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MINI-LAPAROTOMY - A FERTILITY CONTROL TECHNOLOGY OF INCREASING IMPORTANCE

By

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J. Joseph Speidel, M.D.
Chief, Research Division
Office of Population
Agency for International Development
Department of State
Washington, D. C. 20523

and

Margaret F. McCann, M.S.
Research Assistant
International Fertility Research Program
Research Triangle Park, North Carolina 27709

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Technology and Strategy for Expanding
Surgical Family Planning Services

Attached are five papers relating to this topic:

1. "Mini-laparotomy - A Fertility Control Technology of Increasing Importance" (Speidel) which describes the demand, policy and technology of sterilization, focusing on mini-laparotomy the most practical technology for use in most settings.

2. "The History of the Korean VSC Effort" (Glenn) describes the pitfalls and successes of an individual program.

3. "Training and Institutional Development for Surgical Family Planning Services" (Winfield)

4. "Technology and Strategy for Expanding Surgical Family Planning Services" (Wiley) outlines current and proposed AID programs in the field.

5. Draft VSC Guidlines

Mini-Laparotomy - A Fertility Control Technology of...
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INTRODUCTION

In the past few years, a remarkable, yet still largely unrecognized change has occurred in the pattern of use of the various means of fertility control. The confluence of a number of factors has resulted in a recent and rapid upswing in the use of sterilization--particularly female sterilization--as a means of fertility control around the world.[1,2,3] Contributing circumstances include (1) the recognition that the demand for female sterilization is intense, (2) some liberalization of policy constraints on availability of these services, (3) increased efforts to provide female sterilization services, and (4) highly important refinements in sterilization technology, making use of female sterilization practical in many settings where previously it could not be successfully used.[4] The rapid increases in the use of female sterilization resulting from improved techniques has provided additional evidence of the validity of the premise that the nature of available fertility control technology is a foremost determinant of its level of use and of the effectiveness and efficiency of fertility control programs.[5]

DEMAND FOR FEMALE STERILIZATION

Evidence of demand for female sterilization can only be measured in settings where access to sterilization is not limited by service program deficiencies or by policy constraints limiting access to the method. For example, in a survey carried out in Puerto Rico in 1965, fully 35 percent of all mothers age 20-49 were found to be sterilized.[6]

In the United States in 1973, 23.5 percent of couples relied on sterilization as their means of fertility control; in 12.4 percent of the cases, the wife was sterilized.[2] In recent years, the initiation of female sterilization services in countries such as Nepal, Pakistan, Bangladesh, Thailand, Korea, the Philippines, Tunisia, Egypt, Costa Rica, El Salvador, Columbia, and Jamaica has indicated that the demand for female sterilization is intense.[1]

POLICY

It would appear that in many societies sterilization has not been considered as acceptable a means of fertility control as reversible contraception. To some extent, legal and policy barriers, such as requirements for a certain number of living children, have inhibited use. As recently as five years ago, sterilization was emphasized and included in organized family planning programs only in a few countries such as India, Bangladesh, Pakistan, Taiwan, and South Korea.[4,7] However, in recent years, this situation has changed considerably, with recognition of the existing demand for sterilization services, the development of new tehcnology which makes delivery practical, and the recognition of the programmatic advantages and demographic impact of sterilization.

At the Second International Conference on Voluntary Sterilization held in February 1973 in Geneva, there was considerable discussion about whether developing countries should initiate sterilization programs and whether such programs would be successful.[8] By the time of the Third International Conference held in Tunisia, February 1976, a considerable shift in attitude appeared to have occurred. Now the focus of

concern was how countries can develop services fast enough to meet existing demand.

STERILIZATION SERVICES

For a number of reasons, family planning administrators have placed increasing emphasis on provision of sterilization services. The permanence of sterilization offers programmatic advantages in that the cost of sterilization services can be amortized over the remaining reproductive life span of the acceptor. In contrast, annual expenditures on the order of $10 to $15 per year per acceptor are usually necessary for the reversible contraceptives employed in family planning programs in less developed countries.[9] In addition, the country may only be organizationally capable of reaching its target population on a one time rather than a continuing basis. An adequate concentration of information and services may be possible only if their continuous provision of such services is not necessary.[4] Indeed, a number of countries have, because of limited coverage of medical care infrastructure, elected to concentrate available resources, employing mobile clinics, sterilization camps, etc. A further potential advantage is that the sterilization services require motivation only on a one time basis rather than a continuing motivation to ensure continuing use.

The Agency for International Development, through its program of population assistance, has supported the development of sterilization services in several ways. These include the support of a number of intermediaries, including the International Project of the Association

for Voluntary Sterilization, the Pathfinder Fund, International Planned Parenthood Federation, International Fertility Research Program, Family Planning International Associates, Program for International Education in Gynecology and Obstetrics, and other organizations which have offered assistance in establishing sterilization programs. The Agency for International Development has provided bilateral assistance directly to countries which have offered sterilization as a part of their normal spectrum of fertility control methods and has supported training, including the training of close to 1000 selected gynecologic surgeons in about 60 countries in sterilization techniques.

Between 1968 and 1975, the Agency for International Development provided $2.8 million worth of equipment to be used in sterilization programs. These funds have been used for the purchase and placement of mini-laparotomy and laparoscopic sterilization kits. Over 500 laparoscopic sterilization kits have been purchased at approximately $3,000 each. In contrast, the mini-laparotomy kit, which includes all the surgical instruments necessary for the operation, costs $118. In addition, a mini-laparotomy packet containing the uterine elevator and tubal hook, the only specialized pieces of equipment needed to carry out this procedure in a normally equipped operating theater, costs only $16. (See Figure 1) In the last six months of 1975, the Agency for International Development distributed over 1,000 mini-laparotomy kits and more than 6,000 of the packets. An additional 2,500 mini-laparotomy kits will be distributed in 1976.

TECHNIQUES

It appears that willingness to accept female sterilization far exceeds the ability of many developing countries to provide such services. Therefore, the pincipal objective of much recent research has been directed toward developing methods which serve to simplify and, therefore, increase the availability of such services.[10-13] In the past, the requirement for hospital-based skilled medical practitioners, including surgeons and anesthestists, has limited the availability of this means of fertility control to a fraction of the target population in many countries.

Sophisticated techniques of laparoscopy and culdoscopy have eliminated or decreased the requirements for general anesthesia and hospital convalescence. However, these tehcniques require costly and delicate equipment, which is difficult to maintain, and considerable surgical training in the specialized technique. As additional experience has been gained with laparoscopic sterilization in developing countries, it appears that this technique is a practical approach for large volume centers. However, the best method for many settings in developing countries is the simpler mini-laparotomy technique. It would seem that mini-laparotomy is currently the best method available for overcoming the programmatic bottleneck caused by the need for scarce and expensive medical care personnel and facilities.

Although there has been considerable acceptance of the use of local anesthesia for sterilization via laparotomy immediately postpartum, the first descriptions of procedures approximating the current mini-laparotomy

appeared in 1965 and 1969.[14,15] Palmer's procedure was developed at the request of the Indian Minister of Health. It employed a 5-6 cm vertical incision carried out under local anesthesia, the use of a hysterosalpingographic cannula for lifting the uterus and the application of either 1 or 2 clips to each tube.[15] Subsequent studies have revealed a high failure rate using the hemoclip.[16] More recent modifications, particularly those described by Vitoon, have resulted in the current highly successful procedure.[17] Brenner and Dingfelder have described the key elements of the procedure, which allows accomplishment of sterilization using local anesthesia with short recovery time, low morbidity, and without overnight hospitalization. They include a combination of the following surgical techniques: (1) the vaginal placement of an instrument to allow uterine elevation to facilitate access to the uterine tubes in the incision; the placement of various forms of these uterine elevators are shown in Figures 2, 3, and 4; (2) the use of suitable instruments to gain adequate exposure to allow visualization, manipulation, and occlusion of the tubes; Figures 5, 6, and 7 show instruments which have been used for incisional exposure; (3) the use of instrumentation such as the tubal hook shown in Figure 8 to lift and manipulate the uterine tube, although some surgeons prefer to use their finger to manipulate the tube prior to carrying out a sterilization procedure such as a modified pomeroy, and others employ a fallope ring or Hulka-Clemmens clip which may be applied without lifting the uterine tube into the incision.[18]

Details of technique worthy of particular emphasis include the following: (1) the procedure must be carried out with an empty bladder, (2) mobility of the uterus must be established, (3) maximum safe doses of local anesthesia must not be exceeded, (4) incision into or trauma to adjacent organs such as bladder, uterus, or bowel must be immediately diagnosed and repaired, and (5) patient comfort requires pre-operative sedation, careful application of local anesthesia into every tissue plane and the tube, and gentleness in carrying out all minipulations.[18,19,20]

Most of the experience with mini-laparotomy is derived from developing countries. The relative lack of use in the U. S. and Europe doubtless relates to the easy availability of general anesthesia for laparotomy, availability of laparoscopic and culdoscopic sterilization, and possibly to less satisfactory anesthesia and more difficult technique required for the less slender patient populations in these countries.[21]

Therefore, international studies are required which so far have yielded inadequate data to allow a comprehensive evaluation of mini-laparotomy in contrast to alternative procedures. A number of small series suggest that complication rates and the nature of such complications appear to be of the same order of magnitude of alternative procedures.[17,18,22-36] Pregnancy rates appear to be comparable to other sterilization techniques and would expect to be related to the type of occlusion rather than the approach to the tube.

The largest data set reflecting complication rates has resulted from the large series of multi-center sterilization studies sponsored

by the International Fertility Research Program. The data presented is based on pooled data from 2820 cases of mini-laparotomy carried out in a variety of settings employing a number of variations of the technique.

The distribution of tubal occlusion and mini-laparotomy techniques in the pooled data are shown in Table I. In this table, a procedure is classified as a uterine elevation procedure if a uterine elevator/ manipulator is used but no equipment for abdominal retraction is used in addition. If a proctoscope or any type of abdominal retractor, modified speculum, etc., is used, regardless of whether a uterine elevator is also used, the procedure is classified as proctoscopic or abdominal retraction. If none of this equipment is used, the procedure is classified as digital manipulation. All of the above precedures were performed through a suprapubic incision. The "other" procedure/ technique groups include minilap laparoscopy, vaculap, cases performed through an umbilical hernia incision, and cases in which different techniques were used on either side, only one tube was occluded, or the planned technique differed from the performed technique.

Half of the cases involved the uterine elevation procedure and three-quarters utilized the Pomeroy or Madlener ligation techniques of tubal occlusion. None of the patients included in this analysis had recently been pregnant at the time of sterilization.

Selected socio-demographic characteristics of mini-laparotomy patients are presented in Table II.

As is shown in Table III, analgesia plus local anesthesia was the type of anesthesia administered in over half the cases.

Table IV provides information on the varying degrees of surgical difficulties which were encountered in approximately ten percent of the procedures. No procedure was a complete failure and in just five cases was it possible to occlude only one tube.

As shown in Table V, surgical complications were reported for 1.6 percent of the cases, including eight cases (0.3%) of bowel/bladder injury and seven cases (0.2%) of uterine perforation. These rates are higher than the rates reported for these complications in an earlier analysis of IFRP laparoscopy studies.[31] The rate of bleeding of the tubes (0.9%) was similar to that among laparoscopy patients.

Thus, mini-lap is not without potentially serious complications. However, such complications are more likely to be recognized during mini-lap procedures than during laparoscopic procedures and can generally be repaired surgically through the mini-lap incision.

During the immediate postoperative period, before discharge, complications were noted for fewer than one percent of the patients. (See Table VI)

Early postoperative complications and complaints are shown in Table VII. Fever requiring antibiotics and/or wound infection were each reported for 2.6 percent of the 2686 patients observed at the 7-21 day follow-up visit. Five percent of the patients had infection-related complications. These rates are higher than comparable rates (1.4%) among IFRP laparoscopy patients.[31]

There were no deaths reported during hospitalization or up to the time of the 7-21 day visit.

As shown in Table VIII, surgical time (from incision to closure) averaged 20 minutes, with ten percent of the procedures performed in less than ten minutes. Laparoscopy procedure time averaged 12 minutes.[31]

As shown in Table IX, only one-fourth of the mini-lap patients were discharged on the day of surgery, compared with more than three-fourths of the laparoscopy patients.[31] However, many patients remained overnight for personal convenience rather than for medical reasons.

This data indicates that the frequency of all complications is not strikingly different for mini-laparotomy compared to other methods of female sterilization. However, the frequency of individual complications may be significantly different; for example, the operative complications, uterine performation and bladder injury, may occur more frequently in mini-laparotomy whereas sterilization carried out in transvaginal approaches such as culpotomy and culdoscopy appears to result in a higher incidence of pelvic infections. Large controlled comparative studies of laparoscopy, culdoscopy, culdopotomy, and the various mini-laparotomy procedures are under way. These will, in the future, allow a better assessment of efficacy and complications. At least one death had been reported from peritonitis secondary to an undetected bowel injury.[25]

Surgeons with varying degrees of skill and training in Thailand have been taught and successfully used mini-laparotomy.[25,37] In Bangladesh, Chowdhury has taught laparotomy to female para-professional

workers who average only two months part-time training in sterilization surgery. Infection and other complication rates were essentially the same for operations carried out by doctors and paramedics.[38]

PREVALENCE OF USE AND DEMOGRAPHIC IMPACT

Population growth rates appeared to have peaked somewhere in the early 1970s and now, in large measure, as a result of increased availability of family planning services, particularly in Asia, birth rates are declining.[39] There is increasing evidence that female sterilization and male sterilization are acceptable to men and women of low enough age and parity that they have significant demographic impact.[4,40] For example, in Puerto Rico in 1965, of the 34 percent of mothers age 20-49 who were sterilized, 41 percent had the procedure by age 24, and 70.8 percent by age 29. Of women surveyed, 12.7 percent with one birth had been sterilized, as were 38.6 percent with two births, 46.4 percent with three births, and 46.8 percent with four births.[6]

The growing worldwide trend toward the use of sterilization is shown in Table X, and the increased proportion of total fertility services attributed to sterilization is shown in Table XI. Examination of data from many countries reveals an increase in tempo of use of sterilization in family planning programs, and it also reveals an increased trend toward female sterilization. For example, in India about 2.2 million of the 10.2 million sterilizations completed through December 1971 were female operations, whereas by 1975, 8 million of the total 19.5 million sterilizations were female procedures. A target of an additional 4.3 million sterilizations in India has been set for 1976.

In the United States, the proportion of married couples depending upon sterilization as a means of fertility control increased from about 10 percent in 1960 to 18 percent in 1970 and to approximately 25 percent in 1975.[2] In the United States, a few years ago vasectomies outnumbered tubectomies. However, it would appear that improved female sterilization technology, particularly laparoscopic sterilization in the United States, has increased to the relative proportion of female to male operations in the last few years, with about 550,000 procedures in 1974.[41]

Thailand is another interesting example. In 1972 there were about 30,000 tubal ligations; in 1973 the figure was 46,400; and in 1974 73,100. Currently, sterilizations, most of which are mini-laparotomies, make up about 18 percent of new family planning acceptors, or about 100,000 annually.[42,43]

Of the four billion people in the world, about half live in developing countries (excluding the Peoples Republic of China) and about one-fifth or 400 million are women of reproductive age. Ravenholt estimates that more than 100 million additional couples in the developing countries would accept sterilization during the next decade if these services were made fully available. He estimates that a well-run surgical clinic should be able to average at least 10 sterilizations per surgical session and at least 2,000 sterilizations per annum. In a population of one million, with 200,000 women of reproductive age, to reach a level of 25 percent prevalence over five years would require 50,000 sterilizations or 10,000 per year. Therefore, about

five surgical clinics per million population should be able to provide these services, or 10,000 such clinics for the two billion in developing countries.

