SECOND EDITION

CURRENT Medical Diagnosis & Treatment

Study Guide

- In-depth, case-based review of key internal medicine topics
- Great preparation for internal medicine examinations
- Covers the most common diseases and disorders

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CURRENT Medical Diagnosis & Treatment Study Guide

Second Edition

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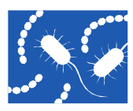

Preface

Purpose

Current Medical Diagnosis and Treatment (CMDT) is the leading internal medicine textbook known for its comprehensive coverage of current inpatient and outpatient care with diagnostic tools relevant to day-to-day practice. Facilitating its usefulness, this CMDT Study Guide, second edition, directs readers through a case analysis of 80 of the most common topics in internal medicine. T e CMDT Study Guide provides a comprehensive and clearly organized synopsis of each medical topic that helps the reader review and study for a variety of examinations, such as the medicine clerkship shelf exam, USMLE Step 2 examinations, ABIM internal medicine boards, and recertification examinations. As such it will be very useful to medical, nursing (Adult and Family Nurse Practitioner Certification Exam), pharmacy, and other health professional students, Physician Assistant National Certifying Exam (PANCE), to house officers, and to practicing physicians. T e CMDT Study Guide is engaging and patient-centered since each of the 80 topics begins with presentation of a typical patient to help the reader think in a step-wise fashion through the various clinical problem-solving aspects of the case. For each topic, the CMDT Study Guide provides PubMed's references to the most current and pertinent MEDLINE articles for that topic. Each reference provides PMID numbers to facilitate retrieval of the relevant articles.

Outstanding Features

- Eighty common internal medicine topics useful to learners and practitioners for patient care and to prepare for examinations
- Material drawn from the expert source, Current Medical Diagnosis and Treatment 2016, including tables about laboratory tests and treatments
- In-depth, consistent, and readable format organized in a way that allows for quick study and easy access to information
- Emphasis on a standard approach to clinical problem-solving with Learning Objectives, Salient Features, Symptoms and Signs, Treatment, Outcomes, When to Refer and When to Admit, and References
- Medical and nursing students, physician's assistants, nurse practitioners, house officers, and practicing physicians will find the clear organization and current literature references useful in devising proper management for patients with these conditions

Organization

T e CMDT Study Guide provides comprehensive yet succinct information. Each CMDT Study Guide topic begins with a patient presentation, followed by Learning Objectives and 9 Questions to help the learner work through the topic in the context of the patient presented. Answers to the 9 questions are organized as Salient Features, How to T ink T rough the Problem, Key Features (which contain Essentials of Diagnosis, General Considerations, and Demographics), Symptoms and Signs, Dif erential Diagnosis, Laboratory, Imaging, and Procedural Findings, Treatments, Outcomes, and When to Refer and When to Admit. References are then provided that contain current literature citations complete with PubMed (PMID) numbers. T e CMDT Study Guide is a complete source of patient care information for these 80 most common clinical problems! T e 80 topics in the CMDT Study Guide were selected as the core topics for the learner because of their importance to the field of internal medicine.

T e CMDT Study Guide follows the organization of Quick Medical Diagnosis and Treatment (QMDT) (or Quick Dx & Rx at www.accessmedicinemhmedical.com) and the QMDT App, and is divided into 11 sections:

- Skin Disorders
- Pulmonary/Ear, Nose, & T roat Disorders
- Heart/Hypertension/Lipid Disorders
- Hematologic Disorders
- Gastrointestinal/Liver/Pancreas Disorders
- Gynecologic/Urologic Disorders
- Musculoskeletal Disorders
- Kidney/Electrolyte Disorders
- Nervous System/Psychiatric Disorders
- Endocrine/Metabolic Disorders
- Infectious Disorders

Intended Audience

Medical students on their internal medicine clerkship will find this Study Guide a useful aid as they care for patients with these common medical problems. T e Study Guide will assist medical students, PA students, and NP students taking their internal medicine rotation and house officers to review the core topics as they prepare for standardized examinations. Practicing physicians, physician assistants and nurse practitioners will similarly find the CMDT Study Guide useful in order to stay current in clinical problem-solving, while providing a concise summary of relevant diagnostic laboratory, microbiologic, and imaging studies and treatments, and recent relevant publications.

Acknowledgments

We thank our Current Medical Diagnosis and Treatment authors for their contributions to it and we are grateful to the many students, residents, and practitioners who have made useful suggestions to this book. We hope that you will share with us your comments about the CMDT Study Guide.

