes and scalpels, should be sterilized after first being decontaminated and thoroughly cleaned, rinsed and dried. **The sterilization process ensures that all microorganisms, including bacterial endospores, are destroyed.** Bacterial endospores are particularly difficult to kill because of their tough coating.

Bacteria that form endospores include *Clostridia* species which cause tetanus. As mentioned in **Chapter 6**, HLD is adequate for processing instruments and gloves used for IUD services since problems with tetanus have not been reported in connection with IUD use.

Heat Sterilization. High-pressure saturated steam (autoclaving) or dry heat (by electric oven) are the most readily available methods of sterilization. Steam sterilization is generally the method of choice for sterilizing instruments and other items used in family planning and health care facilities. Where electricity is a problem, instruments can be sterilized in a non-electric steam autoclave using kerosene as a heat source. Under certain conditions solar panels can be utilized to reflect solar energy for heating purposes.

Dry heat sterilizers are good in humid climates but need a constant supply of electricity, making them impractical in many remote (rural) areas. Furthermore, dry heat sterilization can be used only with glass or metal objects - other substances will melt or

When instruments and equipment are steam-sterilized, it is essential that steam reach all surfaces; autoclaving closed containers will sterilize only the outside of the containers.

incinerate. (Needles and other instruments with cutting edges should be dry-heat sterilized at temperatures not higher than 162.8°C [325°F]; otherwise, the sharpness of the cutting edges can be destroyed.) The standard conditions for sterilization by steam or dry heat are shown in the box below.

Standard Conditions for Heat Sterilization

Steam sterilization: 121°C (250°F) at 106 kPa (15 lbs/in²) for 20 minutes for unwrapped items; 30 minutes for wrapped items. Allow all items to dry before removing.

Dry heat: 170°C (340°F) for one hour (total cycle time - placing instruments in oven, heating to 170°C, timing for one hour and then cooling - is from two to two and a half hours) or 160°C (320°F) for two hours (total cycle time is from three to three and a half hours).

Sterile instruments generally should be used immediately unless they have been wrapped in a double layer of muslin, paper or other appropriate material during steam sterilization. The material must be porous enough to let steam through but tightly woven enough to protect against dust particles and microorganisms. **Wrapped sterile instruments have a shelf life of up to one week, but only if kept dry and intact.** Placing a wrapped pack in a sealed

plastic bag will increase its shelf life to one month. All packs should be labeled with an expiration date.

Chemical Sterilization

An alternative to steam or dry heat sterilization is chemical sterilization (often called cold sterilization) by soaking for 8-10 hours in a glutaraldehyde or at least 24 hours in an 8% formaldehyde solution. Glutaraldehydes, such as Cidex^R, often are in short supply and expensive, but they are the only practical sterilants usable for instruments (such as laparoscopes) which cannot be heated. Also, formaldehyde and

glutaraldehydes require special handling and leave a residue on treated instruments; therefore, rinsing with sterile water after use is essential. (Using boiled water, since it does not reliably inactivate endospores, can recontaminate the sterile instruments.)

Although formaldehyde is less expensive than glutaraldehyde, it is more toxic. The vapors of both chemicals are irritating to the skin, eyes and respiratory tract (Table H-2). When using either formaldehyde or glutaraldehyde, gloves should be used, exposure time limited and both chemicals used only in a well-ventilated area.

REFERENCES

Program for International Training in Health (INTRAH): *Guidelines for Clinical Procedures in Family Planning and Sexually Transmitted Diseases: A Reference for Trainers*. Chapel Hill, North Carolina, INTRAH, 1989.

Tietjen LG et al: *Infection Prevention Guidelines for Family Planning Service Programs*. Durant, Oklahoma, EMIS, 1992.

APPENDIX I

CONTENTS OF IUD INSERTION/REMOVAL KIT (MEDICAL KIT NO. 2) PROVIDED BY USAID

Item	Quantity
Pan	2 each
Pan cover	2 each
Iodine cup	3 each
Jar, forceps	1 each
Pan, emesis	2 each
Forceps, artery, Pean, curved, 8 1/2"	1 each
Forceps, IUD removal, alligator jaw, 8"	1 each
Forceps, uterine tenaculum, Braun, straight, 9 1/2"	3 each
Forceps, uterine dressing, Bozeman, curved, 10 1/2"	3 each
Forceps, sponge, Foerster, straight, 9 1/2"	3 each
Forceps, utility sterilizer, 4 1/2"	2 each
Kidney dish	2 each
Scissors, operating, Sims, curved, 8"	6 each
Sound, uterine, Sims, 12 1/2"	3 each
Speculum, vaginal, Graves, small	1 each
Speculum, vaginal, Graves, medium	3 each
Speculum, vaginal, Graves, large	1 each

