



LEVEL II SYLLABUS

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ACDT Course Learning Objectives

MODULE	<i>Upon Completion, Those Enrolled Will Be Prepared To...</i>
<i>The Language of Dermatology</i>	1. Define and spell the following cutaneous lesions/descriptors: a. Macule b. Patch c. Papule d. Nodule e. Cyst f. Plaque g. Wheal h. Vesicle i. Bulla j. Pustule k. Erosion l. Ulcer m. Atrophy n. Scaling o. Crusting p. Excoriations q. Fissures r. Lichenification s. Erythematous t. Violaceous u. Purpuric v. Hypo-/Hyperpigmented w. Linear x. Annular y. Nummular/Discoïd z. Blaschkoid - aa. Morbilliform - bb. Polycyclic - cc. Arcuate - dd. Reticular
<i>Collecting & Documenting Patient History Part I</i>	1. Describe the importance of documentation and chart review, while properly collecting <i>dermatology-specific</i> medical history components, including: a. Chief Complaint b. Past Medical History c. Family History d. Medications e. Allergies

<i>Collecting & Documenting Patient History Part II</i>	1. Demonstrate the proper collection of dermatology-specific medical history <i>and</i> explain the significance of the following: a. Social History b. Review of Systems c. History of Present Illness
<i>Anatomy</i>	1. Spell and document the following directional indicators while applying them to the appropriate anatomical landmarks: a. Proximal/Distal b. Superior/Mid/Inferior c. Anterior/Posterior d. Medial/Lateral e. Dorsal/Ventral 2. Spell and identify specific anatomical locations involving the: a. Scalp b. Forehead c. Ears d. Eyes e. Nose f. Cheeks g. Lips h. Chin i. Neck j. Back k. Upper extremity l. Hands m. Nails n. Chest o. Abdomen p. Buttocks q. Hips r. Lower extremity s. Feet
<i>Skin Structure and Function</i>	1. Identify and spell the three primary layers of skin: a. Subcutaneous tissue b. Dermis c. Epidermis 2. Identify the following structures: a. Apocrine sweat glands b. Eccrine sweat glands c. Sebaceous glands d. Collagen e. Elastin f. Melanocytes g. Keratinocytes
<i>Introduction to Coding Part I</i>	1. Explain the significance of the following: a. Evaluation & Management (E/M) codes for consults and new/established patients. b. <i>Current Procedural Terminology</i> (CPT) codes. c. <i>International Classification of Diseases</i> (ICD) diagnosis codes.

<i>Introduction to Coding Part II</i>	1. Explain the concepts of “bullet points and time” and its significance in determining visit charges. a. Define bundling and explain how insurances apply this concept to medical billing practice. b. Explain the rationale behind modifiers. c. Identify the proper use of shave removal and shave biopsies.
<i>Intro to ICD-10</i>	1. Explain the fundamental difference between E/M, Procedural, and ICD billing codes. 2. Provide the implementation date for mandatory transition to the ICD-10 system. 3. List the benefits of ICD-10 coding. 4. Define the following terms: a. Granularity b. Laterality 5. Compare and contrast the following: a. The ICD-10-CM Index to Diseases and Injury b. The ICD-10-CM Tabular List of Diseases and Injuries 6. Explain the purpose and use of the following instructions, notes, and terms: a. <i>Includes</i> b. <i>Excludes1</i> c. <i>Excludes2</i> d. <i>See</i> e. <i>See Also</i> f. <i>Use Additional Code</i> g. <i>Code First</i> h. <i>Adding the appropriate 7th character</i> 7. Explain the purpose and use of the following ICD-10 punctuation marks: a. <i>Parentheses</i> b. <i>Brackets</i> c. <i>Hyphens</i> 8. Explain the purpose and use of the following abbreviations: a. <i>NEC</i> b. <i>NOS</i> 9. Identify some of the most important considerations for staff members working in medical offices transition to the ICD-10 coding system.
<i>Skin Cancer</i>	1. Differentiate and outline the major risk factors, presentations, subtypes, prognoses, and most common treatment options for the following skin cancers: a. Basal Cell Carcinoma b. Squamous Cell Carcinoma c. Melanoma
<i>Understanding Concentrations</i>	1. Apply the proper ratios needed to dilute IL cortisone to the appropriate concentration.

<i>Prescription Order Entry</i>	1. Provide statistics regarding the impact of medication errors in the United States. 2. Describe the role of medical assistants in prescription order entry. 3. Define the meaning of the acronym <i>CPOE</i>. 4. List, define, and provide common examples of the following components of prescription orders: a. <i>Patient Name</i> b. <i>Medication Name</i> c. <i>Strength</i> d. <i>Formulation</i> e. <i>Quantity (Per Dose)</i> f. <i>Route of Delivery</i> g. <i>Frequency of Dose</i> h. <i>Duration</i> i. <i>Total To Dispense</i> j. <i>Refills</i> 5. Provide relevant examples of pitfalls/mistakes made by those entering the above prescription components into the EMR. 6. List the most important steps needed to prevent errors in medication order entry. 7. Define the meaning, significance, and role of <i>Clinical Decision Support (CDS)</i> alerts with regard to CPOE and avoidance of medication errors.
<i>Intro to Medication Modules</i>	1. Identify the prescription package insert as being the definitive source for explaining the indication, proper use, and potential side effects of a given medication.
<i>Antibiotics</i>	1. Differentiate topical and systemic antibiotics. 2. Contrast the mechanisms of action of bacteriostatic and bactericidal antibiotics. 3. Identify potential and most frequent side effects of the most common antibiotics used in dermatology. 4. Identify the following antibiotic categories and subtypes: a. Tetracyclines b. TMP/SMZ c. Macrolides d. Penicillins e. Cephalosporins f. Fluoroquinolones g. Dapsone h. Clindamycin/Rifampin i. Benzoyl Peroxide j. Clindamycin/Erythromycin k. Sodium Sulfacetamide l. Metronidazole m. Dapsone (Topical) n. Wound Care Antibiotics
<i>Antifungals</i>	1. Identify the most common topical antifungal medications. 2. Identify and spell the following systemic antifungal medications: a. Griseofulvin b. Fluconazole

	c. Terbinafine d. Itraconazole e. Ketoconazole 3. Contrast the mechanisms of action of fungicidal and fungistatic medications. 4. Provide directions for appropriate use of specific antifungal medications. 5. Identify potential and most frequent side effects of the most common antifungals used in dermatology.
<i>Antihistamines</i>	1. Organize antihistamines into one of the following categories: a. Sedating b. Non-sedating c. H2 Blockers 2. Explain the mechanism of action in antihistamines. 3. List the various methods in which antihistamines can be administered or applied. 4. Identify the most common side effects of antihistamines. 5. Provide appropriate directions and precautions to patients who have been prescribed antihistamines.
<i>Biologics</i>	1. Define the term “Biologic” as it relates to dermatological medications. 2. Identify the biologics most commonly used in dermatology, including: a. Etanercept b. Infliximab c. Adalimumab d. Ustekinumab 2. Explain the mechanisms of action of biologics. 3. Identify the proper administration of biologics. 4. Identify potential side effects of specific biologics. 5. Assist in providing patient education to those who are prescribed biologics.
<i>Corticosteroids</i>	1. Identify misinformation regarding medications classified as “steroids”. 2. Explain the mechanism of action in both systemic and topical steroids. 3. Explain the various methods in which steroids can be administered or applied. 4. Assist in educating patients regarding the appropriate use of steroids.
<i>Hormone Blocking Agents</i>	1. Identify the most commonly used hormone-blocking agents and list the indicated use of each. 2. Explain the mechanisms of action both Spironolactone and Finasteride. 3. Identify potential and most common side effects of both medications. 4. Provide instruction to patients regarding the appropriate use of these medications.
<i>Hydroquinone & Azelaic Acid</i>	1. Provide the mechanisms of action, as well intended

	use of both Hydroquinone and Azelaic Acid. - Identify in which vehicles either medication may be dispensed, and how each should be applied. - Identify potential side effects of these medications, both shared and specific.
<i>Keratolytics</i>	- Define the term "Keratolytic". - List the most common keratolytic ingredients. - Describe the mechanism of action of keratolytics. - Provide instruction to patients with regard to appropriate use of these medications. - Identify potential side effects of keratolytics.
<i>Methotrexate</i>	- Provide the primary indication of Methotrexate as used in dermatology. - Identify and describe the mechanism of action of Methotrexate. - List the most common and concerning side effects of this medication. - Explain the need for laboratory monitoring while using Methotrexate. - Identify medications which should be avoided or used with caution while on Methotrexate.
<i>Non-Steroidal Anti-Inflammatory Medications</i>	- Define the term "Non-Steroidal Anti-Inflammatory" as it relates to dermatology. - Identify the three most common topical Non-Steroidal Anti-Inflammatory medications used in dermatology. - Explain the mechanisms of action of these medications - Describe the proper use and potential side effects of these medications. - Provide instruction to patients regarding the appropriate use of these medications.
<i>Retinoids</i>	- Define the term "Retinoid". - Identify the most commonly used topical and systemic retinoids. - Describe the mechanism of action in retinoids. - Explain how to appropriately use these medications, while identifying and avoiding potential side effects.
<i>Topical Antipruritics</i>	- Define the term "Topical Antipruritic". - Identify the most commonly used topical antipruritics. - Describe the different mechanisms of action in various topical antipruritics. - Identify potential side effects of these medications. - Explain how to appropriately use topical antipruritics.
<i>Topical Chemotherapies</i>	Identify the two most common ingredients used