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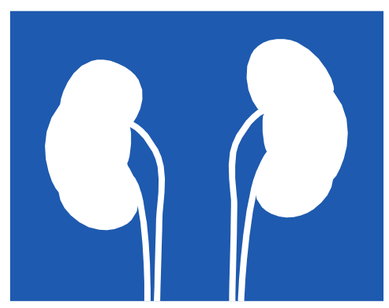
Skin Disorders

Musculoskeletal Disorders

Pulmonary/Ear, Nose and Throat Disorders



Kidney/Electrolyte Disorders

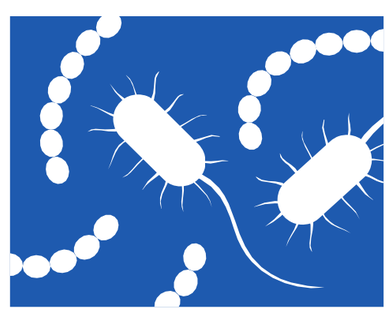
Heart/ Hypertension/ Lipid Disorders

Nervous System/ Psychiatric Disorders

Hematologic Disorders

Endocrine/ Metabolic Disorders

Gastrointestinal/ Liver/Pancreas Disorders



Infectious Disorders

Gynecologic/ Urologic Disorders

Skin Disorders

Pulmonary/Ear, Nose, and Throat Disorders

Heart/Hypertension/Lipid Disorders

Hematologic Disorders

Gastrointestinal/Liver/Pancreas Disorders

Gynecologic/Urologic Disorders

Musculoskeletal Disorders

Kidney/Electrolyte Disorders

Nervous System/Psychiatric Disorders

Endocrine/Metabolic Disorders

Infectious Disorders

1 Atopic Dermatitis

A 30-year-old woman presents to her primary care clinician with an itchy rash on her hands, wrists, and arms. She states she has had similar rashes before, which had gone away with over-the-counter hydrocortisone cream, the first episode occurring when she was very young. Her past medical history includes asthma. She takes loratadine occasionally for allergic rhinitis. Physical examination reveals plaques on the hands, wrists, and antecubital folds, which are mildly exudative and without scale. Laboratory testing shows eosinophilia on a complete blood count with differential and an elevated serum immunoglobulin E (IgE) level.

LEARNING OBJECTIVES

- Learn the clinical manifestations and objective findings of atopic dermatitis, and the findings that distinguish it from other skin conditions
- Understand the associated diseases that predispose to atopic dermatitis
- Know the differential diagnosis of atopic dermatitis
- Learn the treatments for each clinical pattern of atopic dermatitis
- Know which patients are likely to have recurrent atopic dermatitis and how to prevent flares

QUESTIONS

1. What are the salient features of this patient's problem?
2. How do you think through her problem?
3. What are the key features, including essentials of diagnosis and general considerations, of atopic dermatitis?
4. What are the symptoms and signs of atopic dermatitis?
5. What is the differential diagnosis of atopic dermatitis?
6. What are the laboratory findings in atopic dermatitis?
7. What are the treatments for atopic dermatitis?
8. What are the outcomes, including complications, prognosis, and prevention, of atopic dermatitis?
9. When should patients with atopic dermatitis be referred to a specialist?

ANSWERS

1. Salient Features

Pruritic rash in distribution of hands, wrists, antecubital folds; similar symptoms starting in childhood; personal history of atopic conditions (asthma, allergic rhinitis); plaques with exudates and without scale; eosinophilia; and elevated serum IgE levels

2. How to Think Through

It is important to think broadly about possible causes of rash in this patient, despite her strong atopic history. Might this be seborrheic dermatitis? (Seborrheic dermatitis typically looks like greasy, scaly lesions on the central face and scalp.) A fungal infection? (Prior similar manifestations have resolved with topical corticosteroid treatment, making this unlikely.) Psoriasis? (T e distribution and absence of silvery scale makes this unlikely.) Contact dermatitis? (T is is a reasonable consideration. Contact dermatitis can be indistinguishable from atopic dermatitis, and in this case, the rash is similarly conf ned to exposed areas of the body.) What would raise your suspicion for contact dermatitis? (A history of new potential allergen or irritant exposure.)

After considering the above, a diagnosis of atopic dermatitis is most likely, given the prior atopy (asthma and allergic rhinitis), the recurrence of similar symptoms since childhood, the eosinophilia, and elevated IgE. How should she be treated? (Mid-potency topical corticosteroids twice daily with subsequent tapering to low-potency corticosteroids, and with emollient applied frequently. T is patient's presentation is unlikely to require oral corticosteroid treatment. An oral antihistamine for itching may be helpful.) How would you counsel this patient to prevent future flares? (Avoid excessive bathing and hand washing. Use mild soaps. Apply emollient after washing. Trim f ngernails and wrap affected areas at night to prevent scratching.)

