

The descriptions below are general guidelines about content that may be evaluated in the ABD examinations. Content overlap among stages (BASIC v. CORE v. APPLIED) and specialty areas (e.g., medical v. surgical) is to be expected.

In general, the BASIC exam assesses knowledge base and application of knowledge at a level expected of a first-year dermatology resident; the CORE assesses more advanced knowledge base and visual diagnosis; and the APPLIED emphasizes application of knowledge.

MEDICAL DERMATOLOGY

First-year resident level: BASIC exam

- Diagnose dermatologic conditions based on physical examination (visual recognition), from a list of approximately 100 diagnoses.
- Distinguish primary lesions from secondary changes.
- Integrate history and physical examination to diagnose common dermatologic conditions.
- Construct a realistic differential diagnosis.
- Know the fundamental pathophysiology, exacerbating factors, and associations of common skin conditions.
- Construct an appropriate initial workup and interpret test results for common conditions.
- Construct an initial management plan for uncomplicated conditions.
- Modify management plan, depending on response to therapy.
- Know the adverse effects and proper use and monitoring of commonly used topical and systemic agents.
- Communicate effectively and practice in an ethical manner.

Senior resident level: CORE exam

- Diagnose common and uncommon dermatologic conditions based on physical examination (visual recognition).
- Know the fundamental pathophysiology, initiating and exacerbating factors, and associations of common and uncommon dermatologic conditions.
- Choose an appropriate workup for common and uncommon skin conditions.
- Know indications, strengths, and limitations of laboratory and imaging studies used in the evaluation of dermatologic patients.
- Know recommended treatments for common and uncommon skin conditions.
- Know the adverse effects and proper use and monitoring of topical and systemic agents used in dermatology.

Independent practice level: APPLIED exam

- Choose an appropriate diagnostic evaluation, taking into account the unique characteristics of an individual patient and the relative costs and efficacy of laboratory tests and imaging studies.
- Select an appropriate management plan, taking into account the unique characteristics of an individual patient, including patient preference, ability to comprehend and communicate, culture, comorbidities, logistical issues, family and caregiver concerns, prognosis, financial considerations, and healthcare system.
- Recognize when a patient presents with a very unusual or rare condition, and know how to approach the workup.
- Recognize when second opinion and/or referral are indicated.
- Recognize and manage side effects and complications.

- Recognize when urgent or emergent treatment is indicated and triage appropriately.
- Manage difficult patients and difficult situations effectively.
- Maintain a safe environment of care, comply with regulatory agency requirements, and ensure that all members of the team understand safety and compliance issues.

EXAMPLES OF CONTENT

BASIC Exam

- Which of the following is the most appropriate treatment for a patient with mild to moderate comedonal acne?
- Which of the following is the most common side effect of oral isotretinoin?

CORE Exam

- Which of the following antibiotics is most likely to interfere with the efficacy of oral contraceptives?
- Which of the following chemotherapeutic agents is most likely to cause an acneiform eruption?

APPLIED Exam

- A 20-year-old man who has been on oral isotretinoin for one month now has a serum triglyceride level of 350. What action should be taken?
- A 25-year-old woman has inflammatory and scarring acne that is poorly responsive to topical therapy and oral antibiotics. She has been on oral contraceptives for several years because of irregular menses. Her BMI is 34. She has no evidence of hirsutism. What further diagnostic evaluation, if any, should she receive?

PEDIATRIC DERMATOLOGY

First-year resident level: BASIC exam

- Recognize characteristic pediatric presentations of skin disease.
- Develop appropriate plans for evaluation and basic management of common pediatric conditions.
- Recognize skin conditions that characteristically present during the neonatal period or infancy.
- Develop appropriate plans for evaluation and management of common conditions of neonates and infants.
- Choose age- and developmentally-appropriate treatments for common conditions.
- Provide appropriate education to patients and their families on the natural history and management of common pediatric conditions.
- Consider patient age at disease onset when developing a differential diagnosis of common and less common pediatric skin conditions.