	used in topical chemotherapies. - Describe the mechanisms of action in both topical chemotherapies. - Provide examples of the most common frequency and duration of application. - List potential and expected side effects of topical chemotherapies.
<i>Psoriasis</i>	- Explain the Psoriasis disease process. - Identify potential precipitating and exacerbating factors of Psoriasis. - Describe the various physical presentations of Psoriasis - Determine how Psoriasis is graded with regard to severity. - Describe the general treatment approaches used for Psoriasis.
<i>UV Light, Sunscreen, Skin Type</i>	- Describe the three types of UV radiation. - Identify sources of possible UV exposure. - Explain the process of tanning as a physiological response. - Identify the various sunscreen ingredients, and categorize each as either organic or inorganic. - Define SPF and explain how this rating is determined. - Identify and describe which sunscreen ingredients act as UVA blockers. - Provide recommendations to patients regarding selection and appropriate use of sunscreen. - Define the concept of skin typing. - Assign skin type utilizing the Fitzpatrick scale.
<i>iPledge</i>	- Provide the purpose of the iPledge program. - List the general requirements necessary to use Isotretinoin under the iPledge program. - Explain the acronyms FCBP and FNCBP, and the importance of these identifications to the iPledge program. - Describe the registration, confirmation, and discontinuation processes for FCBP. - Describe the registration, confirmation, and discontinuation processes for males and FNCBP.
<i>Most Common Benign Lesions</i>	- Identify, spell, and provide the etiology (if known) of the following benign cutaneous lesions: - Seborrheic Keratoses - Cherry Hemangiomas - Milias - Solar Lentigines - Chondrodermatitis Nodularis Helicis (CNH) - Cysts - Dermatofibromas - Neurofibromas - Sebaceous Hyperplasia - Idiopathic Guttate Hypomelanosis

	k. Lipomas l. Lichenoid Keratoses m. Venous Lakes n. Skin Tags o. Fibrous Papules p. Keloids & Hypertrophic Scars q. Cafe-au-Lait Spots
<i>Warts & Molluscum</i>	1. Define and explain the viral etiologies of both warts and molluscum. 2. List the various risk factors associated with both warts and molluscum. 3. Identify the presentation of the various “types” of warts. 4. Describe the presentation of molluscum. 5. Explain the available treatment options, as well as treatment expectations, for both warts and molluscum.
<i>Phototherapy & PDT</i>	1. Describe the potential benefits of light treatment with respect to the associated risk of UV exposure. 2. Identify the various types and subtypes of light treatment. 3. Provide the names of the conditions for which specific light treatments are indicated. 4. Explain the concept of PUVA, and the routes through which this treatment may be delivered. 5. Describe the effects of PUVA and NB-UVB with regard to the skin’s immune system. 6. Compare and contrast NB-UVB to PUVA. 7. Explain the significance of Skin Type and Minimal Erythema Dose (MED) in determining a specific treatment protocol. 8. Define the term “Photodynamic Therapy”. 9. Describe the relation between Blue Light and Levulan, and the effects which their interaction produce in both Actinic Keratoses and Acne. 10. Identify the conditions in which light treatments would generally be contraindicated. 11. Provide the potential and expected side effects of each form of light treatment, both during and after completion of treatment.
<i>Moisturizers & Medication Vehicles</i>	1. Explain the different methods through which the skin maintains hydration. 2. Identify the most common moisturizer ingredients and the purpose for each. 3. Describe the correlation between dry skin and sensitive skin. 4. Provide patient education regarding proper skin moisturizer selection. 5. Define the term “medication vehicle”. 6. Identify the available medication vehicles, and describe the intended purpose of each.

<i>Eczema</i>	1. Define the term “Eczema” and identify its various presentations. 2. Explain the role of genetic predisposition and environmental factors. 3. Describe the Eczema disease process. 4. Discuss the general treatment approach while providing recommendations for prevention of future flares.
<i>Acne & Rosacea</i>	1. Discern truths from misinformation with regard to the various treatments for both Acne and Rosacea. 2. Describe the following components of Acne, as well as their contribution to the Acne process: a. Pilosebaceous unit b. Open comedo c. Closed comedo d. Microcomedo e. <i>P. acnes</i> bacteria f. Androgens 3. Describe the various treatment approaches for acne, including: a. Killing Bacteria b. Prevention/Treatment of Comedones c. Hormonal d. Isotretinoin 4. Provide comprehensive acne-specific patient education. 5. Define the term “Rosacea,” and identify the condition by its various presentations. 6. Discuss the various factors which may precipitate Rosacea. 7. Identify the various treatment methods for Rosacea, including: a. Avoidance of triggers b. Antibiotics c. Topical Anti-Inflammatories d. Retinoids e. Laser & Light Treatments f. Alternative Treatments
<i>AK & Dysplastic Nevi</i>	1. Define the terms Actinic Keratosis and Dysplastic Nevus, and provide their respective etiologies. 2. Describe the potential for malignant degeneration of both Actinic Keratoses and Dysplastic Nevi. 3. Describe the typical presentation of Actinic Keratoses and Dysplastic Nevi. 4. Describe the causes and contributing factors in the development of Actinic Keratoses. 5. Discuss the various treatment options available for Actinic Keratoses and Dysplastic Nevi. 6. Explain how Dysplastic Nevi are classified in accordance with their severity.

<i>Common Rashes & Conditions Part I</i>	1. Describe the etiologies, presentations, prognoses, and treatment options available for the following common rashes and cutaneous conditions: a. Alopecia Areata b. Androgenetic Alopecia c. Asteatotic Eczema d. Contact Dermatitis e. Drug Eruptions f. Dyshidrotic Eczema g. Granuloma Annulare h. Intertrigo i. Keratosis Pilaris j. Lichen Planus k. LSC & Prurigo Nodularis l. Melasma
<i>Common Rashes & Conditions Part II</i>	1. Describe the etiologies, presentations, prognoses, and treatment options available for the following common rashes and cutaneous conditions: a. Notalgia Paresthetica b. Nummular Eczema c. Perioral Dermatitis d. Pityriasis Alba e. Pityriasis Rosea f. Pseudofolliculitis g. Seborrheic Dermatitis h. Stasis Dermatitis i. Tinea Versicolor j. Urticaria k. Vitiligo
<i>Infections & Infestations</i>	1. Describe the risk factors, preventative measures, prognoses, and treatment options available for the following infections and infestations: a. Staphylococcus b. Streptococcus c. Pseudomonas d. Tinea Pedis e. Tinea Cruris f. Tinea Capitis g. Tinea Unguium h. Onychomycosis i. Candidiasis j. Herpes Simplex k. Varicella Zoster l. Herpes Zoster m. Head Lice n. Scabies

<i>Autoimmune Conditions</i>	1. Compare and contrast healthy immune function with that which occurs in autoimmune disease. 2. Describe the etiologies, presentations, diagnostic measures, prognoses, and treatment options available for the following autoimmune conditions: a. Bullous Pemphigoid b. Pemphigus c. Lupus d. Dermatomyositis e. Morphea f. Epidermolysis Bullosa Acquisita
<i>Most Common Labs</i>	1. Describe the purpose, processing procedures, and most common scenarios in which the following labs may be ordered: a. Biopsies b. CBC c. Lipid Panel d. Hepatic Function Panel e. BUN/Creatinine f. CMP g. Hepatitis Panel h. hCG i. Bacterial Culture j. Fungal Culture k. KOH Prep l. Wet Mount m. ANA n. PAS Stain 2. Explain the significance of the ICD code V58.69 with regard to ordering labs.
<i>Most Common Procedures Part I</i>	1. Describe the purpose, and various methods/techniques employed in performing the following procedures: a. Cryosurgery b. Biopsy c. ED&C d. Shave Removal e. Excision (Traditional)
<i>Most Common Procedures Part II</i>	1. Describe the purpose, and various methods/techniques employed in performing the following procedures: a. Mohs Surgery b. Incision & Drainage 2. Identify the following instruments used in a clinical setting: a. Mayo Stand/Tray b. Needle Driver c. Forceps d. Hemostats e. Scissors f. Scalpel Blades/Handles 3. Describe and distinguish the various types of sutures materials and sizes.

