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PREPARATION OF
A PRIMARY HEALTH-CARE FORMULARY

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EXECUTIVE SUMMARY

The purpose of this assignment was to amalgamate data for a primary health-care formulary and to prepare a document for distribution to missions of the U.S. Agency for International Development.

A formulary document is needed to serve as a source document for training of primary health-care workers in LDC's, as a continuing reference text, and as a mechanism for minimizing duplication of drugs stored.

The basic drug formulary was designed to fulfil the following three principal objectives:

1. To expand the trainer of trainers' knowledge of drugs commonly used at the village level;
2. to provide a common reference document in primary health care on pharmaceuticals; and
3. to permit comparison between a drug list and a drug formulary for project design purposes.

In selecting the drugs to be included in this formulary, the preparers used a combination of information from the WHO/AFRO Essential Drug List, the WHO List of Essential Drugs, the WHO/FDA List of 22 Basic Drugs for Health Centers, and their combined professional experience. Where possible, generic drugs are used.

In using this document, trainers and trainees should pay special attention to a number of potential problems related to ineffective drugs and dosage forms. Trainers and trainees must also be cautioned to pay special attention to instructions which should be given to both dispensers and to patients. These problems and types of instructions are included in the document. Further, certain cautionary and instructional information is provided in each drug monograph.

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PREFACE

This basic drug formulary was designed to fulfil the following three principal objectives:

1. To expand the trainer of trainers' knowledge of drugs commonly used at the village level.
2. To provide a common reference document on pharmaceuticals used in primary health care.
3. To permit comparison between a drug list and a drug formulary for project design purposes.

The provision of essential drugs is a core activity of primary health care at the village level. Trainers of those who actually train village health workers have not had a single comprehensive reference on basic drugs available to them as they structure curricula. This formulary was developed to fill that gap.

This formulary will constitute one component of a larger series. All of the basic drugs on the WHO/AFRO list will be included. Drugs recommended for use will be identified according to health-care level. As a formulary, this document differs from a drug list, which contains primarily the names of drugs and their dosage forms and strengths.

This formulary provides the following information for each drug included:

- Generic name
- Common trade name(s)
- Dosage form(s) and strength(s)
- Uses or indications
- Dosage administration
- Common side effects
- Clinically significant interactions with food, alcohol or other drugs
- Contra-indications
- Storage information

Also included is information on drugs which cross the placental barrier, go into breast milk and affect lactation.

For the convenience of the trainers and trainer trainees, drugs are listed both alphabetically and in therapeutic categories. The categories of drugs listed in this formulary are:

- Analgesic, antipyretic and anti-inflammatory
- Anthelmintic
- Antibiotic
- Antidiabetic
- Antidiarrheal
- Antihistamine
- Antileprous
- Antimalarial
- Antiparasitic
- Anti-tuberculosis
- Cardiovascular
- Dermatological
- Gynecological
- Neuroleptic
- Nutritional supplements (vitamins and minerals)
- Respiratory
- Sulfonamides

In compiling the list of drugs included in this formulary, the preparers used a combination of the World Health Organization (WHO) AFRO essential drug list; the WHO list of essential drugs; the WHO/U.S. Food and Drug Administration (FDA) list of 22 basic drugs for health centers; and their combined professional experience.

Basic criteria utilized in determining which drugs would be included in this formulary are:

1. Generic drug status of the drug
2. Patent status of the drug

Where possible, generic drugs are listed. All drugs are included in their most stable dosage form available. Therefore, injectable dosage forms, for example, are generally excluded except where this dosage form is deemed essential for treatment of certain disease states.

Trainers and trainer trainees should be aware of a number of potential problems which may manifest themselves in ineffective dosage forms. These include age of the product (note expiration dates); physical changes in the product -- color changes, hardening and brittleness of tablets, etc. -- due to improper storage conditions (high temperature, high humidity, etc.); improper formulation or manufacture, resulting in a "bad" batch of product; and sub-potent product due to lax or ineffective quality control during the manufacture of the product.

Consequently, trainees must be cautioned to pay particular attention to storage conditions for all medications to insure that they are protected from excessive light, temperature and moisture and that these medications be kept properly closed at all times.

It is also crucial that these cautions be a routine component of the information transmitted to both the patient and the dispenser. More specifically, patients should be instructed to:

- Comply fully with dosage and administration instructions.
- Return to the dispensary if a question occurs or if minor side effects are noted (e.g., urine color changes, as with quinine).

Dispensers must be provided with information on:

- The significance of product expiration dates.
- The significance of product color changes and other visible physical property changes.
- The function of the container and how its integrity can be compromised.
- The necessity of administering the first dose of medications.

Medicating the children usually presents special problems. An important factor in pediatric patient compliance is taste. These young patients will oftentimes spit out a foul tasting product. When this occurs, it should be remembered that a significant portion of the medication usually will have been retained. In some cases, it will be necessary to crush tablets or to open capsules for administration to children.

While adult dosages are normally standardized within ranges, with many drugs, pediatric dosages must be calculated. Normograms for use in calculating pediatric and adult dosages are provided in Section II-D on page 74. For required conversions, a metric table is also included.

For unfamiliar terms encountered in this formulary, the reader may refer to a glossary as well as to a list of common abbreviations.

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April 18, 1983

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ABBREVIATIONS

AID	=	Agency for International Development
ASA	=	Aspirin
BDL	=	Basic Drug List
CNS	=	Central Nervous System
ECG	=	Electrocardiogram
EDL	=	Essential Drug List
FDA	=	Food and Drug Administration
HSD	=	Human Services Delivery
IM	=	Intramuscular
INH	=	Isoniazid
IV	=	Intravenous
ORS	=	Oral Rehydration Salts
S&T	=	Bureau of Science and Technology
UNIPAC	=	United Nations Children's Fund Supply Division, Packaging and Assembly Centre
USP/U.S.P.	=	United States Pharmacopeia
WHO	=	World Health Organization
w/v	=	weight in volume

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GLOSSARY

Allergy -- A hypersensitivity to a specific substance or condition which in similar amounts is harmless to most people, resulting in a physiological disorder.

Amebiasis -- An intestinal infestation with a protozoan (Endoamoeba histolytica) parasite.

Analgesic -- A drug which kills or reduces pain.

Anthelmintic -- An agent used to treat worm (hookworm, pinworm, etc.) infestations.

Antibiotic -- Substances produced as a result of the metabolic activities of living cells and which inhibit, in very low concentrations, the growth of microorganisms.

Antidiabetic -- A drug used in the treatment of diabetes.

Antidiarrheal -- A product which reduces and controls watery stools.

Anti-emetic -- A drug which reduces nausea and vomiting.

Antihistamine -- A drug used to treat allergies.

Antimalarial -- An agent which kills or inhibits the growth of malaria-causing agent.

Antipyretic -- A drug which reduces fever.

Antitussive -- A product which reduces coughing.

Bronchitis -- A condition in which the mucous lining of the bronchial tubes is inflamed.

Chewable tablet -- A flavored oral dosage form prepared by compression and which requires chewing or breaking up into small pieces in order for a medication to have its effect.

Dehydration -- The state of having excessive loss of fluid from the body.

Dermatological -- A product used to treat disorders of the skin.

Drug List -- A compilation of drugs by their generic and/or brand names.

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Ede^{ma} -- An abnormal accumulation of fluid in cells, tissues, or cavities of the body, resulting in swelling.

Elixir -- A hydroalcoholic solution of drugs, usually sweetened.

Formulary -- A compilation of information on a select list of drugs for use in a specific environment, including one or more specifications on how the drugs are to be used, in addition to their generic (and/or brand) names.

Generic name -- The common or chemical name of a drug.

Gynecological -- Relating to specific functions and diseases of women.

Hepatic -- Of or relating to the liver.

Malaria -- An infectious, usually tropical, disease which is normally recurrent and intermittent, that is caused by various protozoans.

Rehydration -- Regain of vital body fluids into the tissues, cells and cavities of the body.

Renal -- Of or relating to the kidney.

Schistosomiasis -- A chronic, usually tropical, disease caused by schistosomes and characterized in man by disorders of the liver, urinary bladder, lungs or central nervous system.

Sedation -- Reduction in excitement, nervousness or irritation.

Sepsis -- A toxic state caused by the absorption of pathogenic or disease-causing organisms and their products into the bloodstream.

Toxemia -- A condition resulting from the distribution throughout the body by the bloodstream of toxins produced by pathogenic or disease-causing bacteria or by cells of the body.

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INTRODUCTION AND BACKGROUND

Purpose of the Assignment

The purpose of this assignment was to amalgamate previously drafted data from a variety of sources for a primary health-care formulary and to prepare a document for distribution to missions of the U.S. Agency for International Development.

Background

Dr. Rosalyn C. King, AID Technical Officer, S&T/H/HSD, transmitted a rough draft of drug monographs, other handwritten notes and a number of reference publications to enable their refinement, expansion and inclusion in a formulary document for distribution to AID missions for use by trainers of trainers of health-care workers.

Earlier, in a November 3, 1981, report to Dr. James Shepperd, AFR/DR/HN, Dr. King proposed technical guidelines for providing basic medicines in rural primary health-care projects in Africa. In considering relevant problems in drug product selection where AID financial support is involved, the project formulary concept was advanced by Dr. King. It was intended that such a formulary serve "as a source document for training, as a continuing reference text, and as a mechanism for minimizing duplication of drugs stored."¹

In order to serve these purposes, it is essential that the information contained in a basic drug list (BDL) or essential drug list (EDL), which contains only the generic and/or brand name of selected drugs, be greatly expanded into a formulary type of document. Such a formulary will include at least the following types of information:

- Name (generic and/or brand)
- Indications for use
- Dosage forms to be used
- Dosing levels and intervals according to age, sex, weight and drug form
- Drug action
- Expected side effects or adverse effects

- Drug interactions, if any

In continuation of this process, Dr. Albert Wertheimer of the University of Minnesota College of Pharmacy was engaged to draft a formulary document during 1982. This draft was dated August 27, 1982.² While this draft served as the main source document transmitted to this consultant (Ira C. Robinson), additional draft materials were provided by Dr. King. Further, this consultant was requested to draft several new sections.

This consultant did at least the following in completing this assignment:

1. Drafted the following new sections and appendices:
 - a. Preface
 - b. The Formulary System
 - c. Weights and measures
 - d. Table on drugs which cross the human placental barrier and which may endanger the fetus
 - e. Glossary
 - f. Abbreviations
2. Reviewed, edited, expanded, formatted and/or rearranged information in the table of formulary items by recommended level of use.
3. Reviewed, edited, corrected, expanded, formatted and/or rearranged information in each of the drug monographs
 - a. Dosage forms (specifying those available through UNIPAC)
 - b. Dosing and administration
 - c. Side effects
 - d. Contraindications
 - e. Remarks (to include any special precautions or instructions not already covered)
 - f. Storage instructions
4. Added pertinent reference documents as appendices
 - a. Weights and measures
 - b. Table of drugs which cross the human placental barrier and which may endanger the fetus
 - c. The WHO/FDA Basic Drug List for Health Centers
 - d. WHO Guidelines for the Selection of Essential Drugs
 - e. The WHO List of Essential Drugs
 - f. Normagrams for determination of body surface area for children and adults

The monographs were written with the needs and special circumstances of less developed countries (LDC's) in mind. For instance, dosing and administration information relate to diseases prevalent in the LDC's or tropical countries, where this is applicable, and dosing is given both in normal dosage units (metric) and in terms of quantities of the dosage form which will provide the desired dosage. Where applicable, dosages are presented for infants and children by age (months and/or years), weight and height. Further, with certain medications, dosages are given by weight and height for persons over 12 years of age. These dosages are presented in convenient tabular form.

The Drug Formulary System

The formulary is the official compilation of drug products sanctioned for use within a given environment. It may contain diagnostic and non-drug items related to patient care. While a drug list will indicate what items are available or should be available, a formulary includes one or more specifications as to how a product should be used. This may include information on recommended daily dosage, cautions, warnings, restrictions, pharmacology and other similar aids which facilitate safe and effective use. Generally, non-proprietary or generic names of products will be utilized in order to minimize prescribing and administrative errors, as well as to effect economies in cost, where possible.

The formulary manual, which embodies the formulary or series of drug monographs, will normally extend beyond the aforementioned items and include one or more supplemental sections which may describe:

- How the formulary was compiled.
- Procedures for amending the formulary.
- Prescribing regulations established by the institution, agency or government.
- Technical aids, rules and advice to facilitate cost-containment efforts.
- Services offered by the dispensary or pharmacy.
- Special instructions covering therapeutic categories or particular pharmaceutical products.
- Data on selected medical conditions.
- Other regulations prescribed by the institution, agency or government.

The process through which the formulary manual is implemented is referred to as the formulary system. Such a system will normally involve:

- An organized method by which a committee evaluates the therapeutic credentials of competing drug products. The committee is comprised primarily of practitioners, including the pharmacist.
- Periodic publication of the information on the authorized drugs.
- Methods for revising the list.
- Interim communications means for informing medical, pharmacy, nursing and administrative personnel regarding modifications in approved drugs and drug use policies.

While developing countries may differ significantly in the types and availability of health-care institutions, the use of the formulary concept remains the most viable alternative for providing essential drugs for primary health care. A major difference in the approach would be that regional or system-wide governmental formularies would be more appropriate in such countries, whereas in the U.S., where there is a surplus of hospitals in many locales, the individual health-care institution (normally a hospital) develops its own formulary and manual. Without question, the government formulary system would apply to a system-wide effort to improve the pharmaceutical logistics process in developing countries.

Ten steps in developing a formulary of this type have been proposed by the Drug Logistics Program, Management Sciences for Health, Boston, Mass.:

1. Obtain support for an essential drug list
 - Within the Ministry of Health
 - From the organized medical community
 - Among local health-care workers
2. Establish Drug Selection Committee with appropriate representation.
3. Gather and analyze information on:
 - Prevalent morbidities
 - Drugs available
 - Patient characteristics (age, sex)
 - Types of health-care personnel at each level

- Local manufacturing activities
 - Existing drug lists
 - Pharmaceutical logistics problems
4. Make decisions regarding
 - Structure of the formulary
 - Format of the formulary
 - Criteria for selection
 5. Select the drug products
 6. Include prescribing information
 7. Have draft reviewed by
 - Nationally recognized specialists
 - Local health-care personnel
 8. Undertake educational campaign for
 - Practicing health-care personnel
 - Patients
 9. Promulgate regulations
 10. Conduct annual update of formulary

The single most important step in this process is the selection of the drug products to be embodied in the formulary. A set of guidelines for the selection of drugs for primary health care has been devised by the World Health Organization (see Appendix A). The basic principles embodied in these guidelines are:

- Select drugs with proven efficacy and acceptable risk determined by studies utilizing accepted scientific methods involving human subjects.
- Select the minimum number of drugs needed to treat the prevalent diseases. Avoid unnecessary duplication and close similarities in drugs or dosage forms.
- Compare newly released products with products having known efficacy and include them only if they are found to have distinct advantages over products currently in use.
- Include combination products only when they provide true benefit over the individual use of each component.

- When several alternatives are available, select drugs with clear "drug of choice" indications for the prevalent diseases in the country.
- Evaluate the administrative and cost impact of products in terms of ease of purchase, storage, distribution, dosage units needed, etc.
- Select drug products for which adequate standards of quality have been established.
- Contraindications, precautions, and adverse reactions should be thoroughly investigated and evaluated in order to obtain the benefit/risk ratio of the product.
- Drugs should be referred to by their medical (generic) names when ordered or published in the formulary. With time, increased familiarity with drugs by generic name will decrease physician dependence on trade name recognition and facilitate more economical drug therapy.

The large number of drugs available throughout the world and the multiplicity of brand names under which these are sold worldwide pose a special problem for governments seeking to curtail unbearable costs for providing essential drugs to their people.

The generic name is but one of several names by which a drug may be known. It may be known by its chemical name, one or more brand names, and by its non-proprietary, common or "generic" name. Use of the generic name is advantageous in that it identifies the drug irrespective of its manufacturer or source. Frequently, drugs sold by their generic names are less costly and, when obtained from reliable manufacturers, are as safe and as effective as those purchased under established brand names.

Development and adoption of a drug formulary system provides therapeutic gain for patients, through improved drug information and utilization, and economic and administrative benefits through more efficient procurement and distribution.

FORMULARY ITEMS BY RECOMMENDED LEVEL OF USE

DRUG	Hospital Only	Health Center	Rural Dispensers
Aminophyllin	-	X	-
Ampicillin	-	X	X
Aspirin, Acetylsalicylic Acid, ASA	-	X	X
Bacitracin	-	X	X
Benzyl Benzoate	-	X	X
Chloramphenicol	-	X	-
Chlorhexidine Gluconate	-	X	-
Chloroquine Phosphate (Nivaquin)	-	X	X
Chlorpheniramine	-	X	X
Chlorpromazine	X	-	-
Clofazimine	-	X	-
Co-Trimoxazole	-	X	X
Cough Mixture	-	X	X
Dapsone	-	X	X
Diazepam	-	X	-
Diethylcarbamazine	-	X	-
Digoxin	X	-	-
Diphenhydramine	-	X	X
Ephedrine Sulfate	-	X	X
Ergotamine Tartrate	-	X	-
Ethambutol	-	X	X
Ferrous Sulfate	-	X	X
Gentamicin	X	-	-
Gentian Violet	-	X	X
Hydrochlorothiazide	-	X	-
Insulin, Regular	-	X	-
Isoniazid, INH	-	X	X
Lidocaine	-	X	X
Mebendazole	-	X	X
Methyldopa	-	X	X
Methylergonovine Maleate	X	-	-
Metronidazole	-	X	X
Multivitamin	-	X	X
Niridazole	-	X	-
Oral Rehydrator, Salts	-	X	X
Paracetamol	-	X	X
Penicillin G, Benzathine, Parenteral	-	X	-
Penicillin G, Procaine, Aqueous	-	X	-
Phenobarbital, Phenobarbitone	-	X	X
Phenylbutazone	X	-	-
Phenytoin	-	X	-
Piperazine Citrate	-	X	X
Prednisone	-	X	X
Promethazine	X	-	-
Propranolol	X	?	-
Sulfaguanidine/Sulphaguanidine	-	X	X
Sulfamethoxyipyridazine/Sulphamethoxyipyridazine	-	X	X
Tetracycline	-	X	X
Thiopental Sodium	X	-	-
Tolbutamide	-	X	-

Drug Monographs

DRUG: AMINOPHYLLIN

DOSAGE FORM(S): Tablets -- 100 mg and 200 mg
Liquid -- 315 mg/15 ml(21 mg/ml)

USE(S): Asthma

DOSING AND ADMINISTRATION:

Acute Attack: Adults -- 500 mg at once.