Senior resident level: CORE exam

- Recognize less common skin diseases presenting in pediatric patients.
- Choose an appropriate workup for common and uncommon skin conditions.
- Know indications, strengths, and limitations of laboratory and imaging studies.
- Know the adverse effects and proper use and monitoring of topical and systemic agents used in pediatric dermatology.

Independent practice level: APPLIED exam

- Choose an appropriate diagnostic evaluation, taking into account the unique characteristics of an individual patient and the relative costs and efficacy of laboratory tests and imaging studies.
- Select an appropriate management plan, taking into account the unique characteristics of an individual patient, including patient preference, ability to comprehend and communicate, culture, comorbidities, logistical issues, family and caregiver concerns, prognosis, financial considerations, and healthcare system.
- Recognize when a patient presents with a very unusual or rare condition, and know how to approach the workup.
- Recognize when second opinion and/or referral are indicated.
- Recognize and manage side effects and complications.
- Recognize urgent or emergent situations and triage appropriately.
- Manage difficult patients and difficult situations effectively.
- Maintain a safe environment of care, including issues specifically related to protection of children.

EXAMPLES OF CONTENT**BASIC Exam**

- What is the typical distribution of atopic dermatitis in six-month-old babies?
- Which of the following treatments is most appropriate for a 1-year-old child with scabies?

CORE Exam

- Visual diagnosis of diaper rash: irritant contact dermatitis v. psoriasis v. Candida v. Langerhans cell histiocytosis v. zinc deficiency
- Which of the following laboratory abnormalities is most likely in a patient with Wiskott-Aldrich syndrome?

APPLIED Exam

- A 10-year-old child has recalcitrant severe atopic dermatitis. What laboratory evaluation, if any, should be performed?
- A 5-year-old child has had three episodes of crusted atopic dermatitis requiring oral antibiotic treatment for *Staphylococcus aureus*. After each treatment, the lesions resolve. What should be recommended at this time?

SURGICAL DERMATOLOGY**First-year resident level: BASIC exam**

- Recognize common presentations of benign and malignant tumors.
- Understand the principles and appropriate use of basic procedures such as cryotherapy; curettage and electrodesiccation; incision and drainage; and shave, punch, snip, saucerization, incisional, and excisional biopsies.
- Understand the principles of basic scalpel surgery, including preoperative considerations, operative techniques, and post-operative care.
- Know when and why Mohs micrographic surgery is appropriate.
- Recognize situations requiring activation of emergency response services and know how to manage the patient until the emergency response team arrives.

Senior resident level: CORE exam

- Recognize less common presentations of benign and malignant lesions.
- Locate and name the components of the cutaneous vasculature, nerves, and muscles of the face and neck.
- Know methods of complex closures, including indications, contraindications, risks and benefits, limitations, patient selection, postoperative care, and side effects and complications.
- Understand the principles of nail surgery and nerve blocks.
- Understand the procedure of Mohs micrographic surgery.
- Know indications, strengths, weaknesses, and limitations of laboratory tests and imaging studies.
- Know mechanism of action, indications, contraindications, risks and benefits, and limitations of non-surgical therapies for cutaneous cancers.
- Understand the principles of common cosmetic dermatologic procedures such as sclerotherapy for superficial veins, laser therapy for vascular lesions, and botulinum toxin therapy. Know indications, contraindications, risks and benefits, limitations, patient selection, postoperative care, and side effects and complications.

Independent practice level: APPLIED exam

- Choose an appropriate diagnostic evaluation, taking into account the unique characteristics of an individual patient and the relative costs and efficacy of laboratory tests and imaging studies.
- Select an appropriate management plan, taking into account the unique characteristics of an individual patient, including patient preference, ability to comprehend and communicate, culture, comorbidities, logistical issues, family and caregiver concerns, prognosis, financial considerations, and healthcare system.
- Know when to modify the diagnostic or management plan, and when referral is indicated.
- Recognize when a patient presents with a very unusual or rare condition.
- Recognize when second opinion and/or referral are indicated.
- Recognize and manage side effects and complications.
- Recognize when urgent or emergent treatment is indicated and triage appropriately.
- Maintain the proper surgical environment and supervise other members of the operative team.
- Practice ethical principles of coding and billing.

