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THE DERMATOLOGISTS HANDI

The DERMATOLOGIST'S HANDBOOK

By

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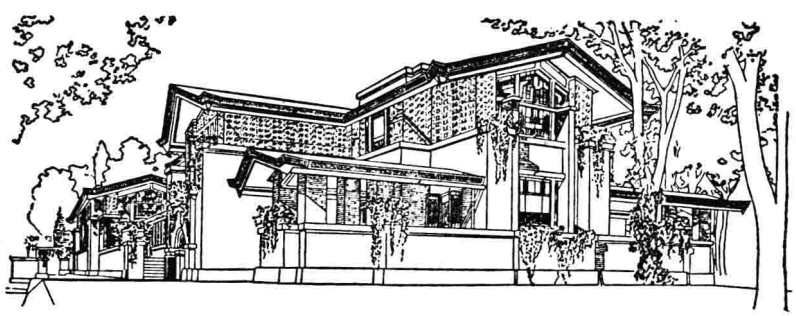

CHARLES C THOMAS • PUBLISHER
Springfield • Illinois • U.S.A.

CHARLES C THOMAS • PUBLISHER
BANNERSTONE HOUSE
301-327 East Lawrence Avenue, Springfield, Illinois, U.S.A.

Published simultaneously in the British Commonwealth of Nations by
BLACKWELL SCIENTIFIC PUBLICATIONS, LTD., OXFORD, ENGLAND

Published simultaneously in Canada by
THE RYERSON PRESS, TORONTO

Library of Congress Catalog Card Number: 56-9119

Printed in the United States of America

PREFACE

The objective which prompted preparation of this handbook was: organization into a rational systematic classification, for purposes of instruction and reference, that large number of topical and internal therapeutic agents concerning which a dermatologist must have knowledge.

The section on Internal Therapy was added, not because of any wish to encroach upon another's field, but because:

> The pharmaceutical armamentarium has so increased (and continues to so increase) that there are many chemical preparations in use, now, as contrasted to old and well-known plant-drugs. Purification processes have resulted in more potent crystalline active principles. Synthetics, detergents, excitants, irritants are with us, and about us.
>
> The dermatologist is confronted, daily, with manifestations of sensitivity not only to external materials, but to internal agents voluntarily consumed, self-prescribed, or prescribed by other medical specialists. Correct diagnosis and optimal dermatological treatment depend upon the dermatologist's knowledge. What are the new materials and agents? What are usual and unusual dosages and methods of administration? What materials have resulted in, or may result in reactions, in deficient nutritional states, in pathogenic conditions?

Effort has been made to include all important, new dermatological topical therapeutic agents, as well as agents for internal administration, concomitant with topical therapy. It has been impossible to include every product, of every distributor. Conscientious effort has been made to present the representative preparations.

The abbreviations U.S.P. and N.F. after various items in this book refer to the *Pharmacopeia of the United States of America,* Fifteenth Revision, and the *National Formulary,* Tenth Edition. Such references are given to enable the reader to find additional information on official, accepted standards and uses for the items so designated.

The abbreviation N.N.R. after various items in this book refers to *New and Nonofficial Remedies,* issued under the direction and supervision of the Council on Pharmacy and Chemistry of the American Medical Association, 1955. Such references are given to enable the reader to find additional and complete information on accepted standards and uses for the items so designated.

Although data was taken from manufacturers' literature, it is suggested that administration methods, dosage schedules and recommended precautionary measures be checked with label and package instructions. Information, complete today, is incomplete, tomorrow.

Finally, the author has sought, diligently, to present and arrange the diverse subject matter in this book in a manner which will afford better understanding to dermatologists, to general practitioners, to specialists in other fields, to research workers, to nurses and to students, everywhere.

August, 1955

A. L. W.

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INTRODUCTION

THE SKIN PATTERN

The skin is an extremely complex structure, growing outwards from a highly organized matrix of living cells, functioning as an immunizing, synthesizing, secretory and respiratory organ, of which the main divisions are:

1. *The epidermis—the cuticle, or scarf skin*—that protective shield against infection, exposure to trauma, chemical irritation and allergic sensitization, consisting of multiple layers. These layers are the Stratum corneum, the Stratum lucidum, the Stratum granulosum, the Stratum malpighii (prickle cell layer), and the Stratum germinativum (basal cell layer).