Children:

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose to be Given at Once by Mouth</u>
0.5	6.5	64	2.32 ml
1.0	9	73	3.2 ml
1.5	10	80	3.6 ml
2.5	11	87	3.93 ml
3	12	90	4.3 ml
3-4	13	95	4.6 ml
4-5	15	101	5.36 ml
5-6	17	107	6.07 ml
6-7	19	113	6.8 ml
7-8	20	119	7.14 ml
8-9	21	124	7.5 ml
9-10	22	129	7.86 ml
10-11	25	133	8.93 ml
11-12	29	136	10.36 ml

Maintenance Dose:

Adults

-- 200 mg to 300 mg by mouth every 6 to 8 hours.

Children

-- Dose to be given by mouth every 6 to 8 hours, as indicated in following schedule.

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose to be Given at Once by Mouth</u>
0.5	6.5	64	1.7 ml
1.0	9	73	2.36 ml
1.5	10	80	2.62 ml
2.5	11	87	2.88 ml
3	12	90	3.14 ml
3-4	13	95	3.4 ml
4-5	15	101	3.93 ml
5-6	17	107	4.45 ml
6-7	19	113	4.98 ml
7-8	20	119	5.23 ml
8-9	21	124	5.5 ml
9-10	22	129	5.76 ml
10-11	25	133	6.55 ml
11-12	29	136	7.6 ml

SIDE EFFECTS: Nausea, vomiting, restlessness, insomnia, agitation and fever.

REMARKS: Take around the clock. Dosage must be individualized.

DRUG: AMPICILLIN

DOSAGE FORM(S): Capsules -- 250 mg and 500 mg
Powder for Reconstitution into Oral Suspension -- 125 mg/5 ml
(Available through UNIPAC) and 250 mg/5 ml

USE(S): Infections of the ear, urinary tract, skin and pneumonia. Synthetic penicillin derivative with broad spectrum of activity in treating such infections.

DOSING AND ADMINISTRATION:

Type Infection	Weight Less Than 20 kg Height Less Than 120 cm	Weight More Than 20 kg Height More Than 120 cm
Infections of the respiratory tract and soft tissue	62.5 mg to 250 mg by mouth every six (6) hours	250 mg by mouth every six (6) hours
Infections of the gastrointestinal and genitourinary tract	125 mg to 500 mg by mouth every six (6) hours	500 mg by mouth every six (6) hours

SIDE EFFECTS: Hypersensitivity, anaphylaxis, skin rash, diarrhea.

CONTRAINDICATIONS: Do not use if allergic to penicillin.

STORAGE: Below 25°C (77°F) in a tightly closed container protected from light.

REMARKS: Have neutrapen (penicillinase) available for signs of anaphylactic reaction (rash, itching, edema, labored breathing, wheezing, choking, coughing, loss of consciousness). Reconstituted solutions must be refrigerated to maintain potency. These solutions will normally maintain their potency for less than two weeks.

DRUG: ASPIRIN; ACETYLSALICYLIC ACID; ASA

DOSAGE FORM(S): Tablets -- 300 mg (UNIPAC); 325 mg (USA)

USE(S): Analgesic, anti-inflammatory and as antipyretic

DOSAGE AND ADMINISTRATION:

Adults:

For minor aches, pains and fever -- One to two tablets by mouth every four hours, if necessary.

For arthritis and rheumatism -- Two to four tablets by mouth four times daily.

Children:

SIDE-EFFECTS: Nausea, loss of appetite, dizziness, ringing in the ears, diarrhea and rash.

CONTRAINDICATIONS:

Contraindicated for patients with hemophilia, bleeding ulcers, hemorrhagic states. Use with caution with liver disease (jaundice, enlarged vein, shrinking of liver and abdominal swelling).

STORAGE: In a tightly closed bottle away from moisture.

REMARKS: Take with food or milk. Discontinue use if dizziness, ringing in the ears or impaired hearing occurs.

DRUG: BACITRACIN

DOSAGE FORM(S): Topical Ointment (500 Units of bacitracin activity per gram of ointment) -- Available in USA.

USE(S): For topical application to infected skin lesions, scrapes and superficial cuts. For external use only.

DOSING AND ADMINISTRATION:

Apply to the affected area three (3) to four (4) times daily.

SIDE-EFFECTS: Skin irritation.

CONTRAINDICATION:

Contraindicated in deep puncture wounds.

REMARKS: Serious wounds may require systemic antibiotic therapy in addition to local treatment. This preparation is not to be used in eyes or in the external ear canal if the eardrum is perforated.

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Apply to the affected area three (3) to four (4) times daily.

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CONTRAINDICATION:

Contraindicated in deep puncture wounds.

REMARKS: Serious wounds may require systemic antibiotic therapy in addition to local treatment. This preparation is not to be used in eyes or in the external ear canal if the eardrum is perforated.

DRUG: BENZYL BENZOATE

DOSAGE FORM(S): Lotion, 10 to 30 percent (USA)

Benzyl Benzoate Saponated Concentrate, 1L, containing oleic acid USP 80 Gm, triethanolamine USP 20 Gm, benzylbenzoate USP qs. 1000 ml, available through UNIPAC.

USE(S): Scabies. For topical use only.

DOSING AND ADMINISTRATION:

Lotion -- Apply with a brush after entire body has been scrubbed with soft soap and hot water. Apply a second coat when the first coat is dry and leave the lotion on the body for 24 hours. Bathe and dress in clean clothes. Adults require from 120 to 180 ml; a child requires from 60 to 90 ml.

Saponated Concentrate -- Add 1 part concentrate to 3 parts clean filtered water and shake well. Never apply the concentrate directly to the body.

SIDE-EFFECTS: Severe skin irritation may occur in some patients.

CONTRAINDICATION:

Do not apply to the face.

STORAGE: In tight container.

DRUG: CHLORAMPHENICOL

DOSAGE FORM(S): Capsules -- 250 mg (UNIPAC supplies tablets or capsules, btl of 1000)
Suspension -- 30 mg/ml (100 ml bottle) (UNIPAC supplies 60 ml btl)
Cream -- 1 percent, 30 Gm

USE(S): Broad spectrum antibiotic for acute, serious infections such as typhoid fever and meningitis. Do not use for topical infections such as a sore throat or for prophylaxis against bacterial infections. The topical cream should not be used on or near the eyes or in the ear canal if the eardrum is perforated. Avoid use in newborns, if at all possible, to avoid "gray syndrome." Toxic reactions have occurred with use in newborns manifested by abdominal distention, pallor, bluish coloration of the skin and mucous membranes, irregular respiration, and depth within a few hours of these symptoms. In all patients, use chloramphenicol for as short a time period as possible -- less than 7 days.)

DOSING AND ADMINISTRATION:

Adults:

<u>Height(cm)</u>	<u>Weight(kg)</u>	<u>Dosage (250 mg Capsules)</u>
140-150	45	Two capsules by mouth 4 times daily
150-160	50	Two capsules by mouth 4 times daily
160-170	60	Three capsules by mouth 4 times daily
170-180	65	Three capsules by mouth 4 times daily
180-190	75	Four capsules by mouth 4 times daily

Children:

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dosage (ml of Oral Suspension)</u>
0.5	6.5	64	3 ml by mouth 4 times daily
1.0	9	73	4 ml by mouth 4 times daily
1.5	10	80	4 ml by mouth 4 times daily
2.5	11	87	4.5 ml by mouth 4 times daily
3	12	90	5 ml by mouth 4 times daily
3-4	13	95	5.5 ml by mouth 4 times daily
4-5	15	101	6 ml by mouth 4 times daily
5-6	17	107	7 ml by mouth 4 times daily
6-7	19	113	8 ml by mouth 4 times daily
7-8	20	119	8 ml by mouth 4 times daily
8-9	21	124	9 ml by mouth 4 times daily
9-10	22	129	9 ml by mouth 4 times daily
10-11	25	133	10 ml by mouth 4 times daily
11-12	29	136	12 ml by mouth 4 times daily

SIDE-EFFECTS: Headache, depression, mental confusion, fever, rashes, anaphylactic reactions (rash, itching, labored breathing, wheezing, choking, coughing, loss of consciousness). The most serious side-effect is bone marrow depression.

CONTRAINDICATIONS:

The use of chloramphenicol is contraindicated in cases of impaired renal function (blood in the urine, decreased or absent urine volume) or impaired liver function (abdominal swelling, jaundice, shrinkage of the liver, coma).

REMARKS: Reserve use of this drug for life-threatening infections.

STORAGE: In a tightly closed container, protected from light; below 25°C (77°F)

DRUG: CHLORHEXIDINE GLUCONATE

DOSAGE FORM(S): Solution -- 4 percent.

USE(S): As a surgical hand scrub, hand-wash for health-care personnel and skin wound cleanser.

DOSING AND ADMINISTRATION:

Surgical Scrub -- Scrub for three minutes with 5 ml and, with a wet brush, rinse thoroughly. Repeat and rinse under running water.

Hand Wash -- Apply 5 ml to wet hands and wash vigorously for 15 seconds. Rinse thoroughly.

Skin Wound Cleanser -- Rinse area with water. Apply a small amount of the solution and wash gently to remove dirt and debris. Rinse again.

SIDE-EFFECTS: The drug is reported to cause deafness when instilled in the middle ear.

CONTRAINDICATION:

Hypersensitivity. Do not use with perforated eardrum, or in cases of irritation or photosensitivity.

REMARKS: Keep out of eyes and ears.

DRUG: CHLOROQUIN PHOSPHATE (Nivaquin; Aralen)

DOSAGE FORM(S): Tablets -- 125 mg, 250 mg (UNIPAC - 100 mg, 150 mg base)
Suspension -- 80 mg/5 ml (UNIPAC - Syrup, 50 mg base/5 ml)

USE(S): To treat malaria, amebiasis and adult rheumatoid arthritis. Also used to suppress lupus erythematus.

DOSAGE AND ADMINISTRATION:

Adults --

Malaria:

Suppressive -- By mouth, 500 mg once every 7 days, beginning two weeks before departure and continuing for 8 weeks after return from malarious areas.

Therapeutic -- By mouth, 1 Gm initially, followed by 500 mg in 6-8 hours, and 500 mg once daily on the second and third days.

Amebiasis: 1 Gm daily for 2 days; then 500 mg daily for at least 2-3 weeks.

Children --

Malaria:

Suppressive -- By mouth, 8.3 mg per kg of body weight, not to exceed the adult dose, once every 7 days.

Therapeutic: By mouth, 41.7 mg per kg of body weight over a period of 3 days as follows: 16.7 mg per kg of body weight, not to exceed a single dose of 1 Gm; then 8.3 mg per kg of body weight, not to exceed a single dose of 500 mg, 6, 24 and 48 hours later.

Amebiasis: By mouth, 10 mg per kg of body weight 2 times a day for 2 days, followed by 5 mg per kg of body weight 2 times a day for at least 2 to 3 weeks.

SIDE EFFECTS: May cause gastrointestinal discomfort, nausea, diarrhea, rash, headache, CNS stimulation. Overdose can cause acute circulatory failure, convulsions and respiratory and cardiac arrest.

CONTRAINDICATIONS:

Severe blood disorders, severe gastrointestinal disorders, severe neurological disorders and the presence of retinal or visual field changes.

REMARKS: Give with meals or antacids to minimize gastrointestinal side effects. Regular examinations for ocular disturbances should be conducted for long treatments. Chloroquine crosses the placental barrier and can cause thrombosis and other abnormalities in the fetus. Long-term and/or high-dosage therapy may result in irreversible retinal damage (generally with daily dosage exceeding 250 mg or total dosage exceeding 100 Gm).

DRUG: CHLORPHENIRAMINE

DOSAGE FORM(S): Tablets -- 4 mg
Syrup -- 2 mg/5 ml

USE(S): Antihistamine (allergies, hay fever).

DOSING AND ADMINISTRATION:

Adults -- One tablet by mouth 3-4 times daily.

Children -- Two to 6 years, 2.5 ml by mouth 3-4 hours daily; 6-12 years, 5 ml by mouth 3-4 times daily.

SIDE EFFECTS: Drowsiness, upset stomach, stomach pain, rash, itching, dryness of mouth, sedation, dizziness and urinary retention.

CONTRAINDICATIONS:

Contraindicated in children less than 2 years of age, asthma, peptic ulcer, nursing mothers, pregnancy and those predisposed to urinary retention.

REMARKS:

Avoid alcohol, other CNS depressants tricyclic antidepressants and MAO inhibitors while taking chlorpheniramine. As small amounts of chlorpheniramine are excreted in breast milk and the pronounced effect of antihistamines on infants, use of chlorpheniramine in nursing mothers is not recommended.

DRUG: CHLORPROMAZINE

DOSAGE FORM(S): Tablets -- 10 mg, 25 mg, 50 mg, 100 mg, 200 mg
Injection -- 25 mg/ml in 10 ml vials, 2 ml ampoules

USE(S): Major tranquilizer for psychotic disorders; anti-emetic.

DOSING AND ADMINISTRATION:

Agitation, Tension, Apprehension, Anxiety -- 10 mg by mouth 3-4 times daily, or 25 mg by mouth 2-3 times daily. Dosage may be increased by 25-50 mg twice weekly until patient becomes responsive. Daily dosage of 200 mg is possible. Some individuals may require up to 800 mg per day.

Nausea and Vomiting -- 10 mg to 25 mg every 4-6 hours by mouth as needed.

SIDE EFFECTS: CNS depression, drowsiness, dizziness, postural hypotension (syncope upon arising), muscle spasms, extrapyramidal side effects (worm-like movement of the tongue, rigidity of back muscles, facial twitching, swallowing difficulties), photosensitivity, rash itching, dry mouth, bronchospasm, pigmentation of the skin.

CONTRAINDICATIONS:

Contraindicated in comatose or depressed states; also with impaired renal function (blood in the urine, diminished or absent urine volume), jaundice or heart disease.

REMARKS: Not recommended for use in children, pregnant women or nursing mothers. Use should be reserved for specialists familiar with CNS drugs.

DRUG: CLOFAZIMINE

DOSAGE FORM(S): Capsule -- 100 mg (UNIPAC btl of 100, btl of 1000); 50 mg (UNIPAC btl of 100, btl of 1000)

USE: Leprosy.

DOSAGE AND ADMINISTRATION:

Adults -- 200 to 600 mg weekly by mouth for an extended period of time.

SIDE EFFECTS: Include red pigmentation of the skin, bluish-black or reddish-violet discoloration of skin lesions may persist for several months after discontinuation, nausea, giddiness, diarrhea, abdominal discomfort, and headache.

CONTRAINDICATIONS:

Use cautiously in patients with impaired renal (blood in urine, decreased or absent urine volume) or hepatic (jaundice, abdominal distention, shrinkage or enlarged liver) function.

STORAGE: Store in cool place and in airtight containers.

REMARKS: Under medical supervision for use in sulfone-resistant cases. Dose to be adjusted according to body weight and according to severity of the disease.

DRUG: CO-TRIMOXAZOLE (TRIMETHOPRIM AND SULFAMETHOXAZOLE)

DOSAGE FORM(S): Tablets --
Trimethoprim 80 mg/Sulfamethoxazole 400 mg (UNIPAC)
Trimethoprim 160 mg/Sulfamethoxazole 800 mg.
Oral Suspension --
Trimethoprim 40 mg/Sulfamethoxazole 200 mg per 5 ml.
IV Injection --
Trimethoprim 80 mg/Sulfamethoxazole 200 mg for 5 ml vial.

USE(S): Urinary tract infections, acute otitis media and enteritis.

DOSAGE AND ADMINISTRATION:

Adults -- 160 mg of trimethoprim and 800 mg of sulfamethoxazole by mouth every 12 hours for 10-14 days in urinary tract infections and 5 days in shigellosis.

Children:

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose in Milliliters</u>
0.5	6.5	64	3.25
1.0	9	73	4.5
1.5	10	80	5.0
2.5	11	87	5.5
3	12	90	6.0
3-4	13	95	6.5
4-5	15	101	7.5
5-6	17	107	8.5
6-7	19	113	9.5
7-8	20	119	10.0
8-9	21	124	10.5
9-10	22	129	11.0
10-11	25	133	12.5
11-12	29	136	14.5

SIDE EFFECTS: Serious blood disorders as evidenced by rash, fever and pallor as first signs, allergic reactions, skin eruptions, joint or muscle pain, anaphylactic reaction (rash, itching, edema, labored breathing, wheezing, choking, loss of consciousness).

CONTRAINDICATIONS:

Contraindicated in pregnancy at term, nursing mothers and in children less than 2 months of age.

REMARKS: The injectable form of the drug is intended for intravenous administration only. The IV form must be diluted in 5 percent dextrose and water with at least a 15:1 ratio or 75 ml per each 5 ml ampoule. The diluted drug must be refrigerated, should be used within 6 hours, and must be infused over 60-90 minutes. Do not give by bolus or rapid injection. The patient should force intake of fluids, at least 10 percent more than usual.

STORAGE: In a tightly closed container.

DRUG: COUGH MIXTURE

DOSAGE FORM(S): Syrup or Elixir -- Dextromethorphan/Guaiafenesin, 100 mg per 5 ml.

USE(S): Antitussive; expectorant.

DOSAGE AND ADMINISTRATION:

Adults -- Five (5) to 15 ml by mouth 4 times daily.

Children -- One-fourth (1/4) to 1 teaspoonful (1.25 ml to 5 ml) by mouth 4 times daily.

SIDE EFFECTS: Hypersensitivity, rash, nausea and vomiting.

REMARKS: The cough mixture contains sugar and, therefore, should be used with caution in diabetics.

DRUG: DAPSONE

DOSAGE FORM(S): Tablets -- 25 mg, 100 mg

USE: Treatment of all forms of leprosy.

DOSING AND ADMINISTRATION:

The following table lists the daily dose, utilizing the 25 mg tablet. The drug is taken by mouth for an indefinite period of time (3-10 years).