Principles of Cosmetic Dermatology

1. Explain the physiological principles behind skin aging and damage.
2. Describe the categories of cosmetic treatments.
3. Define and discuss the etiologies, preventative and exacerbating factors, and treatment options for:
 - a. Rhytids
 - b. Loss of "Fullness"
 - c. Irregular Surface Texture
 - d. Irregular Surface Tone

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The purpose of this syllabus is to serve as an **B**

Because our training is video- **B B B**
impossible for these slide images to represent all
information reviewed through the program audio
and/or animation.

Unfortunately, some slides are impossible to represent in print.
In an effort to provide you with a syllabus that is most
B B B B B B B B B
syllabus may not *exactly* match those within a given module.

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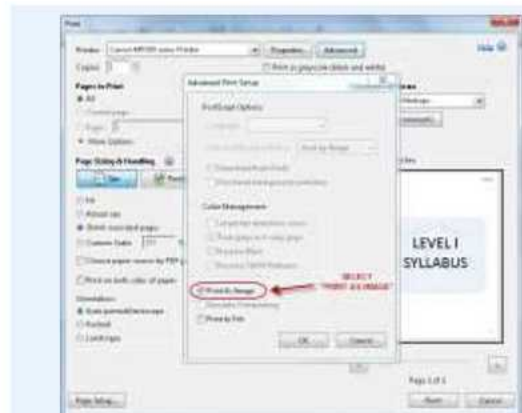
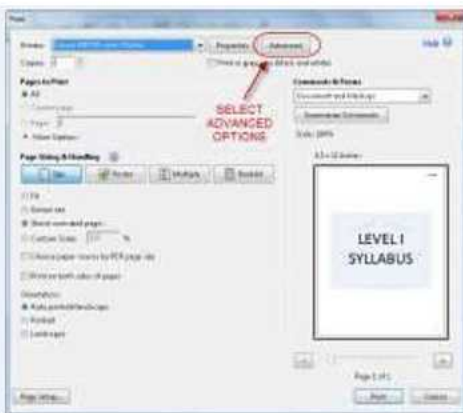
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**FOR THE SYLLABUS TO PRINT PROPERLY, YOU
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ACCORDINGLY OR ALL CONTENT MAY NOT
PROPERLY DISPLAY.**



Psoriasis

Psoriasis

General Background

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we treat in dermatology.

Patient education can be quite a challenge.

Lots of information to cover, though time is limited.

Psoriasis

What Is Psoriasis?

Inflammatory disease which has the potential to affect the skin, nails, and joints. Between 2-3% of the population have Psoriasis.

Estimated to affect about 7 million people in the United States alone!

Psoriasis

Really Happening In The Skin Of Psoriasis Patients?

Skin cell turnover is greatly accelerated.

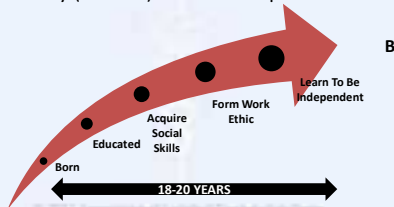
Essentially, skin cells are being produced too fast for their own good!

Psoriasis

Really Happening In Psoriasis?

Psoriasis Analogy

Healthy (Normal) Child Development

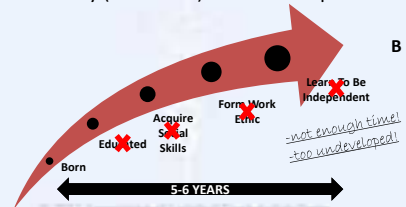


Psoriasis

Really Happening In Psoriasis?

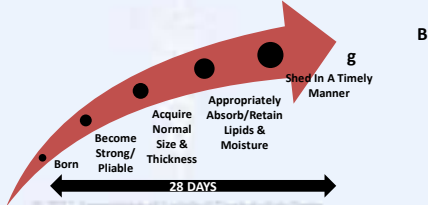
Psoriasis Analogy

Unhealthy (Abnormal) Child Development



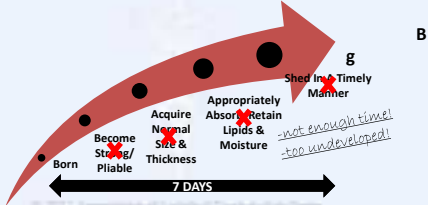
Psoriasis

Really Happening In Psoriasis?
Psoriasis Analogy
Healthy (Normal) Skin Cell Life Cycle



Psoriasis

Really Happening In Psoriasis?
Psoriasis Analogy
Psoriasis (Abnormal) Skin Cell Life Cycle



Psoriasis

What Triggers The Increased Skin Cell Turnover Seen In Psoriasis?
Psoriasis is an **autoimmune** disease.
Autoimmune diseases are those which occur
BB B B B
targets his or her own tissue.
Other autoimmune conditions include Lupus and Rheumatoid Arthritis.

Psoriasis

What Triggers The Increased Skin Cell Turnover Seen In Psoriasis?
Psoriasis is an **autoimmune** disease.
Patients with Psoriasis have increased levels of immune system inflammatory mediators called **cytokines**.
e.g., Tumor Necrosis Factor (TNF) and Interleukins.

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?
Underlying cause of this autoimmune response seems to be a **combination of genetics and environmental factors**.

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Psoriasis



Psoriasis

PSORIASIS

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Genetics

Exact genes which predispose one to Psoriasis (and the pattern of inheritance) remains the focus of ongoing research.

Some patients will express disbelief regarding the genetics of Psoriasis.

) B B B B B B B

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Known Environmental Triggers

Medications

Lithium

Beta-blockers (esp. Propranolol)

Plaquenil® (Hydroxychloroquine) and Aralen® (Chloroquine)

Quinidine

Indomethacin

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Known Environmental Triggers

Trauma/Injury

... B B... B

For example, seen when Psoriasis forms within healing surgical scar.

S B B B B B B B
(B

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Known Environmental Triggers

Stress

Not uncommon for patients with a known history of Psoriasis to come in requesting treatment during times of high stress.

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Known Environmental Triggers

Infection/Illness

m B B B B B B
strep throat infection.

Other infection or illness can contribute as well (such as other URI or even tooth abscess).

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Known Environmental Triggers

Yeast (*M. furfur*)

I B B B B B B B B B
higher concentrations around the face, ears, and scalp of those with Psoriasis.

Seems to play a small role in some (but not all) patients with Psoriasis.

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Known Environmental Triggers

Weather & Climate (?)

Psoriasis often flares during the winter months.

» May not be that the winter *flares* the Psoriasis, but instead the summer UV light *suppresses* it.

Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

Known Environmental Triggers

B B

Smoking
Drinking
Poor sleep patterns
High fat diet

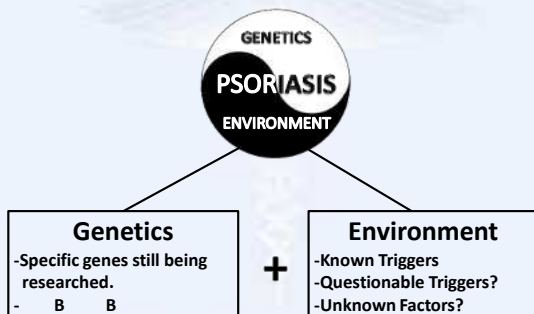
Psoriasis

What Triggers The Autoimmune Response In Patients With Psoriasis?

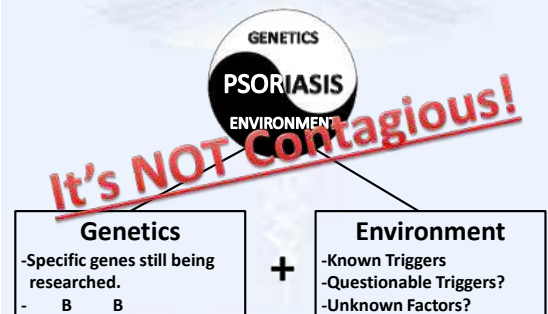
Questionable Environmental Triggers

Vitamin Deficiency (?)
Candida (?)
Gluten (?)
Other Factors (?)

Psoriasis



Psoriasis



Psoriasis

How Does Psoriasis Present?

R B B

Thick, erythematous, and scaling plaques.
Elbows and knees frequently affected.
Can also involve the trunk, scalp, ears, hands, feet, face, groin, and buttocks.
Just about *any cutaneous surface* can be affected.

Psoriasis

How Does Psoriasis Present?

Flexural (u B

Raw, inflamed, wet (macerated) patches.
Occurs when Psoriasis involves the skin folds, axillae, or gluteal crease.

Psoriasis

How Does Psoriasis Present?

Guttate Psoriasis

Guttate B B B -

Presents as numerous, small, erythematous and scaling papules ranging in size from just a few millimeters to as much as 1-2 cm in diameter.

