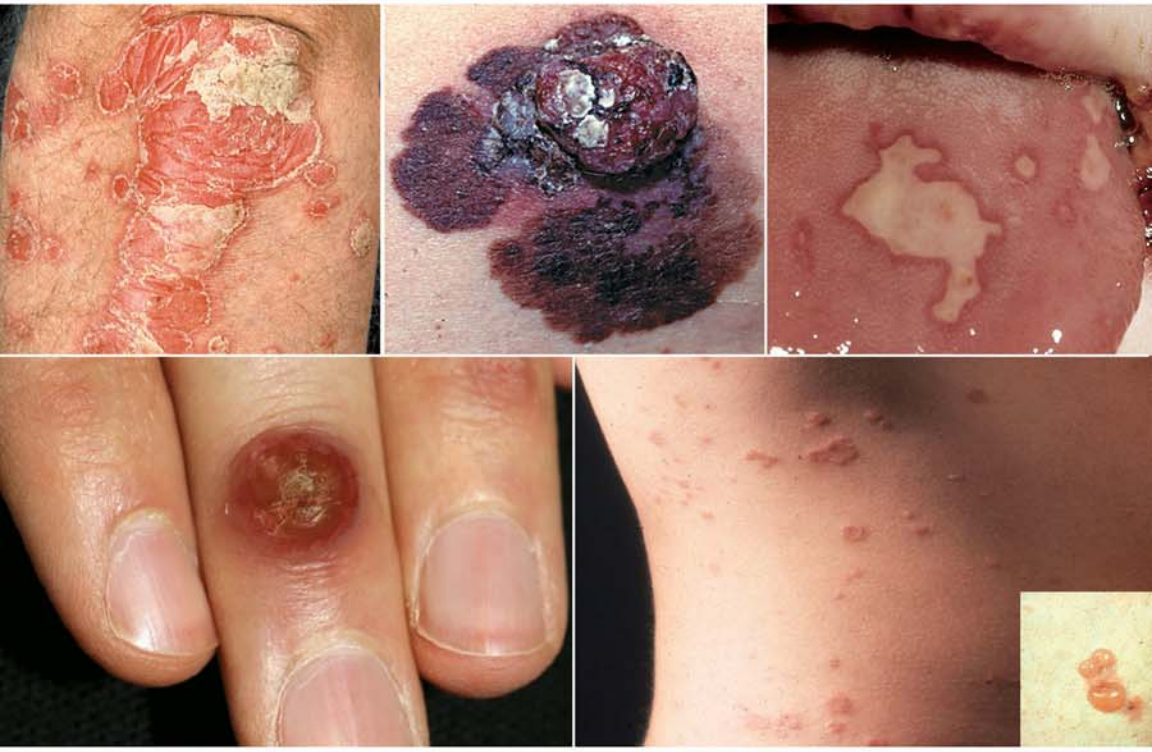
FITZPATRICK'S COLOR ATLAS AND SYNOPSIS OF CLINICAL DERMATOLOGY

EIGHTH EDITION



Klaus Wolff
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FITZPATRICK'S COLOR ATLAS AND SYNOPSIS OF CLINICAL DERMATOLOGY

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FITZPATRICK'S COLOR ATLAS AND SYNOPSIS OF CLINICAL DERMATOLOGY

EIGHTH EDITION

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This eighth edition of
Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology
is dedicated to dermatology residents worldwide.

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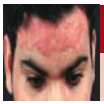

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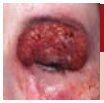

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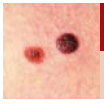

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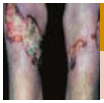

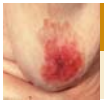

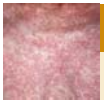

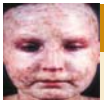

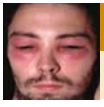

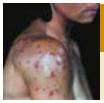

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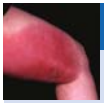

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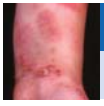

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PREFACE

"Time is change; we measure its passage by how much things alter."
Nadine Gordimer

Thirty-four years ago in 1983, the first edition of this book appeared and has been expanded pari passu with the major developments that have occurred in dermatology over the past three and a half decades. Dermatology is now one of the most sought-after medical specialties because the burden of skin disease has become enormous and the many new innovative therapies available today attract large patient populations.