3. Key Features

Essentials of Diagnosis

- Pruritic, exudative, or lichenif ed eruption on face, neck, upper trunk, wrists, hands, and antecubital and popliteal folds
- Personal or family history of allergies or asthma
- Tendency to recur
- Onset in childhood in most patients; onset after age 30 is very uncommon

General Considerations

- Also known as eczema
- Looks different at different ages and in people of different races
- Diagnostic criteria include
  - Pruritus
  - Typical morphology and distribution (flexural lichenif cation, hand eczema, nipple eczema, and eyelid eczema in adults)
  - Onset in childhood
  - Chronicity
- Also diagnostically helpful are
  - Personal history of asthma or allergic rhinitis
  - Family history of atopic disease (asthma, allergic rhinitis, atopic dermatitis)
  - Xerosis ichthyosis
  - Facial pallor with infraorbital darkening
  - Elevated serum IgE
  - Repeated skin infections

4. Symptoms and Signs

- Itching may be severe and prolonged
- Rough, red plaques usually without the thick scale and discrete demarcation of psoriasis affect the face, neck, and upper trunk; may be pruritic or exudative
- Flexural surfaces of elbows and knees are often involved
- In chronic cases, the skin is dry, leathery, and lichenif ed
- In black patients with severe disease, pigmentation may be lost in lichenif ed areas
- During acute flares, widespread redness with weeping, either diffusely or in discrete plaques

5. Differential Diagnosis

- Seborrheic dermatitis
- Impetigo
- Secondary staphylococcal infections
- Psoriasis
- Lichen simplex chronicus (circumscribed neurodermatitis)

6. Laboratory Findings

Laboratory Tests

- Eosinophilia and increased serum IgE levels may be present

7. Treatments

Medications

Local Treatments

- Corticosteroids
  - For treatment of lesions on the body (excluding genitalia, axillary or crural folds), begin with triamcinolone 0.1% ointment or a stronger corticosteroid, then taper to hydrocortisone 1% ointment or another slightly stronger mild corticosteroid (alclometasone 0.05% or desonide 0.05% ointment)
  - Apply sparingly once or twice daily
  - Taper off corticosteroids and substitute emollients as the dermatitis clears to avoid the side effects of corticosteroids and rebound
- Tacrolimus and pimecrolimus
  - Do not appear to cause corticosteroid side effects
  - Safe on the face and eyelids
  - Use sparingly and for as brief a time as possible
  - Avoid in patients at high risk for lymphoma (ie, those with HIV, iatrogenic immunosuppression, prior lymphoma)
  - Tacrolimus 0.03% and 0.1% ointment applied twice daily
    - Effective as a f rst-line steroid-sparing agent
    - Burning on application occurs in about half but may resolve with continued treatment
  - Pimecrolimus 1% cream applied twice daily is similar but burns less

Systemic and Adjuvant T erapies

- Prednisone
  - Start at 40 to 60 mg orally daily
  - Taper to nil over 2 to 4 weeks
  - Use as long-term maintenance therapy is not recommended
- Bedtime doses of hydroxyzine, diphenhydramine, or doxepin may be helpful via their sedative properties in reducing perceived pruritus

- Antistaphylococcal antibiotics
  — Should only be used if indicated by bacterial culture
  — First-generation cephalosporins may be helpful
  — Doxycycline, if methicillin-resistant Staphylococcus aureus is suspected
- Phototherapy
- Oral cyclosporine, mycophenolate mofetil, methotrexate, interferon gamma, dupilumab, or azathioprine may be used for the most severe and recalcitrant cases

Treatment by Pattern and Stage of Dermatitis

- Acute weeping lesions
  — Staphylococcal or herpetic superinfection should be excluded
  — Use saline or aluminum subacetate solution (Domeboro tablets) or colloidal oatmeal (Aveeno) as soothing or wet dressings or astringent soaks for 10 to 30 minutes two to four times a day
- Lesions on the extremities may be bandaged for protection at night
  — Use high-potency corticosteroids after soaking but spare the face and body folds
  — Tacrolimus may not be tolerated; systemic corticosteroids are last resort
- Subacute or scaly lesions (lesions are dry but still red and pruritic)
  — Mid- to high-potency corticosteroids
    In ointment form if tolerated—creams, if not
    Should be continued until scaling and elevated skin lesions are cleared and itching is decreased
    T en, begin a 2- to 4-week taper with topical corticosteroids
- Chronic, dry lichenif ed lesions (thickened and usually well demarcated)
  — High-potency to ultrahigh-potency corticosteroid ointments
  — Nightly occlusion for 2 to 6 weeks may enhance the initial response
  — Occasionally, adding tar preparations such as liquor carbonis detergens 10% in Aquaphor or 2% crude coal tar may be benef cial
- Maintenance treatment
  — Constant application of effective moisturizers is recommended to prevent flares
  — In patients with moderate disease, topical anti-inflammatory agents can be used on weekends only or three times weekly to prevent flares

