

**drugs**

**IN CURRENT USE**

**1956**

**WALTER MODELL, M.D., Editor**

# **drugs**

## **IN CURRENT USE**

# **1956**

**Edited by**

**WALTER MODELL, M.D., F.A.C.P.**

*Associate Professor, Clinical Pharmacology, Cornell University  
Medical College*

**SPRINGER PUBLISHING COMPANY, INC.**  
**1956** **NEW YORK, N. Y.**

*Copyright, 1956*

SPRINGER PUBLISHING COMPANY, INC.  
44 East 23rd Street      New York 10, N. Y.

*ALL RIGHTS RESERVED*

Library of Congress Catalog Card Number: 55-6974  
*Printed in U.S.A.*

**Price: \$2.00** (*Send payment with order for single copy*)

**Quantity prices:** 4 through 9 copies, \$1.90 each  
10 or more copies, \$1.80 each

## ***PREFACE***

This is an alphabetical listing of drugs, those in common use; well-established drugs, some still on trial, old ones of questionable or purely traditional value but still likely to be encountered; and, in addition, a few of academic interest only, some still in an experimental stage, some seen only as the cause of poisoning and, finally, some which are obviously doomed but which, for sentimental reasons, one is reluctant to discard. Inclusion of a drug in this list is not to be taken as a recommendation of pharmacologic utility but rather as an acceptance of the fact that it is still in current use.

Our purpose is to provide a concise statement of the principal pharmacological characteristics of each of the drugs in common use; its major uses; its physical properties; its absorption; its actions, both therapeutic and toxic; the mode of administration; preparations in common use; dosage; specific antidotes against poisoning when these are available. In other words, a capsule-account of the data essential to the sensible exploitation and safe handling of a drug. In most cases some special warnings are issued which draw attention not only to dangerous reactions and contraindications but also to instability, special requirements for storage and for prevention of deterioration, and time limits before significant loss in potency or change in pharmacologic properties. In order to accomplish this in a compact form, the style of writing is terse; often sentences are incomplete, but the abbreviation has never been consciously made at the expense of lucidity. Very brief statements follow less commonly used drugs, and where the properties of one drug are identical or very similar to another the reader may be referred to the latter.

Short essays on the characteristics of pharmacologic groups of drugs are also included in the alphabetic listing. These contain

information relating to the problems of use, and the actions and dangers characteristic of the drugs as a group. The information here is often more detailed than that given for the individual drugs which may exhibit only minor variations from the properties of the group as a whole. A list of some of the available drugs in the group, with official as well as proprietary names, follows each essay. It is intended that these essays on the drug group be used in conjunction with the statements on the individual drug.

Therapeutic groups of drugs in common use are also listed, again with official and proprietary names. There are only a few essays in connection with these therapeutic groups.

Usually only the drug principle is indicated; separate listings are rarely made of chemical variants of the same drug. This is done to save space and to avoid repetition which is not necessary since the actions of drugs attach to the principle, and their salts usually differ only in physical properties such as solubility or taste. For example, only the alkaloidal form of morphine is listed and there is no separate listing of the more commonly used soluble salt, the sulfate. Where practical differences do exist, usually in absorption, the different forms are listed and described under the heading of the principle rather than separately.

In a compact book such as this, it is neither practical nor possible to list all medicaments on the American market. There are too many and often they are merely different names for the same materials or minor variations on the same theme. Furthermore, proprietary preparations come on and drop out of the market with such rapidity as to make it impossible to keep up with all of them. As a consequence, only those proprietary preparations that promise a degree of permanence are included here. Inclusion in New and Nonofficial Remedies of the American Medical Association weighed heavily in deciding to include a proprietary preparation in this book. For those omitted, one must go to a formulary intended for the apothecary. Only a few of the vast number of mixtures on the market are included. Only a few representative solvents, vehicles, colors, flavors, emulsifying agents, and other pharmaceutic mate-

rials without significant pharmacologic action but essential for making up medicaments are included.

Drugs are described under their official names wherever these have been established. Because of widespread usage, proprietary names and synonyms could not be ignored in a realistic presentation; the more common ones are usually included. In making such selections, many arbitrary decisions had to be made, and it was usually on the basis of the Editor's judgment and personal experience that one proprietary name for a drug was omitted and another included. Pharmacopeial drugs are followed by the usual designation, U.S.P., those included only in the National Formulary by N.F., while proprietary names are followed by the symbol ®.

Many sources were used in compiling this list. The *Materia Medica* Section of the textbook *The Use of Drugs* by Modell and Place (Springer) led to the development of this work. Reference was made to the current as well as older editions of the *United States Pharmacopeia* (Mack Publishing Co.); *National Formulary* (American Pharmaceutic Association); *Useful Drugs* (Lippincott); *New and Nonofficial Remedies* (Lippincott) and the addenda to the latter as they currently appear in the *Journal of the American Medical Association* in the *Reports of the Council on Pharmacy and Chemistry*; *Modern Drug Encyclopedia* (Drug Publications); and *Douglas' Formulary and Therapeutic Guide of the New York Hospital* (Appleton-Century-Crofts). From time to time, comments obviously based on personal opinion are to be found, these may be attributed to the Editor.

The Metric System of measure is used in the text but tables for conversion to the Apothecary System of measure are included.