Psoriasis

How Does Psoriasis Present?

Pustular Psoriasis

Numerous deep-seated pustules surrounded by erythema and scaling.

May involve the body, though much more common on the hands and feet.

Pustules are *not* a sign of infection.

Psoriasis

How Does Psoriasis Present?

Erythrodermic Psoriasis

Diffuse redness throughout the skin.
Epidermis often peeling away exposing underlying inflamed dermis (much like a bad sunburn).

Can result in significant fluid loss and difficulty maintaining body temperature.

True dermatological emergency!

Psoriasis

How Does Psoriasis Present?

Nails

Can appear *very similar* to fungal infection.

Nails may appear yellow and thick.

Separation from nail bed (onycholysis) may occur.

Classic signs of Psoriasis in the nails are

B B B B

Psoriasis

How Does Psoriasis Present?

Psoriatic Arthritis

Pain, stiffness, and swelling of the joints.

Affects as many as 1 million patients in the United States alone.

May involve any number of joints.

» Most common in the DIP joints of fingers/toes.



Psoriasis



Psoriasis



Psoriasis



Psoriasis



Psoriasis



Psoriasis



Psoriasis

How Is Psoriasis Diagnosed?

Skin

Usually diagnosed based on examination alone.

Biopsy can be performed to confirm the diagnosis.

Psoriasis

How Is Psoriasis Diagnosed?

Nails

Also usually diagnosed based on examination alone.

8 B B B B B B signs to make the diagnosis, especially in context of psoriasis elsewhere on body.

Biopsy *rarely* performed.

Culture or PAS stain can rule out fungus.

Psoriasis

How Is Psoriasis Diagnosed?

Joints (Psoriatic Arthritis)

Usually formally diagnosed and treated by rheumatologists.

Psoriasis

How Is Psoriasis Graded?

Mild

Less than 3% Total Body Surface Area (TBSA)

Moderate

3-10% TBSA

Severe

>10% TBSA

ONE SIDE OF HAND = 1% TBSA

Psoriasis

How Is Psoriasis Treated?

However, there are **many** treatments available which can successfully control and prevent inflammation.

This **does not** mean that patients will have to use medicine every day for the rest of their life!

years.

Psoriasis

How Is Psoriasis Treated?

The number of available treatments can be **overwhelming!**

Specific treatments covered in greater detail section of our program.

General principles of treating Psoriasis.

Psoriasis

How Is Psoriasis Treated?

SYSTEMIC TREATMENTS

PRIMARY ADVANTAGES

therefore no need to apply to each affected area of inflammation. Generally more effective than topicals.

PRIMARY DISADVANTAGES

Increased potential for serious side effects. Many limit immune response. May affect the liver, kidneys, and/or blood cells. Bloodwork monitoring required. Can be expensive.

Psoriasis

How Is Psoriasis Treated?

TOPICAL TREATMENTS

PRIMARY ADVANTAGES

Usually work well for localized inflammation/scaling *without* significant potential for systemic side effects. inexpensive.

PRIMARY DISADVANTAGES

Must be applied to each affected area in order to work. Cutaneous SE still possible! Corticosteroids may cause atrophy and/or striae. Other products may cause irritation. In general, not as effective as systemic medications.

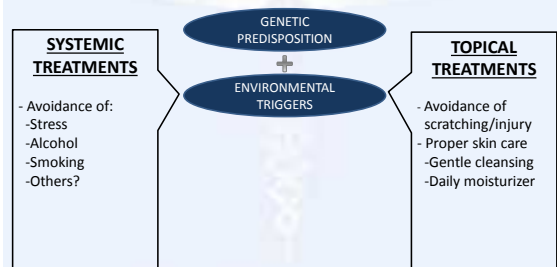
Psoriasis

TREATMENTS FOCUS ON SPECIFIC STAGES OF DISEASE PROCESS



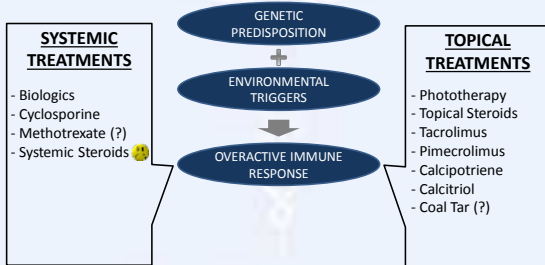
Psoriasis

TREATMENTS FOCUS ON SPECIFIC STAGES OF DISEASE PROCESS



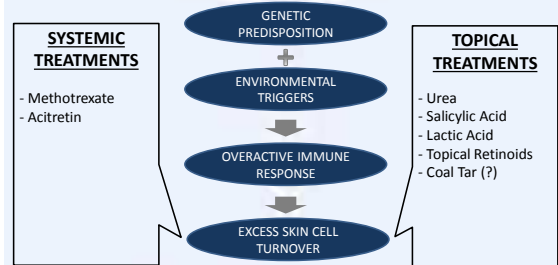
Psoriasis

TREATMENTS FOCUS ON SPECIFIC STAGES OF DISEASE PROCESS



Psoriasis

TREATMENTS FOCUS ON SPECIFIC STAGES OF DISEASE PROCESS



Psoriasis

Patient Resources

National Psoriasis Foundation

www.psoriasis.org

c B B B B B support group.

Your office should be called if patients need help!

Psoriasis

CONCLUSION

UV Light, ~~Sunblock~~, & Skin Type

Sunscreen

UV Light, Sunscreen, & Skin Type

What should I
look for in
a sunscreen?

UV Light, Sunscreen, & Skin Type

x B B B B B

- Ultraviolet Light
- Sunscreen
- Skin Types

UV Light, Sunscreen, & Skin Type

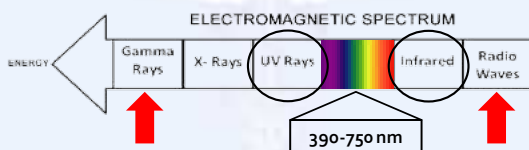
• & B B B B

Electromagnetic radiation

A form of energy which travels beyond its source of origin in the form of a wave.



UV Light, Sunscreen, & Skin Type



UV Light, Sunscreen, & Skin Type

There are 3 types of Ultraviolet Light (UV)

- UVC (200 - 290 nm)
 - The most dangerous type of UV.
- X B B B B B B B
 - I B B B B
- Bulbs emitting UVC used in devices that sterilize air and water.
 - Users should avoid exposing their skin or eyes to such light.

UV Light, Sunscreen, & Skin Type

There are 3 types of Ultraviolet Light (UV)

- UVB (290 – 320 nm)
 - Causes sunburn.
 - PB B/VB Burn
- The most harmful UV light we receive because its energy is easily absorbed by epidermal cells.
- Causes DNA damage.
- Temporarily (though significantly) has the ability to lower immune activity in the skin.
- Different specific wavelengths have different effects.
 - B B B B) B P

This combination makes it a carcinogen.

UV Light, Sunscreen, & Skin Type

There are 3 types of Ultraviolet Light (UV)

- UVA (320 – 400 nm)
 - T B B
 - CB B/VB Aging
 - Carries less energy than UVB, though *penetrates deeper*.
 - Less likely to cause sunburn.
 - More likely to breakdown the collagen and elastin in the skin.
- Can also lower immune response in the skin and encourage formation of skin cancer.

UV Light, Sunscreen, & Skin Type

There are 3 types of Ultraviolet Light (UV)

- UVA (320 – 400 nm)
 - Compared to UVB, B B B CB
 - Stimulate production of skin pigment.
 - Tanning beds primarily emit UVA.
 - Tanning bed users are proportionately being exposed to much more deeply-penetrating, wrinkle-inducing UVA in order to B B B B B B
 - Impart therapeutic immune suppression for conditions like Psoriasis.
 - CBpsoralen B B B B B B B B B B C

aid B You Know...

Even clear automobile glass does a good job at blocking the majority of UVB.

Windshield (laminated) glass actually blocks both UVB and UVA.

Applying any shade of window tinting to the side and rear windows will then enable them to block over 99% of both UVB and UVA.

aid B You Know...

R B B B B B B B C

aid B You Know...

Ultraviolet light can pass through clouds.

~~Did You Know...~~

B B B B B B

Fluorescent bulbs can also emit a very small amount of UV.
A number of manufacturers produce light covers specifically made to filter out UV.

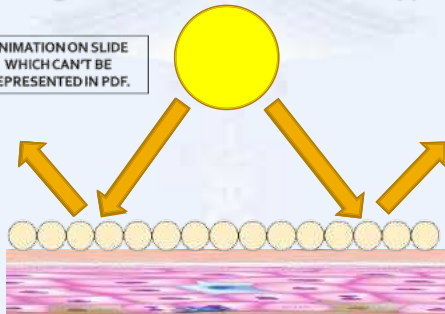
~~Did You Know...~~

B B B B B B

triggered when our skin senses that UV damage has occurred.