The *Color Atlas and Synopsis of Clinical Dermatology* has been used by thousands of primary care physicians, dermatology residents, dermatologists, internists, and other health care providers principally because it facilitates dermatologic diagnosis by providing color photographs of skin lesions and, juxtaposed, a succinct summary outline of skin disorders as well as the skin signs of systemic diseases.

The eighth edition has been extensively revised, rewritten, and expanded by new material. Around 30% of the old images have been replaced by new ones and additional images have been added. There is a complete update of etiology, pathogenesis, management, and therapy. There is also an online version. For this edition, videos containing clinical material relevant to the text are available at: mhprofessional.com/mediacenter.

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ACKNOWLEDGMENT

Our secretary, Renate Kosma, worked hard to meet the demands of the authors. In the present McGraw-Hill team, we appreciated the counsel of Karen Edmonson, Senior Sponsoring Editor, and Robert Pancotti, Senior Project Development Editor.

Karen was the major force behind this edition. Her good nature, good judgment, loyalty to the authors, and, most of all, patience guided us to make an even better book.

HOW TO USE THIS BOOK

The *Color Atlas and Synopsis of Clinical Dermatology* is proposed as a "field guide" to the recognition of skin disorders and their management. The skin is a treasury of important lesions that can usually be recognized clinically. Gross morphology in the form of skin lesions remains the hard core of dermatologic diagnosis. Therefore, this text is accompanied by more than 900 color photographs illustrating skin diseases, skin manifestation of internal diseases, infections, tumors, and incidental skin findings in otherwise well individuals. We have endeavored to include information relevant to gender dermatology and a large number of images showing skin disease in different ethnic populations. This *Atlas* covers the entire field of clinical dermatology but does not include very rare syndromes or conditions. With respect to these, the reader is referred to another McGraw-Hill Publication: *Fitzpatrick's Dermatology in General Medicine*, 8th edition, 2012, edited by Lowell A. Goldsmith, Stephen I. Katz, Barbara A. Gilchrest, Amy S. Paller, David J. Leffell, and Klaus Wolff.

This text is intended for all physicians and other health care providers, including medical students, dermatology residents, internists, oncologists, and infectious disease specialists dealing with diseases with skin manifestations. For nondermatologists, it is advisable to start with "Approach to Dermatologic Diagnosis" and "Outline of Dermatologic Diagnosis" to familiarize themselves with the principles of dermatologic nomenclature and lines of thought.

The *Atlas* is organized into four parts, subdivided into 35 sections, and there are three short appendices. Each section has a color label that is reflected by the bar on the top of each page. This is to help the reader find his or her bearings rapidly when leafing through the book. Each disease is labeled with the respective ICD10 codes.

APPROACH TO DERMATOLOGIC DIAGNOSIS

There are two distinct clinical situations regarding the nature of skin changes:

I. The skin changes are *incidental* findings in *well* and *ill* individuals noted during the routine general physical examination:
- "Bumps and blemishes": many asymptomatic lesions that are medically inconsequential may be present in well and ill persons, and may not be the reason for their visit to the physician; every general physician should be able to recognize these lesions to differentiate them from asymptomatic but important, e.g., malignant, lesions.
- *Important skin lesions not* noted by the patient but that must not be overlooked by the physician: e.g., dysplastic nevi, melanoma, basal cell carcinoma, squamous cell carcinoma, café-au-lait macules in von Recklinghausen disease, and xanthomas.

II. The skin changes are the *chief complaint* of the patient:
- "Minor" problems: e.g., localized itchy rash, "rash," rash in groin, nodules such as common moles and seborrheic keratoses.
- "4-S": serious skin signs in sick patients.