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Tablets to Take</u>
0.5	6.5	64	1/4-1/3
1.0	9	73	1/4-1/2
1.5	10	80	1/3-1/2
2.5	11	87	1/3-2/3
3	12	90	1/2-2/3
3-4	13	95	1/2-3/4
4-5	15	101	1/2-1
5-6	17	107	1/2-1
6-7	19	113	2/3-1
7-8	20	119	2/3-1
8-9	21	124	3/4-1
9-10	22	129	3/4-1 1/4
10-11	25	133	1-1 1/2
11-12	29	136	1-1 1/2
12+	140	34	1-2
12+	140	39	1 1/3-2 1/4
12+	140	45	1 1/2-2 2/3
12+	150	50	1 3/4-3
12+	160	60	2-3 1/2
12+	170	65	2-3 3/4
12+	180	75	2 1/2-4

SIDE-EFFECTS: Nausea, vomiting, hyperexcitability.

CONTRAINDICATIONS:

REMARKS: The drug must be used for an indefinite period of time.

STORAGE: Protect from light.

DRUG: DIAZEPAM

DOSAGE FORM(S): Tablets -- 2 mg, 5 mg, 10 mg
Injection -- 5 mg/ml in 2 ml ampuls, 10 ml vials and 2 ml disposable syringe

USE(S): Antianxiety, alcohol withdrawal, anticonvulsant, skeletal muscle relaxant for back sprains and back spasms.

DOSING AND ADMINISTRATION:

Adults --

<u>Indication</u>	<u>Usual Dose</u>
Tension and anxiety states	2 to 10 mg, 2 to 4 times daily by mouth
Acute alcohol withdrawal	10 mg taken 3 or 4 times during first 24 hours; reduced to 5 mg 3-4 times daily as needed.
Back sprains and spasms	2 to 10 mg; 3 or 4 times daily
Convulsive disorders	2 to 10 mg, 2 to 4 times daily.

Children --

<u>Age</u>	<u>Dose</u>
30 days to 5 years	0.2 to 0.5 mg IV or IM slowly every 2 to 5 minutes, up to maximum of 5 mg
5 years and older	1 mg IV or IM every 2 to 5 minutes up to a maximum of 10 mg

Doses may be repeated in 2-4 hours, if necessary.

SIDE EFFECTS: CNS depression, hypotension, blurred vision, skin rash, confusion, diminished reflexes.

CONTRAINDICATIONS:

Hypersensitivity to any of the other benzodiazepines. Do not administer to pregnant women during the first trimester of pregnancy. Chronic usage during pregnancy may result in physical dependence and resultant withdrawal symptoms in the newborn. Since diazepam is excreted in breast milk, its use in infants may result in their sedation.

REMARKS: Chronic use of Diazepam may result in physical dependence on the drug.

DRUG: DIETHYLCARBAMAZINE

DOSAGE FORM(S): Tablets -- 50 mg

USE(S): Wuchereria bancrofti - Filiria
Loiasis - Loa Loa
Onchocerciasis

DOSAGE AND ADMINISTRATION:

One tablet initially, followed by 3-10 tablets daily, divided into three daily doses for 1-4 weeks. Tablets are taken by mouth.

SIDE EFFECTS: Loss of appetite, nausea, vomiting, headache, dizziness, drowsiness.

REMARKS: Allergic reactions (fever, tender swelling, muscle pains, rashes).
None of these is common with use in onchocerciasis.

DRUG: DIGOXIN

DOSAGE FORM(S): Tablets -- 125 mcg (microgram), 250 mcg, 500 mcg
Elixir -- 50 mcg/ml, 60 ml container.

USE: Congestive Heart Failure

DOSING AND ADMINISTRATION:

Adults -- The usual maintenance dose is 125 mcg to 500 mcg per day by mouth. In previously undigitalized patients with normal renal function, maintenance therapy without a loading dose results in steady-state plateau concentrations in about 7 days.

Children --

<u>Age</u>	<u>Height (cm)</u>	<u>Weight(kg)</u>	<u>Elixir (50 mcg/ml) Digitalizing Dose</u>	<u>Elixir (50 mcg/ml) Maintenance Dose (Daily by Mouth)</u>
Birth	49	2.8	2.24 ml - 3.36 ml	0.48 ml - 0.67 ml
1 months	53	3.6	2.88 ml - 4.32 ml	0.58 ml - 0.86 ml
3 months	59	5.4	6.48 ml - 8.64 ml	1.29 ml - 1.73 ml
6 months	65	7.0	8.4 ml - 11.2 ml	1.68 ml - 2.24 ml
9 months	71	8.3	9.96 ml - 13.28 ml	1.99 ml - 2.66 ml
1 year	73	9.2	11.04 ml - 14.72 ml	2.21 ml - 2.94 ml
15 months	77	9.8	11.76 ml - 15.68 ml	2.35 ml - 3.14 ml
18 months	80	10.4	12.48 - 16.69 ml	2.5 ml - 3.33 ml
2 years	84	11.3	13.56 ml - 18.08 ml	2.7 ml - 3.63 ml
2-3 years	84	12	9.6 ml - 14.4 ml	1.92 ml - 2.88 ml
3-4	98	14	11.2 ml - 16.8 ml	2.24 ml - 3.36 ml
4-5	101	15	12 ml - 18 ml	2.4 ml - 3.6 Gm
5-6	107	17	13.6 ml - 22.8 ml	3.04 ml - 4.56 ml
6-7	113	19	15.2 ml - 22.8ml	3.04 ml - 4.56 ml
7-8	119	20	16 ml - 24 ml	3.2 ml - 4.8 ml
8-9	124	21	16.8 ml - 25.2 ml	3.36 ml - 5 ml
9-10	129	22	17.6 ml - 26.4 ml	3.52 ml - 5.28 ml

SIDE EFFECTS: Side effects observed in overdosage include anorexia, nausea, vomiting, headache, weakness, lethargy, visual disturbances, drowsiness, confusion and delirium.

CONTRAINDICATIONS:

Renal failure requires dosage adjustment.

REMARKS:

Digitalization should be done in an attempt where parameters can be measured accurately and with sophisticated equipment. For this reason, rapid digitalization outside a medical center is discouraged.

STORAGE:

Preserve in tight container.

DRUG: DIPHENHYDRAMINE

DOSAGE FORM(S): Capsules -- 25 mg, 50 mg
Elixir -- 12.5mg/5 ml

USE(S): Antihistamine, motion sickness, antitussive.

DOSING AND ADMINISTRATION:

Adults -- 25 mg - 50 mg taken 3 or 4 times daily.

Children -- For children over 9 kg, more than 73 cm in height and over 1 year of age, 5-10 ml is taken by mouth 3-4 times daily.

SIDE EFFECTS: Drowsiness, rash, dryness of mouth, sedation, dizziness, urinary retention.

CONTRAINDICATIONS:

Contraindicated in children less than 1 year of age; in pregnancy and in nursing mothers; and in asthma, peptic ulcer and those predisposed to urinary retention.

REMARKS: Avoid alcoholic beverages and other depressants.

DRUG: EPHEDRINE SULFATE

DOSAGE FORM(S): Capsules -- 25 mg, 50 mg
Tablets -- 15 mg (UNIPAC btl of 100)
Injection -- 25 mg/ml, 1 ml ampul; 50 mg/ml, 1 ml ampul.
Syrup -- 20 mg/5 ml, 480 ml package

USE(S): Bronchial asthma, nasal congestion.

DOSING AND ADMINISTRATION:

Adults --

Parenteral dose: 25 mg to 50 mg.

Oral dose: 25 mg to 50 mg every 3-4 hours by mouth as needed.

Children --

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dosage by Mouth Every 4 to 6 Hours (Syrup, 20 mg/5 ml)</u>
2	9.7	82	0.8 ml - 1.2 ml
2.5	11	87	0.8 ml - 1.38 ml
3	12	90	0.9 ml - 1.50 ml
3-4	13	95	1.0 ml - 1.63 ml
4-5	15	101	1.0 ml - 1.88 ml
5-6	17	107	1.27 ml - 2.13 ml
6-7	19	113	1.60 ml - 3.0 ml
7-8	20	119	1.60 ml - 3.0 ml
8-9	21	124	1.60 ml - 3.0 ml
9-10	22	129	1.60 ml - 3.0 ml
10-11	25	133	1.60 ml - 3.0 ml
11-12	29	136	1.60 ml - 3.0 ml

SIDE EFFECTS: Restlessness, anxiety, tension, tremor, headache, dizziness, flushing, palpitations, urinary retention.

CONTRAINDICATIONS:

Hypertension, heart disease, thyroid disease and diabetes.

REMARKS: Do not exceed dosage recommendations.

STORAGE: In a tightly closed container, protected from light.

DRUG: ERGOTAMINE TARTRATE; ERGOTAMINE MALEATE

DOSAGE FORM(S): Tablets -- 0.1 mg (Ergotamine Tartrate)
Tablets -- 0.2 mg (UNIPAC btl of 100, btl of 1000)

USE(S): Vascular headaches, migraine, cluster headache, oxytocic.

DOSING AND ADMINISTRATION:

Average adult dose is 0.2 - 0.6 mg (2 to 6 0.1 mg tablets) per attack. Total weekly dosage should not exceed 10 x 0.1 mg or 5 x 0.2 mg tablets.

SIDE EFFECTS: Numbness and tingling of fingers and toes, muscle pain, weakness in extremities, nausea, vomiting, edema and itching.

CONTRAINDICATIONS:

Peripheral vascular disease, heart disease, high blood pressure, impaired hepatic (jaundice, abdominal swelling) or renal (blood in the urine, decreased or absent urine flow) function, pregnancy.

REMARKS: Tolerance may develop with prolonged or high dose use, necessitating discontinuation for a few days before readministration may restore its effectiveness.

STORAGE: Preserve in well-closed, light-resistant containers. Store below 40°C, preferably between 15^o and 30°C.

DRUG: ETHAMBUTAL HYDROCHLORIDE

DOSAGE FORM: Tablets -- 100 mg, 400 mg (UNIPAC)

USE: Pulmonary tuberculosis.

DOSING AND ADMINISTRATION:

Give 15-20 mg per kg body weight daily, under medical supervision
Use in children under 13 years of age is not recommended.

Initial treatment of those who have never received anti-tubercular drugs in the past:

<u>Height(cm)</u>	<u>Weight(kg)</u>	<u>Dose by Mouth, Once Daily</u> <u>(Number of Tablets)</u>
Up to 150	Up to 37	One 400 mg + one 100 mg
Up to 155	37-43	One 400 mg + two 100 mg
Up to 160	43-50	One 400 mg + three 100 mg
Up to 170	50-57	Two 400 mg
Up to 175	57-64	Two 400 mg + one 100 mg
Up to 184	64-71	Two 400 mg + two 100 mg
Up to 190	71-79	Two 400 mg + three 100 mg
Over 190	79-84	Three 400 mg
Over 190	84-90	Three 400 mg + one 100 mg
Over 190	90-97	Three 400 mg + two 100 mg
Over 190	Over 97	Three 400 mg + three 100 mg

Retreatment of those who previously received anti-tubercular drugs.

<u>Height(cm)</u>	<u>Weight(kg)</u>	<u>Dose by Mouth, Once Daily</u> <u>(Number of Tablets)</u>
Up to 150	Up to 37	Two 400 mg + one 100 mg
Up to 155	37-43	Two 400 mg + two 100 mg
Up to 160	43-50	Two 400 mg + three 100 mg
Up to 170	50-57	Three 400 mg
Up to 175	57-64	Three 400 mg + one 100 mg
Up to 184	64-71	Three 400 mg + two 100 mg
Up to 190	71-79	Three 400 mg + three 100 mg
Over 190	79-84	Four 400 mg
Over 190	84-90	Four 400 mg + one 100 mg
Over 190	90-97	Four 400 mg + two 100 mg
Over 190	Over 97	Five 400 mg

SIDE EFFECTS: Decreased visual acuity (Do vision check, if reported), anaphylaxis, rash, itching, loss of appetite, nausea, fever, headache, dizziness.

CONTRAINDICATIONS:

The presence of kidney disease requires dosage adjustment by analysis at several levels. In case of kidney disease, refer to appropriate hospital facilities. Use with caution during pregnancy and nursing.

REMARKS: Ethambutal should always be used in conjunction with other anti-tubercular drugs (INH, for example). Use is recommended until clinical improvement occurs.

STORAGE: In a tightly closed container.

DRUG: FERROUS SULFATE

DOSAGE FORM(S): Tablets -- 300 mg (60 mg elemental iron per tablet)
UNIPAC supplies Ferrous Sulfate (60 mg elemental iron) + Folic Acid (0.250 mg).

Elixir -- 200 mg (44 mg elemental iron) per 5 ml

USE: Prevention and treatment of iron deficiency anemia.

DOSING AND ADMINISTRATION:

Iron deficiency states require 90 to 300 mg of elemental iron daily. One to five tablets by mouth for an adult. Two (2) ml of elixir for children by mouth daily.

SIDE EFFECTS: Gastrointestinal irritation, nausea, constipation, diarrhea.

CONTRAINDICATIONS:

Hemolytic anemia, cirrhosis of the liver, peptic ulcer, ulcerative colitis.

REMARKS: Overdosage is manifested by lethargy, vomiting, diarrhea, gastrointestinal irritation, weak pulse, low blood pressure, black tarry stools.

STORAGE: Preserve in tight containers.

DRUG: GENTAMICIN

DOSAGE FORM(S): Injection -- 10 mg/ml, 2 ml vial (Sterile)
40 mg/ml, 2 ml vial (Sterile)

Cream and Ointment for Topical Use (Each 0.1%)
Ointment and Solution for Ophthalmic Use (Sterile); each ml contains equivalent of 3.0 mg gentamicin.

USES: The injectable form of the drug is useful for treatment of serious infections of the central nervous system (meningitis), urinary tract, respiratory tract, gastrointestinal tract, skin, bone and soft tissue (including burns).

The topical cream and ointment are used for superficial skin infections showing oozing, pussy or clear exudate.

The ophthalmic ointment and solution are used for matter producing or dry yellow exudate infections of the eye (pink eye).

DOSING AND ADMINISTRATION:

Instill one or two drops of the ophthalmic solution into the affected eye every 4 hours. In serious infections, the dosage may be increased to as much as two drops once every hour.

Apply small amount of the ophthalmic ointment to the affected eye two (2) to three (3) times daily.

The injectable form of the drug can be given IM or IV. If administered IV, it should be diluted in 50 to 200 ml of 0.9% NaCl or 5% dextrose and water and then infused over 30 to 120 minutes. The usual duration of treatment for all patients is 7-10 days. The dosage for children from ½ year to 12 years of age is calculated on the basis of 2.0 to 2.5 mg/kg/day. For children exceeding 12 years of age, dosage is calculated on the basis of 3.0 to 5.0 mg/kg/day. The 40 mg/ml concentration was utilized in calculating the following dosage.

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dosing Every 8 Hrs.</u>
0.5	6.5	64	0.11 - 0.13 ml
1.0	9	73	0.15 - 0.19 ml
1.5	10	80	0.17 - 0.21 ml
2.5	11	87	0.18 - 0.23 ml
3	12	90	0.20 - 0.25 ml
3-4	13	95	0.22 - 0.27 ml
4-5	15	101	0.25 - 0.31 ml
5-6	17	107	0.28 - 0.35 ml
6-7	19	113	0.32 - 0.40 ml
7-8	20	119	0.33 - 0.42 ml
8-9	21	124	0.35 - 0.44 ml
9-10	22	129	0.37 - 0.46 ml
10-11	25	133	0.42 - 0.52 ml
11-12	29	136	0.48 - 0.60 ml

12+	32	136	0.80 - 1.33 ml
12+	35	136	0.88 - 1.45 ml
12+	38	138	0.95 - 1.58 ml
12+	45	140	1.13 - 1.87 ml
12+	50	150	1.25 - 2.08 ml
12+	60	160	1.50 - 2.50 ml
12+	65	170	1.63 - 2.71 ml
12+	75	180	1.88 - 2.12 ml

SIDE EFFECTS: The use of gentamicin may cause significant renal toxicity or ototoxicity (damage to the 8th cranial nerve, resulting in loss of hearing), tinitis (ringing in the ear), dizziness, confusion, headache, fever, rashy itching, weight loss, muscle weakness, and decreased appetite.

CONTRAINDICATIONS:

The use of the drug in pregnant women or nursing mothers is not recommended. Contraindicated in case of hypersensitivity to the drug.

REMARKS:

The dose of the drug must be reduced in those individuals with impaired renal functions. Blood levels of the drug must be closely monitored and, for that reason, use should be reserved for those situations where blood samples can be drawn and analyzed. The drug also must be continuously used for 7-10 days.

STORAGE:

Preserve in tight containers. Sterile products should be store in tamper-evident containers to ensure sterility at time of use.

DRUG: GENTIAN VIOLET

DOSAGE FORM(S): Vaginal Insert

USE: Vulvovaginal candidiasis (yeast infection, cheesy exudative discharge).

DOSING AND ADMINISTRATION:

Insert one vaginal insert high into vagina 1-2 times daily for 7-14 days.

SIDE EFFECTS: Rare. May stain skin; burning irritation.

CONTRAINDICATIONS:

Hypersensitivity to gentian violet.

REMARKS: During treatment, it is recommended that the patient refrain from sexual intercourse or that the partner wear a condom to avoid reinfection.

STORAGE: In a tight container, protected from light.

DRUG: HYDROCHLOROTHIAZIDE

DOSAGE FORM(S): Tablets -- 25 mg, 50 mg, 100 mg

USE(S): Hypertension, edema.

DOSING AND ADMINISTRATION:

Adults --

Edema: To initiate diuresis, administer 25 mg to 200 mg daily until attained. To maintain diuresis, administer 25 to 100 mg daily or as needed.

Hypertension: Administer 50 mg to 100 mg as a single dose initially. Maintenance dosage may range from 25 mg to 100 mg daily. Dosage may be divided into 2 parts, if desired.

Children: The following doses for children are based on use of the 25 mg tablet.

<u>Age</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose to be Given</u> <u>Twice Daily by Mouth</u>	
0.5	6.5	64	1/4	tablet
1.0	9	73	1/3	tablet
1.5	10	80	1/2	tablet
2.5	11	87	1/2	tablet
3	12	90	1/2	tablet
3-4	13	95	1/2	tablet
4-5	15	101	2/3	tablet
5-6	17	107	3/4	tablet
6-7	19	113	1	tablet
7-8	20	119	1	tablet
8-9	21	124	1	tablet
9-10	22	129	1	tablet
10-11	25	133	1	tablet
11-12	29	136	1 1/4	tablet

SIDE EFFECTS: * Lack of appetite, nausea, dizziness, rash, photosensitivity, muscle spasm, weakness.