8. Outcomes

Complications

- Treatment complications
  — Monitor for skin atrophy
  — Eczema herpeticum, a generalized herpes simplex infection manifested by monomorphic vesicles, crusts, or scalloped erosions superimposed on atopic dermatitis or other extensive eczematous processes
- Smallpox vaccination is absolutely contraindicated in patients with atopic dermatitis or a history thereof because of the risk of eczema vaccinatum

Prognosis

- Runs a chronic or intermittent course
- Affected adults may have only hand dermatitis
- Poor prognostic factors for persistence into adulthood: onset early in childhood, early generalized disease, and asthma; only 40% to 60% of these patients have lasting remissions

Prevention

- Avoid things that dry or irritate the skin: low humidity and dry air
- Other triggers: sweating, overbathing, animal danders, scratchy fabrics
- Do not bathe more than once daily and use soap only on armpits, groin, and feet
- After rinsing, pat the skin dry (not rub) and then, before it dries completely, cover with a thin f lm of emollient such as Aquaphor, Eucerin, petrolatum, Vanicream

9. When to Refer

- If there is a question about the diagnosis, recommended therapy is ineffective, or specialized treatment is necessary

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2 Contact Dermatitis

A 30-year-old woman presents to the clinic complaining that she has "an itchy rash all over the place." She noticed that her legs became red, itchy, and blistered about 2 days after she had been hiking in a heavily wooded area. She says that scratching broke the blisters and afterward the rash became much worse and spread all over. She is convinced that the rash could not be poison ivy because once before she was exposed to that plant and did not develop a rash. On examination, there are erythematous vesicles and bullae in linear streaks on both of her legs. Some areas are weepy, with a yellowish crust. There are ill-defined erythematous plaques studded with papulovesicles on the trunk and arms.

LEARNING OBJECTIVES

- Learn the clinical manifestations and morphologic type of eruption in contact dermatitis
- Understand the factors that predispose to contact dermatitis
- Know the dif erential diagnosis of contact dermatitis
- Learn the treatments for contact dermatitis by its severity
- Understand how to prevent contact dermatitis from recurring

QUESTIONS

1. What are the salient features of this patient's problem?
2. How do you think through her problem?
3. What are the key features, including essentials of diagnosis and general considerations, of contact dermatitis?
4. What are the symptoms and signs of contact dermatitis?
5. What is the dif erential diagnosis of contact dermatitis?
6. What are the laboratory and procedural findings in contact dermatitis?
7. What are the treatments for contact dermatitis?
8. What are the outcomes, including prognosis and prevention, of contact dermatitis?
9. When should patients with contact dermatitis be referred to a specialist?

ANSWERS

1. Salient Features

Itchy erythematous rash; history of pre-eruption exposure to the outdoors; previous initial exposure to same antigen; weeping, vesicles, and bullae in allergic type

2. How to Think Through

T is patient's rash is severe, so it is important to think broadly about other causes besides those linked to the outdoor exposure. No symptoms or signs of systemic illness are mentioned, but a complete review of systems and physical examination (with vital signs) are essential. Could this be atopic dermatitis? (Unlikely—there is no history of atopy or prior similar symptoms.) Might this be seborrheic dermatitis? (No, since it typically involves the face and scalp.) A fungal infection? (T e pace is too rapid and the rash is more consistent with dermatitis). Scabies? (No, due to the rapid pace and lack of focus in intertriginous areas.) Could this be impetigo? (Yes, careful examination is warranted to exclude impetigo.) What features of this case provide the strongest evidence for contact dermatitis? (Streaked appearance, a pattern confined to exposed areas of the body, recent possible exposure to poison ivy with prior contact with this antigen.) What are the two classes of causative agents in contact dermatitis? (Irritants and antigens.) What are common irritants or antigens?

How should she be treated—topically or systemically? (T e weeping and bullae suggest that she may need systemic corticosteroids.) What complications may develop? (Superinfection, especially with Streptococcus spp and Staphylococcus aureus.)