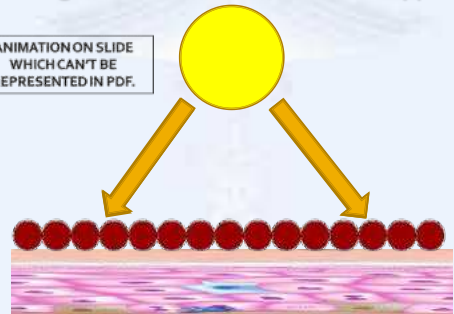
UV Light, Sunscreen, & Skin Type

ANIMATION ON SLIDE
WHICH CAN'T BE
REPRESENTED IN PDF.



UV Light, Sunscreen, & Skin Type

ANIMATION ON SLIDE
WHICH CAN'T BE
REPRESENTED IN PDF.



UV Light, Sunscreen, & Skin Type

~~"Sunblock"~~



Sunscreen

UV Light, Sunscreen, & Skin Type

SPF

- **Sun Protection Factor**
- A number which represents the multiple of how many times more UVB a properly applied sunscreen will allow the user to receive before experiencing a dose sufficient to cause redness the next day (as compared to not wearing any sunscreen at all).

UV Light, Sunscreen, & Skin Type

SUN PROTECTION FACTOR (SPF)			
THE MINIMUM AMOUNT OF UVB THAT WOULD CAUSE "NEXT DAY" REDNESS IN A GIVEN INDIVIDUAL	HYPOTHETICAL AMOUNT OF UVB ONE COULD RECEIVE WITH PROPER USE OF SUNSCREEN		
	SPF 15	SPF 30	SPF 45
20 MINUTES	300 MINUTES	600 MINUTES	900 MINUTES
40 MINUTES	600 MINUTES	1200 MINUTES	1800 MINUTES
60 MINUTES	900 MINUTES	1800 MINUTES	2700 MINUTES

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UV Light, Sunscreen, & Skin Type

SUN PROTECTION FACTOR (SPF)	
RATING	AMOUNT OF UVB BLOCKED
SPF 15	92%
SPF 30	97%
SPF 45	98-99%

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UV Light, Sunscreen, & Skin Type

MOST COMMON SUNSCREEN INGREDIENTS	
"INORGANIC" SUNSCREENS (aka "PHYSICAL" OR "MINERAL" SUNSCREENS)	"ORGANIC" SUNSCREENS (aka "CHEMICAL" SUNSCREENS)
TITANIUM DIOXIDE ZINC OXIDE	AVOBENZONE CINOXATE ECAMSULE MENTHYL ANTHRANILATE OCTYL METHOXYCINNAMATE OCTYL SALICYLATE OXYBENZONE SULISOBENZONE

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UV Light, Sunscreen, & Skin Type

In the United States, there are only three ingredients used that can block the *full spectrum* of UVA.

- Avobenzone
- Ecamsule
- Zinc Oxide

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UV Light, Sunscreen, & Skin Type

Full-Spectrum UVA Blockers

• Avobenzone

- C B B B Parsol
- R B B B B
- **Advantage-**
 - Goes on relatively clear.
- **Disadvantages-**
 - Degrades with continued exposure to UV.
 - Some find it irritating.

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UV Light, Sunscreen, & Skin Type

Full-Spectrum UVA Blockers

• Ecamsule

- C B B B Mexoryl
- R B B B B
- **Advantages-**
 - Goes on relatively clear.
 - Does not significantly degrade in the presence of UV.
- **Disadvantage-**
 - 8 B B B B B B B

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UV Light, Sunscreen, & Skin Type

Full-Spectrum UVA Blockers

- *Zinc Oxide*

- R B B B B

- **Advantage-**

- Inert and sensitivity/irritation is virtually nonexistent.

- **Disadvantage-**

- R B B B B B

UV Light, Sunscreen, & Skin Type

"Not quite"

Full-Spectrum UVA Blocker

- *Titanium Dioxide*

- R B B B B

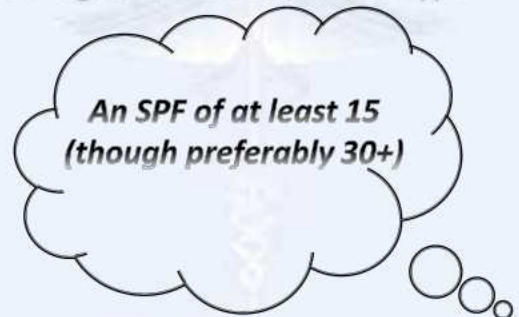
- **N B B B - B C**

- Often used *in addition* to other sunscreen ingredients to enhance the overall degree of protection.

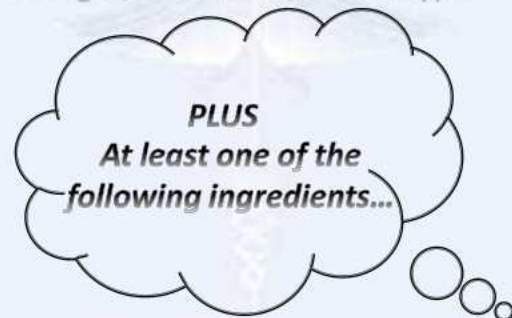
UV Light, Sunscreen, & Skin Type



UV Light, Sunscreen, & Skin Type



UV Light, Sunscreen, & Skin Type



UV Light, Sunscreen, & Skin Type



UV Light, Sunscreen, & Skin Type

Additional Tips

- Sunblock should be applied 20-30 minutes prior to UV exposure.
- *Reapplication is important!*
 - Sweating, swimming, UV degradation, and even
B B B B B B B
of sunscreen.
 - Reapplication every 1-2 hours is recommended when spending significant time outdoors.

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UV Light, Sunscreen, & Skin Type

Additional Tips

- Avoid spending time outdoors between 10 AM - 4 PM.

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UV Light, Sunscreen, & Skin Type

Additional Tips

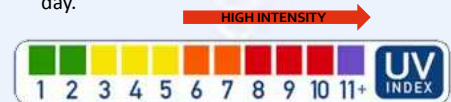
- X B B B B
- r B B B B *all the way around.*
- Shirts
 - Plain (dry) T-shirt only provides equivalent of about SPF 7.
 - **Much lower when wet.**
 - Specially-made UV blocking clothing available.
 - C B B B - B B B B B
blocking nearly all ultraviolet light.
- Denim pants are virtually impervious to UV.

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UV Light, Sunscreen, & Skin Type

Additional Tips

- Patients should check the **UV Index**.
 - Scale calculated by the National Weather Service.
 - Provides forecast of how much harmful UV exposure one can expect in a location on any given day.



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UV Light, Sunscreen, & Skin Type

Questions & Controversies

- Do sunblocks *cause* skin cancer?
 - **THERE IS NO CREDIBLE EVIDENCE OF THIS!**
 - There are *some* legitimate concerns about how certain sunscreen ingredients act on and within our skin. Studies are ongoing.
 - Patients who routinely wear sunblock (and avoid excess UV exposure) experience *significantly less*
B B B B B

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UV Light, Sunscreen, & Skin Type

Questions & Controversies

- Vitamin D Production
 - Our body has the ability to produce its own Vitamin D in the skin through the conversion of cholesterol to Vitamin D₃ when exposed to UVB.
 - Dietary sources, as well as supplements, provide *more than enough opportunity* for us to maintain healthy Vitamin D levels without experiencing the harmful effects of ultraviolet light.

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UV Light, Sunscreen, & Skin Type

Skin Typing

- Numerical classification of one's skin characteristics with regard to color and ability to tan.
- Provides an assessment of one's predisposition to actinic damage and skin cancer.
- Helpful in calculating phototherapy regimens

B B)

B P B B C

- B B BBI B B

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UV Light, Sunscreen, & Skin Type

FITZPATRICK SKIN TYPES	
Type I	The most fair skin type. Always burns. Cannot tan.
Type II	Usually burns. Rarely tans.
Type III	Sometimes burns. Tans relatively easily.
Type IV	Rarely burns. Tans easily. Light "olive" complexion.
Type V	Very rarely burns. Tans very easily.
Type VI	Never burns. Skin is always dark.

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UV Light, Sunscreen, & Skin Type

CONCLUSION

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iPledge

iPledge

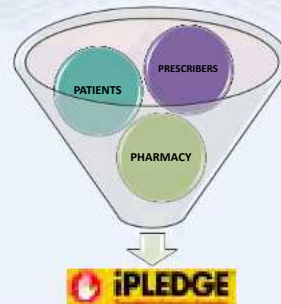


What Is iPledge?

The iPledge **B B B B**

"a computer-based risk management program designed to further the public health goal to eliminate fetal exposure to Isotretinoin through a special restricted distribution program approved by the FDA."