SERIOUS SKIN SIGNS IN SICK PATIENTS

- **Generalized red rash with fever:**
  - Viral exanthems.
  - Rickettsial exanthems.
  - Drug eruptions.
  - Bacterial infections with toxin production.
- **Generalized red rash with blisters and prominent mouth lesions:**
  - Erythema multiforme (major).
  - Toxic epidermal necrolysis.
  - Pemphigus.
  - Bullous pemphigoid.
  - Drug eruptions.
- **Generalized red rash with pustules:**
  - Pustular psoriasis (von Zumbusch).
  - Drug eruptions.
- **Generalized rash with vesicles:**
  - Disseminated herpes simplex.
  - Generalized herpes zoster.
  - Varicella.
  - Drug eruptions.
- **Generalized red rash with scaling over whole body:**
  - Exfoliative erythroderma.
- **Generalized wheals and soft-tissue swelling:**
  - Urticaria and angioedema.
- **Generalized purpura:**
  - Thrombocytopenia.
  - Purpura fulminans.
  - Drug eruptions.
- **Generalized purpura that can be palpated:**
  - Vasculitis.
  - Bacterial endocarditis.
- **Multiple skin infarcts:**
  - Meningococcemia.
  - Gonococcemia.
  - Disseminated intravascular coagulopathy.
- **Localized skin infarcts:**
  - Calciphylaxis.
  - Atherosclerosis obliterans.
  - Atheroembolization.
  - Warfarin necrosis.
  - Antiphospholipid antibody syndrome.
- **Facial inflammatory edema with fever:**
  - Erysipelas.
  - Lupus erythematosus.
  - Dermatomyositis.

OUTLINE OF DERMATOLOGIC DIAGNOSIS

In contrast to other fields of clinical medicine, patients should be examined before a detailed history is taken because patients can see their lesions and thus often present with a history that is flawed with their own interpretation of the origin or causes of the skin eruption. Also, diagnostic accuracy is higher when objective examination is approached without preconceived ideas. However, a history should always be obtained but if taken during or after the visual and physical examination, it can be streamlined and more focused following the objective find-

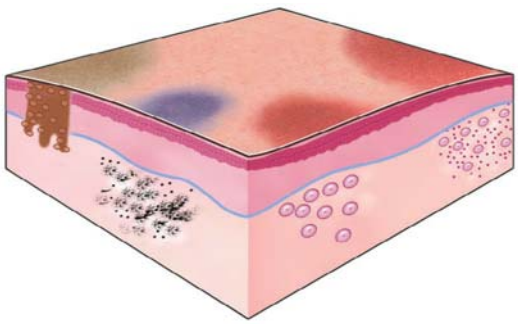
ings. Thus, recognizing, analyzing, and properly interpreting skin lesions are the sine qua non of dermatologic diagnosis.

PHYSICAL EXAMINATION

Appearance Uncomfortable, "toxic," well.
Vital Signs Pulse, respiration, temperature.
Skin: "Learning to Read" The entire skin should be inspected and this should include mucous membranes, genital and anal regions, as well as hair and nails and peripheral lymph nodes. Reading the skin is like reading a text. The basic skin lesions are like the letters of the alphabet: their shape, color, margination, and other features combined will lead to words, and their localization and distribution to a sentence or paragraph. The prerequisite of dermatologic diagnosis is thus the recognition of (1) the type of skin lesion, (2) the color, (3) margination, (4) consistency, (5) shape, (6) arrangement, and (7) distribution of lesions.

Recognizing Letters: Types of Skin Lesions

- **Macule** (Latin: *macula*, "spot") A macule is a circumscribed area of change in skin color without elevation or depression. It is thus not palpable. Macules can be well defined and ill defined. Macules may be of any size or color (Fig. I-1). White, as in vitiligo; brown, as in café-au-lait spots; blue, as in Mongolian spots; or red, as in permanent vascular abnormalities such as port-wine stains or capillary dilatation due to inflammation (erythema). Pressure of a glass slide (*diascopy*) on the border of a red lesion detects the extravasation of red blood cells. If the redness remains under pressure from the slide, the lesion is purpuric, that is, results from extravasated red blood cells; if the redness disappears, the lesion is due to vascular dilatation. A rash consisting of macules is called a *macular exanthem*.
- **Papule** (Latin: *papula*, "pimple") A papule is a superficial, elevated, solid lesion, generally considered <0.5 cm in diameter. Most of it is elevated above, rather than deep within, the plane of the surrounding skin (Fig. I-2). A papule is palpable. It may be well defined or ill defined. In papules, the elevation is caused by metabolic or locally produced deposits, by localized cellular infiltrates, inflammatory or