CONCLUSION

Development of mini-laparotomy as an outpatient sterilization technique has brought sterilization within reach of millions of women. This technology has doubtless contributed greatly to the expanded use of female sterilization throughout the world. Further improvements in technique, increased knowledge of its failure and complication rates and extension of knowledge of the technique to more medical practitioners is likely to result in an even greater impact of the method in the future.

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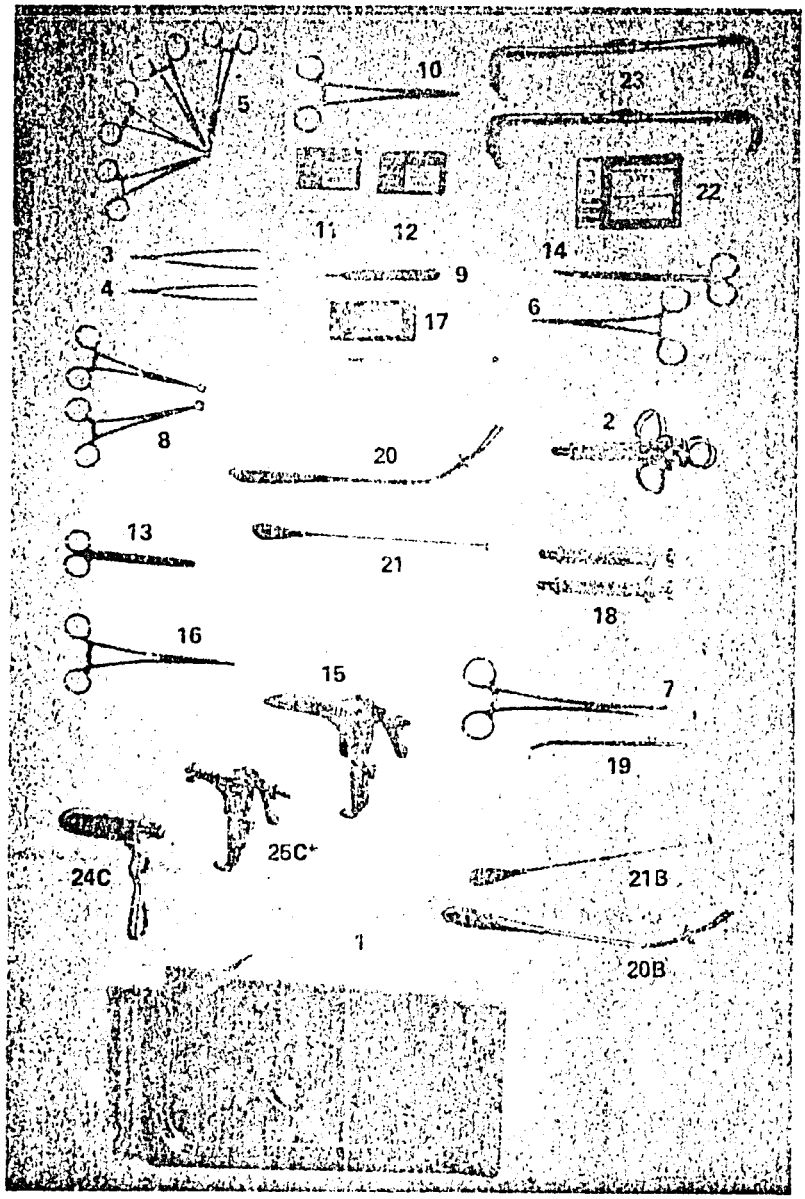
FIGURE 1

MEDICAL KIT EIGHT

Mini Lap



Kit A

DESCRIPTION	AMOUNT
1 – Pan & Cover	1 ea.
2 – Control Syringe	1 ea.
3 – Forceps, Dressing 5½"	1 ea.
4 – Forceps, Tissue 5½"	1 ea.
5 – Forceps, Mosquito 5"	4 ea.
6 – Forceps, Artery 6½"	1 ea.
7 – Forceps, Uterine 9½"	1 ea.
8 – Forceps, Tissue 6¼"	2 ea.
9 – Handle, Knife	1 ea.
10 – Holder, Needle 7"	1 ea.
11 – Needles, Triangle Pt.	1 pkg.
12 – Needles, ½ Circle ½"D	1 pkg.
13 – Scissors, Straight 6"	1 pair
14 – Scissors, Curved 7"	1 pair
15 – Speculum, Medium	1 ea.
16 – Forceps, Artery 7¾"	1 ea.
17 – Blades, Surgical No. 15	4 pkg.
18 – Syringe, Hypo 10cc	2 ea.
19 – Catheter, Urethral	1 ea.
20 – Elevator, Uterine	1 ea.
21 – Tubal Hook	1 ea.
22 – Needle, Hypo 22 ga. x 1½	6 ea.
23 – Retractor, w/blades	2 ea.

Kit B

DESCRIPTION	AMOUNT
20B – Elevator, Uterine	1 ea.
21B – Tubal Hook	1 ea.

Kit C

DESCRIPTION	AMOUNT
24C – Proctoscope	1 ea.
25C–Modified Speculum–Retractor*	

Available in near future

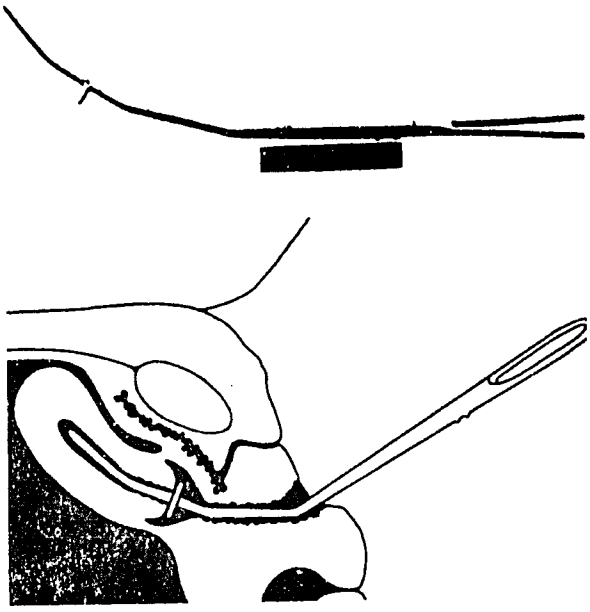


Figure 2 Vitoon uterine elevator.

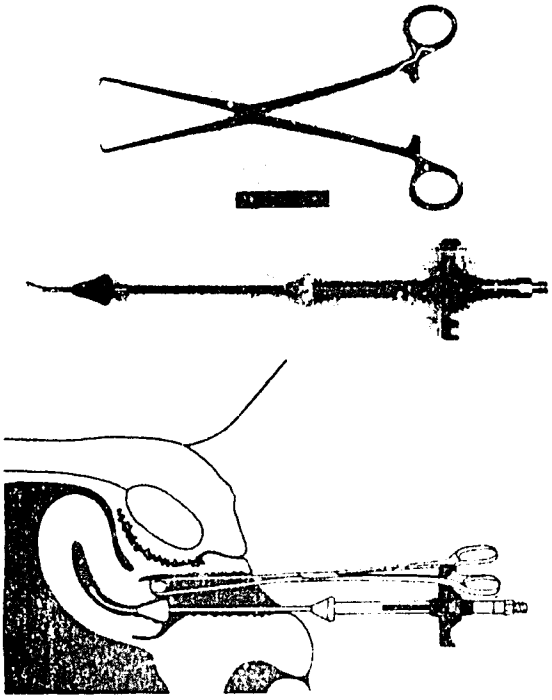


Figure 3. Rubin cannula used as a uterine elevator.

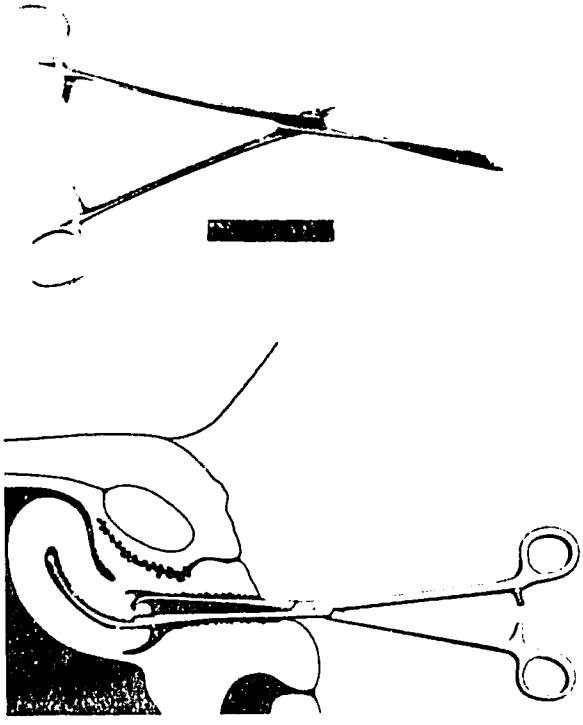


Figure 4. Hulka tenaculum used as a uterine elevator.

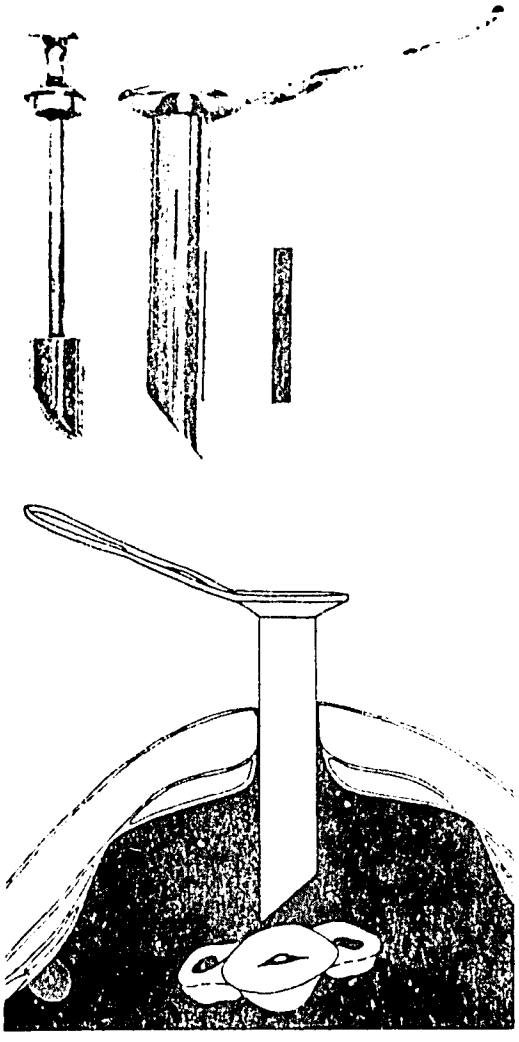


Figure 5. Proctoscope used as an incisional speculum.

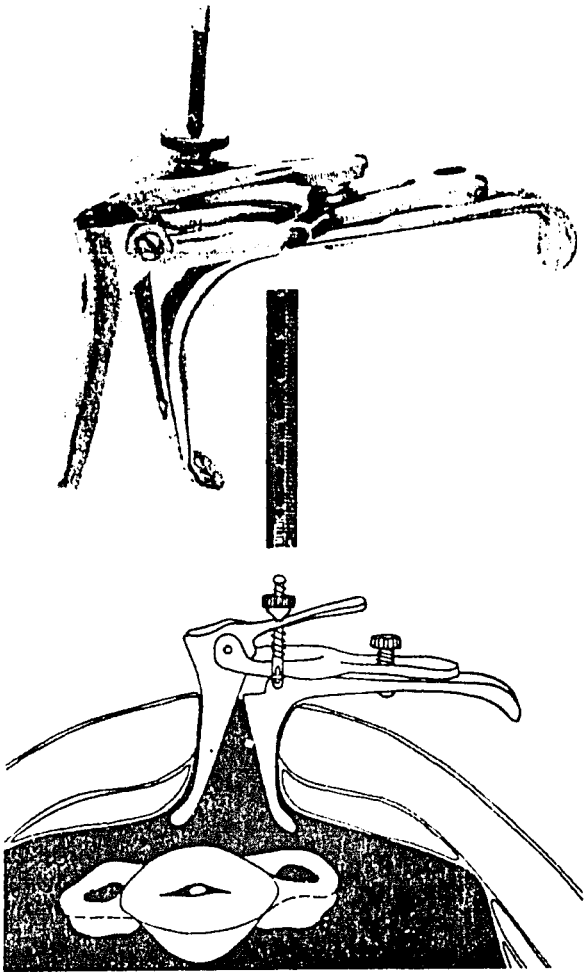


Figure 6. **Madrigal incisional speculum.**

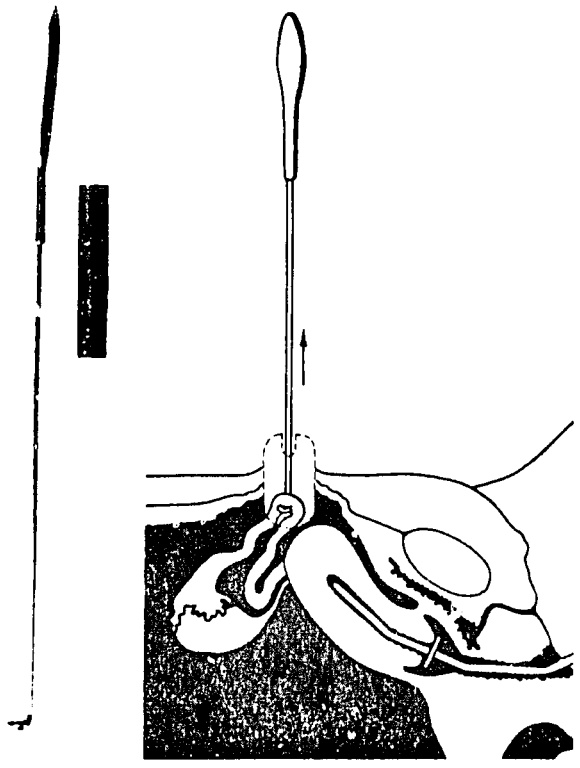


Figure 8 **Tubal hook.**

Source: Figures 1-6 and 8 are reproduced from, Dingfelder, J.R., and Brenner, W. E., "Sterilization by Minilaparotomy in Not Recently Pregnant Patients," International Journal of Gynaecology and Obstetrics, Vol. 14, No. 1, 1976 pp. 35-45

Figure 7. Laufe Minilaparotomy Retractors

TABLE I

DISTRIBUTION OF 2820 IFRP MINILAPAROTOMY CASES BY TYPE OF MINILAP PROCEDURE AND TECHNIQUE OF TUBAL OCCLUSION

	Technique of Tubal Occlusion				
Minilap Procedure	Pomeroy/ Madlener	Fimbriectomy/ Salpingectomy	Tubal Ring	Other	Total
Uterine Elevation	1179	22	204	0	1405
Proctoscopic	90	80	2	0	172
Abdominal Retraction	59	0	199	0	258
Digital Manipulation	875	24	0	0	899
Other	12	0	4	70	86
Total	2215	126	409	70	2820