CONTRAINDICATIONS:

Use with caution in renal disease (lack of urine flow or diminished amount of urine flow, blood in urine) or liver disease (jaundice, abdominal distention).

REMARKS: Individualize therapy according to patient response.

DRUG: INSULIN, REGULAR

DOSAGE FORM(S): Injection -- 100 units/ml, 10 ml vial

USE(S): Diabetes mellitus which is uncontrollable by diet alone.

DOSAGE AND ADMINISTRATION:

The number and size of daily doses and the time of administration, as well as diet and exercise, are problems which require direct and continuous medical supervision. Maintenance doses of insulin are administered subcutaneously. Insulin should be stored in a cool place, preferably in a refrigerator.

SIDE EFFECTS: Usually related to symptoms of hypoglycemia -- weakness, fatigue, headache, lassitude, nausea, sweating, tremor. These symptoms require the prompt administration of carbohydrates -- candy or a lump of sugar.

REMARKS: Insulin should be used only under the direct supervision of a physician. Each patient requires individual study.

STORAGE: Refrigerate.

DRUG: ISONIAZID, INH

DOSAGE FORM(S): Tablets -- 100 mg, 300 mg, and 100 mg with Vitamin B₆ (5 mg) (UNIPAC)

USE(S): Anti-tubercular agent; preventive therapy for susceptible individuals.

DOSING AND ADMINISTRATION:

Treatment of Active Tuberculosis:

Given as a single daily dose by mouth. Tablets indicated as dose are for 100 mg size. For patients up to 12 years of age, the dosage is based on 10-20 mg/kg/day; for older patients, the dosage is based on 5 mg/kg/day.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Tablets to Take</u>
0.5	6.5	64	2/3 - 1 1/3
1.0	9	73	1 - 2
1.5	10	80	1 - 2
2.5	11	87	1 - 2
3	12	90	1 - 2 1/2
3-4	13	95	1 1/3 - 2 2/3
4-5	15	101	1 1/2 - 3
5-6	17	107	1 2/3 - 3 1/2
6-7	19	113	2 - 4
7-8	20	119	2 - 4
8-9	21	124	2 - 4
9-10	22	129	2 - 4 1/2
10-11	25	133	2 1/2 - 5
11-12	29	136	3 - 5
12+	140	34	2
12+	140	39	2
12+	140	45	2 1/2
12+	150	50	2 1/2
12+	160	60	3
12+	170	65	3
12+	180	75	3

Preventive Therapy

Adults -- 300 mg (Three 100 mg tablets or one 300 mg tablet) daily as a single dose by mouth. An adult is over 12 years of age and/or taller than 140 cm.

Children -- 10 mg/kg/day as a single dose by mouth. Doses given in the following table are in number of 100 mg tablets.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Tablets to Take</u>
0.5	6.5	64	2/3
1.0	9	73	1
1.5	10	80	1
2.5	11	87	1
3	12	90	1
3-4	13	95	1 1/3
4-5	15	101	1 1/2
5-6	17	107	1 3/4
6-7	19	113	2
7-8	20	119	2
8-9	21	124	2
9-10	22	129	2
10-11	25	133	2 1/2
11-12	29	136	3

SIDE EFFECTS: Side effects include peripheral neuropathy (numbness of hands and feet), nausea, vomiting, jaundice, fever, rash.

CONTRAINDICATIONS:

Contraindicated in liver disease (abdominal swelling, jaundice, shrinkage of the liver). Use of alcohol is contraindicated due to possibility of hepatitis. Also contraindicated in kidney disease (blood in urine, diminished or absent urine volume).

REMARKS:

Vitamin B(6) (pyridoxine) should be administered concurrently with INH in those individuals at risk to develop peripheral neuropathy (diabetics, alcoholics). INH overdose produces signs and symptoms within 30 minutes to three hours after ingestion and include nausea, vomiting, dizziness, slurring of speech, blurring of vision, visual hallucinations (bright colors, strange designs), respiratory distress, CNS depression progressing from stupor to profound coma and seizures. Treatment of overdose includes securing the airway and establishing respiratory exchange. To control convulsions, administer short-acting barbiturates intravenously followed by the intravenous administration of 1 mg of Vitamin B(6) for each mg of INH ingested.

STORAGE:

In a tightly closed container, protected from light.

DRUG: LIDOCAINE HYDROCHLORIDE

DOSAGE FORM(S): Injections -- 0.5%, 1%, 2%, 4%, 20% w/v in Water for Injection

Topical (External) --
5% Ointment
2.5% Ointment

Topical (Mucous Membranes) --
4% Solution
5% Ointment
2% Jelly
2% Viscous

USE(S): Injections (0.5%, 1%, 2%, 4%) -- Local anesthetic effects.

Injections (1%, 2%, 4%, 20%) -- Cardiac arrhythmias (ventricular).

Ointment, Topical (2.5%, 5%) -- Topical anesthetic for skin disorders (itching, pain, soreness, burns, scalds, chicken pox, rash, sunburn, insect bites, pruritis vulvae, hemorrhoids)

Solution, Topical (4%) -- Anesthesia of accessible mucous membranes of oral and nasal cavities, and proximal portions of digestive tract.

Jelly (2%) -- For control of pains in procedures involving the male and female urethra.

Viscous (2%) -- Topical anesthesia of mucous membranes of mouth and pharynx.

DOSING AND ADMINISTRATION:

Except for the injectable dosage forms, all of the above applications can be made from 3-4 times daily, for procedures involving mucous membranes and the urethra, as the situation dictates. The 0.5% to 2% injections are used for infiltration, the 1-2% injections are used for peripheral nerve block, sympathetic nerve block; the 1-2% for central neural block; and the 1% for caudal block use as the patient's situation and/or body area dictates. The 1%, 2%, 4% and 20% injections are to be used for cardiac arrhythmias only with constant ECG monitoring and emergency resuscitative equipment and drugs immediately available for management of possible adverse reactions involving the cardiovascular, respiratory or central nervous system. Continuous intravenous infusion of lidocaine (1-4 mg/min.) is necessary for antiarrhythmic effect. However, the dose must be titrated based upon the output of cardiac response. Solutions for IV infusion may be prepared by the addition of 1 or 2 Gm of lidocaine to 5% dextrose and water, ranging in volume from 250 ml to 1000 ml, depending on the fluid status of the patient. Lidocaine can be administered by the IV bolus infusion, usually 1 mg/kg given at 20-50 mg/min, with no more than 200-300 mg being given during a one-hour period.

SIDE EFFECTS: Include lightheadedness, drowsiness, dizziness, twitching, tremors, convulsions, respiratory depression, cardiovascular collapse.

CONTRAINDICATIONS: Contraindicated in patients with liver disease.

REMARKS: For use only by those qualified to administer anesthetics. For cardiology purposes, only those familiar with the drug and its effects should administer it.

STORAGE: Protect from light.

DRUG: MEBENDAZOLE

DOSAGE FORM(S): Tablets, Chewable -- 100 mg (UNIPAC)

USE(S): Anthelmintic; treatment of:

Whipworm
Pinworm
Roundworm
Hookworm

DOSING AND ADMINISTRATION:

One dosage schedule applies equally to children and adults. The tablets should be chewed and swallowed.

Control of: Dosage (in 100 mg Chewable Tablets)

Pinworm 1 tablet as a single dose by mouth.

Roundworm
Whipworm 1 tablet by mouth each morning and evening
Hookworm for three consecutive days.

If patient is not cured three weeks after treatment, a second course of treatment should be advised.

SIDE EFFECTS: Abdominal pain, diarrhea.

CONTRAINDICATIONS:

Pregnancy, nursing mothers. Use in children less than two years of age requires assessment of risk/benefit, since the drug has not been extensively studied in this booth.

REMARKS: No purging required.

STORAGE: In a tightly closed container.

DRUG: METHYLDOPA

DOSAGE FORM(S): Tablets -- 125 mg, 250 mg, 500 mg

USE: In sustained moderate and severe hypertension.

DOSAGE AND ADMINISTRATION:

Adults -- Usual starting dose for adults is 250 mg two or three times daily by mouth for two days. Maintenance therapy is 500 mg to 2 Gm (One to four 500 mg tablets) in two to four divided doses. The maximum recommended daily dose is 3 Gm (six 500 mg tablets).

Children -- The recommended dosages for children are as follows:

<u>Age (Yrs)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dosage (Initial) by Mouth (125 mg Tablet)</u>
5-6	17	107	½ tablet 3 times daily
6-7	19	113	½ tablet 3 times daily
7-8	20	119	½ tablet 3 times daily
8-9	21	124	½ tablet 3 times daily
9-10	22	129	One tablet twice daily
10-11	25	133	One tablet twice daily
11-12	29	136	One tablet twice daily

Maximum Children's Dose

<u>Age (Yrs)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dosage (Initial) by Mouth (250 mg Tablet)</u>
5-6	17	107	4½ tablets daily
6-7	19	113	5 tablets daily
7-8	20	119	5 tablets daily
8-9	21	124	5½ tablets daily
9-10	22	129	6 tablets daily
10-11	25	133	6½ tablets daily
11-12	29	136	7½ tablets daily

SIDE EFFECTS: Sedation, headache, weakness, dizziness, nausea, fever, nasal stuffiness, impotence.

REMARKS: Use with caution in patients with a history of liver disease.

STORAGE: Preserve in well closed containers.

DRUG: METHYLERGONOVINE MALEATE

DOSAGE FORM(S): Tablets -- 0.2 mg (UNIPAC)
Injection -- 0.2 mg/ml, 1 ml ampoule

USE(S): Postpartum atony and hemorrhage, routine management after delivery of the placenta.

DOSING AND ADMINISTRATION:

Oral -- Give 0.2 mg by mouth 3-4 times daily for 1 week maximum.

Intramuscular -- Inject 0.2 mg (1 ml) after delivery of the anterior shoulder after delivery of the placenta or during the puerperium. May be repeated as required, at intervals of 2-4 hours.

SIDE EFFECTS: Nausea, vomiting, transient hypertension, dizziness, headache, tinnitus, chest pain.

CONTRAINDICATIONS:

High blood pressure, toxemia, pregnancy. Not recommended for intravenous administration because of the possibility of inducing sudden hypertensive and cerebrovascular accidents.

REMARKS: Caution should be exercised in the presence of sepsis, vascular disease, hepatic disease (jaundice, abdominal swelling) or renal disease (blood in urine, diminished or absent urine flow).

DRUG: METRONIDAZOLE

DOSAGE FORM(S): Tablets -- 250 mg (UNIPAC)

USE(S): Trichomoniasis; intestinal amebiasis.

DOSING AND ADMINISTRATION:

Adults --

Trichomoniasis: One tablet by mouth three times daily for 7 days or 8 tablets by mouth taken as a single dose or 4 tablets by mouth twice a day for one day.

Amebiasis: Three tablets by mouth 3 times daily for 5-10 days.

Children -- For amebiasis:

<u>Age(Yrs)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Tablets by Mouth Three Times Daily</u>
0.5	6.5	64	1/3 - 1/2
1.0	9	73	1/2
1.5	10	80	1/2 - 2/3
2.5	11	87	1/2 - 3/4
3	12	90	1/2 - 3/4
3-4	13	95	1/2 - 3/4
4-5	15	101	2/3 - 1
5-6	17	107	3/4 - 1
6-7	19	113	1
7-8	20	119	1 - 1 1/3
8-9	21	124	1 - 1 1/2
9-10	22	129	1 - 1 1/2
10-11	25	133	1 - 1 2/3
11-12	29	136	1 1/3 - 2

SIDE EFFECTS: Nausea, headache, loss of appetite, metallic taste in mouth, abdominal cramping, darkened urine.

CONTRAINDICATIONS:

First trimester of pregnancy. Use with utmost caution and only when other treatment has failed during second and third trimester and during lactation.

REMARKS: Alcohol should not be consumed at the same time as administration of the medication as a reaction could occur, which consists of flushing, headaches, abdominal cramping, nausea and vomiting. Partner(s), wife (wives), husband should also take the course of therapy for trichomoniasis.

STORAGE: Preserve in a tightly closed container.

DRUG: MULTIPLE VITAMIN

DOSAGE FORM(S): Tablets and Capsules, Oral (UNIPAC)
Capsules -- Multiple vitamin with iron (UNIPAC)
Liquid, Oral (UNIPAC)

USE(S): Nutritional supplement in malnourished states; cachexia (poor appearance of vitality); nutritionally lacking dietary intake.

DOSAGE AND ADMINISTRATION:

One tablet orally per day for adults and recommended dosage (label) in ml per day for infants and small children.

SIDE EFFECTS: Rare, upset stomach (take with food to minimize upset stomach), discoloration of urine.

REMARKS: Must be taken for an extended period of time.

STORAGE: In a cool place, protected from light and humidity.

DRUG: NIRIDAZOLE

DOSAGE FORM(S): Tablets -- 100 mg and 500 mg

USE(S): Schistosomiasis, amebiasis, guinea-worm infestation (dracontiasis)

DOSING AND ADMINISTRATION:

Adults -- Amebiasis: 500 mg by mouth 2-3 times daily for 10 days.

Adults and Children --

Schistosomiasis -- Dosage from the following table to be given for 7 days in adults and for 5 days in children.

Guinea-Worm -- The following doses to be given for 7-10 days.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Tablets to Take</u>
0.5	6.5	64	1 (100 mg)
1	9	73	1.5 (100 mg)
1.5	10	80	1.75 (100 mg)
2.5	11	87	2 (100 mg)
3	12	90	2 (100 mg)
3-4	13	95	2 1/4 (100 mg)
4-5	15	101	2 2/3 (100 mg)
5-6	17	107	3 (100 mg)
6-7	19	113	3 1/3 (100 mg)
7-8	20	119	3 1/2 (100 mg)
8-9	21	124	3 2/3 (100 mg)
9-10	22	129	4 (100 mg)
10-11	25	133	4 1/2 (100 mg)
11-12	29	136	1 (500 mg)
12+	34	140	1 (500 mg)
12+	39	140	1 (500 mg)
12+	45	140	1 (500 mg)
12+	50	150	1 1/4 (500 mg)
12+	60	160	1 1/2 (500 mg)
12+	65	170	1 1/2 (500 mg)
12+	75	180	1 1/2 (500 mg)

SIDE EFFECTS: Nausea, headache, loss of appetite, vomiting, diarrhea, dizziness, abdominal pain, anxiety, and confusion.

CONTRAINDICATIONS:

Niridazole should not be given to patients with epilepsy, severe heart disease, or a history of mental disturbance. Care must be taken in the case of patients with impaired liver function (abdominal swelling), jaundice, palpable vein, vein shrinkage).

REMARKS: No special dietary considerations are necessary for the administration of niridazole.

DRUG: ORAL REHYDRATION SALTS; ORS

DOSAGE FORM(S): Dry Powder in Packets -- To be mixed in 1 liter of potable water. Once made, the solution should not be boiled.

Each packet to contain sodium chloride (3.5 Gm), sodium bicarbonate (2.5 Gm), potassium chloride (1.5 Gm) and glucose (20.0 Gm).

USE(S): For acute diarrhea illnesses (cholera), dehydration. To be administered by mouth only -- not for intravenous injection.

DOSING AND ADMINISTRATION:

Rehydration -- For mild dehydration, as will be evidenced on examination by normal or diminished skin turgor (fullness) or sunken fontanelle; patient is able to drink.

The amount to be given is shown in the following table. The larger amount should be given when turgor is diminished. Encourage patients to drink until they refuse. Adults may need up to 1000 ml of ORS solution per hour. The time required to administer this quantity is usually 4-6 hours. If patients tire of drinking, use a continuous nasogastric infusion.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose Range (in ml)</u>
0.5	6.5	64	325 - 650 by mouth
1	9	73	450 - 900 by mouth
1.5	10	80	500 - 1000 by mouth
2.5	11	87	550 - 1100 by mouth
3	12	90	600 - 1200 by mouth
3-4	13	95	650 - 1300 by mouth
4-5	15	101	750 - 1500 by mouth
5-6	17	107	850 - 1700 by mouth
6-7	19	113	950 - 1900 by mouth
7-8	20	119	1000 - 2000 by mouth
8-9	21	124	1050 - 2100 by mouth
9-10	22	129	1100 - 2200 by mouth
10-11	25	133	1250 - 2500 by mouth
11-12	29	136	1450 - 2900 by mouth
12+	34	140	1700 - 3400 by mouth
12+	39	140	1950 - 3900 by mouth
12+	45	140	2250 - 4500 by mouth
12+	50	150	2500 - 5000 by mouth
12+	60	160	3000 - 6000 by mouth
12+	65	170	3250 - 6500 by mouth
12+	70	180	3500 - 7000 by mouth

Maintenance --

- A. For mild continuing diarrhea (less than 1 stool every 2 hours), the following dose is to be given every 24 hours until diarrhea stops.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose Range (in ml)</u>
0.5	6.5	64	650 - 1300 by mouth
1	9	73	900 - 1800 by mouth
1.5	10	80	1000 - 2000 by mouth
2.5	11	87	1100 - 2200 by mouth
3	12	90	1200 - 2400 by mouth
3-4	13	95	1300 - 2600 by mouth
4-5	15	101	1500 - 3000 by mouth
5-6	17	107	1700 - 3400 by mouth
6-7	19	113	1900 - 3800 by mouth
7-8	20	119	2000 - 4000 by mouth
8-9	21	124	2100 - 4200 by mouth
9-10	22	129	2200 - 4400 by mouth
10-11	25	133	2500 - 5000 by mouth
11-12	29	136	2900 - 5800 by mouth
12+	34	140	3400 - 6800 by mouth
12+	39	140	3900 - 7800 by mouth
12+	45	140	4500 - 9000 by mouth
12+	50	150	5000 - 10000 by mouth
12+	60	160	6000 - 12000 by mouth
12+	65	170	6500 - 13000 by mouth
12+	70	180	7000 - 14000 by mouth

B. For severe continuing diarrhea: The following dosages are to be given every hour until diarrhea becomes mild or stops. Observe patient carefully to confirm adequate maintenance of hydration.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Hourly Dose (in ml)</u>
0.5	6.5	64	98 by mouth
1	9	73	135 by mouth
1.5	10	80	150 by mouth
2.5	11	87	165 by mouth
3	12	90	180 by mouth
3-4	13	95	195 by mouth
4-5	15	101	225 by mouth
5-6	17	107	255 by mouth
6-7	19	113	285 by mouth
7-8	20	119	300 by mouth
8-9	21	124	315 by mouth
9-10	22	129	330 by mouth
10-11	25	133	375 by mouth
11-12	29	136	435 by mouth
12+	34	140	510 by mouth
12+	39	140	585 by mouth
12+	45	140	675 by mouth
12+	50	150	750 by mouth
12+	60	160	900 by mouth
12+	65	170	975 by mouth
12+	70	180	1050 by mouth

SIDE EFFECTS: Vomiting, edema, swelling around the eyes (which reverses upon discontinuation of ORS).