APPENDIX J

INSTRUCTIONS FOR LOADING THE COPPER T 380A IN THE STERILE PACKAGE

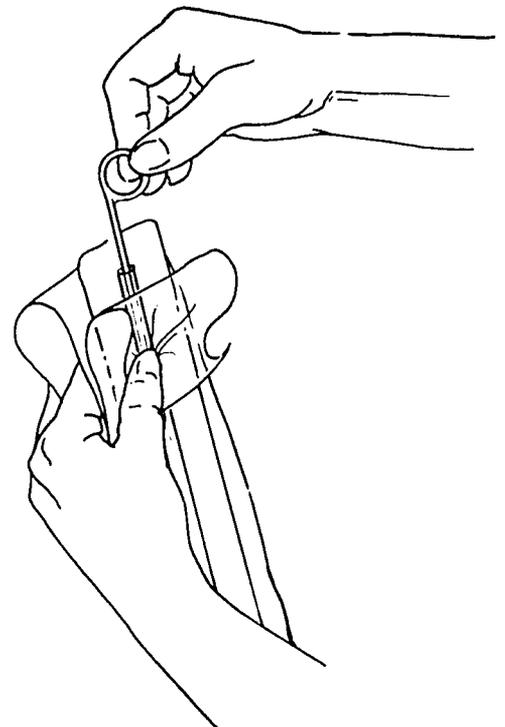
HOW TO LOAD THE COPPER T 380A

Do **not** open the sterile package containing the IUD or load it until the final decision to insert an IUD has been made (i.e., after the pelvic examination, including both speculum and bimanual exams, has been performed). In addition, do not bend the arms of the "T" into the inserter tube (as instructed below) more than 5 minutes before it is introduced into the uterus.

STEP 1. Make sure that the vertical stem of the T is fully inside the inserter tube (the T can be shifted through the unopened package) and that the end of the inserter tube opposite the T is close to the seal at the end of the package.

STEP 2. Place the package on a clean, hard, flat surface with the clear plastic side up. Partially open the end of the package **farthest** from the IUD. Open the package approximately half way to the flange depth-gauge.

STEP 3. Pick up the package holding the open end up towards the ceiling so that the contents do not fall out. Bend the clear plastic cover and white backing "flaps" at the open end of the package away from each other. This will help maintain sterility of the white rod during loading. Using your free hand, grasp the white rod, which is behind the I.D. card, by the thumb grip and remove it from the package. Be careful not to touch tip of the white rod or brush it against another surface. Put the white rod inside the inserter tube and gently push the white rod up into the inserter tube until it almost touches the bottom of the T.

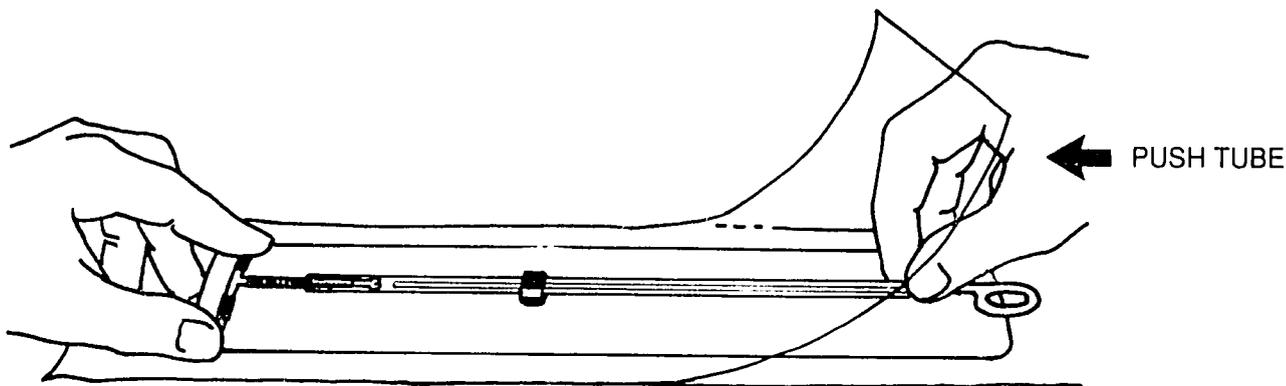


STEP 4. Release the white backing "flap" so that it is flat and place the package on a flat surface with the clear plastic side up.