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TABLE II

SELECTED SOCIO-DEMOGRAPHIC CHARACTERISTICS OF
2820 MINILAPAROTOMY STERILIZATION PATIENTS
IN POOLED IFRP STUDIES

Mean Age	31.2 years
Mean parity	5.2
Mean number of living children	4.8
Mean age of youngest child	2.5 years
Mean patient's education	4.6 completed years
Mean husband's education	6.0 completed years
Percent using contraception before sterilization	58.1%

TABLE III

TYPE OF ANESTHESIA ADMINISTERED
IN 2820 MINILAPAROTOMY STERILIZATION PROCEDURES
IN POOLED IFRP STUDIES

	#	%
Analgesia plus local anesthesia	1560	55.3
Local anesthesia	549	19.5
General anesthesia	433	15.4
Regional anesthesia	232	8.2
Other/Unknown	46	1.6

TABLE IV

DIFFICULTIES AT SURGERY ENCOUNTERED
IN 2820 MINILAPAROTOMY STERILIZATION PROCEDURES
IN POOLED IFRP STUDIES

Difficulty	#	%
Bowel/bladder/omentum interference	70	2.5
Adhesions	59	2.1
Difficulty opening peritoneum	40	1.4
Difficulty ligating tubes	27	1.0
Obesity	17	0.6
Difficulty visualizing/exteriorizing tubes	15	0.5
Retroverted uterus	14	0.5
Movement of patient	14	0.5
Inadequate analgesia/anesthesia	10	0.4
Difficulty manipulating uterus	8	0.3
Ovarian cyst	8	0.3
Difficulty closing peritoneum	5	0.2
PROCEDURES WITH ONE OR MORE DIFFICULTIES	287	10.2

TABLE V

SURGICAL COMPLICATIONS FOR 2820 MINILAPAROTOMY STERILIZATION PATIENTS IN IFRP POOLED STUDIES

Complication	#	%
Tube torn/bleeding	25	0.9
Bowel/bladder injury	8	0.3
Uterine perforation	7	0.2
Excessive blood loss (>100 ml)	5	0.2
Ovarian laceration	2	0.1
Cervical laceration	2	0.1
WOMEN WITH ONE OR MORE SURGICAL COMPLICATIONS	44	1.6

TABLE VI

IMMEDIATE POSTOPERATIVE COMPLICATIONS AND COMPLAINTS FOR 2820 MINILAPAROTOMY STERILIZATION PATIENTS IN IFRP POOLED STUDIES

Complication	#	%
Fever		
Requiring antibiotics	14	0.5
Not requiring antibiotics	5	0.2
Wound infection	9	0.3
Wound dehiscence	1	<0.1
WOMEN WITH ONE OR MORE IMMEDIATE POSTOPERATIVE COMPLICATIONS	26	0.9
Complaint		
Wound pain/itching	306	10.9
Abdominal pain	207	7.3
Syncope/dizziness	136	4.8
Headache	32	1.1
Nausea/vomiting	20	0.7
Gastrointestinal problems	12	0.4
Back/shoulder pain	4	0.1
Dyspnea	3	0.1
Distended abdomen	3	0.1
Wound hematoma	2	0.1
Wound granulation tissue	1	<0.1
Urinary incontinence	1	<0.1
Vaginal bleeding	1	<0.1
Apnea	1	<0.1
WOMEN WITH ONE OR MORE IMMEDIATE POSTOPERATIVE COMPLAINTS	641	22.7

TABLE VII

EARLY POSTOPERATIVE COMPLICATIONS AND COMPLAINTS FOR 2686* MINILAPAROTOMY STERILIZATION PATIENTS IN IFRP POOLED STUDIES

Complication	#	%
Fever		
Requiring antibiotics	71	2.6
Not requiring antibiotics	2	0.1
Wound infection	70	2.6
Urinary tract infection	6	0.2
Hematoma of abdominal wall	1	<0.1
Subacute salpingitis	1	<0.1
WOMEN WITH ONE OR MORE EARLY POSTOPERATIVE COMPLICATIONS	136	5.1
Complaint		
Wound pain/itchiness	198	7.4
Pelvic pain	142	5.3
General/shoulder pain	84	3.1
Vaginal bleeding	37	1.4
Gastrointestinal problems	31	1.2
Syncope/dizziness	20	0.7
Headache	16	0.6
Backache	13	0.5
Dysuria	12	0.4
Bleeding from wound	7	0.3
Wound hematoma	6	0.2
Dehiscence	4	0.1
Bladder irritation	3	0.1
Distended abdomen	3	0.1
Vaginitis	3	0.1
Wound keloid/granulation tissue	2	0.1
Other	4	0.1
WOMEN WITH ONE OR MORE EARLY POSTOPERATIVE COMPLAINTS	585	21.8

*134 patients (4.8%) were not observed at the 7-21 day follow-up visit.

TABLE VIII

SURGICAL TIME IN 2820 MINILAPAROTOMY STERILIZATION PROCEDURES IN IFRP POOLED STUDIES

Surgical Time (Minutes)	#	%
<10	259	9.2
10-19	1425	50.5
20-29	642	22.8
30-39	295	10.5
40+	199	7.1
Mean	19.6	

TABLE IX

POST-SURGERY HOSPITALIZATION TIME OF 2817*
MINILAPAROTOMY STERILIZATION PATIENTS
IN IFRP POOLED STUDIES

Hospitalization Time (Nights)	#	%
0	647	23.0
1-2	1922	68.2
3-4	133	4.7
5-6	30	1.1
7+	85	3.0
Mean**	2.0	

*Data missing for three cases.

**Mean number of nights' hospitalization of patients hospitalized one or more nights.

Table X

ESTIMATED NUMBER COUPLES CONTROLLING FERTILITY
BY VOLUNTARY SURGICAL STERILIZATION
BY COUNTRY, CONTINENT, AND YEAR
(in millions)

	1950	1960	1970	1975
United States	1	2	3	8
Canada	*	*	0.5	1
Latin America	*	*	1	2
Africa	*	*	0.5	0.5
Europe	*	*	3	4.5
India	*	*	7	17
China	*	*	4	30
Asia, other	*	*	1	2
Estimated World Total	4	7	20	65

*Estimate unavailable

Sources: modified from:

Ravenholt, R. T., "World Epidemiology and Potential Impact of Voluntary Sterilization Services," presented at the Third International Conference on Voluntary Sterilization, Tunis February 2, 1976.

Westoff, C. F., "Trends in Contraceptive Practice 1965-1973," Family Planning Perspectives, Vol. 8, No. 2, March/April, 1976, pp. 54-57.

Table XI

ESTIMATED WORLD USE OF MEANS OF CONTROLLING FERTILITY,
NUMBER OF COUPLES BY YEAR AND METHOD
(Prevalance in millions)

	1970	1975
Sterilization	20	65
Oral Contraceptives	30	55
Condoms	25	30
Intra Uterine Devices	12	15
Other Methods[1]	60	65
Abortion[2]	30	35

[1]Diaphragm, Spermicides, rhythm, withdrawal, etc.

[2]Annual incidence

Sources:

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THE HISTORY OF THE KOREAN VSC EFFORT

Korea has been a VSC success story due to ROKG participation, donor coordination and cooperation, and USAID orchestration. Vasectomy was introduced in the early sixties with IUD and traditional methods of contraception. PPFK has given it long and strong support. It is number one in Korea.

In 1973, the first five doctors were trained in ATFM at Johns Hopkins PIEGO. These represented four medical schools departments of obstetrics and gynecology and an obs/gyn staff member of the National Medical Center. They received a field training visit and laparoscopic kits of an early vintage in April 1973.

Care of equipment was reviewed but not stressed and in the first three months two serious complications arose. They were managed well with no deaths. The equipment problems plus complications lead to early disenchantment with this valuable technique. The equipment was examined, found to be damaged by improper care and replacement was recommended.

A second field team visit was carried out in December 1973. New equipment of improved quality replaced the faulty sets but the key was reinforcement of training, once more, by Drs. Wheele and Pelland and by instruction in proper care of equipment.

With proper equipment and renewed confidence due to further training, the five centers were off and running about January 1, 1974, with this new technology.

In January 1974, IPAVS Dr. Ira Lubell visited Korea. He was interested in developing a Korean Association for Voluntary Sterilization (KAVS) chapter in assisting the sterilization effort in any possible way. The great need of the five centers was "seed" money for staff, remodeling, dedicated space and IE&C. AVS and the Korean five VSC clinics worked out support budgets for two to three years.

The AVS funds stimulated the hospital managers to support the early efforts in services, to promote training, and to publicize clinic services. Overall AVS funds promoted training and services in the five centers.

As second generation trainees were developed, AVS developed subprojects to stimulate second generation trainee hospitals to VSC project support.

With 400 well-trained members of the Korean Obs/Gyn society to be brought into the VSC National effort, large scale training was needed. PIEGO and the Korean Obs/Gyn society agreed to develop a PIEGO/Korea effort. With Johns Hopkins initial support, a PIEGO/Korea project was developed to provide post-graduate education in obs/gyn and ATFM training, all to be done in Korea, eventually to be a total Korean in-country effort with PIEGO support.

Phase I, didactic training, was accomplished in May 1975. A carefully selected curriculum was developed to provide ATFM background and general obs/gyn upgrading. The general academic obs/gyn training plus ATFM attracted 186 participants for the one-week program in which PIEGO and Korean faculty participated jointly.

From Phase I participants, trainees for Phase II were chosen based upon skills plus geographic needs. The original five Seoul VSC centers were

designated clinical practice training centers. Here operating skills in laparoscopy, minilap, and other female sterilization methods were taught to selected groups for one to two weeks.

If the clinical Phase II was successfully completed, the trainee was scheduled for Phase III. In this phase, equipment was supplied to the trainees participating hospital and a training center team visited the trainee on site and assisted him at surgery until they were assured of his or her competence to function alone in female sterilization procedures. At this point, he or she is certified as a competent laparoscopist.

USAID, ROKG, and PIEGO collaborated in the placement of Mission-funded laparoscopes and choice of trainees for specified institutions. AVS promoted an active KAVS which provides maintenance of equipment for all VSC equipment.

If needed, AVS developed a support project at the trainees hospital.

FPIA supported a successful Korean Medical Womens FP Conference which stressed VSC, a first for 2,000 female physicians, with emphasis on minilap. Seven hundred women M.D.'s participated. To educate Korean women in the benefits of VSC, FPIA developed a project with the Korean National Council of Churches. Motivators were paid a small amount for each referral. The ROKG also provided an incentive for referrals by family planning workers for male or female VSC. These incentive plans plus an ROKG subsidy to each surgeon for male ($7.50) and female ($15) sterilization have increased acceptance from 36,000 VSC acceptors in 1974 to 88,000 in 1976 and an expected, budgeted 140,000 in 1977. To achieve 10% sterilization of women at risk, 700,000 couples must choose VSC and this level must be maintained from year to year.

With 35% of couples accepting temporary methods, a 45% total acceptance is still below the 65% acceptance necessary to achieve a PGR of 1.3 project for 1981. Therefore, VSC acceptance must be increased.

The country has an excellent VSC program based on proper technical education and training, government support, public education and information and donor cooperation. The ROKG is providing increased support each year with geographic and quality technical coverage. Services will be available to all who wish VSC in the very near future.

The laparoscopic cold technique, "Yoon Falope ring", was field tested in Korea and is being issued to new trainees worldwide. Older laparoscopic heat kits are being converted to Yoon as this method removes the possibility of an occasional and serious bowel burn complication with heat method.

Minilaparotomy was devised as an interval method of sterilization for the woman not recently pregnant. It is similar in technical simplicity to the post-partum tubal ligation used in the U.S. for more than 30 years. The kit required is a set of unbreakable metal instruments at $128 per kit. It does not require maintenance or spare parts. Most important, however, is the ability of a general practitioner to do this procedure in remote areas. With our doctors love for gimmicks, minilaparotomy can be "fancied up" to almost $1,000 per kit with falope ring applicators, fiber optic light sources or light bulbs which must be replaced and yoon rings which must be in constant supply. If you wish, you can provide many extras; however, you will increase your continuing logistics support with every gadget you add. The basic kit at $128 supplies the basic essentials to do the minilap procedure and does not require outside logistics support.

The minilaparotomy is an easy procedure which can be done by paramedicals, (as in Bangladesh) and under local anesthesia. There is one important point on minilap: women who return to their homes from clinics on the same day as in Nepal and in mountainous areas of Thailand have great difficulty climbing mountains until five days after minilap surgery. This is not true with laparoscopy, as they may climb hills comfortably the day of surgery so mountain girls request laparoscopy.

The simple procedures are vasectomy, post-partum tubal ligation, and minilaparotomy. Vasectomy is easiest and safest of all methods. It has been interesting to follow its history in Nepal where the surgically trained doctor shortage is acute. GONepal fees are ($2 U.S.) equal for male or female sterilizations with 5,000 male sterilizations and 800 female sterilizations in 1974. In 1975, 4,000 vasectomies and 600 tubal ligations were done in Nepal, per Stoeckel of U. of Cal. With vasectomy forward more than six times over female sterilizations, A.I.D. should take note of Nepal: an Indian culture conducive to male sterilization where general practitioners receive equal subsidy for TL and vasectomy.

The equal pay for both male and female methods is an incentive for the more numerous general practitioners to recommend and perform vasectomy.

From the stand point of training, equipment, logistics support and, most important, safety, the vasectomy is the least costly in lives and dollars. It has a higher failure rate but also higher successful reversibility than tubal ligation. Vasectomy and minilap as well as post-partum tubal ligation are still the methods of choice worldwide for simplicity and availability due to lesser surgeon skills required.

Laparoscopes are for expert technicians, are popular and are constantly being improved. They have interested the elite professors of obs/gyn worldwide because they require superb technique and coordination surgically comparable to a superb hunter vs a plow horse (as post-partum tubal and minilap). Prior to the introduction of laparoscopy, this elite group had evinced little interest in family planning and VSC relegating them to lesser trained M.D.'s and public health types.

The addition of post-graduate obs/gyn refresher training plus the laparoscope has stimulated medical schools obs/gyn department VSC participation worldwide. It has speeded acceptance of VSC by all methods because the elite technicians have adopted VSC and they are the leaders. In building a VSC program the most important component is training, for good VSC techniques may be developed with the few instruments usually available. Sterile techniques are stressed in proper training with a subsequent decrease in infections such as post-op tetanus and other infections.

In spite of the urgency of our world population problem, do not be pressured into taking training "short cuts" which could result in unnecessary complications and deaths and eventually destroy the most promising of all fertility control methods.

Please do not promise applicants that every trainee will receive a specific piece of equipment, i.e., laparoscope, for this is not possible or wise. About 20% of all U.S. ATFM trainees do not have the skills or knowledge to safely do this procedure but this 20% can be safely and effectively taught a simpler VSC procedure which he or she can manage creditably in his institution. Careful planning, flexibility in choice of procedure,

careful selection of the best talent available for training plus coordination and support of government and intermediaries by the Pop Officer will lead to a solid VSC program.