It is our intention to keep this volume up to date by annual revisions. The Editor would, therefore, welcome suggestions both for inclusion and exclusion.

December 10th, 1955  
New York

*Walter Modell, M.D.*

## Rounded Dosage Equivalents for Metric and Apothecary Systems

### Weights

Apothecary	Metric
gr. $\frac{1}{200}$	0.0003 Gm. or 0.3 mg.
gr. $\frac{1}{100}$	0.0006 Gm. or 0.6 mg.
gr. $\frac{1}{60}$	0.001 Gm. or 1.0 mg.
gr. $\frac{1}{50}$	0.0012 Gm. or 1.2 mg.
gr. $\frac{1}{30}$	0.002 Gm. or 2.0 mg.
gr. $\frac{1}{12}$	0.005 Gm. or 5.0 mg.
gr. $\frac{1}{8}$	0.008 Gm. or 8.0 mg.
gr. $\frac{1}{4}$	0.015 Gm. or 15.0 mg.
gr. ss	0.03 Gm. or 30.0 mg.
gr. i	0.06 Gm. or 60.0 mg.
gr. iss	0.1 Gm. or 100.0 mg.
gr. ii	0.12 Gm.
gr. iii	0.2 Gm.
gr. v	0.3 Gm.
gr. viiss	0.5 Gm.
gr. x	0.6 Gm.
gr. xv	1.0 Gm.
gr. xxx	2.0 Gm.

### Liquid

Apothecary	Metric
℥ i	0.06 cc.
℥ ii	0.12 cc.
℥ iii	0.2 cc.
℥ v	0.3 cc.
℥ viiss	0.5 cc.
℥ x	0.6 cc.
℥ xv	1.0 cc.
℥ xxx	2.0 cc.
ʒ i	4.0 cc.
ʒ ii	8.0 cc.
ʒ ss	15.0 cc.
ʒ i	30.0 cc.
ʒ ii	60.0 cc.
ʒ iv	120.0 cc.
ʒ vii	180.0 cc.
ʒ viii	250.0 cc.
quart	1000.0 cc.

## A

### ACACIA, U.S.P.—Gum Arabic

*Emulsifying agent.* A gum, which occurs in tears, fragments or powder. Slowly soluble in water.

*Actions and Uses:* Used sometimes as a demulcent, but chiefly to suspend insoluble drugs in emulsions.

### ACETANILID, U. S. P.

*Analgesic and antipyretic.* White powder, slightly soluble in water.

*Absorption:* Well absorbed from G. I. tract.

*Actions and Uses:* Although it has antipyretic actions and will reduce temperature, it is mainly used as an analgesic, often in headache remedies and similar mixtures. It relieves many common aches and pains, headaches, neuralgias, arthralgias, dysmenorrhea, myalgias. Effects are well developed within half an hour after oral dose. It is eliminated in a conjugated form in the urine.

*Warnings:* Its continued use may lead to the development of methemoglobinemia.

*Administration:* Oral.

*Preparations:* Tablet and powder. Compound acetanilid powder is a mixture of acetanilid, caffeine and sodium bicarbonate.

*Dose:* 0.2 Gm.

### ACETARSONE, N.F.—Stovarsol®

*Antiprotozoal.* White or yellowish pow-

der, slightly soluble in water. Arsenical.  
*Actions and Uses:* Used to destroy parasites in amebiasis and trichomonas vaginalis.

*Warnings:* In common with other arsenicals, may damage kidneys or liver.

*Administration:* Oral, vaginal insufflation.

*Preparations:* Tablet, 50, 100, 250 mg. Powder, contains kaolin, sodium bicarbonate and acetarsone.

*Dose:* Oral, 0.25 Gm. 2 or 3 times a day, for 7 days. Vaginal insufflation, powder containing about 0.5 Gm. acetarsone in 4 Gm.

*Antidote:* Dimercaprol.

### ACETAZOLEAMIDE—Diamox®

*Diuretic.* White powder, soluble in water.  
*Absorption:* prompt and complete from the G.I. tract.

*Actions and Uses:* A new diuretic which increases the rate of urine formation by interference with the formation of carbonic acid gas in the tissues and plasma; hence a carbonic anhydrase inhibitor. The diuretic action is usually prompt. More drugs with this type of action are likely soon to appear on the market although at the time of this writing, this is the only one. Useful in all cases in which diuretics are indicated. Used also in the treatment of glaucoma where a localized action may reduce intra-ocular pressure. Effectiveness as anticonvulsant in epilepsy has recently been reported.

*Warnings:* A new drug; more experience is required before final assessment of its



toxicity. Paresthesias of fingers and toes are common with use but these often disappear while the drug is continued. Because of excretion of potassium as well as sodium, hypokalemia may develop. Agranulocytosis has been reported which is not surprising since drug is closely related to Sulfonamides.

*Administration:* Oral, parenteral.

*Preparations:* Tablet, 250 mg. Vials, 500 mg.

*Dose:* 250 to 750 mg. daily in divided doses.

### ACETIC ACID, U. S. P.

*Caustic and rubefacient.* Clear, colorless solution containing about 36.5% acetic acid. It may be mixed with water, alcohol and glycerin. Has odor of vinegar and a sharp acid taste.