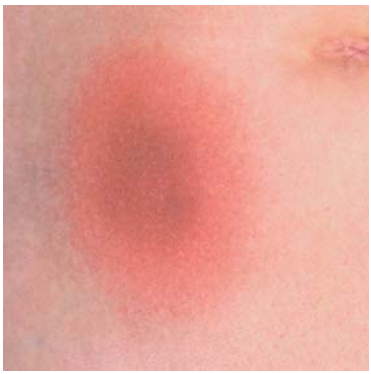
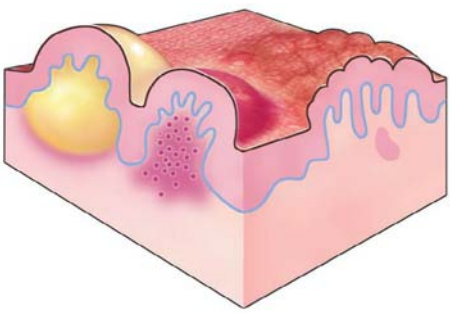


FIGURE I-1 Macule



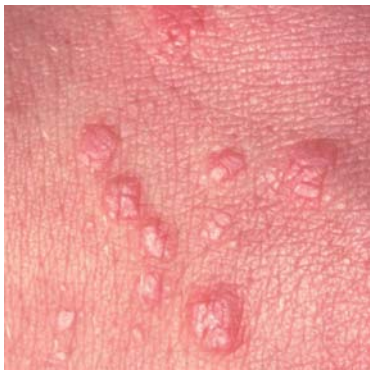
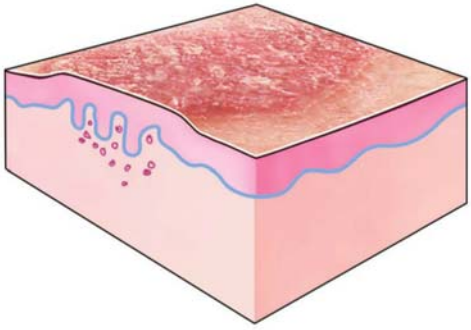


FIGURE I-2 Papule

noninflammatory, or by hyperplasia of local cellular elements. Superficial papules are sharply defined. Deeper dermal papules have indistinct borders. Papules may be dome-shaped, cone-shaped, or flat-topped (as in lichen planus) or consist of multiple, small, closely packed, projected elevations that are known as a *vegetation* (Fig. I-2). A rash consisting of papules is called a papular *exanthem*. Papular exanthems may be grouped ("lichenoid") or disseminated (dispersed). Confluence of papules leads to the development of larger, usually flat-topped, circumscribed, plateau-like elevations known as plaques (French: *plaque*, "plate"). See the following.

- **Plaque** A plaque is a plateau-like elevation above the skin surface that occupies a relatively large surface area in comparison with its height above the skin (Fig. I-3). It is usually well defined. Frequently, it is formed by a confluence of papules, as in psoriasis. *Lichenification* is a less well-defined large plaque where the skin appears thickened and the skin markings are accentuated. Lichenification occurs in atopic dermatitis, eczematous dermatitis, psoriasis, lichen simplex chronicus, and mycosis fungoides. A *patch* is a barely elevated plaque—a lesion fitting between a macule and a plaque—as in parapsoriasis or Kaposi sarcoma.
- **Nodule** (Latin: *nodulus*, "small knot") A nodule is a palpable, solid, round, or ellipsoidal lesion that is larger than a papule (Fig. I-4) and may involve the epidermis, dermis, or subcutaneous tissue. The depth of involvement and the size differentiate a nodule from a papule. Nodules result from inflammatory infiltrates, neoplasms, or metabolic deposits in the dermis or subcutaneous tissue. Nodules may be well defined (superficial) or ill defined (deep); if localized in the subcutaneous tissue, they can often be better felt than seen. Nodules can be hard or soft upon palpation. They may be dome-shaped and smooth or may have a warty surface or crater-like central depression.