TRAINING AND INSTITUTIONAL DEVELOPMENT FOR SURGICAL FAMILY PLANNING SERVICES

To provide Surgical Family Planning Services to meet the rising need and demand for voluntary sterilization in the LDC's, among many factors which require attention, two are (1) qualified surgically-trained personnel and (2) suitably equipped, functional training and service institutions.

Dr. Wiley, shortly, will spell out for you the basis for the estimate that to provide voluntary sterilization services, 400 training centers and 10,000 service centers will be required. These estimates are based on using the surgical technology now available as just outlined by Dr. C nn.

First some principles

- To have demographic and health impact sterilization must be chosen, with informed consent, by large numbers of people usually starting with those who have completed their families with many children but over time becoming accepted by men and women with only two or three children.

- Male and female voluntary sterilization must be made easily and safely available at the lowest possible cost.

- Services will have to be provided primarily on an out-patient basis with a system of hospital back-up to care for the small proportion of cases which experience complications.

- Most cases will be done with local anesthetic.

- More than one method of female sterilization will need to be available in the system to meet variations in individual patient characteristics, patient and service mobility requirements, social and cultural method acceptability and to provide for both post-partum and interval sterilization needs.

- Dedicated personnel and space that cannot be overridden by the pressure of other surgical needs is necessary.

- Both training and services must be voluntary and totally non-coercive.

- The whole training and service system must pay much attention to maintaining high quality service. Poor surgical or humane quality can destroy the program.

- A major portion of the Obs/Gyn specialists in each country must be involved but the supply of services will usually have to also make use of many general surgeons and physicians, and in some countries may need to use paramedicals and auxiliaries as operators.

- The training system must be designed to:
  --Set and maintain high surgical standards.
  --Develop a strong and adequate cadre of trainors.
  --Develop adequate in-country programs to supply post-graduate training for both specialists and general practitioners and involve the medical education system from undergraduate through interns and resident levels.

--Be able to introduce new technology when it comes along.

- Both training and service centers must be well organized to accept and use equipment supplied, keep basic patient records, and provide reasonable support with their own resources.

- Our program must, through bilateral agreement or a suitable grantee or intermediary, be able to supply the minimum reimbursement to training and service institutions for institutional costs linked to patient numbers to make it possible for them to efficiently discharge their responsibility to their patients.

- Service programs should be designed to remain lean and efficient in the use of all resources so that they can eventually be entirely supported by indigenous sources.

- All agencies should cooperate together to foster the organizations of country Associations for Voluntary Sterilization.

- Attention should be given to in-country cooperation between institutions directed toward the development of countrywide surgical family planning service programs.

What are the training and other organizational resources now available to assist in implementing these principles?

The pioneering work in helping LDC medical institutions develop and provide surgical family planning services including training, equipment and supplies, and clinic organization and fiscal support has been done by several contractor/grantees and intermediaries including PIEGO, IPAVS, IFRP, FPIA, Pathfinder, and IPPF.

Each of these agencies has played a role that was specially suited to its basic organization and method of operation.

PIEGO (Program for International Education in Gynecology and Obstetrics) carried out by a group of associated medical training institutions located in the U.S. and in the LDC's, has provided intensive one month didactic and clinical training in the U.S. followed by additional clinical training overseas usually topped off by a field follow-up visit that includes the delivery of laparoscopic equipment with further training at the home site of qualified fellows. The system includes spare parts and maintenance and repair for the equipment supplied under the program. Fellows are accepted for training only if they are well qualified surgically and recommended by a hospital, medical school, or family planning clinic which files an institutional application which indicates support for the fellow to use his training. The course reviews the full range of reproductive health including all methods of surgical contraception. Thus far this program has trained 705 physicians mostly Ob/Gyn specialists from 64 countries. Among them have been senior people from 137 medical colleges from 43 countries which have medical schools. It is estimated that PIEGO graduates have established 52 training centers and about 450 voluntary sterilization service centers. Reports from 87 fellows show that they have trained 1,359 doctors in laparoscopy in the first 10 months after returning from training.

IPAVS (The International Project of the Association for Voluntary Sterilization) has been highly effective in the development of voluntary sterilization in the LDC's. It has 150 sterilization assistance projects in 90 countries. In most of these situations it has provided for the training of physicians and other service personnel with special emphasis on mini-laparotomy. It has provided training in sterilization techniques for more than 700 physicians and done effective work in spreading information about sterilization among physicians and other medical and lay people. It has assisted in the organization of 14 National Associations for voluntary sterilization, and conducted two worldwide conferences. At the second conference the World Federation of Associations for Voluntary Sterilization (WFAVS) held its first meeting and was well launched to serve as a link among the various national associations.

FPIA (Family Planning International Assistance) has effectively worked with many church related and other private welfare agencies to develop projects in voluntary sterilization. It has supplied training, equipment and monetary support. It now has five projects that involve sterilization activities in three countries.

The Pathfinder Fund has assisted voluntary sterilization projects among special groups in a number of countries, frequently in locations where such activities are especially hard to launch. It is now supporting about 20 such projects. It helps with training, equipment, and monetary support.

IFRP (International Fertility Research Program) has supplied sterilization training to a large number of investigators who provide data for comparative sterilization method studies. At present it is receiving sterilization data from 80 investigators located in 30 countries.

Each of these agencies are in a position to assist a country with one or more of the components needed in planning, training, developing clinics, providing physicians and the public with information and education and/or in supplying financial resources for service operations.

You are also aware that many bilateral programs will have increased funds for voluntary sterilization this year and in the years ahead. As you discuss this thrust of the program in the future, consideration needs to be given to such questions as:

- How well are the resources already available in the country which can move voluntary sterilization forward being used?
- Can the various agencies providing assistance be better coordinated with an increase of effectiveness?
- Is my country ready to consider the drawing up of a voluntary sterilization plan for training and supply of services?
- If so, who in which agencies and ministries should be involved?
- What strategy should be employed in letting the public learn about the availability of voluntary sterilization services?

TECHNOLOGY AND STRATEGY FOR EXPANDING SURGICAL FAMILY PLANNING SERVICES

The Latin America Population Officer's Conference held in El Salvador in November 1975 helped Dr. Ravenholt and the staff of the Office of Population reach the conclusion that A.I.D.'s population program was ready to enter a new and crucial phase - the phase of large scale programs of surgical contraception.

Surgical contraception has, of course, always been one of the modalities developed and promoted by the Office of Population. Since the first AID contract supporting laparoscopic sterilization at Johns Hopkins in 1971 and initial AID funding of the international project of the Association of Voluntary Sterilization a year later, AID has been a major catalyst and supporter of research, development training and service in the field of surgical contraception.

The situation in late 1975 was perceived as different, however. The worldwide availability of pills and condoms which has been a major AID goal for several years was becoming a reality in one country after another. With this major program approaching its crest, the need for the next big push became apparent.

Three factors have helped to crystallize this idea. (1) Experience, (2) demand and (3) technology.

(1) As individual country experience becomes known, it becomes clear that several countries have achieved major demographic impact through

surgical contraception. These include Puerto Rico, China, the USA and India. Rough calculations indicate that somewhere between 50 and 65 million couples worldwide are now protected by VSC.

(2) The realization that an unmet demand for surgical contraceptive services already exists in at least eight developing countries and is about to appear in many others.

(3) The improved state of surgical technology and surgical equipment. Office of Population personnel have in the past spent many hours in monitoring the development and improvement of different types of equipment and different techniques for surgical contraception. This type of effort is clearly shown in the transformation of the Yoon band technique of laparoscopic tubal ligation from a theoretical exercise conducted in Baltimore to a practical reality in many countries of the world.

In the past two years minilap kits have been sent to forty countries around the world, vasectomy kits have been sent to almost that many and over 500 AID funded laparoscopes are now in use in more than 50 countries. The techniques have been developed and the tools have been produced. Training in the techniques and distribution of the tools is now proceeding rapidly.

Given these three facts about surgical contraception:

(1) proven effectiveness in bringing about demographic change in key countries;

(2) unmet demand already existing in at least eight countries and about to appear in many others;

(3) technology in a feasible state for rapid program implementation; we can readily see that the opportunity for a major worldwide program is evident.

On the basis of programs in China, India, Thailand, Sri Lanka, El Salvador and the experience in developed countries, the estimate was made that as many as 25% of reproductive age couples in countries with family planning programs would choose this permanent simple method of fertility control over the next five years if it were conveniently and inexpensively available.

Based on such a percentage of acceptors it was calculated that one service center for each 200,000 population, by working 200 days a year and doing an average of 10 cases per working day, could reach 2,000 patients in one year and 10,000 in five years. This number represents 25% of the 40,000 reproductive age couples in a population of 200,000.

It was also calculated that for every 25 such service centers at least one training center would be necessary, i.e., one training center for each five million people. Such a training center, if it trained one person

per week, could supply two trained people for each service center in its area each year.

By further calculating that, outside of the developed world and China, there are approximately two billion people in the developing world, a worldwide need for 400 training centers and 10,000 service centers was deduced.

At least 100 such training centers are already in existence in the developing world as well as at least 1,000 service centers. If we assume that each of the additional 300 training centers needed will cost an average of $30,000 to establish and that each of the additional 9,000 service centers needed will cost an average of $5,000, we have a total of $60 million over the next five years or $12 million annually. Clearly this is a reasonable figure for a worldwide network of training and service facilities for such a vital program as surgical contraception.

At the 3rd International Sterilization Conference held in Tunisia in February of 1976, these ideas were further explored and developed. At that Conference, over 250 medical and administrative leaders from over 60 countries gathered to discuss surgical contraceptive programs and how best to advance them. Surgical techniques had been the theme of the second World Sterilization Conference in Geneva in 1973. This last conference was more concerned with making services available and how best to inform people of this availability.

In follow up of this February Tunisia Conference, a group of AID funded organizations including PIEGO, AVS, Pathfinder, FPIA, IFRP, IPPF and the Population Council, had a day long meeting at Johns Hopkins in April. At this meeting several important points emerged. Among these were:

(1) the need for dedicated space for surgical contraception. Because it is an elective procedure, more urgent cases constantly take precedence in most busy clinics and hospitals;

(2) the need for expeditiously procuring and transporting equipment for these surgical contraceptive procedures;

(3) the need for some simple payment mechanism to defray some of the costs associated with providing these services, and

(4) the need to develop country-by-country coordination among agencies providing this service and training.

An Office of Population Task Force, headed by Dr. Boynton, was set up at this meeting. This task force was asked (1) to consider these needs and to establish program guidelines to deal with them, and (2) to arrange for interagency country-by-country reviews covering each major geographic region in order to ascertain present status and future needs of each country program.

To systematize these individual country reviews, Dr. Winfield designed large data sheets. These sheets list the population of each country and the numbers of service and training centers estimated as necessary. By completely filling in available data on names and locations of existing

programs, it is possible to see what has been accomplished so far and to see how close to meeting our goals each country has come. Dr. Winfield called these V.S.C. data sheets which stands for Voluntary Surgical Contraception. The concensus is that these three words can be translated into most languages without the linguistic and emotional overtones associated with the word sterilization.

The VSC country-by-country review started in AID/W in June with the Asia region. The VSC data sheets for Asian countries were first sent to each grantee agency for completion. The VSC sheets returned by the grantees were than combined for each country to provide a composite picture. These composite data packets were reviewed for each of the Asian countries at the June and July VSC Coordination meetings held in AID/Washington for representation of all the grantee agencies concerned.

At these V.S.C. meetings a general plan of action emerged for almost every Asian country. Following these meetings, the VSC data packets were mailed to the AID Mission of each individual country to inform the Mission of what we knew was available, to have errors corrected and to have the Mission list any VSC activities AID/W was not aware of. These verified and up-dated data sheets, should provide both USAID Missions and AID/Washington as complete a picture as possible of VSC services, training and equipment presently available in-country and thereby facilitate planning and budgeting for what remains to be done.

Country-by-country summary notes of these meetings, which outlined general plans of action, were mailed to each of the AID Missions along with the VSC data sheets. In some cases these country plans were quite specific. In others, they simply outline general program directions.

At these same Asian meetings, VSC guidelines, drawn up by the task force, were reviewed and modified. One significant aspect of the guidelines is AID's institutional cost reimbursement plan which provide necessary financial impetus for change from small scale VSC programs to country-wide programs with demographic impact. The UNFPA program in Thailand has shown that an institutional subsidy. based on the number of cases done, can be a powerful stimulus to VSC program action.

Discussion on these guidelines has been lively and long. Changes in them are still prossible. As presently constituted, they authorize an institutional cost reimbursement of up to $10 for each tubal ligation and up to $5 for each vasectomy. This represents a major new and promising program direction.

A third VSC coordination meeting, covering the Latin America region, was held in AID/Washington in September. The VSC data sheets packets and country summarizes compiled at this meeting have been sent to each AID Mission concerned along with a covering airgram.

At this Latin America meeting it was decided that the partial underwriting of patient costs for institutions providing VSC services would be called "Institutional Service Cost Reimbursement" or ISCR.

By this open-ended ISCR mechanism, the providing institution simply shows the grantee concerned (or the USAID MIssion) how many cases it has done - at a previously agreed up ISCR rate - and it can be given money to cover that number. Naturally, periodic and spot checks of records will be required and supervision will have to be exercised. We feel the open aspect of ISCR and its potential momentum will lead to early demographic change in many countries.

The last of the 1976 VSC regional coordination meetings is scheduled for December 16th in AID/Washington. This one will cover the Middle East and Africa. The VSC data sheet packets and country summaries emerging from this meeting should reach you in January.

In the FY 77 budget of 143 million, AID has earmarked 6.6 million for bilateral VSC programs in 10 countries. In FY 78, for these same 10 countries plus two others, this should increase to 9.4 million if our budget is 178 million and to 12.8 million if our budget goes to 203 million as we hope.

In addition to these bilateral budget projections, an additional 18 million is slated worldwide for FY 1977 through grantees and through centrally funded programs. In FY 78, the projections are for either an additional 21 million (at the 178 level) or 29 million (at the 203 level) through grantees and centrally.

The percentage of the Office of Population budget marked for support of VSC has gone from 11% in FY 76 to 17% in FY 77 and should reach 20% in FY 78.

A presentation of these expenditures for ten bilateral VSC programs in FY 77 and 12 such programs in FY 78 was recently made by this Office to the Office of Management and Budget.

Clearly, the stage is now set for successful worldwide support of VSC programs. The presence of corrected, updated VSC data sheets in USAID Missions, AID/Washington and the Grantee agencies will help greatly to facilitate planning and coordination of this effort.

The latest version of the VSC Guidelines is attached.

VOLUNTARY SURGICAL CONTRACEPTION* (VSC) GUIDELINES
PREPARED BY THE VSC TASK FORCE, OFFICE OF POPULATION, AID

INTRODUCTION

By year's end (1976), it is estimated that at least 75 million couples in the world will be depending upon voluntary sterilization for control of their fertility, making this world's foremost means of fertility control. Because of the intense demand for VSC, its advantage as a one-time service, and the efficiency of the procedure, it is anticipated that VSC will be readily accepted wherever services are made readily and appropriately available. Expansion of the availability of these services at the earliest possible time is necessary so that all couples wishing to control unwanted fertility by voluntary surgical contraception will be able to do so within the next decade.