STEP 5.

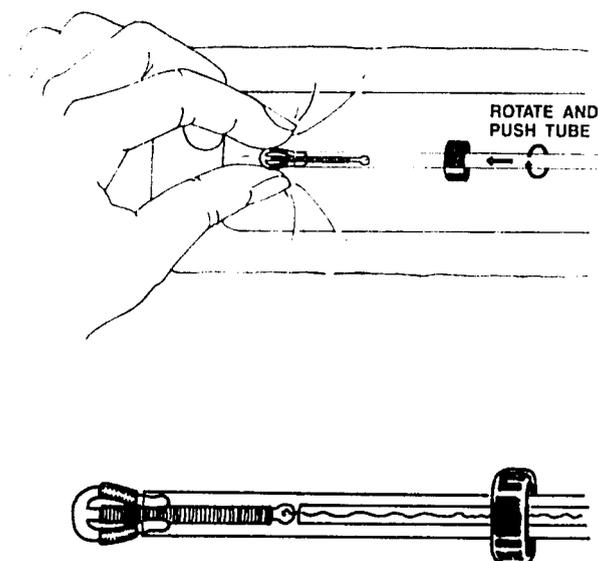
Through the clear plastic cover, place your thumb and index finger over the ends of the horizontal arms of the T and hold the T in place. At the open end of the package, use your free hand to push the I.D. card so that it slides underneath the T, and stops at the top seal of the package.

While still holding the tips of the horizontal arms of the T, use your free hand to grasp the inserter tube against the arms of the T as indicated by the arrow in the figure below. This will start the arms of the T bending downward, towards the stem of the T as indicated in the drawing on the I.D. card that is found in the package.



STEP 6.

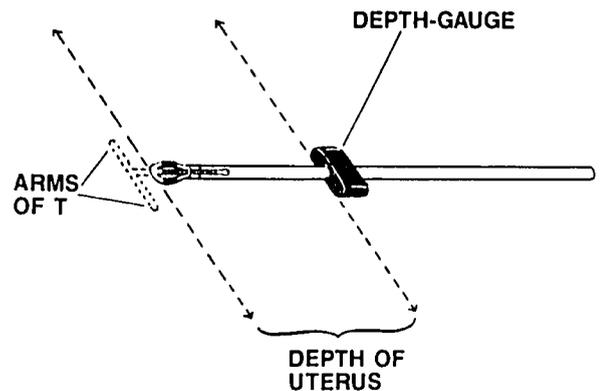
Continue bending the arms of the T by bringing the thumb and index finger together. When the arms have folded enough to touch the sides of the inserter tube, pull the inserter tube out from under the tips of the arms. Then push and rotate the inserter tube onto the tips of the arms so that the arms become trapped inside the inserter tube next to the stem. Insert the folded arms into the tube only as far as necessary to ensure retention of the arms. **Do not try to push the copper bands on the arms into the inserter tube; they will not fit.**



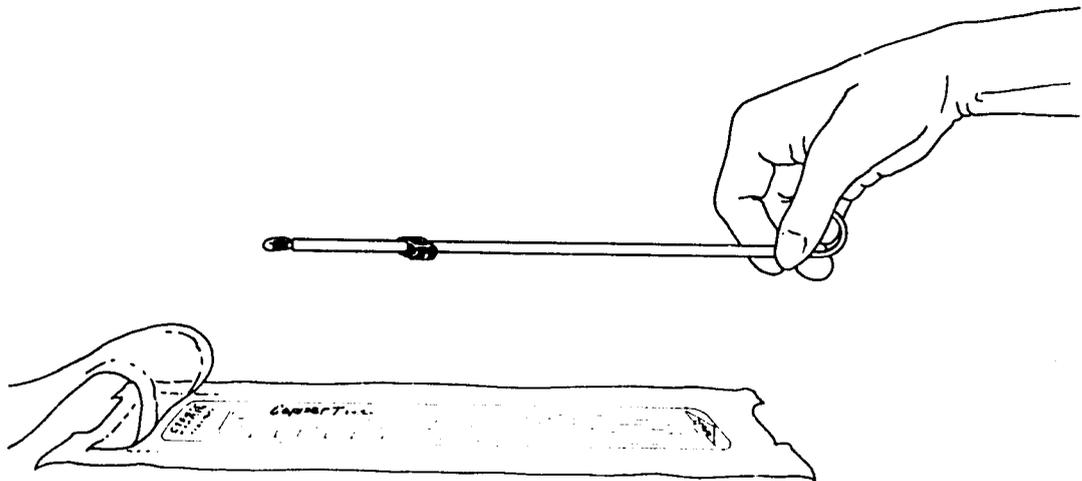
STEP 7.