CONTRAINDICATIONS:

Include comatose patients and those with severe dehydration (hypotension, shock, stupor, coma, absent pulse). Intravenous rehydration is the best form of treatment for patients in shock and unable to drink. Malabsorption of glucose in susceptible individuals will worsen the dehydration.

REMARKS:

Oral rehydration is the best procedure for treating mild and moderate dehydration and for preventing severe dehydration. Thirst is a very useful guide to the amount of oral solution required. If patients tire of drinking, the fluid can easily be given by continuous nasogastric infusion. Limitations to oral rehydration follow. In these instances, parenteral administration of solutions for IV use should be considered.

LIMITATIONS:

1. For patients with severe dehydration -- often with signs of shock -- oral therapy is too slow.
2. For patients with low urine output or lack of urine output, intravenous administration of sterile electrolyte solutions is indicated.
3. Patients with continuous vomiting should not be administered ORS.
4. Patients with severe diarrhea (more than 800 ml per hour) may not be able to replenish losses.
5. Should not be used in premature infants or babies less than one month old.

STORAGE:

Store in a cool, dry place.

DRUG: PARACETAMOL; ACETAMINOPHEN; PANADOL; TYLENOL

DOSAGE FORM(S): Tablets -- 500 mg (UNIPAC)
Elixir -- 60 mg/0.6 ml (drops), 120 mg/5 ml, 150 mg/5 ml

USE(S): Analgesic; antipyretic.

DOSING AND ADMINISTRATION:

Adults -- One to two tablets by mouth four times daily.

Children less than 1 year of age -- 30 mg (0.3 ml of 60 mg/0.6 ml liquid) by mouth four times daily.

Children 1-3 years of age -- 60-120 mg (0.6 - 1.2 ml of 60 mg/0.6 ml drops or 1/2 to 1 teaspoonful of 120 mg/5 ml elixir) by mouth every 4-6 hours (four times daily).

Children 6-12 years of age -- 240 mg (two teaspoonsful of 120 mg/5 ml elixir or 1/2 - 500 mg tablet) by mouth every 4-6 hours.

SIDE EFFECTS: . Rare.

CONTRAINDICATIONS:

Use with caution in patients with kidney or liver disease.

REMARKS: Do not use for more than 10 continuous days. Do not exceed the recommended dosage.

STORAGE: In a tightly closed container.

DRUG: PENICILLIN G, BENZATHINE (PARENTERAL)

DOSAGE FORM(S): Injection --
300,000 units/ml, 10 ml vial
1,200,000 units, 2 ml syringe
2,400,000 units, 4 ml syringe (UNIPAC supplies powder with 10 ml diluent in separate vial)

USE(S): Upper respiratory infections (Group A streptococcal, i.e., pharyngitis); syphilis.

DOSING AND ADMINISTRATION:

Upper respiratory infection (pharyngitis) -- Administer dose as a single intramuscular injection. For persons less than 30 kg weight and/or 140 cm height, administer 600,000 units; more than 30 kg weight and/or 140 cm height, 1,200,000 units.

Early syphilis -- For primary, secondary or latent syphilis, the recommended dose is 2,400,000 units IM at a single session.

Syphilis of more than 1 year's duration -- Administer 2,400,000 units IM weekly for 3 successive weeks for a total of 7,200,000 units.

Congenital syphilis -- Refer to the following chart for single doses to be administered IM as a single dose.

<u>Age (Mos.)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose (Using 300,000 Units/ml Strength)</u>	
1	52.50	3.6	180,000 units	0.6 ml
2	56.00	4.4	220,000 units	0.73 ml
3	59.00	5.4	270,000 units	0.90 ml
4	61.30	5.9	295,000 units	0.98 ml
5	63.50	6.5	325,000 units	1.08 ml
6	65.10	7.0	350,000 units	1.17 ml
7	66.00	7.4	370,000 units	1.23 ml
8	68.00	8.0	400,000 units	1.33 ml
9	71.00	8.3	415,000 units	1.38 ml
10	72.50	8.6	430,000 units	1.43 ml
11	73.3	8.9	445,000 units	1.48 ml
12	74.0	9.1	455,000 units	1.52 ml

SIDE EFFECTS: Pain at injection site.

CONTRAINDICATIONS: Hypersensitivity to penicillin.

REMARKS: The drug must be refrigerated. Check to be sure that the drug is in date by looking at the expiration date before administering. Have penicillinase available for signs of anaphylactic reaction (rash, itching, coma, labored breathing, wheezing, choking, coughing, loss of consciousness).

Primary syphilis is typified by an incubation period of 10-90 days with the eruption after this time of the initial lesion, usually in the genital area. Lesions (chancre) vary from slight erosions to deep

ulcers. The chancre is usually indurated (hardened), single, erosive or ulcerative, and is accompanied by bilateral, discrete, painless inguinal adenopathy (swelling of lymph glands on both sides of abdomen). Lesion may be discrete and found only after close examination.

Secondary syphilis is typified by an uncharacteristic rash often extensive in nature. Suspicion should be aroused by generalized non-itching eruption with generalized adenopathy.

Latent syphilis occurs between the end of the transmission states -- primary and secondary (up to 2 years of infection) -- and the onset of tertiary syphilis (involvement of cardiovascular, CNS, etc., systems). The latent period may last 15-25 years.

Do not use benzathine Penicillin G for gonorrhea -- only for syphilis.

STORAGE:

Store sealed container below 30°C (86°F); below 25°C (77°F) after suspending in sterile water. Store at 20-25°C (68-77°) for longer periods of storage.

DRUG: PENICILLIN G, PROCAINE, AQUEOUS (APPG)

DOSAGE FORM(S): Injection --
300,000 units/ml, 10 ml vial
500,000 units/ml, 12 ml
600,000 units, 1 ml syringe
1,200,000 units, 2 ml syringe
2,400,000 units, 4 ml syringe (UNIPAC supplies powder with 10 ml diluent in separate vial)

USE(S): For intramuscular injection only. Treatment of gonorrhea, diphtheria, anthrax, rat bite fever, syphilis, pelvic inflammatory disease.

DOSING AND ADMINISTRATION:

Gonorrhea -- 4,800,000 units administered IM, divided into at least 2 doses injected during one visit, together with 1 Gm of prebenecid given 30 minutes prior to injection.

Diphtheria -- 300,000 to 600,000 units daily for 10 days.

Anthrax -- 600,000 to 1,000,000 units per day for 10 days.

Rat bite fever -- 600,000 to 1,000,000 units per day for 10 days.

Early syphilis -- Primary, secondary, and latent syphilis of less than 1 year's duration, a total of 4,800,000 units administered in 600,000 unit daily doses for 8 days.

Syphilis of more than 1 year's duration -- Latent syphilis of indeterminate or more than 1 year's duration - 9,000,000 units total, administered in divided doses of 600,000 units daily for 15 days.

Congenital syphilis in infants -- See following table for dosage to be given IM daily for a minimum of 10 days:

<u>Age (Mos.)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose (Using 300,000 Units/ml Strength)</u>	
1	52.50	3.6	180,000 units	0.6 ml
2	56.00	4.4	220,000 units	0.73 ml
3	59.00	5.4	270,000 units	0.90 ml
4	61.30	5.9	295,000 units	0.98 ml
5	63.50	6.5	325,000 units	1.08 ml
6	65.10	7.0	350,000 units	1.17 ml
7	66.00	7.4	370,000 units	1.23 ml
8	68.00	8.0	400,000 units	1.33 ml
9	71.00	8.3	415,000 units	1.38 ml
10	72.50	8.6	430,000 units	1.43 ml
11	73.3	8.9	445,000 units	1.48 ml
12	74.0	9.1	455,000 units	1.52 ml

SIDE EFFECTS: Pain at injection site.

CONTRAINDICATIONS: Hypersensitivity to penicillin.

REMARKS: The drug must be refrigerated. Check to be sure that the drug is in date by looking at the expiration date before administering. Have penicillinase available for signs of anaphylactic reaction (rash, itching, coma, labored breathing, wheezing, choking, coughing, loss of consciousness).

STORAGE: Store sealed container below 30°C (86°F).

DRUG: PHENOBARBITAL; PHENOBARBITONE

DOSAGE FORM(S): Tablets -- 30 mg (UNIPAC)

USE(S): Sedative, hypnotic, anticonvulsant.

DOSING AND ADMINISTRATION:

Adults --

Sedative: 15-30 mg (½ to 1 tablet) by mouth 2-4 times daily.

Hypnotic: 60-180 mg (2 to 6 tablets) by mouth 1-2 times daily.

Anticonvulsant: 120-210 mg (4-7 tablets) by mouth once daily at bedtime.

Children --

<u>Age (Yrs)</u>	<u>Ht(cm)</u>	<u>Wt(kg)</u>	<u>Sedative Dose</u>	<u>Anticonvulsant Dose</u>
0-3	Less than 90	6.5-12	1/8 tablet 4 times daily by mouth	1/4-2 tablets at bedtime by mouth
3-6	90-110	12-18	1/4 tablet 4 times daily by mouth	1/2-3 1/2 tablets at bedtime by mouth
6-12	110-140	18-30	1/4-1/2 tablet 4 times daily by mouth	1/2-6 tablets at bedtime by mouth

Note: If 15 mg tablets are available, simply use twice the number of tablets in the above table; if 60 mg tablets are available, use one-half the number of tablets in the above table.

SIDE EFFECTS: Central nervous system depression.

CONTRAINDICATIONS:

Do not use in respiratory disease with evidence of obstruction, or with signs of impaired renal function, such as blood in the urine or a lowering or absence of urine volume.

REMARKS: Phenobarbital has a long half-life (2-5 days) and can be habit-forming with continued use.

STORAGE: In a tightly closed container.

DRUG: PHENYLBUTAZONE

DOSAGE FORM(S): Tablets -- 100 mg

USE(S): As an anti-inflammatory analgesic in the treatment of gout, arthritis and similar inflammatory states.

DOSING AND ADMINISTRATION:

One to two tablets by mouth 3 times daily, with food or milk to minimize gastric upset. Usual duration of treatment is 5-7 days and rarely should use exceed 10 days.

SIDE EFFECTS: Include serious blood disorders. Symptoms may include fever, pallor, sore throat, black tarry stools, or general malaise. Other less serious side effects include gastrointestinal upset, dizziness, drowsiness, blurred vision and swelling of the ankles or face.

CONTRAINDICATIONS:

Phenylbutazone should be avoided, if possible, during pregnancy or in nursing mothers. It is contraindicated in patients less than 14 years of age, in the presence of ulcers and in those with compromised renal function (blood in urine, decreased or absent urine volume) or hepatic function (abdominal swelling, jaundice, shrinkage or enlargement of the liver).

REMARKS: The drug has serious side effects and as such its use should be reserved for cases where the use of other drugs (such as aspirin) has failed.

STORAGE: Preserve in tight containers.

DRUG: PHENYTOIN

DOSAGE FORM(S): Capsules -- 30 mg, 100 mg
Tablets, Chewable -- 50
Injection -- 50 mg/ml in 2-ml syringe or 5-ml ampoule

USE(S): Grand mal, psychomotor seizures.

DOSING AND ADMINISTRATION:

Adults -- 100 mg (1 capsule) by mouth 3 times daily. Dosage may need to be titrated up or down to a satisfactory maintenance dose of 300 mg to 400 mg daily. Final maintenance dose may be 600 mg per day.

Children -- Children over 6 years of age and/or more than 110 cm in height may be administered the minimum adult dose of 100 mg (1 capsule) 3 times daily by mouth. Children aged 6 years or younger should be administered the drug in accordance with the following pediatric dose chart. This dose chart is based on a dosing of 5 mg/kg/day in 2-3 divided doses.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Tablets to Be Given Daily by Mouth</u>
			<u>(50 mg Chewable Tablets)</u>
0.5	6.5	67	1/3 tablet twice daily
1	9	73	1/3 tablet 3 times daily
1.5	10	80	1/3 tablet 3 times daily
2.5	11	87	1/3 tablet 3 times daily
			<u>(30 mg Capsule)</u>
3	12	90	1 capsule twice daily
3-4	13	95	1 capsule twice daily
			<u>(50 mg Chewable Tablet)</u>
4-5	15	101	One-half tablet 3 times daily
5-6	17	107	One-half tablet 3 times daily

SIDE EFFECTS: Visual disturbances, slurred speech, dizziness, insomnia, fatigue, depression, nausea, rash, gum overgrowth and weight gain.

CONTRAINDICATIONS: Liver disease.

REMARKS: The chewable tablet should not be taken whole but must be chewed up. The use of the IV preparation should be reserved for use by an individual familiar with the drug and in cases where the oral form cannot be administered. Good oral hygiene is necessary in order to prevent or reverse gingival hypoplasia.

STORAGE: Preserve in tight containers in cool dry place.

DRUG: PIPERAZINE CITRATE

DOSAGE FORM(S): Tablets -- 250 mg and 500 mg (UNIPAC)
Syrup -- 500 mg/5 ml (UNIPAC)

USES: Treatment of roundworm (Ascaris lumbricoides) and pinworm (Enterobius vermicularis) infestation.

DOSING AND ADMINISTRATION:

Roundworm

Adults -- Take 3.5 Gm (Seven 500mg tablets) daily for 2 days by mouth.

Children -- For roundworm, the following dosages of the syrup (500 mg/5 ml) should be given by mouth to children for 2 consecutive days:

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Daily Dose of Syrup for Two Days</u>	
0.5	6.5	64	5 ml	by mouth
1	9	73	7 ml	by mouth
1.5	10	80	7.5 ml	by mouth
2.5	11	87	8 ml	by mouth
3	12	90	9 ml	by mouth
3-4	13	95	10 ml	by mouth
4-5	15	101	11 ml	by mouth
5-6	17	107	13 ml	by mouth
6-7	19	113	14 ml	by mouth
7-8	20	119	15 ml	by mouth
8-9	21	124	16 ml	by mouth
9-10	22	129	16.5 ml	by mouth
10-11	25	133	19 ml	by mouth
11-12	29	136	22 ml	by mouth

In severe infections, the two-day treatment may be repeated after 7 days. Where it is not feasible to administer the drug over a two-day period, the following single-dose schedule may be utilized to administer the drug once. The maximum cure rate has been achieved utilizing the multiple dose procedure.

Adults and Children -- One-time dose for roundworms (maximum dose of 3.0 Gm):

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>One-Time Oral Dose</u>	
			<u>Syrup</u>	<u>500mg Tablets</u>
0.5	6.5	64	10ml	2
1	9	73	14ml	2.5
1.5	10	80	15ml	3
2.5	11	87	17ml	3
3	12	90	19ml	4
3-4	13	95	20ml	4

4-5	15	101	23ml	4.5
5-6	17	107	26ml	5
6-7	19	113	29ml	6
7-8	20	119	30ml	6
8-9	21	124	30ml	6
9-10	22	129	30ml	6
10-11	25	133	30ml	6
11-12	29	136	30ml	6
12+	34	140	30ml	6
12+	39	140	30ml	6
12+	45	140	30ml	6
12+	50	150	30ml	6
12+	60	160	30ml	6
12+	65	170	30ml	6
12+	70	180	30ml	6

Pinworms

Adults and Children -- The following dose should be given daily for 7 consecutive days. The maximum daily dose is 2.5 Gm (five 500 mg tablets or 25 ml of syrup). For severe infections, the treatment regimen may be repeated after 7 days.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Daily Dose by Mouth</u>	
			<u>Syrup</u>	<u>500mg Tablets</u>
0.5	6.5	64	5ml	1
1	9	73	6ml	1
1.5	10	80	7ml	1.5
2.5	11	87	7ml	1.5
3	12	90	8ml	1.5
3-4	13	95	8.5ml	2
4-5	15	101	10ml	2
5-6	17	107	11ml	2
6-7	19	113	12ml	2.5
7-8	20	119	13ml	2.5
8-9	21	124	14ml	3
9-10	22	129	14ml	3
10-11	25	133	16ml	3.5
11-12	29	136	19ml	4
12+	34	140	22ml	4.5
12+	39	140	22ml	4.5
12+	45	140	25ml	5
12+	50	150	25ml	5
12+	60	160	25ml	5
12+	65	170	25ml	5
12+	70	180	25ml	5

SIDE EFFECTS: Nausea, abdominal cramping, headache, dizziness, muscular weakness, blurring of vision, convulsions, itching, fever, vertigo, headache, tremors.

CONTRAINDICATIONS:

Contraindicated in patients with impaired renal or hepatic function, convulsive disorders, or a history of hypersensitivity to piperazine or

its salts.

REMARKS:

Use of laxatives or dietary restrictions is not necessary. Piperazine paralyzes the roundworm muscle with resultant expulsion of the worm through intestinal peristalsis.

STORAGE:

In a tightly closed container.

DRUG: PREDNISONONE

DOSAGE FORM(S): Tablets -- 1 mg, 2.5 mg, 5 mg

USE(S): Treatment of Addison's disease, dermatological conditions such as extensive rashes, and allergic states, including asthma.

... DOSAGE AND ADMINISTRATION:

Administer 5 mg to 60 mg per day. The dose is dependent upon the patient's condition and the disease being treated.

SIDE EFFECTS: Include osteoporosis, fluid retention, peptic ulcer, abdominal distention, convulsions, suppression of growth in children, weight gain and insomnia.

CONTRAINDICATIONS:

Its use is contraindicated in systemic fungus disease such as oral thrush or vaginal yeast infection. Long-term use leads to cushingoid syndrome or round "moon" face or "buffalo" hump.

REMARKS: Dosage must be individualized. Prednisone use should be reserved for serious conditions and instituted only by individuals familiar with the drug.

DRUG: PROMETHAZINE HYDROCHLORIDE

DOSAGE FORM(S): Tablets -- 12.5 mg and 25 mg (UNIPAC #15-592-00)
Syrup -- 5 mg/5 ml, 250 ml btl (UNIPAC #15-592-05)

USE(S): As a sedative and antihistamine.