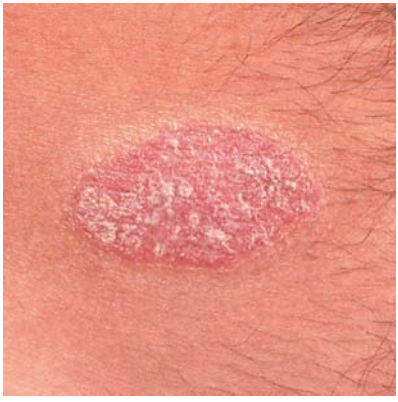
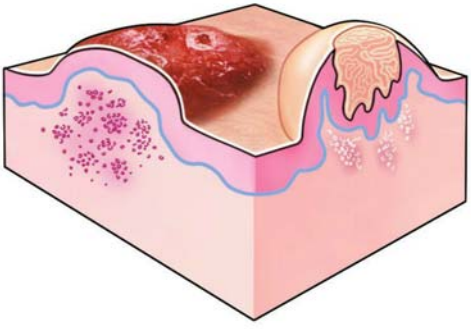


FIGURE I-3 Plaque



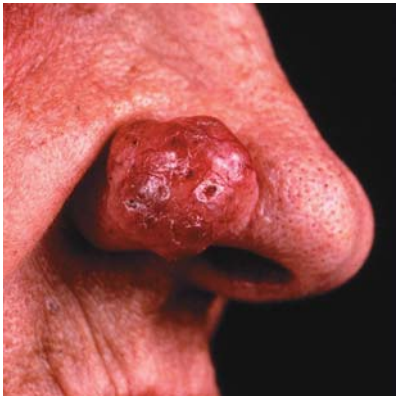


FIGURE I-4 Nodule

- **Wheal** A wheal is a rounded or flat-topped, pale red or white papule or plaque that is characteristically evanescent, disappearing within 24 to 48 h (Fig. I-5). It is due to edema in the papillary body of the dermis. If the edema is very pronounced, it will compress the dilated capillaries and the wheal will turn white (**Fig. 1-5**). Wheals may be round, gyrate, or irregular with pseudopods—changing rapidly in size and shape due to shifting papillary edema. A rash consisting of wheals is called a *urticarial exanthema* or *urticaria*.
- **Vesicle-Bulla** (*Blister*) (Latin: *vesicula*, "little bladder"; *bulla*, "bubble") A vesicle (<0.5 cm) or a bulla (>0.5 cm) is a circumscribed, elevated, superficial cavity containing fluid (Fig. I-6). Vesicles are dome-shaped (as in contact dermatitis, dermatitis herpetiformis), umbilicated (as in herpes simplex), or flaccid (as in pemphigus). Often the roof of a vesicle/bulla is so thin that it is transparent, and the serum or blood in the cavity can be seen. Vesicles containing serum are yellowish; those containing blood from red to black. Vesicles and bullae arise from a cleavage at various levels of the superficial skin; the cleavage may be subcorneal or within the epidermis (i.e., intraepidermal vesication) or at the epidermal–dermal interface (i.e., subepidermal), as in Figure I-6. Since vesicles/bullae are always superficial they are always well defined. A rash consisting of vesicles is called a *vesicular exanthem*; a rash consisting of bullae a *bullous exanthem*.
- **Pustule** (Latin: *pustula*, "pustule") A pustule is a circumscribed superficial cavity of the skin that contains a purulent exudate (Fig. I-7), which may be white, yellow, greenish-yellow, or hemorrhagic. Pustules thus differ from vesicles in that they are not clear but have a turbid content. This process may arise in a hair follicle or independently. Pustules may vary in size and shape. Pustules are usually dome-shaped, but follicular pustules are conical and usually contain a hair in the center. The vesicular lesions of herpes simplex and varicella zoster virus infections may

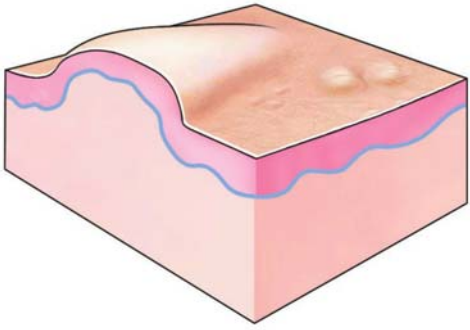
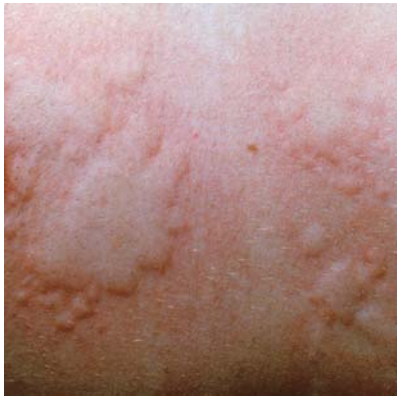