The Stratum corneum (horny layer of the epidermis) is its outermost and widest layer, the cells of which contain a fatty material, which adds to the suppleness of the skin, prevents undue evaporation, and also absorption from the outside. The Stratum corneum is pierced by the pilosebaceous openings containing the sebaceous gland outlets and hairs, and by the apocrine gland ducts which usually, but not always, empty into the pilosebaceous openings. The Stratum corneum is covered by a microscopic film consisting of sebaceous material and epithelial cells. This film, or "mantle" has a pH on the acid side ranging from 4.5 to 6.5. Females have a slightly less acid pH than males. Disturbance of the "acid skin mantle" may give rise to sensitization phenomena and bacterial attack.

2. *The Corium*—the dermis or true skin, made up largely of connective tissue and cellular elements. It is rich in blood vessels and capillaries, and contains many nerves, nerve-endings and terminal nerve organs, lympathics, small muscle-fibers, hairs, sweat glands and sebaceous glands.

3. *The subcutaneous tissues*, consisting of bundles of fat, coil glands, some of the more deeply-situated hair follicles and Pacinian corpuscles.

Mucous membranes are composed of stratified squamous epithelium which does not produce a Stratum corneum. A superficial layer of epithelium of varying type rests upon a basement membrane, which is, in turn, supported by connective tissue. The deeper portions of a mucous membrane usually contain a more or less well-defined layer of smooth muscle fibers. As their name indicates, the mucous membranes are nearly all moistened by a mucus-containing secretion.

The sweat glands, sebaceous glands, the hair, nails, blood vessels, lymphatic vessels, nerves and muscles are appendages of the skin.

Appearance and behavior of the skin, and its appendages, vary with age, endocrine interrelationships, heredity and individual characteristics, and reflect the health, metabolic and physiologic balance of the body.

Diseases of the skin are characterized by:

Subjective symptoms, which are manifested to the patient by sensations other than those connected with his own vision or sense of touch. They include itching, burning, smarting, prickling, tingling, increased or diminished susceptibility to contact with foreign bodies, temperature, pain in various grades of severity and paresthetic sensations, such as the crawling of insects, passage of air currents, compression of the skin as by cords or bands; and

Objective symptoms, which are seen by the eye or detected by the touch of another, who undertakes diagnosis and treatment. They consist of:

Elementary or primary lesions, such as macules, papules, wheals, nodules, tumors, vesicles, pustules and bullae; and

Secondary lesions, such as scales, crusts, excoriations, lichenifications, fissures, ulcers and scars.

The first approach to a dermatological problem is the method of cleansing—for removal of dirt, bacteria, fungi and chemical irritants, and for softening, separation and removal of debris, such as exudate, crusts and scales. After cleansing, topical agents may better exert therapeutic activity.

The basic forms of topical materials for dermatotherapy are:

- Cleansing Agents
- Powders
- Liquids
  - Solutions
    - Wet Dressings
    - Baths
  - Alcohols—Spirits—Tinctures—Paints
  - Oils
  - Liniments—Emulsions
  - Lotions
- Greases
  - Creams and Ointments
- Pastes
- Protective Dressings
- Plasters

CHAPTER 1

CLEANSING AGENTS

Acute and subacute dermatoses, especially when vesiculation and oozing are present, are irritated by soap and water. In some eczematous eruptions, soap-and-water cleansing is contraindicated, and cleansing must be accomplished by the application of wet dressings, or by the use of warm mineral oil, olive oil, or cleansing creams. Resistant scales, crusts or medications may be removed with benzin (petroleum ether—purified benzin), or carbon tetrachloride, followed by alcohol.

Water is employed for cleansing the skin, as a component part of lotions, and in the form of wet dressings and baths. It may be used cold, warm, or hot, in its natural state, or softened by the addition of various agents. It may be made bland by the addition of oatmeal, bran, starch, barley or gelatin. To water, antiseptics or germicides may be added for the cleansing of ulcers and various cutaneous infections, and as complements to other methods of treatment.

Soaps are sodium and potassium salts of high molecular weight monobasic aliphatic acids. The basic principle of soap manufacture consists of heating animal or vegetable fats, together with an alkali, resulting in the formation of a mixture of soap and glycerol. Most soaps contain preservatives, essential oils and coloring matter.

The irritative action of soap on the skin may be dependent on alkali released during the detergent process, and on osmotic action. The detergent action of soap is due to the mechanical effect of the foam, emulsification of the grease and softening of the epidermis.

Soaps embrace those compounds which result from the reaction of salifiable bases with fats and oils. They are divided into the soluble, and the insoluble. The soluble soaps are usually combinations of the fatty acids (palmitic, stearic and oleic) with sodium, potassium or ammonium hydroxide; the insoluble soaps are combinations of the fatty acids with barium, calcium, lead and zinc oxides or hydroxides.