The blue depth-gauge on the inserter tube is used to mark the depth of the uterus and to show the direction in which the arms of the T will unfold once they are released from the inserter tube.

Holding the blue depth-gauge in place through the clear plastic wrapper, grasp the inserter tube at the open end of the package with your free hand. Pull the inserter tube gently until the distance between the top of the folded T and the edge of the blue depth-gauge closest to the T is equal to the depth of the uterus as measured on the uterine sound. Rotate the inserter tube so that the long axis of the blue depth-gauge is on the same horizontal plane as the arms of the T.



STEP 8. The IUD is now ready to be placed in the woman's uterus. Carefully peel the clear plastic cover of the package away from the white backing. Lift the loaded inserter keeping it horizontal so that the T or white rod doesn't fall out. Be careful not to push the white rod towards the T until you are ready to release the T in the fundus. **Do not let the inserter assembly touch any unsterile surfaces that may contaminate it.**



Source: The Population Council and the Program for Appropriate Technology in Health (PATH): *The Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.

APPENDIX K

PASSING A UTERINE SOUND

Sounding the uterus is important for providers who are learning to do IUD insertions, or for those who do not routinely perform IUD insertions. This step is recommended for all copper IUDs inserted by the "withdrawal" technique, to ensure high fundal placement.

PURPOSE OF SOUNDING THE UTERUS

- To confirm the position of the uterus and check for obstructions in the cervical canal.
- To measure the direction of the cervical canal and uterine cavity so that the inserter can be shaped and directed appropriately to follow the canal.
- To assess the length from external cervical os to the uterine fundus so that the blue flange cervical stop on the insertion tube (TCu 380A IUD) can be set at the same distance, thereby ensuring that the IUD will be placed at the uterine fundus.

PROCEDURE FOR SOUNDING THE UTERUS

Use gentle, no-touch (aseptic) technique throughout¹:

STEP 1. Put on **high-level disinfected or sterile gloves.**

STEP 2. Insert speculum. Thoroughly clean the cervix with an antiseptic solution (e.g., povidone iodine or Savlon^R).

STEP 3. Apply the disinfected/sterile tenaculum at the 10 and 2 o'clock positions on the cervix. Close tenaculum **one notch at a time** slowly and no further than necessary.

STEP 4. Gently pass the disinfected/sterile tip of the uterine sound into the cervical canal while maintaining gentle traction with the tenaculum. (Be careful not to touch walls of vagina with tip of sound.)

On the basis of the bimanual assessment of the position of the uterus, insert the sound carefully and gently into the uterine cavity while pulling steadily downwards and outward on the tenaculum. If there is resistance at the level of the internal os, use a smaller sound, if available. Do **not** attempt to dilate cervix unless well qualified.

Gently exerting traction on the tenaculum may enable the sound to pass more easily. **If client begins to show symptoms of fainting, or pallor with slow heart rate, STOP.**

¹ Before attempting to sound the uterus, a screening speculum and bimanual exam should have been performed to rule out the possibility of vaginal or cervical infection and to determine the size and position of the uterus.

Passing A Uterine Sound

STEP 5. When a slight resistance indicates that the tip of the uterine sound has reached the fundus, note the direction of the uterine cavity, and remove the sound.

STEP 6. Determine the length of the uterus by noting the level of mucus and/or blood on the sound. The average uterus will sound to a depth of 6 to 8 centimeters (cm). Do not attempt to insert an IUD into a uterus that is less than 6.5 cm in depth.

Note: Do not use force at any stage of the procedure.

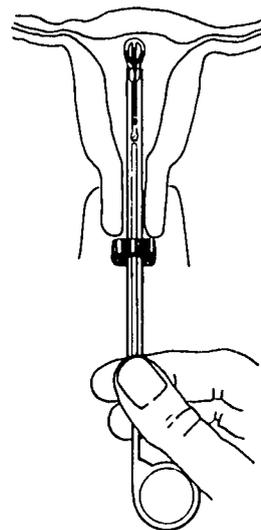
Source: Program for International Training in Health (INTRAH): *Guidelines for Clinical Procedures in Family Planning and Sexually Transmitted Diseases: A Reference for Trainers*. Chapel Hill, North Carolina, INTRAH, 1989.