3. Key Features

Essentials of Diagnosis

- Erythema and edema, with pruritus, often followed by vesicles and bullae in an area of contact with a suspected agent
- Later, weeping, crusting, or secondary infection
- A history of previous reaction to suspected contactant
- Patch test with agent positive

General Considerations

- An acute or chronic dermatitis that results from direct skin contact with chemicals or allergens
- Irritant contact dermatitis
  - — Eighty percent of cases are due to excessive exposure to or additive ef ects of universal irritants such as soaps, detergents, or organic solvents
  - — Appears red and scaly but not vesicular
- Allergic contact dermatitis
  - — Most common causes are poison ivy, oak, or sumac; topically applied antimicrobials (especially bacitracin and neomycin), anesthetics (benzocaine); haircare products; preservatives; jewelry (nickel); rubber; essential oils; propolis (from bees); vitamin E; and adhesive tape
  - — Occupational exposure is an important cause
- Weeping and crusting are typically due to allergic and not irritant dermatitis

4. Symptoms and Signs

- T e acute phase is characterized by tiny vesicles and weepy and crusted lesions
- Resolving or chronic contact dermatitis presents with scaling, erythema, and possibly thickened skin; itching, burning, and stinging may be severe
- T e lesions, distributed on exposed parts or in bizarre asymmetric patterns, consist of erythematous macules, papules, and vesicles
- T e af ected area is often hot and swollen, with exudation and crusting, simulating and, at times, complicated by infection

- The pattern of the eruption may be diagnostic (eg, typical linear streaked vesicles on the extremities in poison oak or ivy dermatitis)
- The location will often suggest the cause
  - Scalp involvement suggests hair dyes or shampoos
  - Face involvement, creams, cosmetics, soaps, shaving materials, nail polish; neck involvement, jewelry, hair dyes

5. Differential Diagnosis

- Impetigo
- Cellulitis
- Scabies
- Dermatophytid reaction (allergy or sensitivity to fungi)
- Atopic dermatitis
- Pompholyx
- Asymmetric distribution, blotchy erythema around the face, linear lesions, and a history of exposure help distinguish contact dermatitis from other skin lesions
- The most commonly confused diagnosis is impetigo, in which case Gram stain and culture will rule out impetigo or secondary infection (impetiginization)

6. Laboratory and Procedural Findings

Laboratory Tests

- Gram stain and culture will rule out impetigo or secondary infection (impetiginization)
- After the episode of allergic contact dermatitis has cleared, patch testing may be useful if triggering allergen is not known

Diagnostic Procedures

- If itching is generalized, then consider scabies

7. Treatments

- Table 2-1
- Vesicular and weepy lesions often require systemic corticosteroid therapy
- Localized involvement (except on the face) can often be managed with topical agents
- Irritant contact dermatitis is treated by protection from the irritant and use of topical corticosteroids as for atopic dermatitis

Local Measures

- Acute weeping dermatitis
  - Compresses are most often used
  - Lesions on the extremities may be bandaged with wet dressings for 30 to 60 minutes several times a day
  - Calamine or zinc oxide paste can be used between wet dressings, especially for intertriginous areas or when oozing is not marked
  - High-potency topical corticosteroids in gel or cream form (fluocinonide, clobetasol, or halobetasol) may help suppress acute contact dermatitis and relieve itching
  - Then, taper the number of high-potency topical steroid applications per day or use a mid-potency corticosteroid, such as triamcinolone 0.1% cream to prevent rebound of the dermatitis
  - A soothing formulation is 2 oz 0.1% triamcinolone acetonide cream in 7.5 oz Sarna lotion (0.5% camphor, 0.5% menthol, 0.5% phenol)
- Subacute dermatitis (subsiding)
  - Mid-potency (triamcinolone 0.1%) to high-potency corticosteroids (clobetasol 0.05%, fluocinonide 0.05%, desoximetasone 0.05%–0.25%) are the mainstays of the therapy
- Chronic dermatitis (dry and lichenified)
  - High- to super-potency corticosteroids are used in ointment form

Table 2-1. Useful topical dermatologic therapeutic agents for contact dermatitis.