A. GENERAL POLICIES

I. Legislative Mandates

In carrying out its responsibilities under the Foreign Assistance Act of 1961, as amended, AID is guided by four legislative mandates. These mandates specify that the programs: (1) must be non-coercive, (2) should benefit the rural poor, (3) should advance the status of women and (4) should not support or promote abortion as a method of family planning.

(1) Non-Coercive Programs - The Foreign Assistance Act requires that Family Planning assistance provided must be accepted on a voluntary basis. Therefore, no AID monies can be used to support surgical contraception programs that are coercive. AID does not intend to pay incentives to induce patients to accept surgical contraception. Compensation for reasonable contraception (e.g. bus fare) is permissable although even this should be avoided when possible.

(2) Rural and Urban Poor - The mandate stipulates that AID programs be designed to emphasize benefit for the poor who comprise the majority of the population in most developing countries. Grantees should bear this in mind in planning and modifying VSC programs.

(3) Women - The Percy Amendment included in the 1974 Foreign Assistance Act requires that AID promote the status of women in its program. Grantees should plan their VSC programs so as to maximize their employment of women and their benefit for women.

*Voluntary Surgical Contraception (VSC) is suggested as a new term to mean voluntary sterilization by interruption of the vas or the fallopian tubes, i.e. tube tying. Hysterectomy is not included in this term.

(4) No Abortion - The Helms's Amendment, added in December 1973 to Section 110 of the Foreign Assistance Act of 1961, stipulates that: "None of the funds made available to carry out this part (Part I of Foreign Assistance Act) shall be used to pay for the performance of abortion as a method of family planning or to motivate or coerce any person to practice abortion."

II. Accountability

All AID grantees are subject to audit. A system of accountability for all AID purchased VSC equipment and supplies is essential. A written record, including signed receipts where possible, must be retained for all equipment distributed.

III. Coordination

AID funds to support the availability of voluntary surgical contraception services worldwide are limited. To maximize the effectiveness and efficiency of these funds, it is essential to coordinate activities in expending AID-supplied funds for this purpose. This full coordination should include:

1) Coordination of travel plans,

2) Coordination of training plans, and

3) Coordination of supply purchase and distribution plans.

B. SPECIFIC POLICIES

I. Diplomatic Pouch

To supply emergency spare parts and special items for grantee VSC programs, AID/W can utilize the diplomatic pouch. The package should not be longer than 24 inches, its three dimensions should not exceed 60 inches, it should not weigh more than 24 pounds, and it should be securely packed. Shipping cartons measuring 10" x 14" x 6" are available in the AID mail-room. When the situation calls for it, this system does provide a very helpful method to rapidly respond to special requests from in-country programs.

This system, of course, should be used to send materials consistent with recipient country laws.

II. Procurement of Medical Kits by Contract

AID/W plans to continue to maintain an open-ended term contract with GSA through which medical kits can be purchased. This has proven economical and efficient for both the Office of Population and the grantees.

To simplify this procurement, AID has reduced the number of types of medical kits from eight to five. This was done by consolidating kits No. 2 and 3 into one kit called Kit No. 2 (dysfunctional uterine bleeding kit), by combining Kit No. 6 and Kit No. 7 into a new kit called Kit No. 6 (vaginal tubal ligation kit) and consolidating Kits No. 4 and No. 8 into one kit called Kit No. 8 (minilap kit).

As far as surgical contraception is concerned, this means there is one kit for vasectomy (No. 5), one for vaginal tubal ligation (No. 6), and one for abdominal tubal ligation (No. 8). The separate packet (No. 8B) containing only one tubal hook and one uterine elevator will continue to be available.

Grantees should insure that VSC projects plan for enough sets of surgical instruments that provision of services is not hampered by inadequate supplies of sterile equipment. The ordinary VSC clinic will probably need about 5 sets of surgical instruments, but when no provision for resterilization exists at a service center, a larger number of sets may well be required by the anticipated case-load.

III. Purchase and Provision Laparoscopes

AID-funded laparoscopes and their attachments and modifications will be purchased under one contract to save money and to simplify maintenance and eventual conversion to non-thermal techniques. The Office of Population, AID, wishes to insure the same high standards of training and skill for each physician doing laparoscopy. It should be clearly understood by all concerned that AID-funded laparoscopes and their attachments and modifications should only be used by physicians who are thoroughly proficient in these techniques. To date, more than 500 AID-funded scopes have been distributed overseas. Distribution of AID-funded laparoscopes will have to be approved by JHPIEGO, AVS, or IFRP. JHPIEGO, The Johns Hopkins base of the Program for International Education in Gynecology and Obstetrics (PIEGO) will be responsible for maintenance and repair of all AID-funded laparoscopes.*

IV. Dedicated Space

The Office of Population, AID, realizes that many programs will need help in creating special areas, so called "dedicated space" for providing VSC services. Ideally, a separate area and staff should be set up, preferably within a hospital. Generally, this can be done simply through renovation but the occasional need for creating completely new space is recognized.** In order to justify planning any such new building with AID funds, a clear multiplier effect - through its training functions - should be demonstrable. Any new building plan must have prior approval by the Office of Population and should be envisioned as no more than an out-patient teaching surgical facility.

*Inquiries concerning repairs and procurement of spare parts should be addressed to the Office of Population.

**However, in such cases every effort must be made to minimize construction costs and delays in implementation. To this end recipients should be encouraged to rent available space (e.g., nearby commercial buildings) which can be readily modified or renovated or to construct such space by adding on to existing clinics or hospitals. Indigenous contribution to all renovation and new construction is expected.

V. Commodities and Equipment

AID regulations generally require that equipment and commodities purchased be U.S. made.

(1) Transactions of up to $2,500 for commodities purchased in the USA and shipped from the USA, can be made without having to consider in which country the commodities or equipment was originally manufactured.

(2) U.S. purchase transaction in excess of $2,500 may include non-U.S. components only if:

(a) The total cost of such components does not exceed 50% of the lowest price at which the commodity is available in the U.S. for export sale, and

(b) No components are from the communist countries excluded under code 899. (These component requirements are spelled out on page A3 and A4 of AID Regulation I - attached as Appendix A).

(3) For Title X Grants only, the following exception to the U.S. purchase regulation is allowed:

Unless waiver for a higher limit has been specified in the AID Grant document or specifically obtained for a particular subgrantee by the AID Grant Officer, a grantee may procure commodities or equipment already in a cooperating country up to $5,000 per subgrantee per year as long as the following provisions are met:

(a) The cooperating country is not one of the developed countries excluded from AID Geographic Code 901 "Limited Free World",

(b) The commodities have not been imported by the grantee,

(c) The country of origin was not one of the communist countries, excluded under code 899, and

(d) The commodities in question are not contraceptives, drug products, pharmaceuticals, or motor vehicles.[1]

(4) For general support grants, as for specific support grants, these same provisions and exceptions apply unless the general support grant document clearly stipulates instead that procurement of commodities and equipment will be based on the grantee's usual procedure and regulations.

VI. Procurement and Use of Large Items

For items such as sterilizers (autoclaves), operating tables, lights, etc., U.S. purchase through the General Services Administration often represents the best method. Shipment overseas ordinarily requires several months. An approximate price list of such equipment, suitable for overseas use, will be provided to the grantees and USAID Missions. (Appendix B). Sufficient interest in a particular item, or items, would be reason for obtaining an open-ended contract through GSA to speed up ordering and delivery of the item(s) and possibly to reduce costs.

VII. Culdoscopes

Culdoscopes, like laparoscopes, are sophisticated instruments requiring special training and should be provided only to individuals motivated to make extensive use of it who are familiar with the instrument and adequately trained. AID has no special interest in limiting the use of this instrument to a particular grantee, but does feel that any grantee providing this instrument to a physician has the responsibility for seeing that each culdoscope recipient is properly trained and that use of AID-funded culdoscopes is restricted to such individuals.

VIII. Mobile Voluntary Surgical Contraception Teams

AID, wants actively to encourage and support mobile VSC teams which bring service and training to outlying areas - generally through the use of temporary space. Traveling by plane, boat, bus, and by jeep, these teams visit outlying areas to provide VSC services to large numbers of people. Local organizations generally schedule the visits, provide space, and notify patients. The team usually bring in their own equipment and sterile supplies. Such mobile teams sometimes do more than 100 VSC cases per day. Some of the most successful innovations in surgical contraception around the world have been based on such mobile teams.

AID feels, however, that self-contained mobile vans for family planning have not usually proved satisfactory. They are very costly and have generally been out of service more often than not. For this reason, planning such vehicles for VSC programs is not encouraged.

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[1]Although Handbook 13 - Grants, Chapter 3, page 15, section 3D2a(2) specifically excludes motor vehicles, Handbook 15 - AID financed Commodities Appendix B. Para 1, page 33, and Appendix G1, page 4 specifies that U.S. manufactured motor vehicles may be procured in any authorized source country to which they have been shipped, either assembled of "knocked-down" for assembly in that country.

IX. Post-partum Ligation

AID's first VSC Goal is to ensure availability of female VSC at an affordable cost. This must include the provision of facilities for voluntary post-partum tubal ligation in virtually all LDC hospitals having large maternity caseloads. Post-partum tubal ligation under local anesthesia through a small sub-umbilical incision is probably the most cost-effective method of VSC there is - apart from vasectomy.

X. Minilap

AID feels that the minilap procedure for outpatient, interval tubal ligation under local anesthesia is the method of choice for many developing countries because of its simplicity and economy. Minilap is the new method of interval female surgical contraception based on the vaginal insertion of a uterine elevator to raise the uterus so that the tubes can be interrupted thru a very small abdominal incision just above the symphysis pubis. When five well-distributed centers capable of providing tubal ligation exist in-country for each one million population, and each center is staffed with trained personnel, works at least five days each week and is equipped with adequate supplies, we can then assume that female VSC is freely available. This level of availability of female VSC at an affordable cost in AID's first VSC Goal.

XI. Vasectomy

Vasectomy is the quickest, safest, and least expensive of all the methods of VSC. It uses simple equipment, is readily taught, and can be carried out in all types of settings. The availability of this simple outpatient surgical technique on a least the same scale as minilap and post-partum tubal ligation is AID's second VSC Goal.

XII. Multimethod Availability

AID's Third VSC Goal is the availability of one voluntary surgical contraception (VSC) training and service center in-country for approximately every five million population. These centers will generally be based in major teaching hospitals and medical schools and will serve as training and referral centers where several different methods of VSC are available.

Different countries have different needs, capabilities, and laws and customs. No one VSC method will suffice for all countries or for all patients in any one country. Because of this, AID feels that multiple VSC methods should be available in each country.

In addition to post-partum ligation, minilap, and vasectomy, many training centers will also be equipped to provide service and training either in laparoscopy and vaginal tubal ligations or culdoscopy or in all three. AID is primarily interested in techniques suitable for remote service centers. Therefore, over-training persons destined for such remote service centers should be avoided.

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XIII. The Falope Ring

AID, feels that the falope (Yoon) ring method of tubal ligation has great promise. It can be used through an abdominal incision or through a vaginal incision as well as through the laparoscope. The conversion of AID-funded laparoscopes from the heat technique to this safer technique - and the on-site retraining of the physicians involved - is a major AID interest. Once the policy-making boards of the grantees have officially accepted this modification of laparoscopy, equipping laparoscopes to include this method can proceed rapidly with full coordination among grantees.

Physicians will need to be trained in this technique even when it is used apart from the laparoscope.

XIV. Usual Assistance to Institutions for VSC

AID recognizes that the provisions of surgical contraceptive services to all persons wishing this means of fertility control will require substantial financial support to many institutions, both public and private, in developing countries. Provision of these services is a normal responsibility of these institutions but necessary funds may not be available.

In order to ease the cost burden of VSC procedures on participating institutions, grantees are authorized to provide an institutional service cost reimbursement (I.S.C.R.) of up to $10.00 for tubal ligation and up to $5.00 for vasectomy. These payments should be made to the service institution by the grantee. AID feels that this method of reimbursement will serve a program stimulus and will lead to economies of scale. AID recognizes that there are settings where, to start new programs, larger amounts may be needed but feels that any proposed I.S.C.R. payments in excess of these stated ceilings should receive specific approval from AID to qualify for AID support.

Present subgrantee payment plans and schedules may continue to be observed, but two years should be sufficient time to change from the present system of funding to the new system. In most cases, this change can be made much sooner. Subgrant agreements, negotiated after January 1, 1977, should be based on these new I.S.C.R. guidelines. Grantees are urged to negotiate the lowest reimbursement rates possible with their sub-grant institutions so that available AID funds can be stretched to meet a significant proportion of the world need.

XV. Expendable Supplies

In the rare situation or location where expendable surgical supplies are locally unavailable, grantees can make use of the General Service Administration to procure these items for the subgrant institution VSC program. Medical supply catalogues are available for this purpose.

XVI. Definition of VSC Centers

The Office of Population, AID, defines two basic types of VSC centers:

(1) VSC Training Centers where VSC procedures are taught. At least one such center for each five million population is anticipated as necessary.

(2) VSC Service Centers where provision of VSC services is the main function and teaching, if any, is incidental. Five such centers for each one million population is the goal of the Office of Population, AID.

XVII. Patient Records

When subgrant institutions are to be reimbursed for VSC services, AID considers it essential that the institution providing the service maintain patient records which are available, as necessary, for inspection and verification by the Grantee whose AID funds are paying for the services. A minimum of two of these records should be kept available by the responsible institution. The original should be kept at the point of service and the duplicate at a central location in country such as the institutional headquarters. If the institution has no adequate forms, a standard form, designed for this purpose, can be provided to the service institution by the AID grantee.

AID does not wish to burden the VSC programs with clerical work, but does feel that maintenance of such records in two locations by the service institution insures a mechanism for the audits and spot checks required by such a potentially substantial program.

These records will necessarily vary in form and language from country to country and from grantee to grantee, but they should include the following identifying data:

(1) Name of patient

(2) Residence of patient

(3) Age

(4) Sex

(5) Date procedure performed

(6) Name of procedure

(7) Live offspring for each patient

(8) Place procedure performed

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(9) Signature of physician performing procedure

A numerical summary, derived from these records, should be submitted at least once a quarter to the AID Grantee as a basis for payment. This numerical summary should include the name of the subgrant institution providing the services and should be signed by the project director or the institutional representative taking responsibility for the accuracy of the summary.

ment with the Agency for International Development, including the Invoice-and-Contract Advice [illegible] or any sub[illegible] which may be prescribed in the letter of commitment, request for the opening of a special letter of credit or other [illegible] implementing document [illegible] Form 282 designated A.I.D. 282 [illegible] shall be considered as "Suppliers Certificate" for purposes of this Part 201 when submitted to A.I.D. [illegible] holder an A.I.D. letter of commitment [illegible] ment on or before [illegible] 1973.

(t) *United States.* "United States" means the United States of America, any State, territory or possession thereof, Puerto Rico and the District of Columbia.

(u) *US AID.* "US AID" means the A.I.D. mission or representative to any cooperating country.

(v) [Reserved]

(w) *Commodity Approval Application.* "Commodity Approval Application" means the Application for Approval by the Agency for International Development of Commodity Eligibility (A.I.D. Form 11) which appears as Appendix D to this Part 201.

(x) *Schedule B.* "Schedule B" means "Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States" issued and amended from time to time by the U.S. Bureau of the Census, Department of Commerce, and published in 15 CFR 30.32.