*Actions and Uses:* Used as a caustic and rubefacient and as antidote to alkali. Occasionally used to treat pediculosis.

*Administration:* Topical.

*Preparations:* Glacial Acetic Acid, U.S.P., contains about 99.5% acetic acid. Diluted Acetic Acid, N.F., contains about 6% acetic acid.

### ACETOMEROCOTOL—Merbak®

An organic mercurial antiseptic. See Mercury.

*Antidote:* Dimercaprol.

### ACETONE, N. F.

*Solvent.* Clear, colorless volatile fluid with a sweet taste. Miscible with water, alcohol, ether, chloroform.

*Actions and Uses:* Used as solvent and sometimes for cleansing instruments.

*Warnings:* Never used internally.

### ACETOPHENETIDIN, U. S. P.—

Phenacetin

*Antipyretic and analgesic.* White crystalline powder with a bitter taste. Slightly soluble in water.

*Absorption:* Well absorbed from G. I. tract.

*Actions and Uses:* Effects are fully developed in about 30 minutes following oral administration. They may persist for about 3 hours. Drug is eliminated in a conjugated form in the urine. Although

it has antipyretic properties, it is used mainly for its analgesic action, relieving many common and not very serious aches and pains, headaches, myalgias, neuralgias, arthralgias and dysmenorrhea.

*Warnings:* Its continued use may lead to methemoglobinemia. A common ingredient of the advertised pain remedies and cold cures.

*Administration:* Oral.

*Preparations:* Tablet and capsule.

*Dose:* 0.3 Gm. for adults.

### ACETPYROGALL—Lenigallol®

*Corrosive.* White powder insoluble in water.

*Actions and Uses:* Liberates pyrogallol slowly and produces painless corrosive effect.

*Administration:* Topical.

*Preparations:* Powder and ointment.

*Dose:* 5 to 10% concentration.

### ACETYL - BETA - METHYLCHO - LINE, see Methacholine, U.S.P.

### ACETYLDIGITOXIN—Acyland®

*Cardiac Stimulant.* A recently introduced crystalline digitalis material derived from *Digitalis lanata*. Differs from digitoxin in more rapid curve of action and incomplete absorption; but in no real sense less toxic. Practical importance remains to be determined.

### ACETYL-PARA-AMINOPHENOL

—Apamide®

*Analgesic.* One of the non-addictive analgesics, which see.

### ACETYLPHENYLHYDRAZINE

*Red cell depressant.* Crystalline material, slightly soluble in water.

*Absorption:* Absorbed from G. I. tract.

*Actions and Uses:* Depresses formation of red blood cells, and is used for that purpose in treatment of polycythemia vera, a condition characterized by excessive formation of red blood cells.

*Warnings:* Depression of red cell formation may be excessive, and all blood formation may be inhibited. Blood count must be carefully watched when drug is being used. It is slowly eliminated and tends to be cumulative.

**Administration:** Oral.

**Preparations:** Capsule.

**Dose:** Usually about 100 mg. daily for a week. After that, a maintenance dose is used, the size and frequency of which is determined for each case.

### ACETYSALICYLIC ACID, U.S.P.

—Aspirin

**Analgesic and antipyretic.** Colorless crystalline material which is slightly soluble in water.

**Absorption:** Well absorbed from G. I. tract.

**Actions and Uses:** Has entirely nonspecific antipyretic action, relieving all kinds of abnormally elevated temperatures, without effect on the cause of the temperature. In small doses which do not produce behavior changes, it relieves many of the minor aches and pains, headaches, myalgias, arthralgias, neuralgias and dysmenorrhea. It affords good relief in the exquisite joint pains of rheumatic fever. In this condition, it is used in relatively large doses which often cause symptoms of cinchonism. Its use in rheumatic fever often provides relief, not only from the pain, but also the joint swelling. It has no curative action, however. Effects of the drug develop fully in about 30 minutes after an oral dose. It is eliminated mainly in the form of salicylate in the urine, effects persisting for about 3 hours from a single dose.

**Warnings:** G. I. distress, due to irritation, is common after large doses. Also seen are symptoms of cinchonism: dizziness, ringing in the ears, impaired hearing, headache. Serious poisoning may resemble that of acidosis. Large doses may also depress the blood clotting mechanism and cause a tendency to bleeding. Poisoning is treated as indicated by the condition. Sodium bicarbonate said to hasten elimination.

**Administration:** Oral.

**Preparations:** Tablets, 0.3 Gm.

**Dose:** 0.3-0.6 Gm. In rheumatic fever, however, doses as high as 1 Gm. every 3 hours.

**Antidote:** Sodium bicarbonate to hasten

elimination. Vitamin K or one of its synthetic substitutes for hypoprothrombinemia.

### ACETYLSTROPHANTHIDIN

**Cardiac stimulant.** This is a new, partially synthetic, digitalis material whose action is even more rapid than that of ouabain. It can be used intravenously only. Its final position is not established.

### ACETYL SULFISOXAZOLE—Gantrisin® Acetyl

The acetylated form of the drug is said to have all the antibacterial and physical properties of sulfisoxazole (Gantrisin®) but, in addition, to be especially free of intestinal irritant action and to be tasteless so that it is easily flavored for use in pediatric cases. Dosage of the same order as Sulfisoxazole, which see.