Agent	Formulations, Strengths, and Prices[a]	Apply	Potency Class	Comments
Corticosteroids				
Hydrocortisone acetate	Cream 1% Ointment 1% Lotion 1%	Twice daily	Low	Not the same as hydrocortisone butyrate or valerate Not for poison oak OTC lotion (Aquanil HC) OTC solution (Scalpicin, T Scalp)
	Cream 2.5%	Twice daily	Low	Perhaps better for pruritus ani Not clearly better than 1% More expensive Not OTC
Aclometasone dipropionate (Aclovate)	Cream 0.05% Ointment 0.05%	Twice daily	Low	More efficacious than hydrocortisone Perhaps causes less atrophy
Desonide	Cream 0.05% Ointment 0.05% Lotion 0.05%	Twice daily	Low	More efficacious than hydrocortisone Can cause rosacea or atrophy Not fluorinated
Clocortolone (Cloderm)	Cream 0.1%	Three times daily	Medium	Does not cross-react with other corticosteroids chemically and can be used in patients allergic to other corticosteroids
Prednicarbate (Dermatop)	Emollient cream 0.1% Ointment 0.1%	Twice daily	Medium	May cause less atrophy No generic formulations Preservative-free
Triamcinolone acetonide	Cream 0.1% Ointment 0.1% Lotion 0.1%	Twice daily	Medium	Caution in body folds, face Economical in 0.5-lb and 1-lb sizes for treatment of large body surfaces Economical as solution for scalp
	Cream 0.025% Ointment 0.025%	Twice daily	Medium	Possibly less efficacy and few advantages over 0.1% formulation
Fluocinolone acetonide	Cream 0.025% Ointment 0.025% Solution 0.01%	Twice daily	Medium	
Mometasone furoate (Elocon)	Cream 0.1% Ointment 0.1% Lotion 0.1%	Once daily	Medium	Often used inappropriately on the face or on children Not fluorinated
Diflorasone diacetate	Cream 0.05% Ointment 0.05%	Twice daily	High	
Amcinonide (Cyclocort)	Cream 0.1% Ointment 0.1%	Twice daily	High	
Fluocinonide (Lidex)	Cream 0.05% Gel 0.05 Ointment 0.05% Solution 0.05%	Twice daily	High	Economical generics Lidex cream can cause stinging on eczema Lidex emollient cream preferred
Betamethasone dipropionate (Diprolene)	Cream 0.05% Ointment 0.05% Lotion 0.05%	Twice daily	Ultra-high	Economical generics available
Clobetasol propionate (Temovate)	Cream 0.05% Ointment 0.05% Lotion 0.05%	Twice daily	Ultra-high	Somewhat more potent than diflorasone Limited to 50 g or less per week Limited to 2 continuous weeks of use Cream may cause stinging; use "emollient cream" formulation Generic available
Halobetasol propionate (Ultravate)	Cream 0.05% Ointment 0.05%	Twice daily	Ultra-high	Same restrictions as clobetasol Cream does not cause stinging Compatible with calcipotriene (Dovonex)
Flurandrenolide (Cordran)	Tape: 3" roll Lotion 0.05%	Every 12 h	Ultra-high	Protects the skin and prevents scratching
Nonsteroidal Anti-Inflammatory Agents				
Tacrolimus[a] (Protopic)	Ointment 0.1% Ointment 0.03%	Twice daily	N/A	Steroid substitute not causing atrophy or striae Burns in ≥ 40% of patients with eczema
Pimecrolimus[a] (Elidel)	Cream 1%	Twice daily	N/A	Steroid substitute not causing atrophy or striae

N/A, not applicable; OTC, over-the-counter.

[a]Topical tacrolimus and pimecrolimus should only be used when other topical treatments are ineffective. Treatment should be limited to an area and duration to be as brief as possible. Treatment with these agents should be avoided in persons with known immunosuppression, HIV infection, bone marrow and organ transplantation, lymphoma, at high risk for lymphoma, and those with a prior history of lymphoma.

Systemic T erapy

- For acute severe cases, give oral prednisone for 12 to 21 days
- Prednisone, 60 mg for 4 to 7 days, 40 mg for 4 to 7 days, and 20 mg for 4 to 7 days without a further taper is one useful regimen or dispense 78 prednisone 5-mg pills to be taken 12 the first day, 11 the second day, and so on
- T e key is to use enough corticosteroid (and as early as possible) to achieve a clinical ef ect and to taper slowly enough to avoid rebound
- A Medrol Dosepak (methylprednisolone) with 5 days of medication is inappropriate on both counts

8. Outcomes

Prognosis

- Self-limited if reexposure is prevented but often takes 2 to 3 weeks for full resolution

Prevention

- Prompt and thorough removal of the causative oil by washing with liquid dishwashing soap (eg, Dial Ultra) may be ef ective if done within 30 minutes after exposure to poison oak or ivy
- Goop and Tecnu oil-removing skin cleansers are also ef ective but much more costly without increased efficacy
- T e most ef ective over-the-counter barrier creams that are applied prior to exposure and prevent or reduce the severity of the dermatitis are
  — Stokogard
  — Hollister Moisture Barrier
  — Hydropel
- T e mainstay of prevention is identification of the agent causing the dermatitis and avoidance of exposure or use of protective clothing and gloves

9. When to Refer

- Occupational allergic contact dermatitis should be referred to a dermatologist

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3 Psoriasis

A 25-year-old woman presents with a complaint of rash that has developed over the last several weeks and seems to be progressing. She describes the involved areas as mildly itchy. On examination, she is noted to have several plaque-like lesions over the extensor surfaces of both upper and lower extremities as well as similar lesions on her scalp. The plaques are erythematous, with silvery scales, and are sharply marginated.