[A.I.D. Regulation 1, 36 F.R. 7096, Apr. 14, 1971, as amended at 37 F.R. 12792, June 29, 1972; 38 FR 13641, May 24, 1973; 38 FR 18016, July 6, 1973]

§ 201.02 Scope and application.

The appropriate implementing document will indicate whether and the extent to which this Part 201 shall apply to the procurement of commodities or commodity-related services or both. Whenever this Part 201 is applicable, those terms and conditions of this part will govern which are in effect on the date of issuance of an irrevocable letter of credit under which payment is made or is to be made from funds made available under the Act, or if no letter of credit has been issued on the date payment instructions for payment from funds made available under the Act are received by the paying bank.

(a) The borrower [illegible] is responsible for compliance with the applicable provisions of this part by importers and suppliers and for assuring that importers and suppliers are informed of the extent to which this part applies.

(b) Subpart B sets forth conditions governing the eligibility for A.I.D.-financing of transactions covering commodities and commodity-related services.

(c) Subpart C prescribes procedures which importers shall follow in purchasing commodities.

(d) Subpart D sets forth the responsibilities of suppliers.

(e) Subpart E contains provisions relating to

(1) The diversion of shipments and the vesting in A.I.D. of title to commodities;

(2) The effect of termination or modification of any loan, grant or implementing document; and

(3) A.I.D. audit and inspection rights.

(f) Subpart F describes the financing process and prescribes the documents which shall be submitted to banks and to A.I.D.

(g) Subpart G contains the price tests which shall be met and limitations on amounts and types of payments which A.I.D. will finance.

(h) Subpart H defines the rights and responsibilities of banks.

(i) Subpart I sets out the rights and remedies which are reserved to A.I.D. and provides for the waiver under special circumstances of the provisions of this Part 201.

(j) Unless otherwise indicated, references in this Part 201 to subparts or to sections relate to subparts or sections of this Part 201.

[A.I.D. Regulation 1, 36 F.R. 7096, Apr. 14, 1971, as amended at 37 F.R. 12792, June 29, 1972]

Subpart B—Conditions Governing the Eligibility of Procurement Transactions for A.I.D. Financing

§ 201.10 Purpose.

This subpart sets forth requirements for A.I.D. financing applicable to transactions for the procurement of commodities and or commodity-related services.

§ 201.11 Eligibility of commodities.

To qualify for A.I.D. financing, a commodity procurement transaction shall satisfy the following requirements:

(a) *Description and [illegible]tion of the commodity.* The commodity shall conform to the description in the imple-

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menting document. Unless otherwise authorized by AID/W in writing, the commodity [illegible] shall not have been [illegible] of as surplus by any governmental agency.

(b) *Source*—(1) *General rule.* The source of the commodity shall be a country authorized in the implementing document by [illegible] to an A.I.D. geographic code. In addition, the commodity shall have been mined, grown, or through manufacturing, processing, or assembly produced in a source country authorized in the implementing document.

(2) *Exceptions.* A produced commodity will not be eligible for A.I.D. financing if

(i) It contains any component from countries other than free world countries as described in A.I.D. Geographic Code 935; or

(ii) It contains components which were imported into the country of production from such free world countries other than authorized source countries; and

(a) Such components were acquired by the producer in the form in which they were imported; and

(b) The total cost of such components (delivered at the point of production) amounts to more than 50 percent, or such other percentage as A.I.D. may prescribe, of the lowest price (excluding the cost of ocean transportation and marine insurance) at which the supplier makes the commodity available for export sale (whether or not financed by A.I.D.).

(c) For the purpose of calculating eligible components under this subdivision, "authorized source countries" shall include the cooperating country itself whenever A.I.D. has authorized procurement from a geographic code other than A.I.D. Geographic Code 000, 941, or 902, and shall include all A.I.D. Geographic Code 941 countries whenever A.I.D. has authorized procurement from A.I.D. Geographic Code 910.

(3) *Waiver provision.* AID/W may from time to time waive or modify the requirements of subparagraph (2)(i) of this paragraph if in [illegible] such action is necessary to achieve A.I.D.'s objective of conformity with normal industry practices.

(4) *Identification of principal geographic code numbers.* The A.I.D. Geographic Code Book sets forth the official description of all geographic codes used by A.I.D. in authorizing or implementing documents to [illegible] authorized source countries or areas. The following are summaries of the principal codes:

Code 000—The States of the United States, the District of Columbia, areas of U.S.-associated sovereignty (including trust territories), and the Ryukyu Islands under U.S. control.

Code 940—"The Americas": The United States and areas of U.S. associated sovereignty (excluding the Ryukyu Islands) and all independent countries in the Americas south of the United States, except the cooperating country itself and Cuba.

Code 901—"Limited Free World": Any area or country in the Free World, excluding the cooperating country itself and the following developed countries: Australia, Austria, Belgium, Canada, Denmark, France, Germany (Fed. Rep.), Italy, Japan, Luxembourg, Monaco, Netherlands, New Zealand, Norway, South Africa, Spain, Sweden, Switzerland, and the United Kingdom.

Code 935—"Free World": Any area or country excluding the cooperating country itself and the following countries: Albania, Bulgaria, China (Mainland) and other Chinese Communist-controlled areas, Czechoslovakia, Estonia, East Germany, Hungary, North Korea, Latvia, Lithuania, Outer Mongolia, Poland, Romania, North Vietnam, and the Union of Soviet Socialist Republics (USSR).

Code 935—"Special Free World": Any area or country in the Free World, including the cooperating country itself.

Code 941—"Selected Free World": Any independent country in the Free World, except Algeria, Andorra, Australia, Austria, Belgium, West Berlin, Canada, Cyprus, Denmark, Finland, France, West Germany, Greece, Hong Kong, Iceland, Iraq, Ireland, Israel, Italy, Japan, Kuwait, Libya, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Portugal, Qatar, Southern Rhodesia, San Marino, Somali Republic, South Africa, South Yemen, Spain, [redacted] Sweden, Switzerland, United Arab Emirates, [redacted] United Kingdom, Vatican City, Yugoslavia, and the cooperating country itself.

Code 910—"Selected Less Developed Countries": India, Morocco, Pakistan, the Philippines, Taiwan, South Korea, Singapore, Tunisia, and Thailand. Code 000 shall also be included within this Code.

(c) *Date of shipping documents.* The documents required as evidence of shipment under § 201.52 and 53 shall show that the date of shipment was within the shipping period, if any, specified in the implementing document.

(d) *Medium of transportation.* Shipment shall not be effected

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Direct reading. Range from 0 to 100% or 19 to 100%. 10 seconds response time. With activated desiccant, drying tube, tubing, and sphygmomanometer bulb, Index No. 1070. Without batteries. For 1-1/2 volt battery, order $6135-00-120-1020; for 3-volt battery, order $6135-00-100-0398. For replacement desiccant, order $6850-00-680-2233.

Action	Index No.	National Stock No.	Descriptive Data
—	275	6515-00-902-3218	Portable, Battery Operated

$Item not managed by DPSC. Obtain in accordance with appropriate Military Service Management Data Lists.

Index No. 275

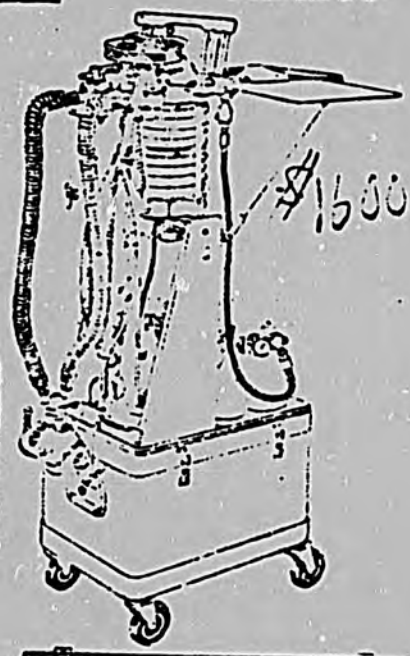
ANESTHESIA APPARATUS, GAS

For open, semi-closed, or closed method. With cartridge-type carbon dioxide absorber, castered carrying case, hand-operated air bellows, and oxygen flush valve. Operative head mounted on folding stand, secured by pivot pin. Complete except for cylinders. For carbon dioxide absorber cartridge, order soda lime, 6505-00-782-6484. For inhaler unit, order Index No. 8960. For use with size D or E flush-valve gas cylinder or large size gas cylinder. For replacement parts, order:

Name	Index No.
Inhaler tube	13450
Oronasal mask	7755 or 7760
Rebreathing bag	8560

Action	Index No.	National Stock No.	Descriptive Data	Notes
—	285	6515-00-782-3924	Nitrous Oxide, Oxygen, Ether, and Cyclopropane, Portable, 4 Cylinder Capacity	M

Index No. 285



$1600.00

ANESTHESIA SET, ENDOTRACHEAL

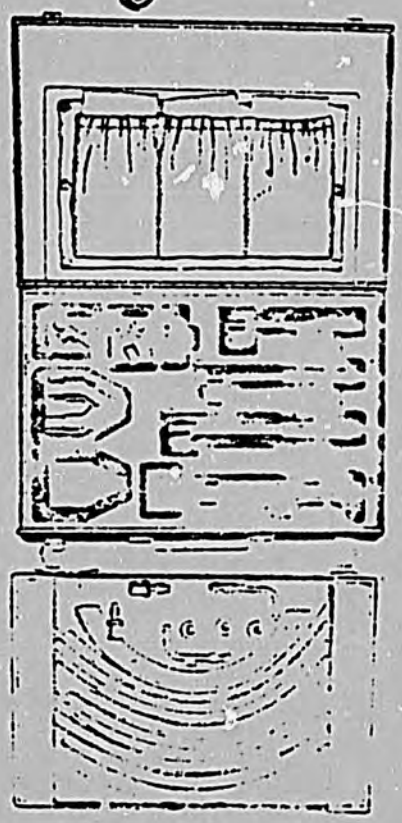
In case. Consists of:

Name	Index No. or NSN	Qty
Adapter, right-angle elbow	55	2
Adapter, Y-piece	155	1
Connector, endotracheal tube	3650, 3655, 3665, 3670	1 ea
Connector, endotracheal tube	3660	3
Cuff, endotracheal tube	3755	2
Forceps, endotracheal tube, Magill	5305	1
Lamp, incandescent	6240-00-797-0420	4
Lamp, incandescent	6240-00-552-9672	5
Laryngoscope, infant-child-adult, Macintosh	7490	1
Stop, catheter stylet	11360	1
Stylet, catheter	11470	1
Tube, endotracheal, Magill	13375	1
Tube, endotracheal, Magill	13335-13345, 13355, 13365	2 ea
Tube and elbow, endotracheal	13655	1

For succinylcholine chloride injection, order 6505-00-295-7881; for tubocurarine chloride injection, order 6505-00-299-8475; for catheter and connector, order Index No. 3355-3375. Without laryngoscope batteries. For battery, order 6135-00-120-1020.

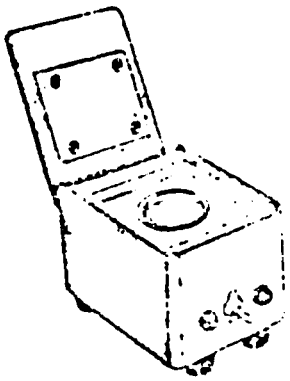
Action	Index No.	National Stock No.	Descriptive Data
C	295	6515-00-299-8687	—

$Item not managed by [illegible] in accordance with appropriate Military Service Management Data Lists.

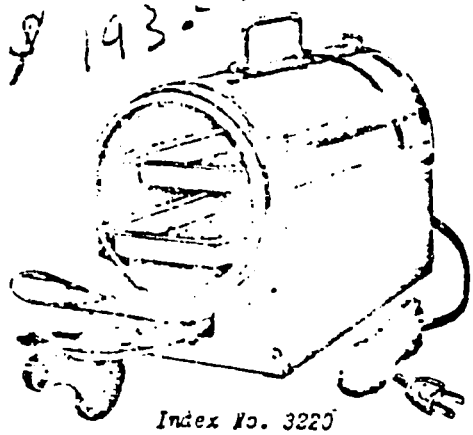


Index No. 295

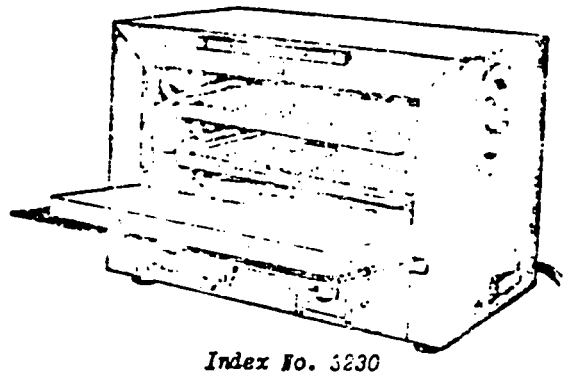
STERILIZER, SURGICAL INSTRUMENT



Index No. 3215



Index No. 3220



Index No. 3230

CYLINDRICAL

Inside dim. listed in order of dia and depth.

Index No. *3215*—With glass beads, "on-off" switch, and two 5-ft long electrical cables: one 2-wire cable without grounding plug for DC unit, and one 3-wire cable with grounding plug for AC unit. Outside dim.: 9 by 4 by 4-1/2 in. For use with beads or salt for rapid sterilization of endodontic instruments.

Index No. *3220*—Horizontal autoclave. Lightweight, portable, mounted on rectangular base with permanently affixed operating instructions. With a 6-ft power cord with "on-off" switch, plug, and two 4-1/2 by 9-3/8 by 7/8 in. trays. Outside dim.: 16 by 9-3/4 by 8-3/4 in. For field use with electricity or heat from external source, such as gas, gasoline burner, or open fire.

Action	Index No.	National Stock No.	Descriptive Data	Watts
—	*3215*	6530-00-145-0287	Endodontic, Electrically Heated, Corrosion-Resisting Metal, 1-3/4 by 1-3/4 inches, 115 volt, AC-DC	200
—	*3220*	6530-00-926-4857	Pressure, Electrically or Externally Heated, Corrosion-Resisting Steel, 9-1/2 by 12 inches, 115 volt, 50-60 Hz, AC	1200

RECTANGULAR

Inside dim. listed in order of length, width, and height.

Index No. *3230*—With one nonperforated and two perforated trays.

Index No. *3235*—With three removable perforated trays. **Note:** For illustration of sterilizer, see Index No. *3130-3205*.

Action	Index No.	National Stock No.	Descriptive Data	Mounting	Watts
—	*3230*	6530-00-962-9965	Dry Heat Type, Electrically Heated, Corrosion-Resisting Metal, 11-1/2 by 8-1/2 by 5 inches, 115 volt, 60 Hz, AC	Buttons	450
C	*3235*	6530-00-065-5241	Pressure, Steam Heated, Corrosion-Resisting Steel, Automatic Control, High Speed, 24 by 16 by 16 inches	Cabinet	—

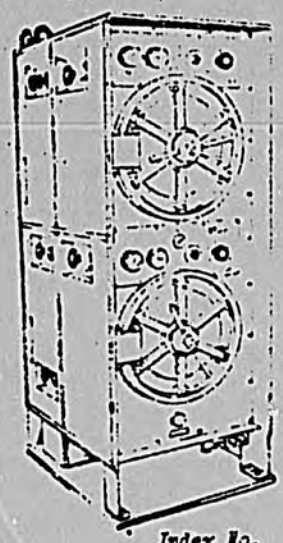
FOR A COMBINATION WASHER-STERILIZER FOR SURGICAL INSTRUMENTS, SEE PAGE 39.