SOAPS—OFFICIAL (U.S.P. and N.F.)

Hard Soap
Sapo Durus N.F.

"Hard Soap is sodium soap."

Medicinal Soft Soap—Green Soap—Soft Soap
Sapo Mollis Medicinalis U.S.P.

"Medicinal Soft Soap is a potassium soap made by the saponification of vegetable oils, excluding coconut oil and palm kernel oil, without the removal of glycerin."

The Vegetable Oil	380	Gm.
Oleic Acid	20	Gm.
Potassium Hydroxide	91.7	Gm.
Glycerin	50	ml.
Purified Water, a sufficient quantity, To make about	1000	Gm.

Medicinal Soft Soap Liniment—Soft Soap Liniment
Tincture of Green Soap U.S.P.

Medicinal Soft Soap	650	Gm.
Lavender Oil	20	ml.
Alcohol, a sufficient quantity, To make	1000	ml.

Hexachlorophene Liquid Soap U.S.P.

"Hexachlorophene Liquid Soap is a solution of hexachlorophene in a 10 to 13 per cent solution of a potassium soap. It contains, in each 100 Gm., not less than 225 mg. and not more than 260 mg. of $C_{13}H_6Cl_6O_2$. It may contain suitable water hardness controls."

SOAPS—SOME PHARMACEUTICAL SPECIALTIES

BACTERIOSTATIC SOAPS

Small concentrations of hexachlorophene reduce the number of microorganisms inherent in the bacterial flora of the skin. When incorporated into soaps and detergents, such concentrations of hexachlorophene are useful for prophylaxis and for decreasing the severity and incidence of pyogenic skin infections, such as impetigo, furunculosis and seborrheic dermatitis. Irritant and toxic effects of hexachlorophene on the skin surface, even after

long-continued daily use, have been infrequently reported. (A very few reactions have been observed, in certain individuals, by the author.)

Germa-Medica Liquid Surgical Soap

Hexachlorophene N.N.R. *Huntington Lab.*

A liquid soap. Hexachlorophene 1% (2.5% anhydrous soap basis).

pHisoHex N.N.R. *Winthrop-Stearns*

A detergent lotion. Hexachlorophene 3% (18.4% anhydrous detergent basis).

Surgical Soap Gamophen N.N.R. *Ethicon*

A bar soap. Hexachlorophene 2%.

Surgical Soap Hex-O-San N.N.R. *Retort Pharm.*

A liquid soap. Hexachlorophene 0.72% (2.0% anhydrous soap basis).

MEDICATED SOAPS

Cuticura *Potter Drug*

Petroleum, unbleached paraffin, mineral oil and beeswax—"mildly medicated."

Dermatone *Chicago Pharmacal*

Contains 2% phenol.

Mazon *Belmont*

Contains liquor carbonis detergens.

Neko Germicidal *Parke, Davis*

Contains 1% mercuric iodide.

Physicians' and Surgeons' *Physicians' Supply*

Active ingredients—unspecified.

Pine Tar *Packers Tar Soap*

Resorcinol and Sulfur *Shulton*

Resulin *Almay*

Contains salicylic acid 3%, sulfur 10% and resorcinol 3%.

Sofac *Ramel Products*

Contains 5% salicylic acid.

Stiefel Medicated Soaps *Stiefel*

Boric Acid			5%
Carbolic Acid			5%
Ichthammol	5%,	10%,	20%
Ichthyol and Tar			3%
Mercuric Iodide		1%,	2%
Resorcin			5%
Resorcin 5% and Salicylic Acid			3½%
Resorcin 5%, Salicylic Acid 3½% and Sulfur 10%			
Resorcin 5%, Salicylic Acid 3½%, Sulfur 10% and Tar 10%			
Salicylic Acid			3½%
Sulfur			10%
Tar			10%

Sulpho-Lac *Kelgy*

Contains colloidal sulfur.

Thylox Sulfur Soap *Shulton*

Contains 7½% sulfur (anhydrous) and 1% hexachlorophene.

SUPERFATTED SOAPS

Soaps containing calculated excess amounts of fats and oils, some parts of which remain on the skin, are intended to assist as cutaneous lubricants. These soaps are "superfatted" or "super-oiled."

Almay Superfatted Soap *Almay*

Ar-ex Superfatted Soap *Ar-ex*

Basis Soap *Duke*

Superfatted with edible tallow.

Marcelle Superfatted Soap *Marcelle*

Oilatum *Stiefel*

Super-oiled with vegetable oil.