APPENDIX L

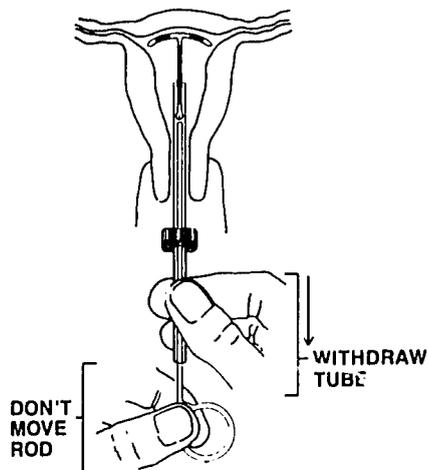
INSERTING THE LOADED COPPER T 380A IUD

STEP 1. Grasp the tenaculum (which is still in place on the cervix after sounding the uterus) and pull firmly to align the uterine cavity and cervical canal with the vaginal canal. Gently introduce the loaded inserter assembly through the cervical canal, keeping the blue depth-gauge in a horizontal position.

According to the position and direction of the uterine cavity, advance the loaded inserter assembly until the blue depth-gauge comes in contact with the cervix or resistance of the uterine fundus is felt. Be sure that the blue depth-gauge is in the horizontal plane.



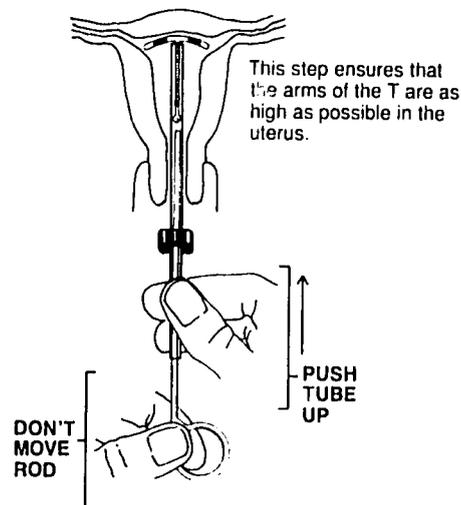
STEP 2. Hold the tenaculum and the white rod stationary in one hand. With your free hand, withdraw (pull toward you) the inserter tube until it touches the thumb grip of the white rod. This will release the arms of the Copper T 380 A high in the uterine fundus.



STEP 3. Once the arms have been released, again very gently and carefully push the inserter tube upward, toward the top of the uterus, until you feel a slight resistance.

This step ensures that the arms of the T are as high as possible in the uterus.

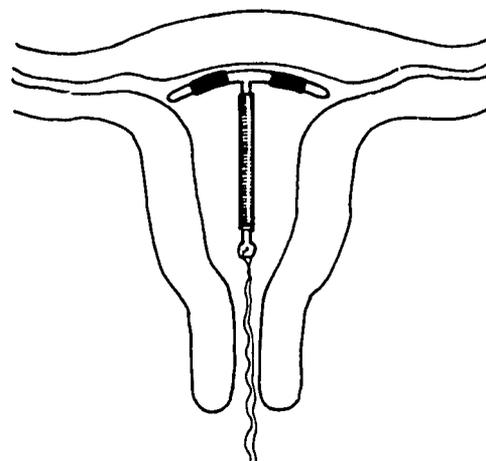
Hold the inserter tube stationary while removing the white rod.



Inserting the Loaded CuT 380A

STEP 4. Gently and slowly withdraw the inserter tube from the cervical canal. The strings should be visible protruding from the uterus. Cut the strings so that they protrude only 3-4 cm into the vagina.

Remove the tenaculum. If there is excessive bleeding from the tenaculum site, press a swab to the site, using clean forceps, until the bleeding stops.



STEP 5. Assist woman from table slowly (be alert to possible dizziness) and instruct her how and when to check string. Have her check the string. Invite questions and instruct about return visit as well as what to do, whom and how to contact for help if needed.

Source: The Population Council and The Program for Appropriate Technology in Health (PATH): *Copper T 380A IUD: A Manual for Clinicians*, 2nd ed. Seattle, Washington, PATH, 1989.