67

URGICAL INSTRUMENT

x No.
245

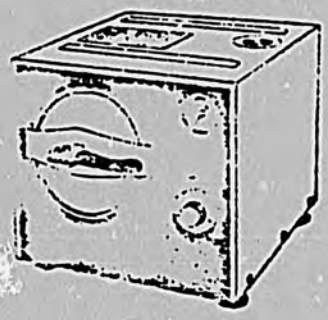
Index No.
3250



Index No.
3255

Index No.
3260

$4,013.64



Index No.
3265

:5—Portable autoclave encased in a cabinet finished in cream white .ue side panels. With enclosed reservoir holding water sufficient for ie removable rack, and two instrument trays. Inside dim. listed in order pth. Outside dim.: 26-7/16 by 16-1/8 by 18 in. For sterilizing dental instruments, dressings, and flasked solutions.

250—Cylindrical; with bottom shelf, top shelves, and intermediate ver shelves. Dim. are id and length. For field use. Suitable also for and drying of laboratory instruments, utensils, and flasked liquids, essing laboratory substances by nonpressure operation. Note: Restricted o MUST and MATH Field Units.

255—Two chamber over-under. Dim. are id and length of each chamber. icted for issue to MUST and MATH Field Units.

260—Portable autoclave, encased in a cabinet, with two removable instru- permanently imprinted operating instructions on or attached to unit and eservoir. Corrosion-resisting metal, or outer cabinet may be metal, with and heat-resistant, shatterproof baked enamel in cream white, biscayne ir gray, or jade green. Inside dim. listed in order of length, width, and tside dim.: 23 by 16 by 18 in. For sterilizing dental and surgical instru- issings, and flasked solutions. Material of cabinet and choice of color specified in the requisition.

265—Portable autoclave encased in a cabinet finished with a cream white abuse-resisting paint, with permanently imprinted operating instructions cabinet. With inclosed reservoir holding water sufficient for 10 cycles, perforated instrument trays. Inside dim. listed in order of dia and itside dim.: 15-1/2 by 14-1/2 by 12-1/4 in.

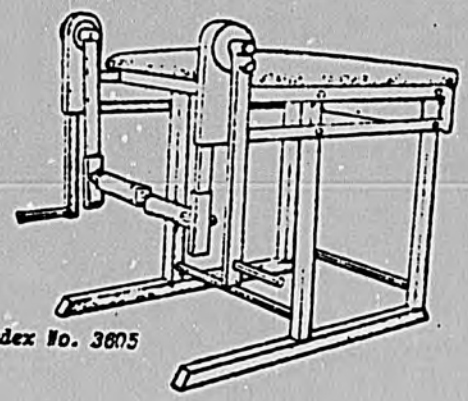
Index No.	National Stock No.	Descriptive Data	Watts
3245	6530-00-137-6454	Pressure, Direct Steam, Electrically Heated, Corrosion-Resisting Metal, 9 by 16 inches, Automatic, 115 volt, Single Phase, 60 Hz, AC	1,600
3250	6530-00-027-5261	Pressure, Direct Steam or Electrically Heated, Corrosion-Resisting Metal, 16 by 24 inches, 115 volt, 3 Phase, 400 Hz, AC	7,500
3255	6530-00-027-5260	Pressure, Direct Steam or Electrically Heated, Corrosion-Resisting Metal, 16 by 36 inches, 115 volt, 3 Phase, 400 Hz, AC	18,000
3260	6530-00-457-2707	Pressure, Electrically Heated, 8 by 8 by 16 inches, Automatic Control, 115 volt, 60 Hz, AC	1,500
3265	6530-00-782-6503	Pressure, Electrically Heated, Corrosion-Resisting Metal, 7-1/2 by 14-1/2 inches, 115 volt, 60 Hz, AC	1,200

68

.BLE, EXERCISER, PHYSICAL THERAPY

in. long, 30 in. wide, 30-1/2 in. high. Steel frame with plastic holstered top. Mounted on steel runners. With two permanently unted torque units and two each removable and interchangeable ight holders of 6, 8, and 12 in. lengths. Suitable for exercising e legs in physical therapy and rehabilitation.

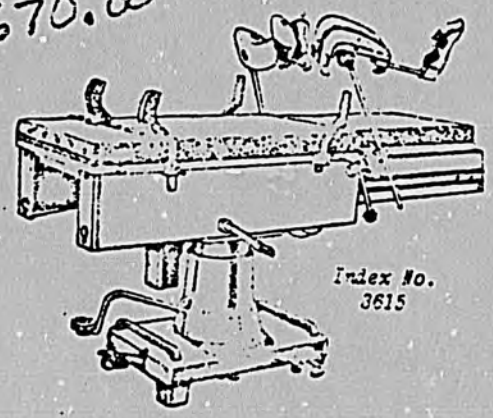
ction	Index No.	National Stock No.	Descriptive Data
—	3605	6530-00-926-9068	Heavy Duty



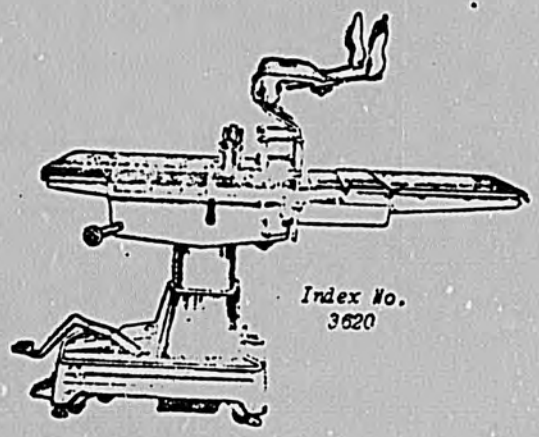
Index No. 3605

ABLE, OBSTETRICAL AND GYNECOLOGICAL

$670.00



Index No. 3615



Index No. 3620

bile base. Two-section tabletop; retractable leg section. With hydraulically operated mechanisms for positioning and control.

dex No. 3615—Articulating body section.

dex No. 3620—Fixed body section.

ction	Index No.	National Stock No.	Descriptive Data	Height In.
—	3615	6530-00-462-0837	Cast Aluminum and Corrosion-Resisting Steel	32-43
—	3620	6530-00-982-9890	Steel, Enameled	26-44

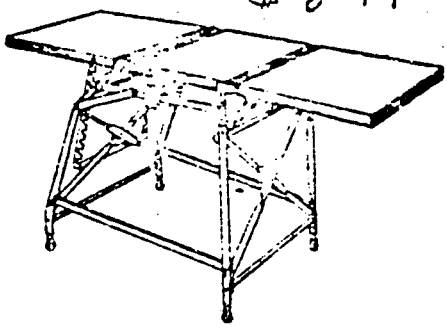
ABLE, OPERATING, ANIMAL

oot-operated hydraulic lift. Corrosion-resisting steel revolving op with center dr[illegible] dim[illegible] in. long, [illegible] in. wide. For se in the treatment and examination of sentry dogs.

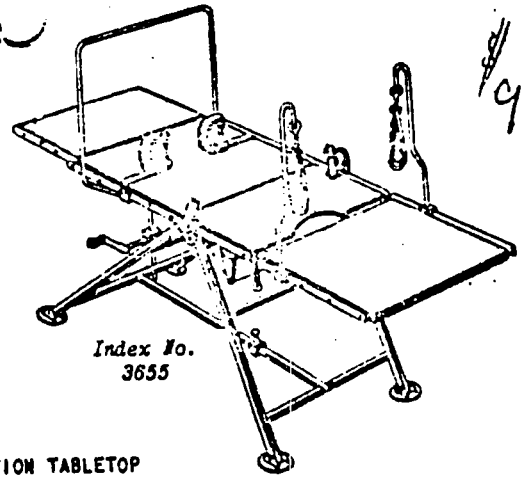
ction	Index No.	National Stock No.	Descriptive Data
—	[illegible]	[illegible]0-782-6866	Peneral

Index No. 3630

ABLE, OPERATING, FIELD



Index No. 3640



Index No. 3655

THREE-SECTION TABLETOP

With carrying case. 30 in. high.

Action	Index No.	National Stock No.	Descriptive Data
—	3640	6530-00-709-8155	—

FOUR-SECTION TABLETOP

With the following accessories:

Name	Index No. 3650 Qty	Index No. 3655 Qty
Accessory box	1	—
Armboard	2	—
Cup, litter	4	—
Cup, litter stirrups, adjustable	—	4
Footrest	1	—
Footrest, adjustable	—	1
Holder, lithotomy, leg	2	—
Holders and straps, leg	—	1 se
Pouch, accessory, canvas	—	2
Screen, anesthetist's	1	—
Screen, anesthetist's, adjustable	—	1
Shoulder support	2	—
Shoulder supports, adjustable	—	1 se
Strap, restraint	2	—
Wrist restraint	2	—
Wristlets, with adjustable holders	—	1 se

Index No. 3650—In aluminum carrying case. X-ray penetrable. Folds compactly for stacking. Controls outside sterile field. Adjustable in height from 27 to 39 in. from floor. With side rails to accommodate accessories. Note: Restricted for issue to MUST and MATH Field Units.

Index No. 3655—In aluminum sheathed plywood case, convertible to instrument table.

Action	Index No.	National Stock No.	Descriptive Data
—	3650	6530-00-132-9239	—
—	3655	6530-00-709-8175	—

FOR HOSPITAL NECESSITIES IN CLASSES OTHER THAN FSC 6530, see

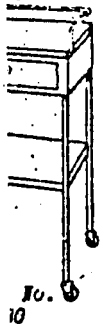
FSC Class 7920 for Brush, Surgeon's Scrub

FSC Class 3770 for Clipper (Animal Hair)

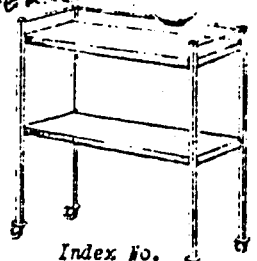
FSC Class 3530 for Clipper (Surgical Preparation)

FSC Class 7240 for Utensils

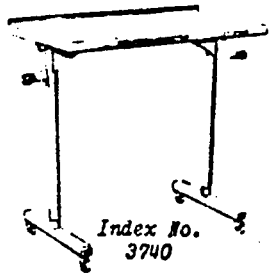
E, SURGICAL INSTRUMENT AND SURGICAL DRESSING (Cont'd)



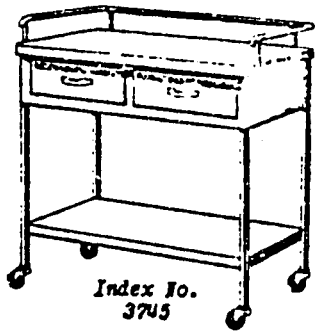
No. 10



Index No. 3735



Index No. 3740

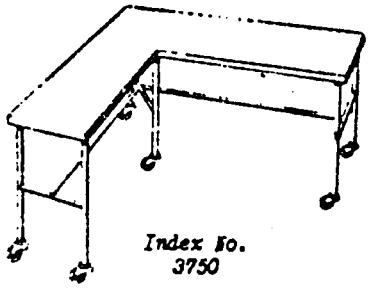


Index No. 3745

sted in order of length, width, and height.

o. 3740—Hand-crank adjustable to 60 in. height. Rectangular top. With ctrically conductive ball-bearing swivel casters, two with foot-operated ocks. Two carrying cases, one for tabletop and one for table base.

Index No.	National Stock No.	Descriptive Data
RIGID TYPE. With casters. Index No. 3730, 3735, and 3745—With guard rail and shelf.		
3730	6530-00-710-0220	Corrosion-Resisting Steel, 20 by 16 by 34-1/2 inches
3735	6530-00-709-4010	Corrosion-Resisting Steel, 33 by 18 by 32 inches
3740	6530-00-442-3181	Corrosion-Resisting Steel, 40 by 23 by 38 inches
3745	#6530-00-710-0305	Corrosion-Resisting Steel, 48 by 24 by 40-1/2 inches
3750	6530-00-709-3960	Corrosion-Resisting Steel, Angular, 72 by 15 by 35 inches



Index No. 3750

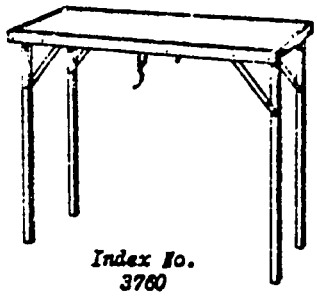
ser.
sers.

SURGICAL SINK

-resisting steel top; electrically conductive. Dim. listed in order of idth, and height. For use with surgical scrub sink, 6545-00-027-5013.

tricted for issue to MUST and MATH Field Units.

Index No.	National Stock No.	Descriptive Data
3760	6530-00-027-5335	Folding, 41 by 17 by 36 inches

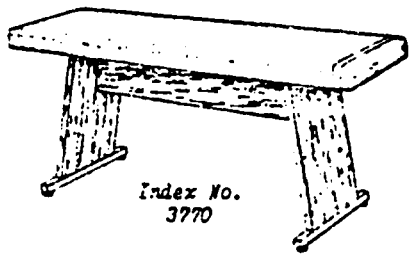


Index No. 3760

TREATMENT

eastern teak finish; white, olive, black, or tan upholstery. holstered tabletop; 72 in. long, 30 in. wide, 30 in. high, with e leveling legs and concealed paper roll holder. Requisition ite if foam contoured pillow is required. The choice of finish tery color should also be included in the requisition.

Index No.	National Stock No.	Descriptive Data
3770	6530-00-253-7818	Wood with Plastic Laminate

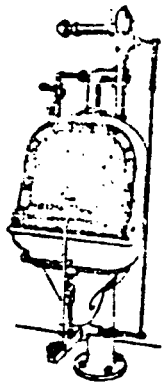


Index No. 3770

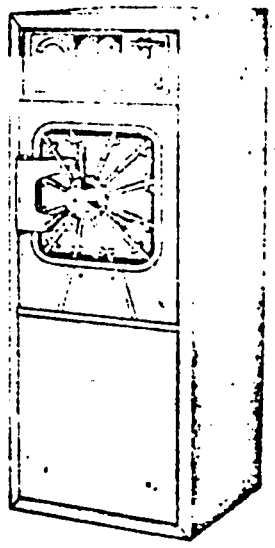
URINAL

: steam line.

National Stock No.	Descriptive Data
530-00-708-5255	Steam Heated, Floor Mounted



Index No. 4165



Index No. 4175

$ 5804.