DOSING AND ADMINISTRATION:

Allergy

Adults -- One 25 mg tablet taken at bedtime or one 12.5 mg tablet taken 3 times daily and at bedtime.

Children -- One 25 mg tablet at bedtime or 6.25 mg to 12.5 mg taken 3 times daily.

Sedation

Adults -- One to two 25 mg tablets (25 mg to 50 mg).

Children -- One to two 12.5 mg tablets (12.5 to 25 mg) by mouth.

SIDE EFFECTS: Include drowsiness, rash, itching, dryness of mouth and throat, headache, difficult urination, urinary retention, tightness of chest, wheezing, nasal stuffiness.

CONTRAINDICATIONS:

Contraindicated in pregnancy or in nursing mothers, in individuals predisposed to urinary retention, and in asthma (can increase the thickness of bronchial secretions).

REMARKS: Use with caution in premature or newborn infants.

STORAGE: In a tightly closed container, protected from light.

DRUG: PROPANOLOL

DOSAGE FORM(S): Tablets -- 10 mg, 20 mg, 40 mg, 80 mg

USE(S): Treatment of arrhythmias, hypertension, angina attacks, and migraine headaches.

DOSING AND ADMINISTRATION:

Arrhythmias -- 10 mg to 30 mg 3 - 4 times daily by mouth.

Hypertension -- Dosage must be individualized. The usual initial dose is 40 mg twice a day by mouth. Increase or decrease the dosage until optimal control is achieved. The usual dosage of 160 mg to 480 mg per day. As much as 640 mg per day may be required.

Angina Pectoris -- Dosage must be individualized. Start with 10 mg to 20 mg 3 or 4 times daily. Increase or decrease the dosage until optimal response is achieved. The average optimum dose is 160 mg per day.

Migraine -- The usual initial dose is 20 mg 4 times daily. The dosage range is from 160 mg to 240 mg per day.

SIDE EFFECTS: Congestive heart failure, dizziness, lightheadedness, depression, nausea, diarrhea and bronchospasm.

CONTRAINDICATIONS:

Bronchial asthma. Use cautiously in patients with a history of cardiac failure. Data on the use of this drug are too limited to recommend its use in children.

REMARKS: Do not suddenly stop the administration of propranolol. If the drug is to be discontinued, it must be withdrawn gradually.

DRUG: SULFAMETHOXYPYRIDAZINE

DOSAGE FORM(S): Tablets -- 500 mg

USE(S): Treatment of urinary tract infections.

DOSING AND ADMINISTRATION:

Two to 4 tablets to be taken by mouth initially, followed by 1 tablet daily. For smaller adults, one-half tablet daily will be sufficient dose.

CONTRAINDICATIONS:

The drug should not be used in children under 12 years of age. It should not be used in patients with renal impairment, as indicated by blood in the urine or a lowering or absence of urine volume.

REMARKS: Patient should force the intake of fluids -- at least 10% more than usual.

DRUG: SULPHAGUANIDINE

DOSAGE FORM(S): Tablets -- 500 mg

USE(S): Treatment of intestinal infections; bacillary dysentery.

DOSING AND ADMINISTRATION:

Three grams (6 tablets) to be taken 3-4 times daily for 3 days; then 3 Gm (6 tablets) twice daily for 4 days.

SIDE EFFECTS: Allergic reactions, rash, itching, headache and anorexia.

CONTRAINDICATIONS:

Should not be used during pregnancy or by nursing mothers. Contraindicated in the presence of kidney damage (blood in urine).

REMARKS: Patient should force intake of fluids -- at least 10% more than usual.

DRUG: TETRACYCLINE HYDROCHLORIDE

DOSAGE FORM(S): Capsules -- 250 mg
Tablets -- 250 mg (UNIPAC #15-690-00)

USE(S): Treatment of skin infections, syphilis, gonorrhea, pelvic inflammatory disease, typhus fever (malaise, severe headache, sustained high fever, colored spots on skin), and bronchitis.

DOSING AND ADMINISTRATION:

One to 2 capsules 4 times daily or 2-4 tablets or capsules by mouth twice daily on an empty stomach (one hour before or two hours after meals or food intake).

Syphilis -- Thirty to 40 Gm (120-160 tablets or capsules) over 10-15 days, in equally spaced doses throughout each day.

Thirty (30) Gm in 10 days - 3 tablets or capsules by mouth four times daily for 10 days.

Thirty (30) Gm in 15 days - 2 tablets or capsules by mouth 4 times daily for 15 days.

Forty (40) Gm in 10 days - 4 tablets or capsules by mouth 4 times daily for 10 days.

Syphilis of more than one year's duration - 2 tablets or capsules (500 mg) by mouth 4 times daily for 30 days.

Gonorrhea -- Six tablets or capsules (1.50 Gm) by mouth initially, followed by 2 tablets or capsules (500 mg) by mouth every 6 hours for 4 days.

Skin Infections -- Two tablets or capsules (500 mg) by mouth twice daily for 5-10 days.

Pelvic Inflammatory Disease -- Two tablets or capsules (500 mg) by mouth 4 times daily for 10 days.

SIDE EFFECTS: Stomach upset, increased sensitivity to the sun, rash, fever, itching, headache; also will stain teeth in young children.

CONTRAINDICATIONS:

Contraindicated for use in children under 8 years of age, pregnant women and nursing mothers.

REMARKS: Be sure the drug is in date. Outdated tetracycline is harmful to the liver. Antacids, milk or other dairy products should not be taken within one hour before or after tetracycline is taken.

STORAGE: In a tightly closed container, protected from light, at a temperature not exceeding 25°C (77°F).

DRUG: THIOPIENTAL SODIUM

DOSAGE FORM(S): Injections --

Syringes, 250 mg, 400 mg, 500 mg
Vials, 500 mg with diluent; 1 Gm with diluent (UNIPAC #15-696-00)

USE(S): As an ultra short-acting general anesthetic.

DOSAGE AND ADMINISTRATION:

Dosage depends entirely upon patient response and, therefore, must be individualized. The following table provides recommended dosages based on 3-4 mg/kg of body weight.

<u>Age (Yr)</u>	<u>Weight(kg)</u>	<u>Height(cm)</u>	<u>Dose Range (mg)</u> <u>(3-4 mg/kg)</u>
0.5	6.5	64	19.5-26
1	9	73	27-36
1.5	10	80	30-40
2.5	11	87	33-44
3	12	90	36-48
3-4	13	95	39-52
4-5	15	101	45-60
5-6	17	107	51-68
6-7	19	113	57-76
7-8	20	119	60-80
8-9	21	124	63-84
9-10	22	129	66-88
10-11	25	133	75-100
11-12	29	136	87-116
12+	34	140	102-136
12+	39	140	117-156
12+	45	140	135-180
12+	50	150	150-200
12+	60	160	180-240
12+	65	170	195-260
12+	70	180	225-300

SIDE EFFECTS: CNS depression, death due to respiratory, circulatory failure.

CONTRAINDICATIONS:

Hepatic or renal dysfunction may prolong the effects of the drug. Severe cardiovascular disease, absence of suitable veins and hypersensitivity to the drug are contraindications.

REMARKS: This drug should be administered only by persons qualified in the use of intravenous anesthetics. Keep resuscitative and endotracheal intubation equipment and oxygen readily available. Maintain open, unobstructed airway at all times.

DRUG: TOLBUTAMIDE

DOSAGE FORM(S): Tablets -- 250mg, 500 mg

USE(S): Treatment of adult, maturity-onset diabetes mellitus.

DOSING AND ADMINISTRATION:

The usual initial dose is 1 to 2 Gm daily, to be increased or decreased depending on response. Maintenance doses over 2 Gm per day are rare. It is best to divide the daily dose into two doses 12 hours apart.

SIDE EFFECTS: Lack of appetite, nausea, jaundice, allergic reactions (rash, itching, etc.), weakness, fatigue.

CONTRAINDICATIONS:

Contraindicated in diabetics with infections, juvenile or brittle diabetics, those with impaired renal or hepatic function, and in pregnancy.

REMARKS: Patients should be cautioned to avoid the use of alcoholic beverages while taking this drug.

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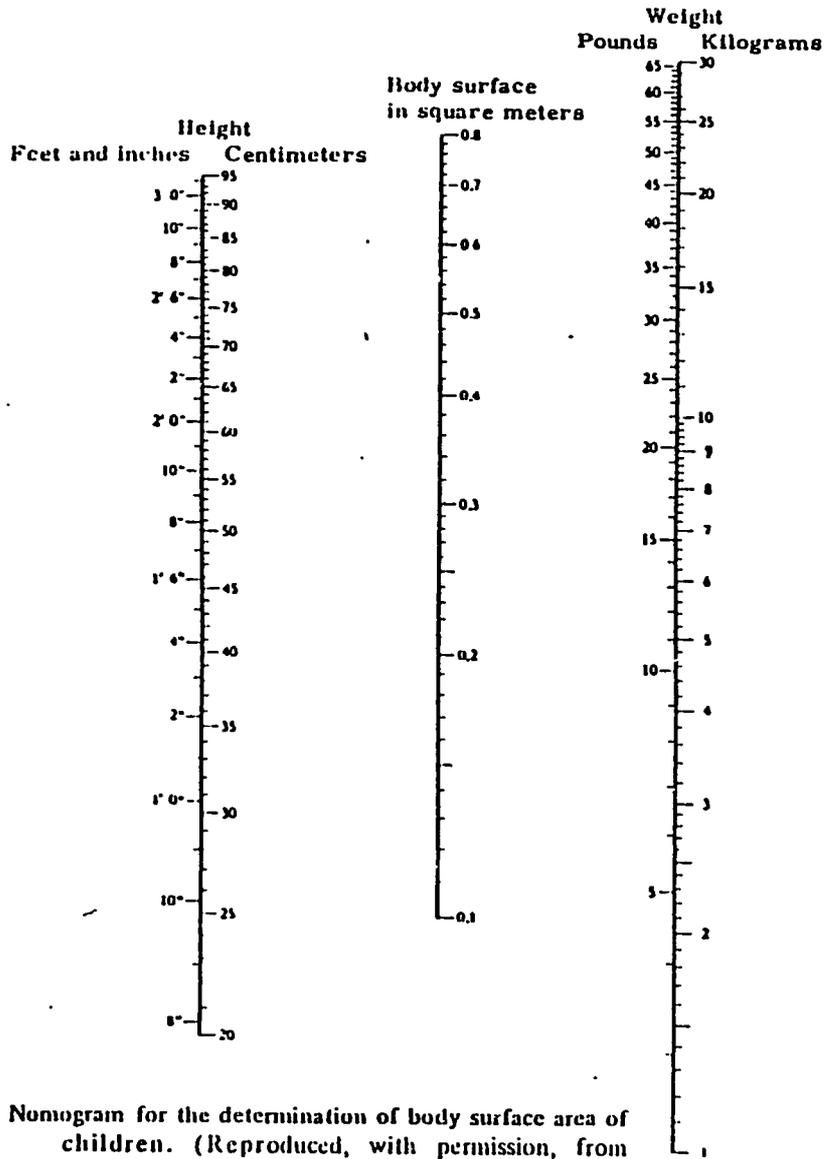
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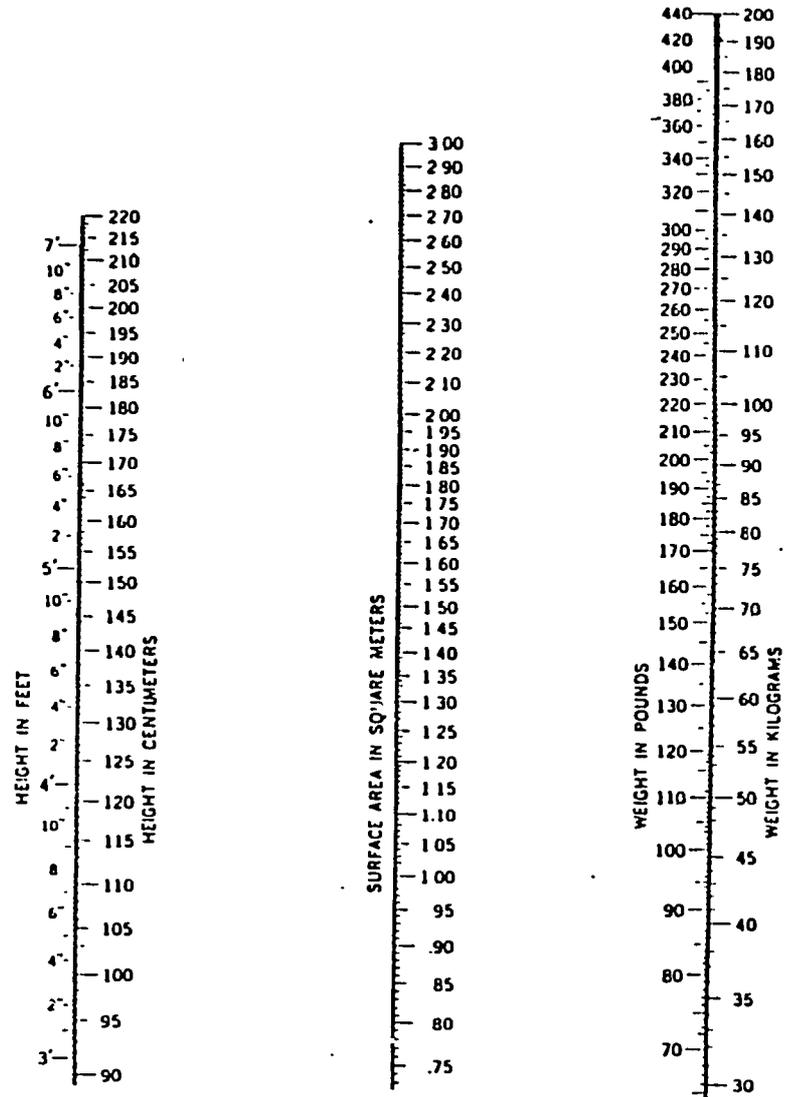
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Nomogram for the determination of body surface area of children. (Reproduced, with permission, from DuBois: *Basal Metabolism in Health and Disease*. Lea & Febiger, 1936.)



Nomogram for the determination of body surface area of children and adults. (Reproduced, with permission, from Boothby & Sandiford Boston MSJ 185.337, 1921.)

Normograms for Determining Body Surface Area

Drugs Which Cross the Placental Barrier and Which
May Endanger the Fetus

DRUG	ADVERSE EFFECT(S)
Acetaminophen	Methemoglobinemia
Aspirin	Neonatal bleeding; severe hypoglycemia?
Barbiturates	Depressed respiration
Chloramphenicol	Fetal death
Chloroquine	Thrombocytopenia
Chlorpromazine	Neonatal jaundice, mortality? and prolonged extrapyramidal signs
Isoniazid	Retarded psychomotor activity
Phenobarbital (in excess)	Neonatal hemorrhage and death
Salicylates	Neonatal bleeding; severe hypoglycemia?
Sulfonamides (long-acting)	Kernicterus; hyperbilirubinemia; acute liver atrophy; anemia
Sulfonylureas	Neonatal goiter; prolonged neonatal hypoglycemia
Tetracyclines	Discolored teeth; inhibited bone growth; micro-melia; syndactyl
Thiazides	Neonatal death; thrombocytopenia
Tolbutamide	Congenital anomalies and prolonged neonatal hypoglycemia

Adapted from Martin, E. W., Hazards of Medication, J. B. Lippincott Co., Philadelphia, Pa., 1971, pp. 275-176.

WHO Guidelines for Establishing a List of Essential Drugs

Criteria for the selection of essential drugs are intended to ensure that the process of selection will be unbiased and based on the best available scientific information, yet allow for a degree of variation to take into account local needs and requirements. The following guidelines are recommended :

(1) Each country should appoint a committee to establish a list of essential drugs. The committee should include individuals competent in the fields of clinical medicine, pharmacology and pharmacy, as well as peripheral health workers. Where individuals with adequate training are not available within the country, assistance from WHO could be sought.

(2) Drug selection should be based on the results of benefit and safety evaluations obtained in controlled clinical trials and/or epidemiological studies. Guidelines for such trials have been set forth in the report of a WHO Scientific Group.¹

(3) The international nonproprietary (generic) names for drugs or pharmaceutical substances should be used whenever available.² A cross-index of nonproprietary and proprietary names should initially be provided to the prescribers.

(4) Regulations and facilities should be available to ensure that the quality of selected pharmaceutical products meets adequate quality control standards, including stability and, when necessary, bioavailability. Where national resources are not available for this type of control, the suppliers should provide documentation of the product's compliance with the requested specifications.

(5) Cost represents a major selection criterion. In cost comparisons between drugs, the cost of the total treatment, and not only the unit cost; must be considered. In addition, the cost of nonpharmaceutical therapeutic modalities should be taken into account.

(6) Local health authorities should decide the level of expertise required to prescribe single drugs or a group of drugs in a therapeutic category. Consideration should also be given to the competence of the personnel to make a correct diagnosis. In some instances, while individuals with advanced training are necessary to prescribe initial therapy, individuals with less training could be responsible for maintenance therapy.

(7) The influence of local diseases or conditions on pharmacokinetic and pharmacodynamic parameters should be considered in making the selections : e.g., malnutrition, liver disease.

(8) When several drugs are available for the same indication, select the drug, pharmaceutical product and dosage form that provide the highest benefit/risk ratio.

(9) When two or more drugs are therapeutically equivalent, preference should be given to :

- (i) the drug which has been most thoroughly investigated ;
- (ii) the drug with the most favourable pharmacokinetic properties, e.g., to improve compliance, to minimize risk in various pathological states ;
- (iii) drugs for which local, reliable manufacturing facilities for pharmaceutical products exist ;
- (iv) drugs, pharmaceutical products and dosage forms with favourable stability, or for which storage facilities exist.

(10) Fixed-ratio combinations are only acceptable if the following criteria are met :

- (i) clinical documentation justifies the concomitant use of more than one drug ;
- (ii) the therapeutic effect is greater than the sum of the effect of each ;
- (iii) the cost of the combination product is less than the sum of the individual products ;
- (iv) compliance is improved ;
- (v) sufficient drug ratios are provided to allow dosage adjustments satisfactory for the majority of the population.