ACIBAN®, see Calcium Caseinate

### ACIDIFIERS

**Urinary:** Ammonium chloride, Calcium chloride, Phosphoric acid, Sodium biphosphate (Sodium acid phosphate).

ACID SODIUM PHOSPHATE, see Sodium Biphosphate, U.S.P.

ACIDULIN®, see Glutamic acid hydrochloride

### ACONITE, N. F.

Brown to orange powder derived from the root of monk's-hood (*Aconitum napellus*). Virtually archaic.

**Actions and Uses:** Cardiac drug which has virtually disappeared from use because of its doubtful value. Formerly used to slow the pulse and lower temperature.

**Warnings:** It produces cardiac arrhythmias and its use should be carefully followed.

**Administration:** Oral.

**Preparations:** Tincture.

**Dose:** 0.6 cc. of the tincture.

### ACRIFLAVINE, N.F.

**Antiseptic dye.** Orange power, freely soluble in water.

**Actions and Uses:** Used as an antiseptic dye and for its local action. It may be

used to irrigate wounds, but more commonly it is used in treatment of gonorrheal urethritis. Since the advent of sulfa drugs and antibiotics, however, it is seldom used.

*Administration:* Topical.

*Dose:* Usually used in solution of from 1:1000 to 1:10,000 dilution.

ACTH, see Corticotropin

ACTHAR®, see Corticotropin

ACTHAR GEL®, see Corticotropin

ACYLANID®, see Acetyldigitoxin

ADALIN®, see Carbromal, N.F.

ADANON®, see Methadone

**ADIPHENINE—Trasentine®**

*Anticholinergic.* White powder. The hydrochloride is soluble in water.

*Actions and Uses:* Much the same effect on parasympathetic system as atropine and, hence, much the same uses and dangers. Said to have less mydriatic action than atropine.

*Warnings:* May produce mydriasis in sensitive patients.

*Administration:* Oral, rectal, intramuscular.

*Preparations:* Tablet, 75 mg. Ampule, 50 mg. in 1.5 cc. Suppository, 100 mg.

*Dose:* 75—150 mg.

**ADRENAL CORTEX EXTRACT**

*Hormone.* Hormone solution obtained from the adrenal glands of cattle.

*Actions and Uses:* May be used to replace missing cortical substances in Addison's disease or in any situation of cortical insufficiency.

*Warnings:* Toxic effects are rare in situations requiring cortical extracts. Overdosage may, theoretically, produce retention of sodium and symptoms akin to those of the edema of heart failure.

*Administration:* Subcutaneous, intravenous.

*Preparations:* Sterile injectable saline solution, free of fat and the epinephrine of the adrenals, containing only the cortical steroids. Vial, 50 Units per cc.

*Dose:* Expressed in Dog Units (based on the amount necessary to maintain the life of adrenalectomized dogs). The drug is

usually given together with large amounts of saline and desoxycorticosterone. In a crisis an intravenous injection of 1250 Units (25 cc. of solution), although as much as 5000 Units, may be required within a few hours in severe cases. The dosage following the first is determined by the response and the symptoms.

ADRENALIN®, see Epinephrine

**ADRENERGICS**

Epinephrine (Adrenalin®), Amphetamine (Benzedrine®, Raphetamine®), Cyclopentamine (Clopene®), Dextroamphetamine (Dexedrine®), Ephedrine (1-sedrine®), Hydroxyamphetamine (Paredrine®), Isopropylarterenol (Isonorin®), Isuprel®, Norisodrine®, Aludrine®), Levarterenol (Levophed®), Mephenteramine (Wyamine®), Methamphetamine (Desoxyephedrine®, Desoxyn®, Norodin®, Syndrox®), Methoxamine (Vasoxyl®), Methoxyphenamine (Orthoxine®), Methylhexanamine (Forthane®), Naphazoline (Privine®), Phenylephrine (Isophrin®, Neo-Synephrine®), Phenylpropanolamine (Propadrine®), Phenylpropylmethylamine (Vonedrine®), Propylhexedrine (Benzedrex®), Tetrahydrozolidine (Tyzine®), Tuaminoheptane (Tuamine®).

**ADRENOCORTICAL HORMONES**

Corticosterone, Desoxycorticosterone (Cortate®, Doca®, Percorten®). See also Anti-inflammatory hormones.

**ADRENOCORTICOTROPIC HORMONE**, see Corticotropin

**ADRENOLYTICS**

Azapetine (Ilidar®), Hexamethonium (Bistrium®, Methium®, Hexameton®), Phenoxybenzamine (Dibenzylamine®), Phentolamine (Regitine®), Piperoxan (Benodaine®), Tetraethylammonium (Eton®), TEA, Tolazoline (Priscoline®).

**AEROSOL® PENETRATION CREAM**

Creamy white ointment, readily miscible with water and easily removed from the skin by washing.

*Actions and Uses:* Used as a base for dermatologic drugs, in which penetration

through the skin is needed. The cream penetrates hair follicles and pores.

### **AEROSPORIN®**, see Polymyxin B AGAR, U.S.P.

*Cathartic.* Mucilaginous substance extracted from certain seaweeds. It is white, odorless and tasteless.

*Absorption:* Not absorbed from G. I. tract and passes unaltered into feces.