Ramel *Ramel Products*

High tallow content, plus buttermilk and stearic acid.

Shulton's Superfatted Milk Soap, and Shulton's Superfatted Lanolin Soap *Shulton*

Stiefel's Superfatted Soap with Lanolin *Stiefel*

Texas Pharmacal Toilet Soap *Texas Pharmacal*

Oils, both olive and coconut, combined with refined tallow.

SOAPLESS SUBSTITUTES (DETERGENTS) FOR AQUEOUS CLEANSING

Acidolate *White*

Sulfated vegetable oils and petroleum form a liquid cleanser. Terjolate is the hypoallergenic companion liquid soap substitute, for household use.

Acne-Aid Detergent *Stiefel*

A detergent reinforced to the extent of 15% with sulfated and hydrogenated vegetable oil.

Aveeno Skin Cleanser *Aveeno Corp.*

Aveeno Colloidal Oatmeal, plus 1% silica aerogel.

Dermolate *White*

High molecular-weight fatty acids incorporated into a "lathering" cake.

Lowila *Westwood*

Lauryl sulfoacetate.

pHisoderm *Winthrop-Stearns*

A hypoallergenic emulsion containing entsufon (sodium octylphenoxyethoxyethyl ether sulfonate), wool fat cholesterols, lactic acid and petrolatum.

Tersus Soapless Detergent *Doak*

An aliphatic ester containing no free fatty acids or alkalies.

SOAPLESS SUBSTITUTES (DETERGENTS) FOR NON-AQUEOUS CLEANSING

Almay's Liquid Cleanser *Almay*

An aqueous hypoallergenic preparation containing sulfated fatty alcohols, oleyl alcohol and preservatives (methyl and propyl p-hydroxybenzoate) with an approximate pH of 6.5.

Aquaphor *Duke*

Hydrophilic ointment containing complex high molecular hydroxyl animal fats in an absorption base.

Ar-ex Skin Detergent *Ar-ex*

Synthesized esters of protein derivatives.

Dermassage *Edison*

Lanolin, olive oil, plus hexacholrophene.

Detergent Oil—T.P.C. *Texas Pharmacal*

Highly-refined vegetable oil rendered water-soluble by incorporation of a wetting agent.

Domolene *Dome*

A cream cleanser.

Lamo *Tailby-Nason*

A lanolin-compound cream.

Mul-Sol *Waynar*

An emulsion of mineral oil, white wax, Duponol and water.

Nivea Creme and Nivea Skin Oil *Duke*

Emulsions of neutral aliphatic hydrocarbons in water with Eucerite (wool fat cholesterols).

Pygmal *Gallia*

A greaseless ointment containing tartaric acid, boric acid, Burow's solution, glycerin, starch, talc and bentonite.

White Petrolatum *Chesebrough*

White petroleum jelly (Petrolatum Album U.S.P.).

SHAMPOO SOAPS—CLEANSING AGENTS FOR THE HAIR AND SCALP

SOME DERMATOLOGICAL PRESCRIPTIONS

LIQUID SHAMPOO SOAPS

I.

Coconut Oil	66	Gm.
Cottonseed Oil	78	ml.
Oleic Acid	36	Gm.
Potassium Hydroxide	42	Gm.
Potassium Carbonate	9	Gm.
Alcohol	42	ml.
Purified Talc	10	Gm.
Perfume, as desired		
Purified Water, a sufficient quantity, To make	1000	ml.

II.

Coconut Oil Fatty Acids	150	Gm.
Castor Oil Fatty Acids	50	Gm.
Potassium Hydroxide	35	Gm.
Triethanolamine	60	Gm.
Purified Talc	30	Gm.
Water, a sufficient quantity, To make	1000	ml.

VARIOUS COMBINATIONS OF LIQUID SHAMPOO SOAPS

(With Tar)

I.

Rectified Tar Oil	10	ml.
Liquid Shampoo Soap (Formula I or II, above), a sufficient quantity, To make	1000	ml.

II.

Liquid Shampoo Soap (Formula I or II, above)	60	Gm.
Potassium Tetrapyrophosphate	20	Gm.
Rectified Tar Oil	2	ml.
Alcohol	500	ml.
Purified Water, a sufficient quantity, To make	1000	ml.

(With Cade Oil)

Cade Oil	24	ml.
Triethanolamine	4	ml.
Liniment of Soft Soap, a sufficient quantity, To make	120	ml.

(With Henna)

Henna Leaves, in moderately coarse powder	10	Gm.
Medicinal Soft Soap	300	Gm.
Alcohol	250	ml.