(11) The list should be reviewed at least once a year and whenever necessary. New drugs should be introduced only if they offer distinct advantages over drugs previously selected. If new information becomes available on drugs already in the list which clearly shows that they no longer have a favourable benefit/risk ratio, they should be deleted and replaced by a safer drug. It should be remembered that for the treatment of certain conditions, nonpharmacological forms of therapy, or no

10. REVISED MODEL LIST OF ESSENTIAL DRUGS Explanatory Notes²

In many instances various drugs could serve as alternatives to those on the list. In these cases, the substance selected provides an *example of a therapeutic group* and is distinguished by being preceded by a square symbol (□). It is imperative that this should be understood when drugs are selected at national level, since the choice is then influenced by the comparative cost and availability of equivalent products. Examples of acceptable substitutions include:

- Codeine: other drugs for the symptomatic treatment of diarrhoea such as diphenoxylate or loperamide or, when indicated for cough relief, noscapine or dextromethorphan.
- Hydrochlorothiazide: any other thiazide-type diuretic currently in broad clinical use.
- Hydralazine: any other peripheral vasodilator having an anti-hypertensive effect.
- Senna: any mild stimulant laxative (either synthetic or of plant origin).
- Sulfadimidine: any other short-acting systemically-active sulfonamide unlikely to cause crystalluria.

Numbers in parentheses following the drug names indicate:

¹ UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES. *Handbook for emergencies*, Geneva, 1982-83, pp. 253-262. The list will be available separately from WHO in English, French, and Spanish.

² The numbers preceding the drug groups and subgroups in the model list (e.g., 11; 17.6.2) have been allocated, in accordance with the English alphabetical order, for convenience in referring to the various categories; they have no formal significance.

- (1) Drugs subject to international control under the Single Convention on Narcotic Drugs (1961) and the Convention on Psychotropic Substances (1971);
- (2) Specific expertise, diagnostic precision or special equipment required for proper use;
- (3) Greater potency;
- (4) In renal insufficiency, contraindicated or dosage adjustments necessary;
- (5) To improve compliance;
- (6) Special pharmacokinetic properties for purpose;
- (7) Adverse effects diminish benefit risk ratio;
- (8) Limited indications or narrow spectrum of activity;
- (9) For epidural anaesthesia.

Letters in parentheses following the drug names indicate the reasons for the inclusion of *complementary drugs*:

- (A) When drugs in the main list cannot be made available;
- (B) When drugs in the main list are known to be ineffective or inappropriate for a given individual;
- (C) For use in rare disorders or in exceptional circumstances.

<i>Main list.</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
I. Anaesthetics		
1.1 General anaesthetics and oxygen		
ether, anaesthetic (2)		inhalation
halothane (2)		inhalation
nitrous oxide (2)		inhalation
oxygen		inhalation (medicinal gas)
thiopental (2)		powder for injection, 0.5 g, 1.0 g (sodium salt) in ampoule
1.2 Local anaesthetics		
□ bupivacaine (2, 9)		injection, 0.25% ^a , 0.5% ^a (hydrochloride) in vial
□ lidocaine		injection, 1% ^a , 2% ^a (hydrochloride) in vial injection, 1% ^a , 2% ^a + epinephrine 1:100 000 in vial topical forms, 2-4% ^a (hydrochloride)

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as".

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
2. Analgesics, Antipyretics, Nonsteroidal Antiinflammatory Drugs and Drugs Used to Treat Gout		
2.1 Non-opioids		
acetylsalicylic acid		tablet, 100-500 mg suppository, 50-150 mg
allopurinol (4)		tablet, 100 mg
<input type="checkbox"/> ibuprofen		tablet, 200 mg
indometacin		capsule or tablet, 25 mg
paracetamol		tablet, 100-500 mg suppository, 100 mg
	colchicine (B, C) (7)	tablet, 0.5 mg
	probenecid (B, C)	tablet, 500 mg
2.2 Opioid analgesics and antagonists		
morphine (1)		injection, 10 mg (sulfate or hydrochloride) in 1-ml ampoule
naloxone		injection, 0.4 mg (hydrochloride) in 1-ml ampoule
	<input type="checkbox"/> pethidine (A) (4, 10)	injection, 50 mg (hydrochloride) in 1-ml ampoule
3. Antiallergics		
<input type="checkbox"/> chlorphenamine		tablet, 4 mg (maleate) injection, 10 mg in 1-ml ampoule
epinephrine		injection, 1 mg (as hydrochloride) in 1-ml ampoule
	cromoglicic acid (B) (2, 8)	oral inhalation (cartridge) 20 mg (sodium salt) per dose
4. Antidotes and Other Substances Used in Poisonings		
4.1 General		
charcoal, activated		powder
ipecacuanha		syrup, containing 0.14% ipecacuanha alkaloids calculated as emetine
<input type="checkbox"/> sodium sulfate		powder 5-15 g

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
4. Antidotes and Other Substances Used in Poisonings <i>(continued)</i>		
4.2 Specific		
atropine		injection, 1 mg (sulfate) in 1-ml ampoule
deferoxamine		injection, 500 mg (mesilate) in vial
dimercaprol (2)		injection in oil, 50 mg/ml in 2-ml ampoule
naloxone		injection, 0.4 mg (hydrochloride) in 1-ml ampoule
protamine sulfate		injection, 10 mg/ml in 5-ml ampoule
sodium calcium edetate (2)		injection, 200 mg/ml in 5-ml ampoule
sodium nitrite		injection, 30 mg/ml in 10-ml ampoule
sodium thiosulfate		injection, 250 mg/ml in 50-ml ampoule
	methylthioninium chloride (c) ^b	injection, 10 mg/ml in 10-ml ampoule
	penicillamine (c) (2)	capsule or tablet, 250 mg
5. Antiepileptics		
diazepam		injection, 5 mg/ml in 2-ml ampoule
ethosuximide		capsule or tablet, 250 mg
phenobarbital (1)		tablet, 50 mg, 100 mg syrup, 15 mg/5 ml
phenytoin		capsule or tablet, 25 mg, 100 mg (sodium salt)
		injection, 50 mg (sodium salt) in 5-ml vial
	carbamazepine (b, c)	tablet, 200 mg
	valproic acid (b, c) (2, 4, 7)	tablet, 200 mg (sodium salt)

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

^b Synonym: methylene blue

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
6. Antiinfective Drugs		
6.1. Anthelmintic drugs		
□ mebendazole		tablet, 100 mg
piperazine		tablet, 500 mg (citrate or adipate) elixir or syrup (as citrate) equivalent to 500 mg hydrate/5 ml
pyrantel		chewable tablet, 250 mg (as embonate) oral suspension, 50 mg (as embonate)/ml
tiabendazole		chewable tablet, 500 mg
6.2. Antiamoebic drugs		
chloroquine		tablet, 200 mg (as phosphate or sulfate)
diloxanide		tablet, 500 mg (furoate)
□ metronidazole		tablet, 200–500 mg
	dehydroemetine (B) (1, 7)	injection, 60 mg (hydrochloride) in 1-ml ampoule
6.3. Antibacterial drugs		
6.3.1. Penicillins		
□ ampicillin (4)		capsule or tablet, 250 mg, 500 mg (anhydrous) powder for oral suspension, 125 mg (anhydrous)/5 ml powder for injection, 500 mg (as sodium salt) in vial
benzathine benzylpenicillin (5)		injection, 1.44 g benzylpenicillin (= 2.4 million IU)/5 ml in vial
benzylpenicillin		powder for injection, 0.6 g (= 1 million IU), 3.0 g (= 5 million IU) (as sodium or potassium salt) in vial
phenoxymethylpenicillin		tablet, 250 mg (as potassium salt) powder for oral suspension 250 mg (as potassium salt)/5 ml
procaine benzylpenicillin (7)		powder for injection, 1 g (= 1 million IU), 3 g (= 3 million IU)

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as".

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
6. Antiinfective Drugs (continued)		
6.3.2 Other antibacterial drugs		
-chloramphenicol (7)		capsule, 250 mg powder for injection, 1 g (as sodium succinate) in vial
-cloxacillin		capsule, 500 mg (as sodium salt) powder for injection, 500 mg (as sodium salt) in vial
erythromycin		capsule or tablet, 250 mg (as stearate or ethylsuccinate) oral suspension, 125 mg (as stearate or ethylsuccinate) 5 ml powder for injection, 500 mg (as lactobionate) in vial
□gentamicin (4)		injection, 10 mg, 40 mg (as sulfate) ml in 2-ml vial
□metronidazole		tablet, 200, 500 mg injection, 500 mg in 100 ml suppository, 500 mg, 1 g
salazosulfapyridine (2)		tablet, 500 mg
spectinomycin (8)		powder for injection, 2 g (as hydrochloride) in vial
□sulfadimidine (4)		tablet, 500 mg oral suspension, 500 mg 5 ml injection, 1 g (sodium salt) in 3-ml ampoule
□sulfamethoxazole + rimethoprim (4)		tablet, 100 mg + 20 mg, 400 mg + 80 mg
□tetracycline (4)		capsule or tablet, 250 mg (hydrochloride)
	flamikacin (b, c) (4)	injection, 250 mg (sulfate) ml in 2-ml ampoule
	doxycycline (b) (5, 6)	capsule or tablet, 100 mg (as hydrochloride) injection, 100 mg (as hydrochloride) 5 ml in ampoule
	nitrofurantoin (A, B) (4, 7)	tablet, 100 mg

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
6. Antif Infective Drugs (continued)		
6.3.3 Antileprosy drugs		
clofazimine		capsule, 100 mg
dapsone		tablet, 50 mg, 100 mg
rifampicin		capsule or tablet, 150 mg, 300 mg
	ethionamide (B)	tablet, 125 mg, 250 mg
	protionamide (B)	tablet, 125 mg
6.3.4 Antituberculosis drugs		
ethambutol		tablet, 100–500 mg (hydrochloride)
isoniazid		tablet, 100–300 mg
pyrazinamide		tablet, 500 mg
rifampicin		capsule or tablet, 150 mg, 300 mg
streptomycin (4)		powder for injection, 1 g (as sulfate) in vial
thioacetazone + isoniazid		tablet, 50 mg + 100 mg, 150 mg + 300 mg
6.4 Antifilarial drugs		
diethylcarbamazine		tablet, 50 mg (citrate)
suramin sodium		powder for injection, 1 g in vial
6.5 Antifungal drugs		
amphotericin B		powder for injection, 50 mg in vial
griseofulvin (8)		tablet or capsule, 125 mg, 250 mg
nystatin		tablet, 500 000 IU
		pessary, 100 000 IU
	flucytosine (B)	capsule, 250 mg
	(4, 8)	infusion, 2.5 g in 250 ml
6.6 Antileishmaniasis drugs		
pentamidine (5)		powder for injection, 200 mg (isetionate or mesilate) in vial
sodium stibogluconate		injection, 33%, equivalent to 10% antimony, in 30-ml vial

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

^b Two strengths are required for individual dosage adjustment

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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6. Antiffective Drugs (continued)

6.7 Antimalarial drugs

□ chloroquine		tablet, 150 mg (as phosphate or sulfate) syrup, 50 mg (as phosphate or sulfate) 5 ml
primaquine		tablet, 7.5 mg, 15 mg (as phosphate)
quinine		tablet, 300 mg (as bisulfate or sulfate) injection, 300 mg (as dihydrochloride) ml in 2-ml ampoule
	amodiaquine (B)	suspension, 150 mg (as hydrochloride) 5 ml
	sulfadoxine + pyrimethamine (B)	tablet, 500 mg + 25 mg

6.8 Antischistosomal drugs

metrifonate		tablet, 100 mg
oxamniquine		capsule, 250 mg syrup, 250 mg 5 ml
praziquantel		tablet, 600 mg

6.9 Antitrypanosomal drugs

melarsoprol (5)		injection, 3.6% solution
pentamidine (5)		powder for injection, 200 mg (isetionate or mesilate)
suramin sodium		powder for injection, 1 g in vial
	□ nifurtimox (c) (2, 8)	tablet, 30 mg, 120 mg, 250 mg

7. Antimigraine Drugs

ergotamine (2, 7)		tablet, 2 mg (as tartrate)
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^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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8. Antineoplastic and Immunosuppressive Drugs

azathioprine (2)		tablet, 50 mg powder for injection, 100 mg (as sodium salt) in vial
bleomycin (2)		powder for injection, 15 mg (as sulfate) in vial
busulfan (2)		tablet, 2 mg
calcium folinate (2) ^d		tablet, 15 mg injection, 3 mg/ml in 10-ml ampoule
chlorambucil (2)		tablet, 2 mg
cyclophosphamide (2)		tablet, 25 mg powder for injection, 500 mg in vial
cytarabine (2)		powder for injection, 100 mg in vial
□ doxorubicin (2)		powder for injection, 10 mg, 50 mg (hydrochloride) in vial
fluorouracil (2)		injection, 50 mg/ml in 5-ml ampoule
methotrexate (2)		tablet, 2.5 mg (as sodium salt) injection, 50 mg (as sodium salt) in vial
procarbazine		capsule, 50 mg (as hydrochloride)
vincristine (2)		powder for injection, 1 mg, 5 mg (sulfate) in vial

9. Antiparkinsonism Drugs

† biperiden		tablet, 2 mg (hydrochloride) injection, 5 mg (lactate) in 1-ml ampoule
levodopa + † carbidopa (5, 6)		tablet, 100 mg + 10 mg, 250 mg + 25 mg
	levodopa (A)	tablet or capsule, 250 mg

^a When the strengths specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

^d Drug for 'rescue therapy' with methotrexate

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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10. Blood. Drugs affecting the

10.1 Antianemia drugs

ferrous salt		tablet, equivalent to 60 mg iron (as sulfate or fumarate) oral solution, equivalent to 15 mg iron (as sulfate) in 0.6 ml
folic acid (2)		tablet, 1 mg injection, 1 mg (as sodium salt) in 1-ml ampoule
hydroxocobalamin (2)		injection, 1 mg in 1-ml ampoule
	ferrous salt + folic acid (c)	tablet, 60 mg + 200 µg
	iron dextran (b) (5)	injection, equivalent to 50 mg iron ml in 2-ml ampoule

10.2 Anticoagulants and antagonists

heparin		injection, 1000 IU ml, 5000 IU ml, 20 000 IU ml in 1-ml ampoule
phytomenadione		injection, 10 mg ml in 5-ml ampoule
protamine sulfate (2)		injection, 10 mg ml in 5-ml ampoule
warfarin (2, 6)		tablet, 5 mg (sodium salt)

11. Blood Products and Blood Substitutes

11.1 Plasma substitute

dextran 70		injectable solution, 6 ^g / _{ml}
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11.2 Plasma fractions for specific uses

albumin, human normal (2, 8)		injectable solution, 25 ^g / _{100 ml}	} All plasma fractions should comply with the WHO Requirements for the Collection, Processing and Quality Control of Human Blood and Blood Products
	antihæmophilic fraction ^c (c) (2, 8)	(dried)	

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets when it refers to the active moiety; the name of the salt or ester in brackets is preceded by the word "as"

^c Synonym: factor VIII

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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11. Blood Products and Blood Substitutes (continued)

11.3 Plasma substitute (continued)

factor IX complex (coagulation factors II, VII, IX, X, concentrate)
(c) (2, 8)

(dried)

All plasma fractions should comply with the WHO Requirements for the Collection, Processing and Quality Control of Human Blood and Blood Products/

12. Cardiovascular Drugs

12.1. Antianginal drugs

glyceryl trinitrate		tablet, (sublingual) 0.5 mg
<input type="checkbox"/> isosorbide dinitrate		tablet, (sublingual) 5 mg
<input type="checkbox"/> propranolol		tablet, 10 mg, 40 mg (hydrochloride)
		injection, 1 mg (hydrochloride) in 1-ml ampoule
<input type="checkbox"/> verapamil		tablet, 40 mg, 80 mg (hydrochloride)
		injection, 2.5 mg/ml (hydrochloride) in 2-ml ampoule

12.2. Antiarrhythmic drugs

isoprenaline	\	tablet, 10 mg; 15 mg (hydrochloride or sulfate)
lidocaine		injection, 20 mg (hydrochloride)/ml in 5-ml ampoule
<input type="checkbox"/> procainamide		tablet, 250 mg, 500 mg (hydrochloride)
		injection, 100 mg (hydrochloride)/ml in 10-ml ampoule
<input type="checkbox"/> propranolol		tablet, 10 mg, 40 mg (hydrochloride)
		injection, 1 mg (hydrochloride) in 1-ml ampoule
<input type="checkbox"/> quinidine (A, B)		tablet, 200 mg (sulfate)

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets; when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

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<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
12. Cardiovascular Drugs (continued)		
12.3 Antihypertensive drugs		
☐ hydralazine		tablet, 50 mg (hydrochloride)
☐ hydrochlorothiazide		tablet, 50 mg
☐ propranolol		tablet, 40 mg, 80 mg (hydrochloride)
☐ sodium nitroprusside (2, 8)		powder for preparing infusion, 50 g in ampoule
	methyldopa (A, B) (7)	tablet, 250 mg
	☐ reserpine (A) (7)	tablet, 0.1 mg, 0.25 mg injection, 1 mg in 1-ml ampoule
12.4 Cardiac glycosides		
digoxin (4)		tablet, 0.0625 mg, 0.25 mg oral solution, 0.05 mg/ml injection, 0.25 mg/ml in 2-ml ampoule
	digitoxin (B) (6)	tablet, 0.05 mg, 0.1 mg oral solution, 1 mg/ml injection, 0.2 mg in 1-ml ampoule
12.5 Drugs used in shock or anaphylaxis		
dopamine (2)		injection, 40 mg (hydrochloride) ml in 5-ml vial
epinephrine		injection, 1 mg (as hydrochloride) in 1-ml ampoule
13. Dermatological Drugs		
13.1 Antifungal drugs		
benzoic acid + salicylic acid		ointment or cream, 6% + 3%
☐ miconazole		ointment or cream, 2% (nitrate)
nystatin		ointment or cream, 100 000 IU/g

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety. The name of the salt or ester in brackets is preceded by the word "as".