*Actions and Uses:* It is hydrophilic and swells when treated with water, absorbing and retaining water as it passes through the intestinal tract. It thus adds to the bulk therein and stimulates peristaltic activity.

*Administration:* Oral.

*Dose:* 4-5 Gm.

### **ALBUMIN—Human Serum Albumin**

Serum component of human blood. Clear brownish viscous liquid.

*Actions and Uses:* Raises the serum albumin content of the blood in hypoproteinemia. In edema due to low blood proteins, this reduces the edema accumulations. It may also be used in the treatment of shock.

*Administration:* Intravenous.

*Preparations:* Sterile solution.

*Dose:* Usually given in doses of about 25 Gm. for the adult, approximately 1 cc. per pound of body weight at a rate of not more than 2 cc. per minute. Usually given together with saline or 5% glucose.

**ALCOHOL, U.S.P.—Ethyl alcohol**  
*Solvent, rubefacient, astringent and antiseptic.* Colorless, clear fluid containing about 95 % of pure alcohol. Inflammable. Has characteristic odor and taste. Is miscible with water, ether, chloroform and acetone.

*Absorption:* Rapidly absorbed from G. I. tract.

*Actions and Uses:* Applied to the skin, alcohol cools by evaporation and has a hardening or astringent action. It is an antiseptic at the concentration of 70% by weight; at all other concentrations its antiseptic action is weak. As an antiseptic, it requires time for action; after

application, therefore, alcohol should be allowed to dry on the skin. Taken internally, it is quickly absorbed producing symptoms of intoxication in moderate doses. With this action, it has a sedative effect on some, it stimulates appetite in others, causes excitement in others and depression in still others. It is often difficult to anticipate the dosage necessary to produce an effect or the precise effect which may be produced unless one has had previous experience with the patient. Alcohol is completely metabolized in the body, providing a caloric content of about 225 calories per ounce. For this reason, alcoholic beverages tend to be fattening. It is also an important fact that alcoholics do not eat much of other foods, and the symptoms of alcoholic nutritional deficiencies are, in part, due to this action of alcohol.

*Warnings:* In large overdosage, alcohol produces narcosis. It may, if the dosage is very large, even cause death.

*Administration:* Topical, oral, intravenous.

*Preparations:* Solution.

*Dose:* External, 70% by weight. Internal, approximately 50% (approximately the concentration in 100 proof distilled liquors), in doses of 1-2 ounces.

### **ALDARSONE®**, see Phenarsone

### **ALFLORONE®**, see Fludrocortisone

### **ALGYN®**, see Silver Protein, Mild

### **ALIDASE®**, see Hyaluronidase

### **ALKALIZERS**

*Urinary:* Potassium acetate, Potassium bicarbonate, Potassium citrate, Sodium bicarbonate.

**ALLYLBARBITAL—Sandoptal®**  
One of the rapid acting barbiturates, which see.

### **ALMOND OIL, BITTER, N. F.**

*Flavor.* Volatile oil obtained from the same sources as the sweet almond oil. It is to be differentiated from the sweet almond oil, being volatile, having a characteristic odor and taste given it by the benzaldehyde which it contains.

**Actions and Uses:** Used only as a flavoring agent in medicaments.

**Warnings:** Contains small amounts of the poisonous hydrocyanic acid.

### ALMOND OIL, EXPRESSED,

U.S.P.—Sweet Almond Oil

**Emollient.** Oil obtained from the kernels of several varieties of almond and related fruits. Clear, straw-colored or almost colorless and odorless. It is miscible with ether, chloroform and benzene.

**Actions and Uses:** Used for its emollient action on the skin.

**Warnings:** Do not use if rancid.

### ALOE, U.S.P.—Aloes

**Cathartic.** Yellow or brown powder obtained from the dried juices of the leaves of several species of aloe.

**Actions and Uses:** Used as a mild cathartic, acting mainly on the large intestine.

**Warnings:** Large doses may produce renal irritation.

**Administration:** Oral.

**Preparations:** Pill.

**Dose:** 0.25 Gm.

**ALOES, see Aloe, U.S.P.**

### ALOID, U.S.P.

**Cathartic.** Light yellow powder, having a slight odor but an intensely bitter taste. Soluble in water and alcohol.

**Actions and Uses:** Used as a mild cathartic.

**Warnings:** Large doses may produce renal irritation.

**Administration:** Oral.

**Preparations:** Pill.

**Dose:** 15 mg.

### ALPHAPRODINE—Nisentil®

A synthetic narcotic recommended as an analgesic with claims of rapid action, reduced incidence of nausea, vomiting, respiratory depression as compared with morphine. See morphine.

**Antidote:** Nalorphine.

### ALSEROXYLON—Rauwiloid®

A purified extract of *Rauwolfia*. Available in 2 mg. tablets.

**Dose:** 2-4 mg., 3 times daily.

**ALUDRINE®**, see Isopropyl arterenol

### ALUM, N.F.

**Astringent and hemostatic.** Colorless crystals, fragments or a white powder. Sweetish to taste.

**Actions and Uses:** Chemically, alum may be aluminum ammonium sulfate or aluminum potassium sulfate. Strongly astringent, used as a styptic and hemostatic. May be used as a gargle.