EXAMPLES OF CONTENT**BASIC exam**

- An otherwise healthy 50-year-old man has a 0.7 cm nodular basal cell carcinoma at the nasal tip. Which of the following treatments is most appropriate?
- What is the purpose of a vertical mattress suture?

CORE exam

- Blockade of which nerve will provide optimal anesthesia for excisional surgery at the location shown?
- Which of the following is the primary purpose of a rotation flap?

APPLIED exam

- A 90-year-old woman with severe dementia has a 10 cm basal cell carcinoma extending into the periosteum on the left forehead. Which of the following treatments is/are most appropriate?
- A 40-year-old man had hyaluronic acid injection to his nasolabial folds. Ten days later, he has a firm, erythematous 1cm nodule near the left nasolabial fold. What is the most appropriate management?

DERMATOPATHOLOGY

First-year resident level: BASIC exam

- Recognize normal histology.
- Classify dermatoses by reaction pattern and dominant cell type involved.
- Recognize common disorders in their characteristic histologic presentations.
- Select the appropriate site and procedure for specimen collection.
- Interpret bedside tests and pathology reports.

Senior resident level: CORE exam

- Diagnose common and less common tumors and inflammatory processes in their characteristic histologic presentations.
- Correlate histologic and clinical or laboratory findings to arrive at a diagnosis.
- Understand the appropriate use and interpretation of special stains, immunofluorescence microscopy, immunohistochemistry, molecular pathology, comparative genomic hybridization, and ELISA testing.
- Accurately interpret specimens obtained by bedside testing, including KOH preps, Tzanck preps, and hair specimens.

Independent practice level: APPLIED exam

- Correlate clinical and histologic findings to develop an appropriate diagnosis and management plan.
- Recognize when the histologic findings are not specific and form an appropriate plan for diagnosis and/or management.
- Recognize when the histologic findings are discordant with the clinical findings and form an appropriate plan for diagnosis and/or management.
- Know when additional testing, such as immunohistologic stains, are appropriate and cost-effective in a given situation.
- Know when to request a second opinion about histologic diagnosis.

EXAMPLES OF CONTENT

BASIC exam

- Which of the following is the most likely diagnosis? (Visual recognition of nodular basal cell carcinoma histology)
- Which of the following is the best description of the inflammatory pattern shown? (Visual recognition of lichenoid tissue reaction pattern)

CORE exam

- Which of the following is the most likely diagnosis? (Visual recognition of dermatofibrosarcoma protuberans histology)
- Which of the following staining patterns is characteristic of dermatofibrosarcoma protuberans?

APPLIED exam

- A 60-year-old woman has had erosions on the upper trunk and face for the past six weeks. Routine histology and direct immunofluorescence findings are shown. What is the most likely diagnosis?
- A 55-year-old man has a three-month history of subcutaneous nodules on the thighs. The histologic findings are shown. Which of the following is the most appropriate next step?

SCIENCE AND RESEARCH SECTIONS OF BASIC AND CORE EXAMS*

***In the BASIC exam, science and research is a separate section. In the CORE modules, science and research is integrated into the corresponding clinical modules.**

Medical: epidemiology, immunology, pharmacology

Surgical: carcinogenesis, photobiology, wound healing

Pediatrics: embryology, genetics

Pathology: structure and function, laboratory techniques

MEDICAL DERMATOLOGY CONTENT BASIC EXAM

Epidemiology and statistics

- Understand basic statistical terminology such as mean, median, and mode; standard deviation and standard error of the mean; statistical significance; power; confidence interval.
- Understand basic clinical research terminology: types of clinical studies; association v. causation; prevalence v. incidence; sensitivity v. specificity.

Immunology and inflammation

- Know what is meant by innate v. adaptive immunity, and identify the fundamental components of each.
- Know the fundamental physiology of molecular effectors of immunity and inflammation, including cytokines, chemokines, and complement.
- Know the fundamental physiology of cellular effectors of immunity and inflammation.