FIGURE I-5 Wheal



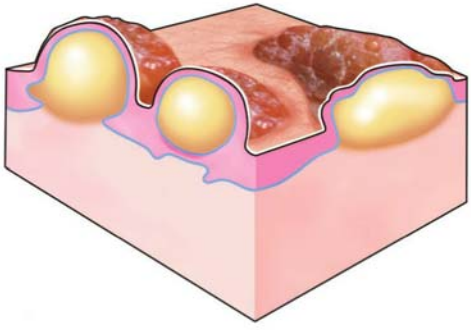
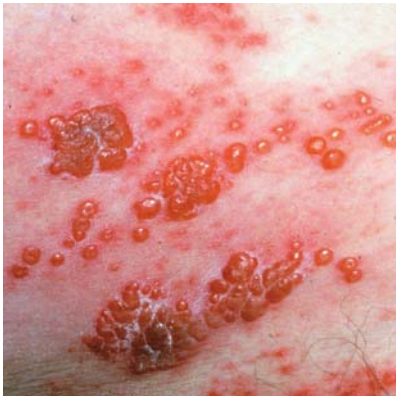


FIGURE I-6 Vesicle



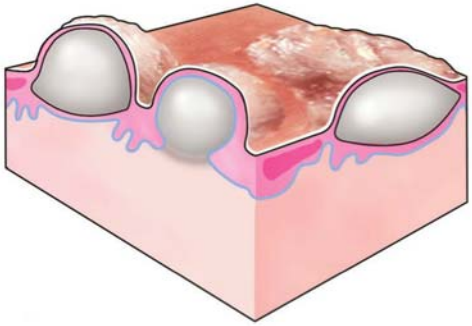
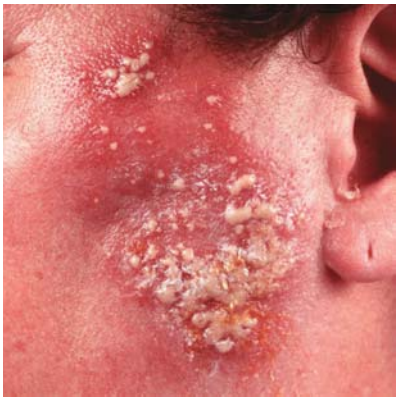


FIGURE I-7 Pustule



become pustular. A rash consisting of pustules is called a *pustular exanthem*.

- **Crusts** (Latin: *crusta*, "rind, bark, shell") Crusts develop when serum, blood, or purulent exudate dries on the skin surface (Fig. I-8). Crusts may be thin, delicate, and friable or thick and adherent. Crusts are yellow when formed from dried serum; green or yellow-green when formed from purulent exudate; or brown, dark red, or black when formed from blood. Superficial crusts occur as honey-colored, delicate, glistening particulates on the surface and are typically found in impetigo (Fig. I-8). When the exudate involves the entire epidermis, the crusts may be thick and adherent, and if it is accompanied by necrosis of the deeper tissues (e.g., the dermis), the condition is known as *ecthyma*.
- **Scales (squames)** (Latin: *squama*, "scale") Scales are flakes of stratum corneum (Fig. I-9). They may be large (like membranes, tiny [like dust], pityriasiform (Greek: *pityron*, "bran"), adherent, or loose. A rash consisting of papules with scales is called a *papulosquamous exanthem*.
- **Erosion** An erosion is a defect only of the epidermis, not involving the dermis (Fig. I-10); in contrast to an ulcer, which always heals with scar formation (see the following), an erosion heals without a scar. An erosion is sharply defined, red, and oozes. There are superficial erosions, which are subcorneal or run through the epidermis, and deep erosions, the base of which is the papillary body (Fig. I-10). Except physical abrasions, erosions are always the result of intraepidermal or subepidermal cleavage and thus of vesicles or bullae.
- **Ulcer** (Latin: *ulcus*, "sore") An ulcer is a skin defect that extends into the dermis or deeper (Fig. I-11) into the subcutis and always occurs within pathologically altered tissue. An ulcer is therefore always a secondary phenomenon. The pathologically altered tissue that gives rise