SURGICAL INSTRUMENT

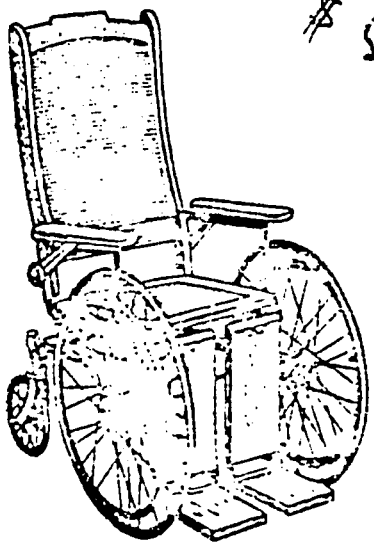
cabinet. With rack and three removable, le dim. listed in order of length, width,

ional ck No.	Descriptive Data
)-065-6767	Pressure, Steam Heated, Corrosion-Resisting Steel, Automatic Control, 24 by 16 by 16 inches

rciser boot, Index No. 370. Consists of:

	Qty
b	1
b	1
	1
	1

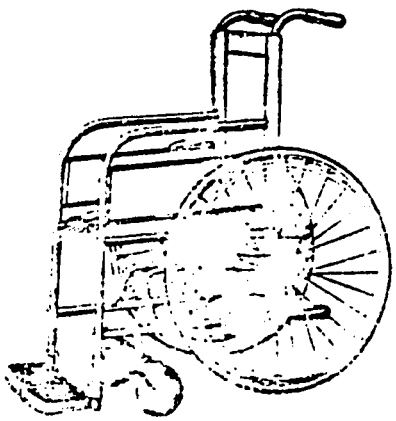
National Stock No.	Descriptive Data
6530-00-933-5560	Therapy Exerciser Boot



Index No. -195

eels for self-propulsion; with adjustable ootrests.

National Stock No.	Descriptive Data
6530-00-704-3000	—



Index No. -210

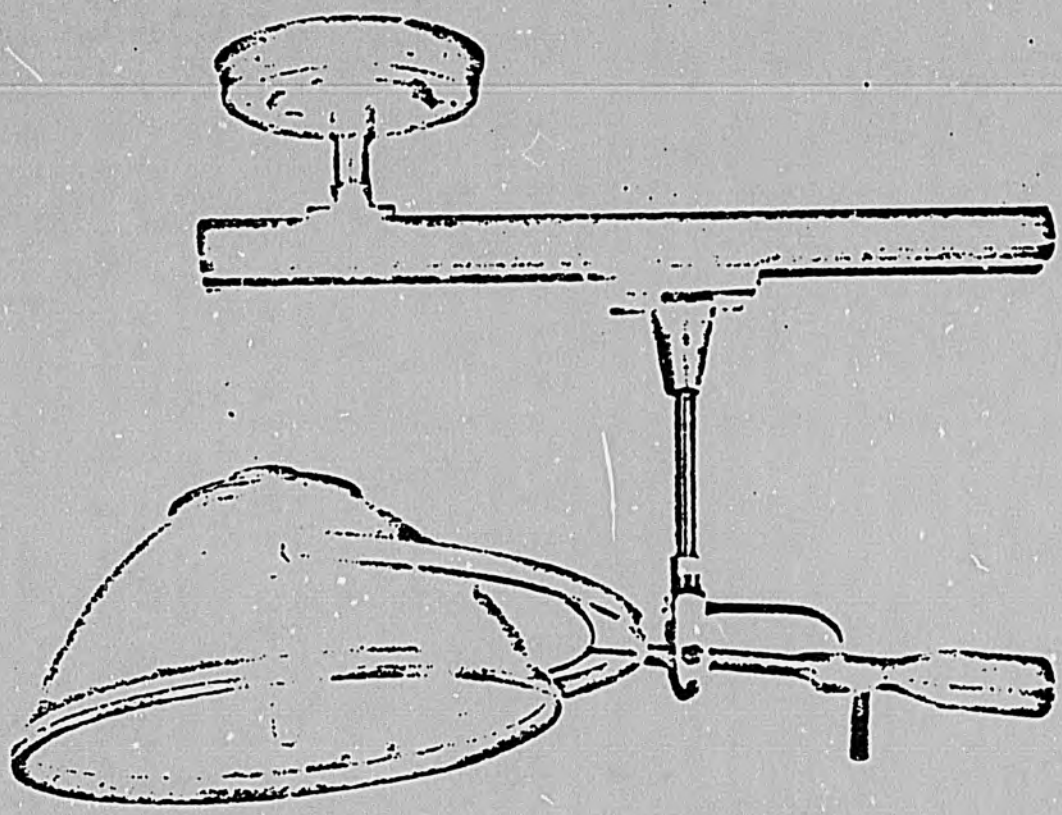
.DING

heels for self-propulsion; with adjustable tion pad, order index No. 2450.

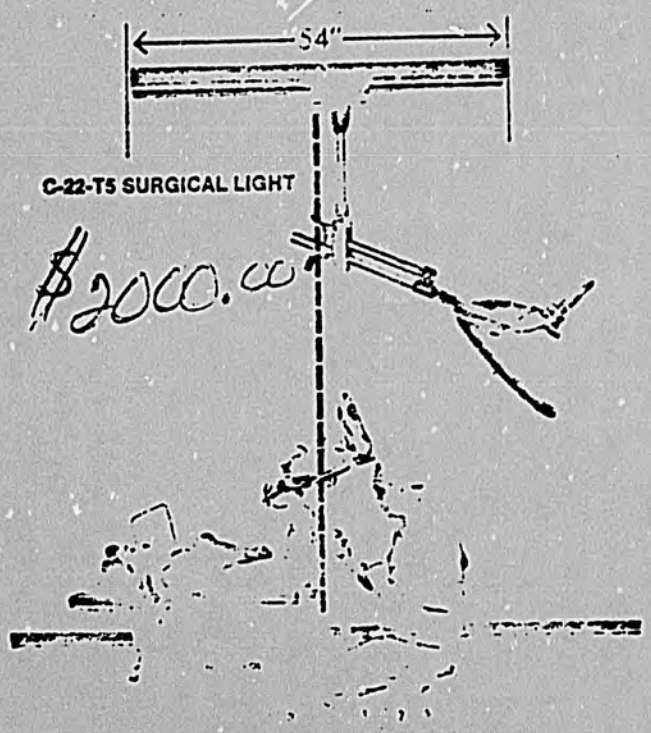
National Stock No.	Descriptive Data
6530-00-704-3025	Large Wheel in Front
6530-00-704-3030	Large Wheel in Rear

17

Consider AMSCO Single-Source Surgical Lights...



34" SURGICAL LIGHT



C-22-T5 SURGICAL LIGHT

$2000.00

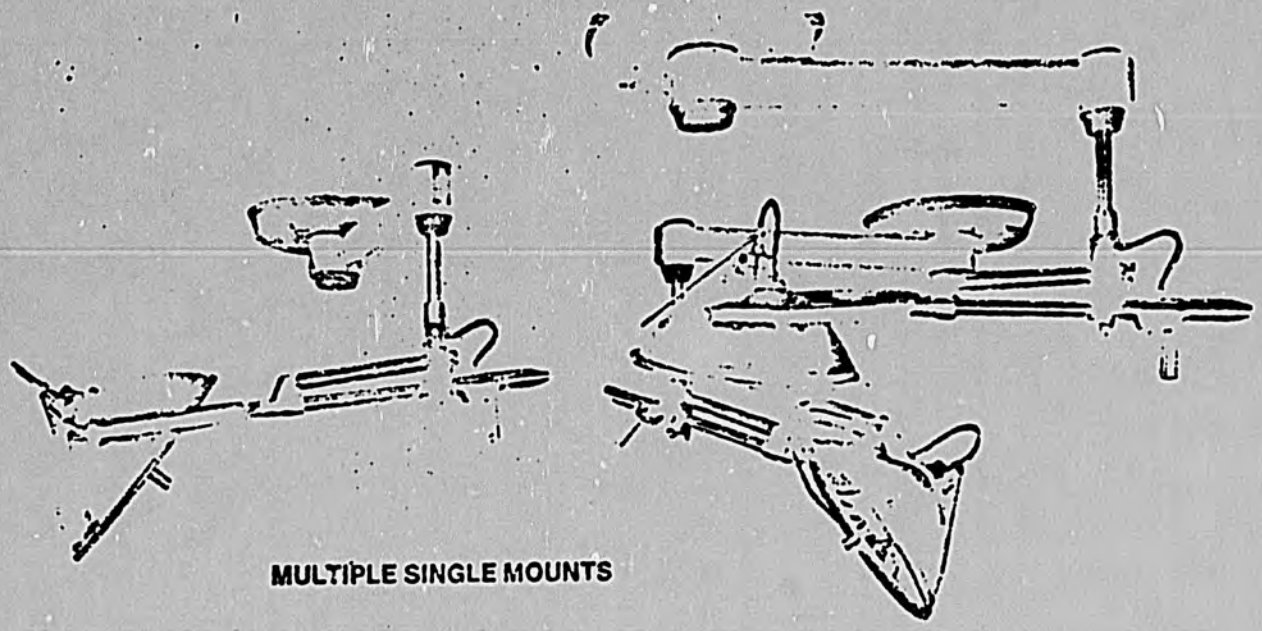
34" SURGICAL LIGHT WITH ROTATING 54" OFFSET TRACK (UL)

Assures positioning ea within a 13'8" circle. Maximum lateral ad ent permits low positioning at any point n the perimeter of the table for abdomina perineal illumination. Reflector delivers 3500 candles. 34" lighthead also able with surface- or recess-mounted track: ith straight suspension.

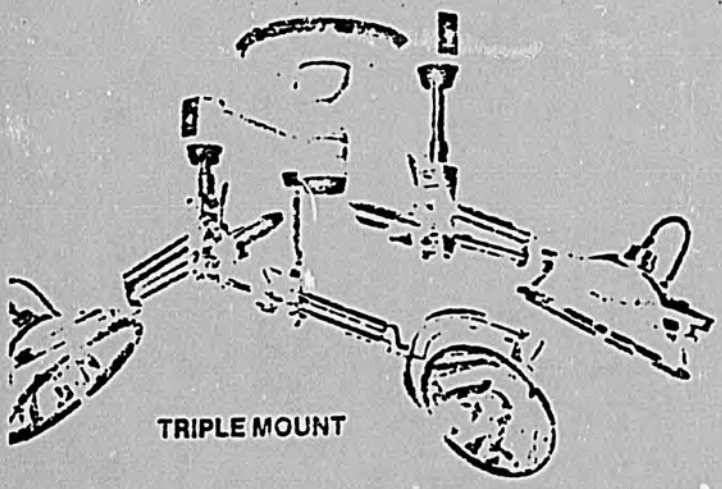
C-22-T5 LIGHTS OR DELIVERY, EMERGENCY, EXA ROOMS (UL)

Ideal for those are here overhead track is preferred. Fully adequ to cover the perineal and cesarean delivery pro ures. This series has a range of up to 4000 candles with a choice of three pattern sizes, a sterilizable pistol grip handle. Track may be surface or recess mounted.

13



MULTIPLE SINGLE MOUNTS



TRIPLE MOUNT

SINGLE MOUNT

with voltage regulator

Introducing The Centra 360 UL

- Continuous 360° Rotation
- Central Point Suspension
- Positioning Flexibility
- Numerous Mounting Configurations
- Universal Mounting Plates
- Easy to Clean
- Low Electrical Leakage
- Economical

Newest in the family of AMSCO Surgical Lighting Systems, the Centra 360 fills a lighting void that has existed for surgeons everywhere until today. Now almost any table configuration is possible.

Foremost among its features are three separate mountings . . . single, double or triple. Choose the style that best suits your surgical needs.

Lights are designed so that two or more can be positioned on one side of the table. They can be economically installed on almost any ceiling in minimal space including vertical laminar flow rooms. And, they rotate a full and continuous 360°.

Other features, which are also true of other AMSCO lighting systems, include a remote control handle for quick, easy and convenient positioning, a color corrected light for good color quality of flesh tones; a polished reflector provid ng excellent shadow minimization; and pattern size selector for small, medium and large patterns. All these features provide the kind of illumination you need for the most demanding surgical procedures.

EXAM LIGHTING FIXTURE
14" Lighthead
• Ceiling Mounted • Wall Mounted

SD-[illegible]

APPLICATION

This fixture provides a cool, shadow-reduced, color-corrected light for examination, treatment, and emergency centers.

MOUNTING CONFIGURATIONS

Fixtures are available for ceiling or wall mounting. Ceiling-mounted fixtures are available with either one or two lightheads.

DESIGN AND CONSTRUCTION

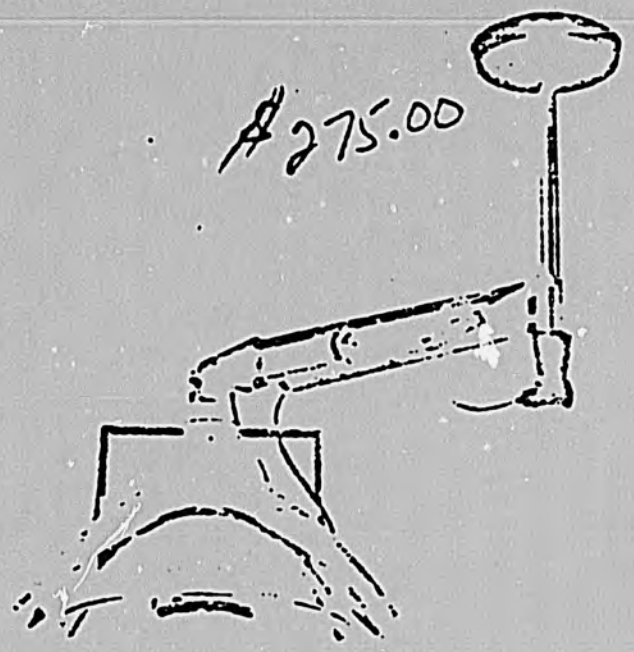
General. We furnish all components necessary to obtain a complete working unit, ready for (but not including) installation and connection to the building electric line. The fixture is listed by Underwriters Laboratories, Incorporated.

Lighthead includes:

- **an open-dome aluminum reflector,** with a ceramic-enamel finish on the outside. The interior is Alzak* (Aluminum Company of America) for 85-90% specular reflection. And it will never depreciate more than two percent over the useful life of the unit. The bottom edge has a reinforced beaded rim.

- **crossarm mounting assembly.** The lighthead is in a movable yoke, for complete maneuverability. [illegible] wrap-around handle [illegible] adjustment from either side of lighthead. The handle is made of Laxan[illegible] are virtually unbreakable. The crossarm additionally features a spring-loaded [illegible] adjusts and [illegible] any position [illegible] yoke is [illegible]

*Registered [illegible]



Typical only — some details may vary.

crossarm on a dual swivel so that it may be turned in any direction.

- **optical system** employs a **150-watt** spotlight lamp **enclosed** in a color-correcting, heat-absorbing glass cylinder. **An** aluminum air cooling louver **plate** prevents hot spots. The plate snaps in or out of the cylinder to permit easy bulb replacement ... without tools. **An** ON-OFF switch is provided on the rear of the lighthead, the power cord is enclosed in a plastic channel on the underside of the crossarm.

Vertical Suspension System. Ceiling-mounted fixtures are suspended on a vertical seamless aluminum tube shaft. The lower [illegible] of the tube contains receptacles

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

Mounting Configuration

☐ Ceiling Mounted
- ☐ Single Lighthead
- ☐ Dual Lightheads
  - ☐ 18" Suspension Tube
  - ☐ 28" Suspension Tube

☐ Wall Mounted
- ☐ Optional Extension Arm

[illegible] _____

[illegible] _____

[illegible] _____

[illegible] _____

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