What Is iPledge?



iPledge

B B B B

Every patient in the US **must** participate.
All patients (and parents if minor) must sign a written consent for treatment.
All patients on Isotretinoin must be seen **monthly**.
Patients cannot be prescribed more than a 30-day supply of Isotretinoin at a time.

FCBP Group

I B BR BP B BI RP

Females who are *physically capable* of becoming pregnant.

- 12 year-old girl?
- 20 year-old college student?
- 40 year-old Catholic nun?

YES!

Even patients who have had a tubal ligation are considered FCBP!

FCBP Group

Which women

R	B		B I		B B
		B			
	B				

Have documented ovarian failure (inability to ovulate).

Have had bilateral oophorectomy (both ovaries removed) and/or hysterectomy.

Are postmenopausal.

B

Males & FNCBP

(B BI B B B B B B BI) RP

These are patients *incapable* of becoming pregnant.

r B B B B B B B B

someone else or donate blood while on (or within 30 days of discontinuing) Isotretinoin, the medication could *potentially* find its way indirectly to a pregnant female.

These are patients *incapable* of becoming pregnant.

```
graph TD; A["I-PLEDGE  
Everyone prescribed Isotretinoin  
must participate."] --> B["FEMALES OF CHILD BEARING POTENTIAL  
Any premenopausal female with ovary/ovaries  
and uterus."]; A --> C["MALES | FEMALES NOT OF CHILD BEARING POTENTIAL  
Cannot ovulate.  
No ovaries and/or no uterus.  
Post-menopausal."]; B --> D((REGISTER)); C --> E((CONFIRM MONTHLY)); C --> F((DISCONTINUE));
```

iPledge

I-PLEDGE
Everyone prescribed Isotretinoin
must participate.

FEMALES OF CHILD BEARING POTENTIAL
Any premenopausal female with ovary/ovaries
and uterus.

MALES | **FEMALES NOT OF CHILD BEARING POTENTIAL**
Cannot ovulate.
No ovaries and/or no uterus.
Post-menopausal.

REGISTER

CONFIRM MONTHLY

DISCONTINUE

FEMALES NOT OF CHILD BEARING POTENTIAL
Cannot ovulate.
No ovaries and/or no uterus.
Post-menopausal.

DISCON

Registering Males & FNCBP

B B B B B

Providing the patient (and parents if minor) with iPledge information to review.

B Bu B B B B B

to patients *thinking about* treatment.

B B B B B B B

who are *ready* to be registered in iPledge.

Consent form must be signed!

There are a wide range of *potential* side effects.

Let your SP know if a patient wanting Isotretinoin has *either* a personal or a strong family history of depression, suicidal ideation, R

Dissease, or ulcerative colitis!

2

Registering Males & FNCBP

B B B B B

Monitoring Labs?

Monitoring CBC, Lipids, and Hepatic Function is **not** a requirement of iPledge!

B B B B B B B B B B
entirely up to the preferences of your supervising physician.

Registering Males & FNCBP

Obtain signed consent.

B B B B B B

Once consent is signed, patients in this group can be registered!

iPledge website - www.ipledgeprogram.com

Username and password required.

If entering patient information into iPledge is part of your routine job duties, your supervising physician really should [register you as a designee](#).

Registering Males & FNCBP

To register these patients, in addition to the signed consent and patient demographics, you
B

I-Pledge number.

Found within iPledge booklet.

Remind patients of the importance of bringing a copy of ID card with them to the pharmacy!



Registering Males & FNCBP

To register these patients, in addition to the signed consent and patient demographics, you

B

' BB BB B B B

Without the last 4 digits of SS number, **you may need to get on the phone** with iPledge in order to complete registration.

B -mail address.

If iPledge sends any needed information to the patient

B B B B B B B B guess

who will be making a call to iPledge?

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Registering Males & FNCBP

**iPledge Demonstration
Video Here**

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Confirming Males & FNCBP

Males and FNCBP may be prescribed Isotretinoin *immediately* after registration.

R B BPledge is mandatory *every time* a prescription is given.

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Confirming Males & FNCBP

**iPledge Demonstration
Video Here**

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Confirming Males & FNCBP

After confirmation, patients in this group have *up to 30 days* to fill their prescription.

Best to avoid emphasizing this to patients!

Patients should *always* be instructed to fill their prescriptions right away.

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Discontinuing Males & FNCBP

**iPledge Demonstration
Video Here**

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Registering FCBP

To register these patients, you initially perform

B B B B B B B

Provide patient (and parents if minor) with iPledge program guide to review.

There are **two** consent forms for this group.

[General informed consent](#) that all patients must sign,
Informed consent about [birth defects](#).

Monitoring Labs?

Any testing of CBC, Hepatic Function, or Lipids is per your office protocol and technically **is not** a requirement of iPledge.

Registering FCBP

To register these patients, you initially perform

B B B B B B B

Provide patient (and parents if minor) with iPledge program guide to review.

There are **two** consent forms for this group.

[General informed consent](#) that all patients must sign,
Informed consent about [birth defects](#).

Monitoring Labs?

Any testing of CBC, Hepatic Function, or Lipids is per your office protocol and technically **is not** a requirement of iPledge.

Registering FCBP

iPledge requires that all patients in this group must commit to abstinence OR the use of 2 forms of birth control for at least 30 days prior, during, and 30 days after treatment.

Registering FCBP

iPledge Contraceptive Requirements

At least one method must be a **primary** form of birth

B B B [item 5](#) B B B B B
consent form.

B B B B B B B B
B B [item 5](#)

Registering FCBP

iPledge requires that all patients in this group must commit to abstinence OR the use of 2 forms of birth control for at least 30 days prior, during, and 30 days after treatment.

Registering FCBP

Referral For Contraceptive Counseling

[Referral form](#) is found within the iPledge booklet.

Technically speaking, referral to another provider is **not** mandatory.

All that iPledge requires is that these patients have been counseled and, if sexually active, use two forms of birth control as previously described.

If patient *is* referred for counseling, the iPledge program offers to reimburse the other provider for this counseling.

[Reimbursement form](#) found in educational kit.

Confirming FCBP

After FCBP patients have been confirmed in iPledge B B

Log on to www.ipledgeprogram.com with the username/password that iPledge has provided them.

Patient must confirm that they understand the need to avoid pregnancy.

Patient must also enter their forms of contraception.

IMPORTANT

PATIENTS MUST ENTER THE SAME CONTRACEPTIVE METHODS - IN THE SAME ORDER - EACH TIME!

Confirming FCBP

After FCBP patients have been confirmed in iPledge

Log on to www.ipledgeprogram.com with the username/password that iPledge has provided them.

Patient must confirm that they understand the need to avoid pregnancy.

Patient must also enter their forms of contraception.

IMPORTANT

PATIENTS MUST ENTER THE SAME CONTRACEPTIVE METHODS - IN THE SAME ORDER - EACH TIME!

Discontinuing FCBP

B B B B B

Log on to iPledge B B B B B next slide.

iPledge will ask for a negative pregnancy test at:

The conclusion of treatment, **AND**

30 days after the last dose has been taken!

Discontinuing FCBP

**iPledge Demonstration
Video Here**

iPledge



**iPledge
Males/FNCBP
"Cheat Sheet"**



**iPledge
FCBP
"Cheat Sheet"**

Conclusion

**iPledge Phone Support
Available Mon-Sat 9 AM-12 Midnight
1-866-495-0654**

Most Common Benign Lesions

Most Common Benign Lesions

There are **a lot** of common (though benign) lesions found during the typical skin exam! Luckily, the same handful of lesions comprise the vast majority of those found.

PLEASE NOTE –
Nevi and AKs are reviewed elsewhere in the ACDT program!

Seborrheic Keratoses

Seborrheic Keratoses



Seborrheic Keratoses

Nomenclature

Single Lesion

B.. is

Multiple Lesions

B.. es

Usually referred to simply as “SKs”

Seborrheic Keratoses

Cause

Exact cause is **unknown**.

C B B B B B B B B B
of built-up layers of keratin (skin cells).

Unlike true (viral) warts, though, SKs happen *almost entirely* in middle-aged and older individuals.

Some doctors will therefore refer to them as the
B B

Seborrheic Keratoses

Treatment

No treatment necessary.

Benign nature reviewed with patient.

Biopsy sometimes needed to confirm diagnosis.

But if symptomatic (or if they bother patient

B B B B

Cryosurgery

Just remember that billing/coding for

Shave Removal

"Inflamed SKs" (702.11) is different than

Curettage

it is for "Non-Inflamed SKs" (702.19)!

Cherry Hemangiomas

Cherry Hemangiomas



Cherry Hemangiomas

Nomenclature

Single Lesion

r

Multiple Lesions

r

***Usually referred to simply as
"Angiomas"***

Cherry Hemangiomas

Cause

Comprised of clusters of minute capillaries.