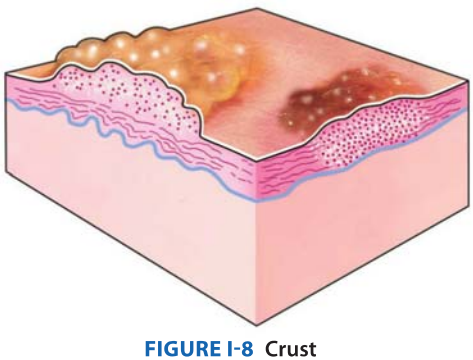
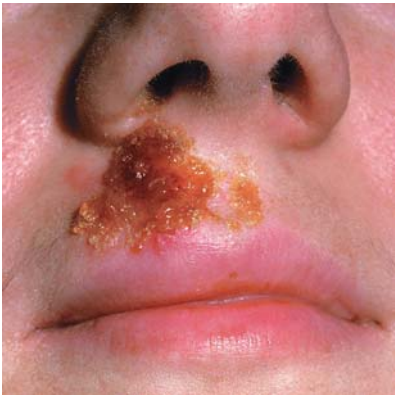


FIGURE I-8 Crust



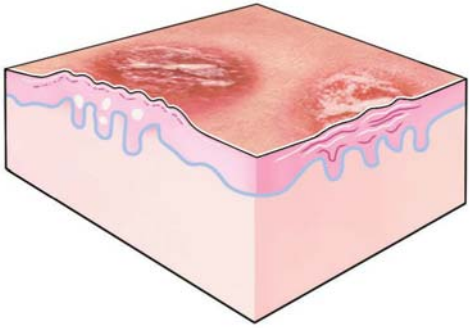
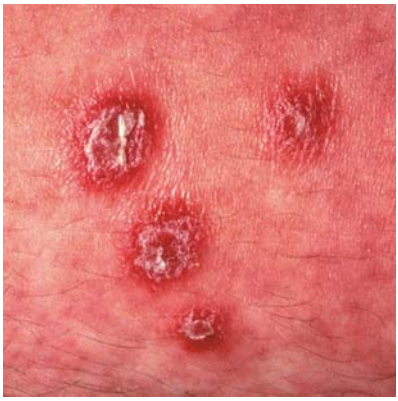


FIGURE I-9 Scale



to an ulcer is usually seen at the border or the base of the ulcer and is helpful in determining its cause. Other features helpful in this respect are whether borders are elevated, undermined, hard, or soggy; location of the ulcer; discharge; and any associated topographic features, such as nodules, excoriations, varicosities, hair distribution, presence or absence of sweating, and arterial pulses. Ulcers always heal with scar formation.

- **Scar** A scar is the fibrous tissue replacement of the tissue defect by previous ulcer or a wound. Scars can be hypertrophic and

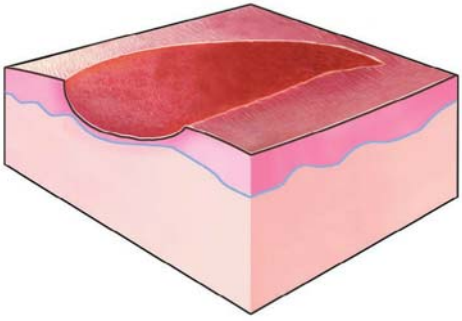
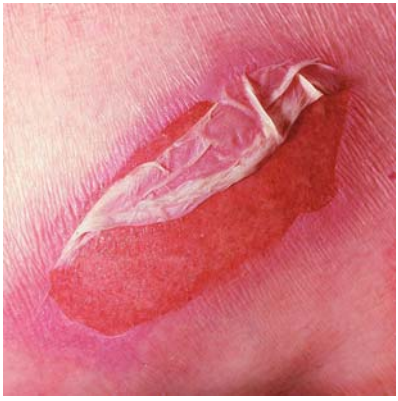