LEARNING OBJECTIVES

- Learn the clinical manifestations and morphologic type of eruption in psoriasis
- Understand the factors that predispose to psoriasis
- Know the dif erential diagnosis of psoriasis
- Learn the treatments for psoriasis by its severity
- Understand the complications and prognosis of psoriasis

QUESTIONS

1. What are the salient features of this patient's problem?
2. How do you think through her problem?
3. What are the key features, including essentials of diagnosis and general considerations, of psoriasis?
4. What are the symptoms and signs of psoriasis?
5. What is the dif erential diagnosis of psoriasis?
6. What are the procedural findings in psoriasis?
7. What are the treatments for psoriasis?
8. What are the outcomes, including complications and prognosis, of psoriasis?
9. When should patients with psoriasis be referred to a specialist?

ANSWERS

1. Salient Features

Progressive rash; mild itching; plaque-like lesions; extensor surfaces of extremities and scalp distribution; sharp margins with silvery scales

2. How to Think Through

What are the common skin diseases in the dif erential diagnosis of this woman's eruption and what features about her presentation make psoriasis the most likely diagnosis? (Candidiasis, tinea, and atopic dermatitis are characterized by poorly demarcated lesions and typically present on the extensor surfaces. Candida, in particular, is found in the moist body folds and flexural surfaces. T is patient's lesions are described as mildly pruritic, which is more typical of psoriasis than these alternative diagnoses. T e scaly scalp plaques are particularly characteristic of psoriasis.) How does her presentation dif er from that of seborrheic dermatitis?

What other manifestations should you explore? (Nail pitting is common in psoriasis and will help confirm your diagnosis. Joint pain and inflammation would raise the possibility psoriatic arthritis.)

3. Key Features

Essentials of Diagnosis

- Silvery scales on bright red, well-demarcated plaques, usually on the knees, elbows, and scalp
- Nail findings include pitting and onycholysis (separation of the nail plate from the bed)
- Mild itching (usually)
- May be associated with psoriatic arthritis
- Patients with psoriasis are at increased risk for metabolic syndrome and lymphoma
- Histopathology is not often useful and can be confusing

General Considerations

- A common benign, chronic inflammatory skin disease with both a genetic basis and known environmental triggers
- Injury or irritation of normal skin tends to induce lesions of psoriasis at the site (Koebner phenomenon)
- Obesity worsens psoriasis, and significant weight loss in persons with high body mass index may lead to substantial improvement
- Psoriasis has several variants—the most common is the plaque type

4. Symptoms and Signs

T ere are often no symptoms, but itching may occur

- Although psoriasis may occur anywhere, examine the scalp, elbows, knees, palms and soles, umbilicus, intergluteal fold, and nails
- T e lesions are red, sharply defined plaques covered with silvery scales; the glans penis and vulva may be af ected; occasionally, only the flexures (axillae, inguinal areas including genitalia) are involved ("inverse psoriasis")
- Fine stippling ("pitting") in the nails is highly suggestive; onycholysis (separation of the nail plate from its bed) may occur
- Patients with psoriasis often have a pink or red intergluteal fold
- T ere may be associated seronegative arthritis, often involving the distal interphalangeal joints
- Eruptive (guttate) psoriasis, consisting of myriad lesions 3 to 10 mm in diameter, occurs occasionally after streptococcal pharyngitis
- Plaque-type or extensive erythrodermic psoriasis with abrupt onset may accompany HIV infection

5. Differential Diagnosis

- Atopic dermatitis (eczema)
- Contact dermatitis
- Nummular eczema (discoid eczema, nummular dermatitis)
- Tinea
- Candidiasis
- Intertrigo

- Seborrheic dermatitis
- Pityriasis rosea
- Secondary syphilis
- Pityriasis rubra pilaris
- Onychomycosis (nail findings)
- Cutaneous features of reactive arthritis
- Cutaneous features of reactive lupus
- Cutaneous T-cell lymphoma (mycosis fungoides)

6. Procedural Findings

Diagnostic Procedures

- The combination of red plaques with silvery scales on elbows and knees, with scaliness in the scalp or nail pitting or onycholysis, is diagnostic
- Psoriasis lesions are well demarcated and affect extensor surfaces—in contrast to atopic dermatitis, with poorly demarcated plaques in flexural distribution
- In body folds and groin, scraping and culture for Candida and examination of scalp and nails will distinguish inverse psoriasis from intertrigo and candidiasis

7. Treatments

- Certain drugs, such as β-blockers, antimalarial agents, statins, and lithium, may flare or worsen psoriasis
- Even tiny doses of systemic corticosteroids given to psoriasis patients may lead to severe rebound flares of their disease
- Never use systemic corticosteroids to treat flares of psoriasis