Pharmacology

- Know the mechanism of action of pharmacologic agents commonly used in skin diseases, e.g., corticosteroids, commonly used antibiotics, antifungals, antivirals, antihistamines, retinoids, methotrexate, cyclosporine, hydroxychloroquine, and TNF-inhibitors.
- Understand the basic components of the skin barrier and how topical medications interact with the barrier to effect drug delivery.

MEDICAL DERMATOLOGY CORE EXAM

Epidemiology and statistics

- Understand basic principles of quality improvement.

Immunology and inflammation

- Identify cellular and extracellular immunologic pathways involved in inflammatory skin diseases, particularly those for which there are targeted therapies, e.g., atopic dermatitis and psoriasis.
- Identify autoantibody targets for major rheumatologic and bullous diseases affecting the skin.
- Understand how different immunologic responses to infection affect the clinical phenotype and prognosis (e.g., leprosy).

Pharmacology

- Know the mechanism of action and pharmacokinetics of drugs commonly and less commonly used in dermatology, to include dapsone, azathioprine, cyclophosphamide, and biologic agents, among others.

SURGICAL DERMATOLOGY CONTENT BASIC EXAM

Carcinogenesis

- Understand basic principles of carcinogenesis and terminology: e.g., DNA repair, oncogene, tumor suppressor, apoptosis, cell cycle, epigenetics.
- Identify predisposing factors relevant to dermatology: e.g., ultraviolet radiation, human papillomavirus, immunosuppression.

Photobiology

- Understand the concept of electromagnetic spectrum, where UVA and UVB fit in that spectrum, and the timing and specific elements of the response to UV in the skin.
- Know the mechanisms of photoprotection of chemical and physical sunscreens, and their optimal use.

SURGICAL DERMATOLOGY CORE EXAM

Carcinogenesis

- Identify major cellular pathways involved in the development of basal cell carcinoma, squamous cell carcinoma, and melanoma.

Laser Physics

- Understand basic laser physics, including targets, penetration, and clinical effect, and effects of spot size and pulse width.

Wound healing

- Know the stages of wound healing and the cellular and molecular effectors of wound healing.

PEDIATRIC DERMATOLOGY CONTENT BASIC EXAM

Embryology

- Know the basic progenitors of different cells types and their derivatives (ectoderm, endoderm, mesoderm).
- Know the steps in the development of the epidermis and dermis.

Genetics

- Know the major Mendelian patterns of inheritance and modifying factors (e.g., reduced penetrance, variable expression).
- Understand what is meant by mosaicism, mitochondrial inheritance, loss of heterozygosity, chromosomal translocation, polyploidy, and aneuploidy.

PEDIATRIC DERMATOLOGY CORE EXAM

Embryology

- Understand how anomalies in development lead to certain skin conditions such as dermoid cyst and linear epidermal nevus.
- Understand how premature birth affects cutaneous function, for example, barrier integrity.

Genetics

- Understand how the genetic abnormalities in certain skin conditions has elucidated the mechanism of disease and/or led to targeted therapies.
- Know methods of disease gene identification for Mendelian disorders, and the use of single nucleotide polymorphism (SNP) detection and genome-wide association studies (GWAS) to identify genetic variants associated with complex traits.

DERMATOPATHOLOGY CONTENT BASIC EXAM

Structure and function

- Know the major components of the skin, their basic structure and their normal function: keratinocytes, basement membrane zone, melanocytes, adnexa, extracellular matrix, vasculature, and effectors of cutaneous innervation.

DERMATOPATHOLOGY CONTENT CORE EXAM

Structure and function

- Understand how disruptions of functions of the components of the skin lead to disease (overlaps with Genetics).

Laboratory techniques

- Know what is meant by direct and indirect immunofluorescence, immunohistochemistry, polymerase chain reaction (PCR), Sanger and next-generation sequencing, blotting, fluorescence in situ hybridization (FISH), microarrays, flow cytometry, enzyme-linked immunoassay (ELISA), and proteomics with mass spectrometry.