**Warnings:** Seldom given internally. Somewhat injurious to the teeth when used as a gargle.

**Administration:** Topical.

### ALUMINUM ACETATE, U.S.P.

**Astringent.**

**Actions and Uses:** Used mainly in Burrow's solution (Aluminum Acetate Solution, U.S.P.) as an astringent. Burrow's solution contains about 5% of the aluminum acetate. Used in mouth washes.

**Administration:** Topical.

**Dose:** Concentration of 0.5% solution.

### ALUMINUM CARBONATE—Basaljel®

Another form of aluminum gel used as an antacid, with actions similar to aluminum hydroxide, which see.

### ALUMINUM HYDROXIDE GEL,

U.S.P.—Amphogel®, Creamalin®

**Antacid.** White suspension, containing approximately 4% of aluminum hydroxide.

**Absorption:** Not absorbed from G. I. tract.

**Actions and Uses:** Used mainly in the treatment of peptic ulcer and whenever an alkali may be indicated for functional hyperchlorhydria. It relieves pain by neutralizing the gastric acid. It neutralizes approximately 20 volumes of gastric hydrochloric acid. It does not tend to cause "rebound acidity." It reduces the formation of certain types of kidney stones.

**Warnings:** Prolonged use may interfere seriously with calcium absorption. Impaction of the gel in intestinal tract may cause serious obstipation or obstruction.

**Administration:** Oral.

**Preparations:** Liquid gel, Tablet 0.6 Gm.

of the aluminum hydroxide. Mixture, with about 12% magnesium trisilicate which gives a gelatinous consistency and a mildly laxative action.

*Dose:* 8 cc.

### ALUMINUM PENICILLIN

A slowly absorbed form of Penicillin G. See Penicillin.

### ALUMINUM PHOSPHATE GEL,

U.S.P.—Phosphalgel®

*Antacid.* White, viscous suspension.

*Actions and Uses:* These are much the same as with the aluminum hydroxide gel, except that it provides phosphate in conditions in which this may be deficient.

**ALURATE®**, see Aprobarbital

**ALZINOX®**, see Dihydroxy aluminum aminoacetate

### AMARANTH, U.S.P.

*Dye.* Dark red-brown powder, soluble in water.

*Actions and Uses:* Used in coloring foods and medicaments.

**AMBODRYL®**, see Bromodiphenhydramine

**AMIDOPYRINE**, see Aminopyrine, U.S.P.

**AMIGEN®**, see Amino Acid Preparations

### AMINOACETIC ACID, N.F.—

Glycocoll, Glycine

*Nutritional.* One of the natural amino acids which may be obtained in the breakdown of protein foods. The body has an enormous capacity for the synthesis of glycine.

*Absorption:* Completely absorbed in intestinal tract.

*Actions and Uses:* May serve as a food. It was once thought that this amino acid might be a special and rapid source of energy and this was the basis of a fad for its use. In addition it appears that in some cases of myasthenia gravis and progressive or pseudohypertrophic muscular dystrophy, it may beneficially effect creatine metabolism. It has been largely superseded in these conditions by the much more effective neostigmine. Exerts a buffering action and may be used as an

antacid as such, but usually with calcium carbonate.

*Administration:* Oral.

*Dose:* 30 Gm.

### AMINO ACID PREPARATIONS

*Nutritional.* These are usually mixtures of amino acids prepared by the digestion, acid or enzymatic, of various proteins; plasma, casein, lactalbumin, beef blood, liver, yeast. They occur as powders, usually with a bad taste, but often artificially flavored. Usually readily soluble in water, forming amber solutions.

Amigen®, Aminonat®, Aminosol®, Hyprotigen®, Parenamine®, Protolysate®, Travamin®.

*Actions and uses:* All the accepted amino acid preparations contain the so-called essential amino acids in physiologic proportions. These are the essential stepping stones in building proteins in the body. Normally the body builds its proteins out of the amino acids it derives from the ingested foods. In special conditions where this is not possible, the amino acids may be used as dietary supplements. They are useful in the treatment of severe protein deficiency. When given intravenously as the only source of protein, the protein they supply seems to be labile and does not remain long in the body.

*Warnings:* Serious reactions may follow rapid intravenous injection. Large oral doses may cause severe diarrhea.

*Administration:* Oral, intravenous.

*Preparations:* Powder, solution.

*Dose:* The amount is determined by the degree of protein supplementation necessary. 1 Gm. protein per Kg. of body weight per day is considered adequate for an adult.

### AMINOMETRAMIDE—Mictine®

*Diuretic.* A pyrimidinedione derivative.

*Actions and Uses:* A moderately effective diuretic recently introduced. Recommended for relief of edema. Final status as drug for this purpose not yet determined.

*Warnings:* A relatively new drug; experience not large enough to establish toxic potential fully.

*Administration:* Oral.

*Preparations:* Tablet, 200 mg.

*Dose:* 200-1200 mg. daily.

**AMINONAT®**, see Amino Acid Preparations

**AMINOPENTAMIDE—Centrine®**

One of the long list of anticholinergic drugs, with much the same actions and dangers as atropine, which see.

**AMINOPEPTODRATE—**

**Caminoids®**

A digest of liver, beef muscle, gluten, soya, yeast, milk proteins used as dietary supplement.