Medications

- Topical corticosteroid cream or ointment (Table 3-1)
- Limited disease (< 10% of the body surface)
  - Restrict the highest potency corticosteroids to 2 to 3 weeks of twice daily use; then three or four times on weekends or switch to a mid-potency corticosteroid
  - Rarely induce a lasting remission
- Calcipotriene ointment 0.005% or calcitriol ointment 0.003%, both vitamin D analogs, is used twice daily
  - Initial treatment regimen: corticosteroids twice daily plus a vitamin D analog twice daily
  - Once lesions are cleared, vitamin D analog is used alone, once daily, and with corticosteroids, once daily, for several weeks
  - Then, once- or twice-daily application of the vitamin D analog is continued long term and topical corticosteroids are stopped
  - Calcipotriene usually cannot be applied to the groin or the face because of irritation
  - Calcipotriene is incompatible with many topical corticosteroids; it must be applied at a different time
  - Maximum dose for calcipotriene is 100 g/week and for calcitriol is 200 g/week
- Occlusion alone clears isolated plaques in 30% to 40% of patients
  - Thin, occlusive hydrocolloid dressings are placed on the lesions and left undisturbed for 5 to 7 days and then replaced
  - Responses may be seen within several weeks
- For the scalp
  - Start with a tar shampoo once daily
  - Thick scales: 6% salicylic acid gel (eg, Keralyt), P & S solution (phenol, mineral oil, and glycerin), or oil-based fluocinolone acetonide 0.01% (Derma-Smoothe/FS) under a shower cap at night, followed by a shampoo in the morning
  - In order of increasing potency, triamcinolone 0.1%, or fluocinolone, betamethasone dipropionate, fluocinonide or amcinonide, and clobetasol are available in solution form for use on the scalp twice daily

Table 3-1. Useful topical dermatologic therapeutic agents for psoriasis.

Agent	Formulations, Strengths	Application	Potency Class	Comments
Diflorasone diacetate	Cream 0.05% Ointment 0.05%	Twice daily	High	
Amcinonide (Cyclocort)	Cream 0.1% Ointment 0.1%	Twice daily	High	
Fluocinonide (Lidex)	Cream 0.05% Gel 0.05% Ointment 0.05% Solution 0.05%	Twice daily	High	Economical generics Lidex cream can cause stinging on eczema Lidex emollient cream preferred
Betamethasone dipropionate (Diprolene)	Cream 0.05% Ointment 0.05% Lotion 0.05%	Twice daily	Ultra-high	Economical generics available
Clobetasol propionate (Temovate)	Cream 0.05% Ointment 0.05% Lotion 0.05%	Twice daily	Ultra-high	Somewhat more potent than diflorasone Limited to two continuous weeks of use Limited to 50 g or less per week Cream may cause stinging; use "emollient cream" formulation Generic available
Halobetasol propionate (Ultravate)	Cream 0.05% Ointment 0.05%	Twice daily	Ultra-high	Same restrictions as clobetasol Cream does not cause stinging Compatible with calcipotriene (Dovonex)
Flurandrenolide (Cordran)	Tape: 80" × 3" roll Lotion 0.05%: 60 mL	Every 12 hours	Ultra-high	Protects the skin and prevents scratching

- Psoriasis in the body folds
  - — Potent corticosteroids cannot be used
  - — Tacrolimus ointment 0.1% or 0.03% or pimecrolimus cream 1% may be effective in penile, groin, and facial psoriasis
- Moderate disease (10%–30% of the body surface) to severe disease (> 30% of the body surface)
  - — Methotrexate is very effective in doses up to 25 mg once weekly orally
  - — Acitretin, a synthetic retinoid, is most effective for pustular psoriasis at 0.5 to 0.75 mg/kg/day orally
    - Liver enzymes and serum lipids must be checked periodically
    - Acitretin is a teratogen and persists for 2 to 3 years in fat tissue. Women must wait at least 3 years after completing treatment before considering pregnancy
  - — Cyclosporine dramatically improves severe cases of psoriasis
  - — Tumor necrosis factor (TNF) inhibitors (etanercept, 50 mg twice weekly subcutaneously ×12, then once weekly; infliximab, 5 mg/kg once weekly intravenously at weeks 0, 2, and 6; and adalimumab, 40 mg every 2 weeks subcutaneously) can be effective; all three can also induce or worsen psoriasis
  - — IL-12/23 monoclonal antibodies (ustekinumab [Stelara]) and IL-17 monoclonal antibodies (brodalumab, secukinumab, and ixekizumab)
    - Are effective in psoriasis
    - May be considered instead of using a TNF inhibitor

Therapeutic Procedures

- Limited to moderate disease: UV phototherapy
- Moderate-to-severe disease
  - — The treatment of choice is narrow-band UVB light exposure three times weekly; clearing usually occurs in ~7 weeks; maintenance may be needed since relapses are frequent