Exact reason these clusters arise is **unknown**.

Cherry Hemangiomas

Treatment

No treatment necessary.

Benign nature reviewed with patient.

But if symptomatic (or if they bother patient

B B B B

Cryosurgery

Shave Removal

Electrocautery

Laser

Milia

Milia



Milia

Nomenclature

Single Lesion

(

Multiple Lesions

(

***Many will refer to all lesions
(single or multiple) as "Milia"***

Milia

Cause

Essentially *very small* cysts.

...

B B B B B B B B

pore of an oil gland or sweat duct.

Usually happen for no reason, but sometimes trauma, burns, or even laser treatment can precipitate.

X B B B B B B B B
thin (but very tough) layer of stratum corneum.

Milia

Treatment

No treatment necessary.

Benign nature reviewed with patient.

But if they bother patient cosmetically, may be

B

Extraction

Topical retinoids (Retin-A®, Differin®, etc.)

Solar Lentigines

Solar Lentigines



Solar Lentigines

Nomenclature

Single Lesion

B

Multiple Lesions

B

***Most will refer to them
simply as "Lentigines"***

Solar Lentigines

Cause

UV Exposure

More common in the fair-skinned.

Most likely to arise after a sunburn.

Result from an increased number of melanocytes within the affected skin.

Solar Lentigines

Treatment

No treatment necessary.

However, they are a marker of ones overall degree of sun exposure and photosensitivity.

Biopsy may be needed on any suspicious lesions.

But if they bother patient cosmetically, may be

B

Fading Creams

Cryosurgery

Laser/IPL

Chondrodermatitis Nodularis Helicis (CNH)

CNH



CNH

Nomenclature

Single Lesion

R) r

Multiple Lesions

(BR) r

CNH

chondro = “cartilage”

dermatitis = “skin inflammation”

nodularis = “nodule-like”

helicis = “of the helix”

CNH

CNH =
“nodule-like cartilage/skin
inflammation of the helix”

CNH

Cause

c

B B

B

Cartilage and overlying skin undergo changes due to age and UV damage. When these changes combine with repeated pressure, CNH results.

Pressure from pillow when patients lays on side while sleeping is the most common precipitating factor.

CNH

Treatment

R/O Skin Cancer

Biopsy (?)

IL Kenalog Injections

Excision/Shave Removal

Cryosurgery

Reassurance/Relieve Pressure

R) r B [Bwww.cnhpillow.com](http://www.cnhpillow.com))

Sleep on opposite side of bed (?)

CNH





Cysts

© 2012 Lippincott Williams & Wilkins

Cysts



Cysts

Nomenclature

Single Lesion

R

Multiple Lesions

R

Cysts are one of the most frequently misnamed lesions in dermatology!

(	B	B	B	B	B	B		BR
True			B		B	B	B	
	B		B	B	B	B	Bg	B
	Bg		B		B			B

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(B B B B B B

True F B B B

B B B B Bg F B

Bg B F

Cysts

Cause



(CYST ANIMATION)

(CYST ANIMATION)

Cysts

Treatment

Reassurance. No treatment needed.

u *B B* *B B* *B B*

Incision & Drainage (I&D)

Takes just a few minutes to perform.

Provides quick relief when cyst is tender and inflamed.

r *B B B* *B B B* *B B B B*

Excision

B B *B B B* *B B*

However, most offices will need to schedule as a surgery.

Many dermatologists will not attempt excision of inflamed cyst.

Dermatofibromas

Dermatofibromas



Dermatofibromas

Nomenclature

Single Lesion

X

Multiple Lesions

X

***You will sometimes hear
Dermatofibromas referred to as
"Benign Fibrous Histiocytomas"***

Dermatofibromas

Cause

Exact cause is **unknown**.

Reaction of insect bite or injury (?)

Dermatofibromas

Treatment

Reassurance. No treatment necessary.

R	B	B		B	B	B	B
				(	B	B	B
					B	B	B
					B	B	B

Cryosurgery } unlikely to fully eradicate it.
Shave Removal }

Excision

Likely to remove entire lesion but then the patient

BB	-	B	B	B	B	B
----	---	---	---	---	---	---

Neurofibromas

Neurofibromas



Neurofibromas

Nomenclature

Single Lesion

)

Multiple Lesions

)

Neurofibromas

Cause

B B B B

Overgrowth of the cells surrounding the nerves.

IMPORTANT

Having one (or even a few) random, isolated neurofibromas is harmless and is not (by itself) a sign of Neurofibromatosis (NF)!



Neurofibromas

Treatment

Reassurance. No treatment necessary.

R B B B B B B

Excision

If very deep and/or in a highly-sensitive area, referral to a specialist (ENT, Plastics, etc.) may be necessary.

Shave Removal (?)

Sebaceous Hyperplasia

Sebaceous Hyperplasia



Sebacaceous Hyperplasia

Nomenclature

Both Single *And* Multiple Lesions

B

Sebacaceous Hyperplasia

Cause

Enlargement of the oil gland.

Exact reason is **unknown**.

Age (?)

Genetics (?)

Sun Damage (?)

Smoking (?)

Immune Suppression (?)

Sebacaceous Hyperplasia

Treatment

Benign. No treatment necessary.

R B B B B B B

Topical Retinoids (Retin-A, etc.)

Procedures

Cryosurgery

Shave Removal

Electrocautery

Laser

Chemical Peels

Idiopathic Guttate Hypomelanosis (IGH)

Idiopathic Guttate Hypomelanosis



Idiopathic Guttate Hypomelanosis

Nomenclature

Both Single *And* Multiple Lesions

u

Bn

B

B

B lr w

Idiopathic Guttate Hypomelanosis

Idiopathic =
Having unknown cause

Guttate =
“Spot” or “Drop”-like

Hypomelanosis =
Having decreased pigment

Idiopathic Guttate Hypomelanosis

Idiopathic Guttate Hypomelanosis =
Lightened spots of unknown cause

Idiopathic Guttate Hypomelanosis

Cause

B

We do know that the IGH-affected areas do exhibit fewer melanocytes, and those that remain are often less-effective than those in non-IGH affected skin.

Role of sun damage (?)

Idiopathic Guttate Hypomelanosis

Treatment

Reassurance. No treatment necessary.

x B	B	B	B	
Retinoids (Retin-A, etc.)				} <i>Rarely provide significant improvement.</i>
Microdermabrasion				
Topical Antioxidants				
Chemical Peels				
-	B	B	B	<i>Appearance only!</i>

Lipomas

Lipomas



Lipomas

Nomenclature

Single Lesion

,

Multiple Lesions

,

***Notable Variant =
"Angiolipoma"***

Lipomas

Cause

Lipomas are circumscribed masses of adipose

B

Most often occur within the subcutaneous space, but can arise within or beneath the muscle or fascia.

Exact reason they arise is **unknown**.

Genetics (?)

Lipomas

Treatment

Benign, therefore
treated.

B

B

B B B

But if painful, rapidly growing, compressing on

B

B

B

B B

B

Excision (most common)

Sometimes referred to general surgery if large!

Liposuction (?)

IL Steroid Injections (?)

Mesotherapy (?)

Lichenoid Keratoses

Lichenoid Keratoses



Lichenoid Keratoses

Nomenclature

Single Lesion

,

B..

is

Multiple Lesions

,

B..

es

***Some will refer to these as
"Lichen Planus-like Keratoses" or
"LPLKs"***

Lichenoid Keratoses

Cause

' B B B B B B
epidermis, often with signs of accompanying inflammation.

Most often found on sun-exposed surfaces.

Role of UV damage?

Exact cause **unknown**.

Lichenoid Keratoses

Treatment

No treatment necessary, though **appearance sometimes warrants a biopsy to r/o carcinoma**.

Otherwise, if/when removal is performed, they

B B B

Cryosurgery

Shave Removal

Venous Lakes

Venous Lakes



diascopy

- **n.** Diagnostic test in which a clear glass slide is pressed against a lesion in order to determine its compressibility and to better visualize its vascular structures.

Venous Lakes

Nomenclature

Single Lesion

B

Multiple Lesions

B

Venous Lakes

Cause

B B B B B B B B
small veins) within the skin.

Think of them as a very small, focal varicosity.

Venous Lakes

Treatment

No treatment necessary.

Benign nature reviewed with patient.

But if symptomatic (or if they bother patient)

B B B B

Laser

Electrocautery

Shave Removal/Excision

Cryotherapy

Skin Tags

Skin Tags



pedunculated

- **adj.** B B B B B

Skin Tags

Nomenclature

Single Lesion

B

Multiple Lesions

B

Sometimes referenced more formally as "Acrochordons" or "Fibroepithelial Polyps"

Skin Tags

Cause

c B B B B B

The *exact* cause remains uncertain, but

B B B B

Genetics

Weight Gain

Friction

Hormonal Influence

NOTICE THE RELATIONSHIP!