**AMINOPHYLLINE, U.S.P.—**

**Theophylline Ethylenediamine**

*Diuretic, antispasmodic, respiratory stimulant.* White or yellowish powder with a bitter taste. Relatively soluble in water. *Absorption:* Relatively rapidly absorbed from G. I. tract.

*Actions and Uses:* It is used to dilate the coronary arteries in coronary thrombosis and insufficiency. There are many who question its usefulness in these conditions. It is also used to relax the bronchial musculature in asthmatic attacks. It is an effective diuretic, acting on the kidney to increase the rate of urine formation; a feeble respiratory stimulant.

*Warnings:* Given intravenously too rapidly, it may produce circulatory collapse; given at a moderated rate, prickling of the fingers may be noted. Given by mouth in effective diuretic doses, gastro-intestinal distress is exceedingly common.

*Administration:* Oral, intramuscular, intravenous, rectal.

*Preparations:* Tablet, 0.2 Gm. Solution, preparation for intramuscular injection is far too concentrated to be given safely by the intravenous route. Suppository.

*Dose:* Parenteral, 0.25-0.5 Gm. Oral or rectal: 0.2-0.6 Gm.

**AMINOPTERIN**

*Bone-marrow depressant (folic acid antagonist).* Indicated in the treatment of acute leukemia in children.

**AMINOPYRINE, U.S.P.—**

**Pyramidon®, Amidopyrine**

*Analgesic and antipyretic.* White crystalline material made synthetically. Slightly soluble in water.

*Absorption:* Well and rapidly absorbed from G.I. tract.

*Actions and Uses:* A dependable analgesic and antipyretic of the same pharmacologic group as aspirin. It relieves many of the common aches and pains listed under acetylsalicylic acid.

*Warnings:* In hypersensitive individuals, this drug and the related antipyrine may cause serious and even fatal leukopenia and agranulocytosis. This condition may develop suddenly and without warning in patients who have taken the drugs previously without ill effect. Since there are usually many other drugs which can be easily substituted for these drugs, indications for its use are rare.

*Administration:* Oral.

*Preparations:* Tablet, 0.2, 0.3 Gm.

*Dose:* 0.2-0.6 Gm.

**AMINOSOL®**, see Amino Acid Preparations

**AMMONIA, U.S.P.**

*Circulatory stimulant.* A highly irritant caustic vapor, which dissolves easily in water. It has a characteristic ammoniacal odor. Strongly alkaline.

*Actions and Uses:* In solution, it is used as a chemical reagent. In the form of the ammonia spirit, it is used for its fleeting action as a respiratory and circulatory stimulant, usually in cases of fainting.

*Warnings:* The solutions and vapors are highly irritant.

*Administration:* Inhalation.

*Preparations:* Ammonia solution, diluted, U.S.P., 10% solution in water. Ammonia solution, strong U.S.P., 28% solution in water, Aromatic ammonia spirit, U.S.P., mixture containing about 2% of free ammonia with alcohol and aromatic oils.

*Dose:* Inhalation of the vapors of the aromatic spirit.

**AMMONIATED MERCURY, U.S.P.**

**—White Precipitate**

*Local antiseptic.* White powder.

**Actions and Uses:** Used externally as an antiseptic in infections of the skin.

**Warnings:** Excessive use may be irritant and may cause a dermatitis.

**Administration:** Topical.

**Preparations:** Cream, ointment with wax, petrolatum and other greasy or non-greasy bases. Mixed with salicylic acid and other drugs in skin ointments.

**Dose:** The dose is, to a large extent, determined by the strength of the ointment used. It should not be applied too liberally.

### AMMONIUM ACETATE, N.F.

**Diaphoretic.** Colorless or white crystals, slightly soluble in water.

**Actions and Uses:** Diaphoretic and diuretic drug of doubtful value and infrequently used.

**Warnings:** Overdosage may lead to acidosis.

**Administration:** Oral.

**Preparations:** Solution: Contains about 7% ammonium acetate and small amounts of acetic acid.

**Dose:** 15 cc.

### AMMONIUM CARBONATE, U.S.P.

**Liquefying expectorant.** Hard white or translucent masses having a strong ammoniacal odor and taste. It deteriorates on standing, losing ammonia and becoming opaque.

**Actions and Uses:** It is a nauseant, liquefying expectorant. Sometimes used, because of the free ammonia it gives off, as a reflex stimulant in "smelling salts."

**Warnings:** Strong alkali and irritant.

**Administration:** Oral.

**Preparations:** Tablet, pure ammonium carbonate. Aromatic spirit of ammonia, contains about 2% of ammonia, alcohol and aromatic oils. Mixture, cough medicines and expectorants.

**Dose:** Ammonium carbonate, 0.3 Gm. Aromatic spirit, 2 cc.

### AMMONIUM CHLORIDE, U.S.P.

**Diuretic, acidifier and expectorant.** Colorless or white crystals, with a cool or salty taste. Soluble in water.

**Absorption:** Rapidly absorbed from G. I. tract.

**Actions and Uses:** It is an irritant and nauseant. In common with all nauseants, it encourages bronchial secretion, hence used as an expectorant. In the body, it is changed into urea and free hydrochloric acid. The hydrochloric acid, liberates sodium from the tissues, thus acting as a diuretic and increasing the rate of urine flow, and at the same time also acidifying the urine.