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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13. Dermatological Drugs (continued)

13.2 Antinfective drugs

<input type="checkbox"/> neomycin + <input type="checkbox"/> bacitracin	ointment, 5 mg neomycin sulfate + 500 IU bacitracin zinc/g
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13.3 Antiinflammatory and antipruritic drugs

<input type="checkbox"/> betamethasone (3)	ointment or cream, 0.1% (as valerate)
<input type="checkbox"/> calamine lotion	lotion
<input type="checkbox"/> hydrocortisone	ointment or cream, 1% (acetate)

13.4 Astringent drugs

aluminium acetate	solution, 13% for dilution
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13.5 Keratoplastic and keratolytic agents

coal tar	solution, topical 20%
salicylic acid	solution, topical 5%

13.6 Scabicides and pediculicides

benzyl benzoate	lotion, 25%
lindane ^c	cream or lotion, 1%

14. Diagnostic Agents

edrophonium (2, 8)	injection, 10 mg (chloride) in 1-ml ampoule
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tuberculin, purified protein derivative (PPD)	injection
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14.1 Ophthalmic drugs

fluorescein	eye drops, 1% (sodium salt)
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^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

^c Previously identified as gamma benzene hexachloride

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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14. Diagnostic Agents (continued)

14.2 Radiocontrast media

<input type="checkbox"/> adipiodone meglumine		injection, 25% in 20-ml vial
<input type="checkbox"/> barium sulfate		powder
<input type="checkbox"/> iopanoic acid		tablet, 500 mg
<input type="checkbox"/> meglumine amidotrizoate		injection, 60% in 20-ml ampoule
<input type="checkbox"/> sodium amidotrizoate		injection, 50% in 20-ml ampoule

15. Disinfectants

<input type="checkbox"/> chlorhexidine		solution, 5% (gluconate) for dilution
<input type="checkbox"/> iodine		solution, 2.5%

16. Diuretics

<input type="checkbox"/> amiloride		tablet, 5 mg (hydrochloride)
<input type="checkbox"/> furosemide		tablet, 40 mg injection, 10 mg/ml in 2-ml ampoule
<input type="checkbox"/> hydrochlorothiazide		tablet, 50 mg
mannitol		injectable solution, 10%, 20%
spironolactone		tablet, 25 mg
chlortalidone (B) (6)		tablet, 50 mg

17. Gastrointestinal Drugs

17.1 Antacids and other ant ulcer drugs

aluminium hydroxide		tablet, 500 mg oral suspension, 320 mg/5 ml
cimetidine		tablet, 200 mg injection, 200 mg in 2-ml ampoule
magnesium hydroxide		oral suspension, equivalent to 550 mg magnesium oxide/10 ml
calcium carbonate (A, B)		tablet, 600 mg

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets; when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as".

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
17. Gastrointestinal Drugs (continued)		
17.2 Antiemetic drugs		
<input type="checkbox"/> promethazine		tablet, 10 mg, 25 mg (hydrochloride) elixir or syrup, 5 mg (hydrochloride)/5 ml injection, 25 mg (hydrochloride) in 2-ml ampoule
	metoclopramide (c)	tablet, 10 mg (as hydrochloride)
17.3 Antihemorrhoidal drugs		
<input type="checkbox"/> local anaesthetic, astringent and anti-inflammatory drug		ointment or suppository
17.4 Antispasmodic drugs		
<input type="checkbox"/> atropine		tablet, 1 mg (sulfate) injection, 1 mg (sulfate) in 1-ml ampoule
17.5 Cathartic drugs		
<input type="checkbox"/> senna		tablet, 7.5 mg (sennosides)
17.6 Diarrhoea, drugs used in		
17.6.1 Antidiarrhoeal (symptomatic) drugs		
<input type="checkbox"/> codeine (1)		tablet, 30 mg (phosphate)
17.6.2 Replacement solution		
oral rehydration salts (for glucose-salt solution)		
	<i>g/litre</i>	
sodium chloride	3.5	
sodium bicarbonate	2.5	
potassium chloride	1.5	
glucose	20.0	

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
18. Hormones		
18.1 Adrenal hormones and synthetic substitutes		
<input type="checkbox"/> dexamethasone		tablet, 0.5 mg, 4 mg injection, 4 mg (sodium phosphate) in 1-ml ampoule
hydrocortisone		powder, for injection, 100 mg (as sodium succinate) in vial
<input type="checkbox"/> prednisolone		tablet, 5 mg
	fludrocortisone (C)	tablet, 0.1 mg (acetate)
18.2 Androgens		
testosterone (2)		injection, 200 mg (enanthate) in 1-ml ampoule injection, 25 mg (propionate) in 1-ml ampoule
18.3 Estrogens		
<input type="checkbox"/> ethinylestradiol		tablet, 0.05 mg
18.4 Insulins and other antidiabetic agents		
<input type="checkbox"/> compound insulin zinc suspension		injection, 40 IU/ml in 10-ml vial, 80 IU/ml in 10-ml vial
insulin injection		injection, 40 IU/ml in 10-ml vial, 80 IU/ml in 10-ml vial
<input type="checkbox"/> glibenclamide		tablet, 5 mg
18.5 Oral contraceptives		
<input type="checkbox"/> ethinylestradiol + <input type="checkbox"/> levonorgestrel		tablet, 0.03 mg + 0.15 mg, 0.05 mg + 0.25 mg
<input type="checkbox"/> ethinylestradiol + <input type="checkbox"/> norethisterone		tablet, 0.05 mg + 1.0 mg
<input type="checkbox"/> norethisterone (B)		tablet, 0.35 mg
18.6 Ovulation inducers		
	clemifene (C) (2, 8)	tablet, 50 mg (citrate)

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as".

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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18. Hormones (continued)

18.7 Progestogens

☐ norethisterone tablet, 5 mg

18.8 Thyroid hormones and antithyroid drugs

levothyroxine tablet, 0.05 mg, 0.1 mg (sodium salt)

potassium iodide tablet, 60 mg

☐ propylthiouracil tablet, 50 mg

19. Immunologicals

19.1 Sera and immunoglobulins

anti-D immunoglobulin (human)	injection, 0.25 mg/ml
antirabies hyperimmune serum	injection, 1000 IU in 5-ml ampoule
antivenom sera	injection
diphtheria antitoxin	injection, 10 000 IU, 20 000 IU, in vial
immunoglobulin, human, normal (2)	injection
tetanus antitoxin	injection, 50 000 IU in vial

All plasma fractions should comply with the WHO Requirements for the Collection, Processing and Quality Control of Human Blood and Blood Products^b

^aWhen the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

^bWHO Technical Report Series, No. 626, Annex 1, 1978

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
19. Immunologicals (continued)		
19.2 Vaccines		
19.2.1 For universal immunization		
BCG vaccine (dried)		injection
diphtheria-pertussis-tetanus vaccine		injection
diphtheria-tetanus vaccine		injection
measles vaccine		injection
poliomyelitis vaccine (live attenuated)		oral solution
tetanus vaccine		injection
19.2.2 For specific groups of individuals		
influenza vaccine		injection
meningococcal vaccine		injection
rabies vaccine		injection
typhoid vaccine		injection
yellow fever vaccine		injection

All vaccines should comply with the WHO Requirements for Biological Substances¹

20. Muscle Relaxants (Peripherally Acting) and Cholinesterase Inhibitors

□ neostigmine	tablet, 15 mg (bromide) injection, 0.5 mg (metilsulfate) in 1-ml ampoule
□ gallamine (2)	injection, 40 mg (triet(h)otide) ml in 2-ml ampoule

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets when it refers to the active moiety; the name of the salt or ester in brackets is preceded by the word "as".

¹ Dried BCG Vaccine (Revised 1978) (WHO Technical Report Series, No. 638, 1979); Diphtheria Toxoid, Pertussis Vaccine, Tetanus Toxoid, and Combined Vaccines (Revised 1978) (WHO Technical Report Series, No. 638, 1979), Addendum 1981 (WHO Technical Report Series, No. 673, 1982); Measles Vaccine (Live) and Measles Vaccine (Inactivated) (WHO Technical Report Series, No. 329, 1966); Poliomyelitis Vaccine (Oral) (Revised 1982) (WHO Technical Report Series, No. 687, 1983); Tetanus Toxoid (Revised 1978) (WHO Technical Report Series, No. 638, 1979); Influenza Vaccine (Inactivated) (Revised 1978) (WHO Technical Report Series, No. 638, 1979); Meningococcal Polysaccharide Vaccine (WHO Technical Report Series, No. 894, 1976), Addendum 1980 (WHO Technical Report Series, No. 658, 1981); Rabies Vaccine for Human Use (Revised 1980) (WHO Technical Report Series, No. 658, 1981); Typhoid Vaccine (WHO Technical Report Series, No. 361, 1967); Yellow Fever Vaccine (Revised 1975) (WHO Technical Report Series, No. 594, 1976).

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<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
20. Muscle Relaxants (Peripherally Acting) and Cholinesterase Inhibitors (continued)		
suxamethonium (2)		injection, 50 mg (chloride) ml in 2-ml ampoule
	pyridostigmine (B) (2, 8)	tablet, 60 mg (bromide) injection, 1 ml (bromide) in 1-ml ampoule
21. Ophthalmological Preparations		
21.1 <i>Antiinfective agents</i>		
silver nitrate		solution (eye drops), 1%
sulfacetamide		eye ointment, 10% (sodium salt) solution (eye drops), 10% (sodium salt)
□ tetracycline		eye ointment, 1% (hydrochloride)
21.2 <i>Antiinflammatory agents</i>		
hydrocortisone (2, 7)		eye ointment, 1% (acetate)
21.3 <i>Local anaesthetics</i>		
□ tetracaine		solution (eye drops), 0.5% (hydrochloride)
21.4 <i>Miotics</i>		
pilocarpine		solution (eye drops), 2%, 4% (hydrochloride or nitrate)
21.5 <i>Mydriatics</i>		
□ homatropine		solution (eye drops), 2% (hydrobromide)
	epinephrine (A, B) (2)	solution (eye drops), 2% (as hydrochloride)
21.6 <i>Systemic preparations</i>		
acetazolamide		tablet, 250 mg

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as"

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<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration, dosage forms, and strengths^a</i>
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22. Oxytocics

ergometrine		tablet, 0.2 mg (maleate) injection, 0.2 mg (maleate) in 1-ml ampoule
oxytocin		injection, 10 IU in 1-ml ampoule

23. Peritoneal Dialysis Solution

intraperitoneal dialysis solution (of appropriate composition)		parenteral solution
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24. Psychotherapeutic Drugs

amitriptyline		tablet, 25 mg (hydrochloride)
chlorpromazine		tablet, 100 mg (hydrochloride) syrup, 25 mg (hydrochloride) 5 ml injection, 25 mg (hydrochloride) ml ¹ in 2-ml ampoule
diazepam		tablet, 5 mg
fluphenazine (5)		injection, 25 mg (decanoate or enantate) in 1-ml ampoule
haloperidol		tablet, 2 mg injection, 5 mg in 1-ml ampoule
lithium carbonate (2, 4, 7)		capsule or tablet, 300 mg

25. Respiratory Tract. Drugs Acting on the

25.1 Antasthmatic drugs

aminophylline		tablet, 200 mg injection, 25 mg ml in 10-ml ampoule
epinephrine		injection, 1 mg (as hydrochloride) in 1-ml ampoule
salbutamol		tablet, 4 mg (sulfate) oral inhalation (aerosol), 0.1 mg per dose syrup, 2 mg (sulfate) 5 ml

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets; when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as".

Main list	Complementary list	Route of administration, dosage forms, and strengths ^a
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25. Respiratory Tract, Drugs Acting on the (continued)

25.1 *Antiasthmatic drugs* (continued)

beclometasone (B) (8)	oral inhalation (aerosol), 0.05 mg (dipropionate) per dose
cromoglicic acid (B) (2, 8)	oral inhalation (cartridge), 20 mg (sodium salt) per dose
ephedrine (A)	tablet, 30 mg (as hydrochloride) elixir, 15 mg (as hydrochloride) 5 ml injection, 50 mg (sulfate) in 1-ml ampoule

25.2 *Antitussives*

codeine (1)	tablet, 10 mg (phosphate)
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26. Solutions Correcting Water, Electrolyte and Acid-base Disturbances

26.1 *Oral*

oral rehydration salts (for glucose-salt solution)	[for composition, see 17.6.2: <i>Replacement solution</i>]
potassium chloride	oral solution

26.2 *Parenteral*

compound solution of sodium lactate	injectable solution
glucose	injectable solution, 5% isotonic, 50% hypertonic
glucose with sodium chloride	injectable solution, 4% glucose, 0.18% sodium chloride (Na ⁺ 30 mmol/l, Cl ⁻ 30 mmol/l)
potassium chloride	injectable solution
sodium bicarbonate	injectable solution, 1.4% isotonic (Na ⁺ 167 mmol/l, HCO ₃ ⁻ 167 mmol/l)
sodium chloride	injectable solution, 0.9% isotonic (Na ⁺ 154 mmol/l, Cl ⁻ 154 mmol/l)
water for injection	in 2-ml, 5-ml, 10-ml ampoules

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets when it refers to the active moiety; the name of the salt or ester in brackets is preceded by the word "as".

<i>Main list</i>	<i>Complementary list</i>	<i>Route of administration dosage forms, and strengths^a</i>
27. Vitamins and Minerals		
ascorbic acid		tablet, 50 mg
ergocalciferol		capsule or tablet, 1.25 mg (50 000 IU) oral solution, 0.25 mg/ml (10 000 IU)
nicotinamide		tablet, 50 mg
pyridoxine		tablet, 25 mg (hydrochloride)
retinol		capsule or tablet, 7.5 mg (25 000 IU), 60 mg (200 000 IU) oral solution, 15 mg/ml (50 000 IU)
riboflavin		tablet, 5 mg
sodium fluoride (8)		tablet, 0.5 mg (as fluoride)
thiamine		tablet, 50 mg (hydrochloride)
	calcium gluconate (C) (2, 8)	injection, 100 mg/ml in 10-ml ampoule

^a When the strength is specified in terms of a selected salt or ester, this is mentioned in brackets, when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as".

¹ For use in the treatment of xerophthalmia with a single dose, not to be repeated before 4 months have elapsed.

WHO/FDA DRAFT BASIC DRUG LIST FOR HEALTH CENTERS

Acetylsalicylic Acid; ASA
Activated Charcoal
Antacid
Antihemorrhoidal
Atropine (Antispasmodic)

Benzoic Acid and Salicylic Acid
Benzyl Benzoate
Calamine Lotion
Chlorhexidine Solution
Chloroquine

Chlorphenamine; Chlorpheniramine
Ephedrine (Asthma)
Ergometrine (Post-Partum Hemorrhage)
Iodine
Iodine Ipecacuanha

Iron/Folic Acid
Lindane
Mebendazole
Oral Rehydration Salts
Paracetamol

Piperazine
Tetracycline Eye Ointment

III. RECOMMENDATIONS

RECOMMENDATIONS

1. Trainers and trainer trainees should be constantly reminded of a number of potential problems which may manifest themselves in ineffective pharmaceutical products. Therefore, it is recommended that they be taught the importance of noting at least the following each time a medication is to be dispensed or administered:
 - a. Product expiration dates (age of product)
 - b. Color changes
 - c. Other physical changes such as hardening of tablets or their becoming brittle.
 - d. Crystallization within container.
2. Patients should be routinely instructed to:
 - a. Comply fully with dosage and administration instructions.
 - b. Be alert to possible side effects from the medication being taken.
 - c. Return to the dispensary if questions arise about dosage, administration, side effects or food/drug, drug/drug interactions.
3. Dispensers should be provided with adequate information and indoctrination on:
 - a. The significance of product expiration dates on pharmaceutical products.
 - b. The significance of physical changes in the product.
 - c. The function of the container and closure in maintaining the integrity of the medication.
 - d. The necessity of their administering the first dose of medications themselves.

IV. REFERENCES

REFERENCES

1. King, Rosalyn C., "Providing Basic Medicines in Rural Primary Health-Care Projects in Africa: Technical Guidelines," unpublished report to Dr. James Shepperd, AFR/DR/HN, U.S. Agency for International Development, Washington, D.C. November 3, 1981.
2. Wertheimer, Albert I., Unpublished Draft of Formulary and Letter to Dr. Rosalyn C. King, U.S.A.I.D., Washington, D.C., dated August 27, 1982.
3. Quick, Jonathan D. (ed.), Managing Drug Supply, Management Sciences for Health, Drug Logistics Program, Boston, Mass., 1981.

V. BIBLIOGRAPHY

BIBLIOGRAPHY

1. UNIPAC Catalog/Price List - 1982, 2nd ed., United Nations Children's Fund Supply Division, Packing and Assembly Centre, Copenhagen, September 1981.
2. King, Rosalyn C., "Providing Basic Medicines in Rural Primary Health-Care Projects in Africa: Technical Guidelines," Unpublished Report to Dr. James Shepperd, AFR/DR/HN, U.S. Agency for International Development, Washington, D.C., November 3, 1981.
3. Rucker, T. D., "Effective Formulary Development -- Which Direction?," Managing People, Programs and Systems, Aspen Systems Corporation, pp. 29-45, 1981.
4. Rucker, T.D., and Visconti, J. A., "How Effective Are Drug Formularies? A Descriptive and Normative Study", American Society of Hospital Pharmacists Research and Education Foundation, Washington, D.C., 1979.
5. "WHO Guidelines for Establishing a List of Essential Drugs", Technical Report Series, #615, World Health Organization, Geneva, Switzerland, 1957.
6. "The Selection of Essential Drugs", 2nd ed. rev., Technical Report Series #641, World Health Organization, Geneva, 1979.
7. Veterans Administration Medical Center Formularies
 - a. New Orleans, La.
 - b. Philadelphia, Pa.
 - c. Pittsburg, Pa.
 - d. Wood, Wis.
8. Bint, A. J., and Burtt, I., "Adverse Antibiotic Drug Interactions", Drugs, 20:57-68, ADIS Press, Australasia Pty Ltd, 1980.
9. Green, P., and Tall, A., "Drugs, Alcohol and Malabsorption", Amer. J. Med., 67:1066-1073, December 1979.
10. Dickey, R., "Drugs Affecting Lactation", Seminars in Perinatology, 3:279-286.
11. Quick, Johathan D. (ed.), Managing Drug Supply, Management Sciences for Health, Drug Logistics Program, Boston, Mass., 1981.
12. United States Pharmacopeia XX / National Formulary XV, United States Pharmacopoeial Convention, Inc., Mack Publishing Company, Easton, Pa., 1980.
13. Martin, E. W, Hazards of Medication, J. B. Lippincott Co., Philadelphia, Pa., 1971.
14. USP Dispensing Information, United States Pharmacopoeial Convention, Inc., Mack Publishing Co., Easton, Pa., 1980.
15. Osol, A., Hoover, J. E., et al. (eds.), Remington's Pharmaceutical Sciences, Fifteenth Edition, Mack Publishing Company, Easton, Pa., 1975.