FIGURE I-10 Erosion



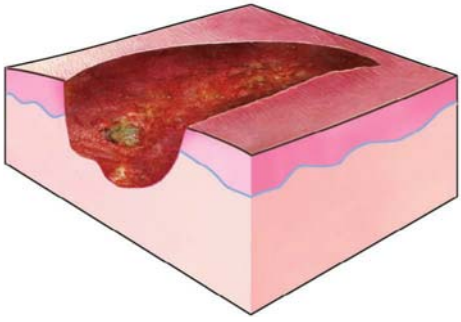
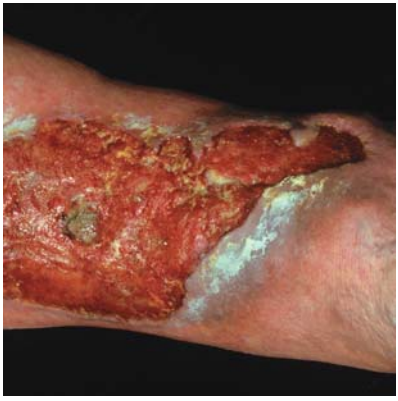


FIGURE I-11 Ulcer



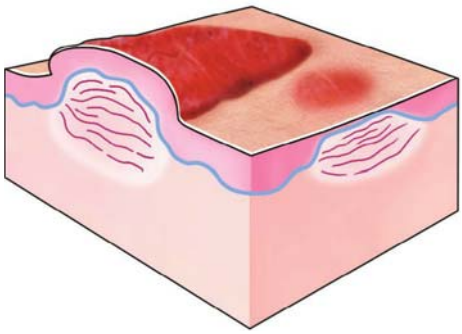
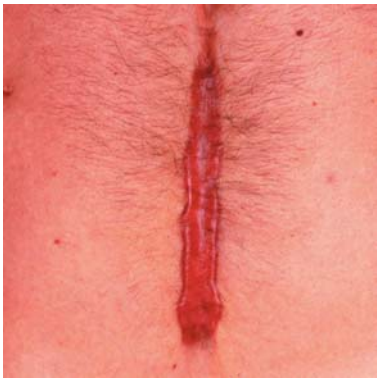


FIGURE I-12 Scar



hard (Fig. I-12) or atrophic and soft with a thinning or loss of all tissue compartments of the skin (Fig. I-12).

- **Atrophy** This refers to a diminution of some or all layers of the skin (Fig. I-13). Epidermal atrophy is manifested by a thinning of the epidermis, which becomes transparent, revealing the papillary and subpapillary vessels; there are loss of skin texture and cigarette paper-like wrinkling. In dermal atrophy, there is loss of connective tissue of the dermis and depression of the lesion (Fig. I-13).
- **Cyst** A cyst is a cavity containing liquid or solid or semisolid (Fig. I-14) materials and may be superficial or deep. Visually it appears like a spherical, most often dome-shaped papule or

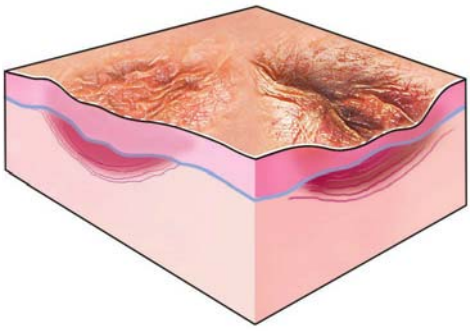
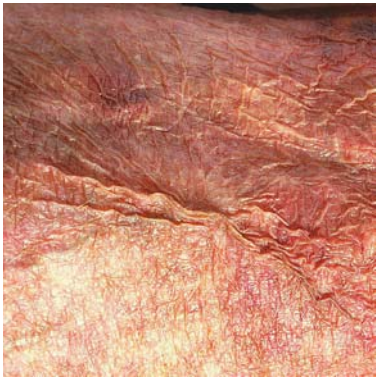


FIGURE I-13 Atrophy



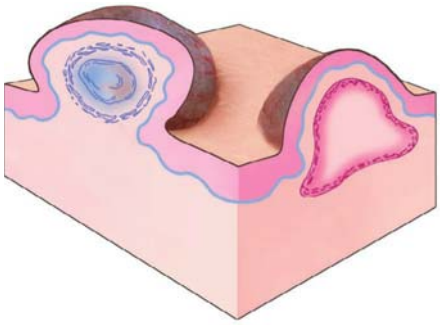


FIGURE I-14 Cyst