**Warnings:** Gastro-intestinal irritant with nausea and vomiting. Acidosis may occur in cases with poor renal function.

**Administration:** Oral.

**Preparations:** Tablet, 0.5 Gm., enteric coated. Mixture, with cough medicines.

**Dose:** Diuresis, 3-9 Gm. daily. Expectorant, 0.3 Gm.

### AMMONIUM COMPOUNDS

The hydroxide and carbonate of ammonia are strong alkalis, and little used in medicine except for the stimulant action of their vapors, which are irritant on inhalation.

The neutral ammonium salts, such as ammonium chloride, are used because they are nauseant and, as such, are effective expectorants; they are also acid-forming salts, tending to acidify the urine. They act as diuretics, enhance the action of the mercurial diuretics and are used in conjunction with urinary antiseptics, such as methenamine and mandelic acid, which are effective only in highly acid urine.

There is the danger in using the acid-forming salts in patients with reduced renal function, that the kidney may be unable to excrete the acid formed, and, as a consequence, acidosis may develop.

### AMMONIUM HYDROXIDE, see

Ammonia, U.S.P.

### AMMONIUM MANDELATE, U.S.P.

**Urinary antiseptic.**

**Actions and Uses:** This is a form of mandelate which tends to acidify the urine. See Mandelic Acid.

**Warnings:** Excessive dosage may cause renal irritation and gastro-intestinal upset.

**Administration:** Oral.



*Preparations:* Tablet. Sirup, for children.

*Dose:* About 12 Gm. daily for adults.

**AMNESTROGEN®**, see **Estrogenic Substances, Conjugated**

**AMNIVIN®**, see **Vjsammin**

**AMOBARBITAL, N.F.—Amytal®**

*Hypnotic.* White crystalline powder, insoluble in water, usually the soluble sodium salt. Bitter taste.

*Absorption:* Rapidly absorbed from G. I. tract.

*Actions and Uses:* Short-acting hypnotic and sedative, similar to barbitol and phenobarbital, but with effects which develop more rapidly and which are eliminated more rapidly. Used to control insomnia and anxiety, but also used as a preliminary to surgical anesthesia. See Barbiturates.

*Warnings:* Overdosage may lead to narcosis and death. Regular use may lead to habituation. Abrupt withdrawal may lead to convulsions.

*Administration:* Oral, intravenous, intramuscular.

*Preparations:* Tablet, 50, 100 mg. Capsule, 0.065, 0.2 Gm.—sodium salt, is usually identified by a blue-colored capsule. Elixir, contains alcohol, coloring matter and flavoring matter, with about 25 mg. amytal per teaspoon. Ampule, 0.25 and 0.5 Gm., to be dissolved before injection, into a 2% solution.

*Dose:* 30 mg. to 0.5 Gm., depending upon therapeutic indication.

*Antidote:* Picrotoxin.

**AMODIAQUIN—Camoquin®**

*Antimalarial.* The hydrochloride.

*Actions and Uses:* Much the same as chloroquine, which see.

**AMPHETAMINE, U.S.P.—**

**Benzedrine®**

*Adrenergic.* White powder, with a bitter taste, usually sulfate or phosphate, soluble in water. Amphetamine is volatile and has a characteristic odor.

*Absorption:* Rapidly absorbed from G. I. tract.

*Actions and Uses:* Mainly used as a sympathomimetic drug for local vasocon-

strictor action, especially in the nose. Tends to elevate blood pressure. The sulfate is generally used for its cephalotropic actions, stimulating mildly depressed states, producing a sense of well being, depressing the appetite, hence used in obesity, as an adjunct in the treatment of alcoholism, as a stimulant in barbiturate poisoning and depression. Often used to counteract sleepiness, narcolepsy, mental fatigue, orthostatic hypotension.

*Warnings:* It tends to elevate blood pressure; in a patient with hypertension this may prove dangerous. Excessive use, even early in the day, may produce intense insomnia.

*Administration:* Inhalation, oral.

*Preparations:* Inhaler. Tablet, 5-10 mg. of the sulfate. Elixir.

*Dose:* 5 mg. twice a day.

*Antidote:* Barbiturates.

**AMPHOGEL®**, see **Aluminum Hydroxide Gel, U.S.P.**

**AMPROTROPINE—Syntropan®**

*Anticholinergic.* White powder, soluble in water, bitter taste.

*Actions and Uses:* Acts like atropine to depress parasympathetic influences, but much less potent. Used for peptic ulcer and intestinal hypermotility.

*Warnings:* May cause mydriasis in sensitive patients.

*Administration:* Oral, subcutaneous, intramuscular.

*Preparations:* Powder. Tablet 100 mg.

*Dose:* 100-200 mg.

**AMYLENE HYDRATE, U.S.P.**

The solvent for tribromoethanol (Avertin®) in anesthesia.

**AMYL NITRITE, U.S.P.**

*Vasodilator.* Clear yellowish liquid with a characteristic fruity odor and a pungent taste. Volatile and inflammable.

*Absorption:* Almost instantaneously absorbed when inhaled, with immediate effects.

*Actions and Uses:* Dilates smooth muscle more especially that of the coronary arteries, which makes for its outstanding use to relieve the pain of angina pectoris