Skin Tags

Treatment

P B B B

Removal of Skin Tags may or may not be covered by insurance!

Some patients get angry upon learning that insurance may not provide coverage.

Policy coverage varies.

I B B B B B B B B

Skin Tags

Treatment

P B B B

B B B B

B B

Cryosurgery

Electrocauterization

Fibrous Papules

Fibrous Papules



Fibrous Papules

Nomenclature

Single Lesion

I B

Multiple Lesions

I B

***Sometimes referred to as
"Angiofibromas"***

Fibrous Papules

Cause

I B B B B B

Exact cause is **unknown**.

Fibrous Papules

Treatment

No treatment necessary, though **appearance sometimes warrants a biopsy** to r/o BCC.

Otherwise, if/when removal is performed, they may be treated

Shave Removal
Punch Excision
Cryosurgery

Keloids & Hypertrophic Scars

Keloids & Hypertrophic Scars



Keloids & Hypertrophic Scars

Nomenclature

Single Lesion

... B Br B

Multiple Lesions

... B Br B

To many patients, any ugly scar is a "keloid".

Keloids & Hypertrophic Scars

Cause

Essentially excessive scar tissue growth.

The *exact* cause remains uncertain, but

B B B B

Genetics

Dark-skinned patients more likely to have either.

INTERESTING: There are no documented cases of keloids forming in albinos or within areas of Vitiligo.

Location

The ears, shoulders, chest, and back at greater risk.

Role of tension (?)

Keloids & Hypertrophic Scars

Treatment

Hypertrophic Scars *can* flatten out over time, whereas Keloids *can* continue to grow).

There are many treatments options available:

IL Kenalog is **by far** the most common treatment. Otherwise, other options include topical silicone, excision, cryosurgery, topical Imiquimod, as well as others.

Café-Au-Lait Spots

Café-Au-Lait Spots



Café-Au-Lait Spots

Nomenclature

Single Lesion

R -Au-' B

Multiple Lesions

R -Au-Lait

In French, "café au lait" literally means "coffee with milk".

Café-Au-Lait Spots

Cause

Comprised of melanocytes which are more heavily pigmented than those in the surrounding tissue.

They **can** be a marker for certain genetic conditions.

However, the **vast majority** of Cafe-Au-Lait Spots are **not** a sign of a genetic disorder!

Café-Au-Lait Spots

Treatment

One of the few lesions which neither need to be treated, nor seem to bother patients.

Patients usually just need reassurance that

Warts & Molluscum

Warts & Molluscum

Evaluation and treatment of warts and molluscum comprises a **significant percentage**

B B B B B

Patients *will* ask questions. The better prepared you are to answer them, the more efficient your supervising physician will be in performing the visit!

Warts

What exactly is a "wart"?

B

Verruca B B B B B B

Verrucae B B B B B B

The full (proper) name for common warts is "**verruca vulgaris**". However, most will simply refer to them as "**verrucae**" or just "**warts**".

Warts

What exactly is a "wart"?

B B B B B B B

the keratinocyte with the Human Papilloma Virus (HPV).

Over 100 types of HPV have been identified!

c B B B B B B B B B B

type of skin it infects.

I B

The types of HPV that cause warts on the palms are the same type that tend to infect the soles of the feet.

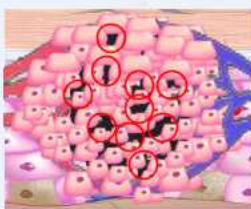
B B B B B B B B

limit their infection to the genitalia or lips.

Warts

How does HPV cause a "wart"?

! ! B B B



THERE ARE NO "SEEDS" IN WARTS!

THE APPEARANCE OF "SEEDS" IS CREATED BY TINY THROMBOSED CAPILLARIES

Warts

HPV Risk Factors

Young and/or Immunosuppressed

Their immune systems are just not as prepared to fight HPV infection as those with healthy, mature immune systems.

This includes children, those on immune suppressants, and those who smoke.

Warts

HPV Risk Factors

Compromised Epidermal Barrier Function

HPV must *enter* the skin in order to cause infection!

Dry, cracked skin provides an entrance for the virus.

B B B B B B B B

For example...

B B B B B B

Those with hyperhidrosis.

Those spending time in the pool, hot tub, etc.

Those who frequently bite/chew their nails.

Warts

HPV Risk Factors

Exposure To The Virus

u B B B B
S B B B B B B B

patients **not to overanalyze** how they were exposed.

HPV can be anywhere HPV infected skin has touched (e.g., shopping cart, door handle, pool sidewalk, etc.).

Patients should exercise appropriate precautions, but to a degree, *some* exposure to HPV is unavoidable in society!

Warts

HPV Risk Factors

Exposure To The Virus

Patients should avoid Autoinoculation!

Autoinoculation

n. The process of infecting oneself.

PATIENTS SHOULDN'T BECOME PARANOID, BUT OBVIOUS TRANSMISSION RISKS SUCH AS PICKING, BITING, OR SHAVING OVER WARTS (OR HAVING UNPROTECTED SEX WITH CONDYLOMA-INFECTED PARTNER) SHOULD BE AVOIDED!

Warts

Most Common "Types"

— B (not "planter"!)

Those on the *plantar* surface of the feet.

B

Those on the *palmar* surface of the hands.

Together may
be referred to
as
palmoplantar

Periungual B

Those occurring around (*peri*) the nail (*ungual*).

Warts

REMEMBER THAT "SEED WART" IS A LAY TERM WHICH HAS NO PLACE IN THE OBJECTIVE MEDICAL DOCUMENTATION!

Warts

Most Common "Types"

I B

a B B

Very small (though often numerous) warts found most often on the extremities (esp. women's B)

Condyloma

Formally named *Condyloma Accuminata*, though often B B B B Banogenital B

Occur on the penile, vaginal, or anal skin.

Sometimes seen on the lips!

Warts

Most Common "Types"

(B

Seen when numerous warts group together to form a larger wart cluster.

Myrmecia B

Large, **deep** wart nodules found most often on the feet.

Filiform B

B B filiform B B - B

B B B B B





Warts

Significance

In general, warts are treated primarily because:

- They are unsightly.
- Can cause pain or discomfort.
- They are contagious.

However, HPV *can* B - B B

Cervical cancer is largely caused by HPV.

In certain individuals (longstanding lesions and/or immunocompromised), HPV can also cause oropharyngeal, penile, vaginal, or vulvar cancer.

Warts

Treatment

There are a LOT of options available for treating warts!

We will be focusing on only the most common.

Some of the treatments discussed are reviewed in greater B B B(B B B(B modules.

REMEMBER - There is no single treatment method for warts that is 100% effective in all patients!

Warts

Treatment

SALICYLIC ACID (OTC & Rx)		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
Acts as a keratolytic .	Most preparations available OTC. Relatively painless.	Requires diligent use! Takes a <i>long time</i> to work. May cause irritation, especially to surrounding skin.

Warts

Treatment

CRYOSURGERY		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
Infected cells are B	Relatively simple and effective. Patient compliance is not an issue. Results usually seen faster than with topicals.	IT HURTS!!! Difficult to perform in some children and adults. Warts turn dark/blister. Risk of scarring. Repeat treatments may be needed.

Warts

Treatment

TC wC !c ! BTC wCT B gr C B B		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
Acts as a toxin, damaging the affected cells and subsequently forming a blister.	<i>Painless</i> upon application.	Resulting blisters may be <i>slightly</i> tender. Sometimes enlarges the B Generally not as effective as other B



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Warts

Treatment

IMIQUIMOD (ALDARA®, ZYCLARA®, ETC.)		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
Boosts immune system activity in the skin.	With very little B B B painless.	INCREDIBLY EXPENSIVE! Patients and/or insurance often hesitant to bear the expense. Often takes months to work (when it works).

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Warts

Treatment

CANDIDA ANTIGEN INJECTIONS		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
Injection of antigen into (or around) wart draws antibodies to site. INJECTIONS DO NOT CONTAIN LIVE YEAST!	Offers a unique and B approach.	ADMINISTERED BY INJECTION!! Causes moderate swelling/discomfort. Works great for some, but not so well for others.

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Any substance which causes our immune system to produce antibodies.

Warts

Treatment

BLEOMYCIN		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
Disrupts DNA synthesis (exposed skin cells die).	Provides an effective alternative for the treatment of recalcitrant warts.	ADMINISTERED BY INJECTION OR c ! Causes swelling and tenderness. Can damage nails. May cause hyperpigmentation.

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Warts

Treatment

DPCP, DNCB, & SQUARIC ACID		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
C B B B causing antibody response within treatment site(s).	X B B B application.	May cause itching, redness, and sensitivity.

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Warts

Treatment

PODOPHYLLIN & PODOFILOX (CONDYLOX®)		
HOW IT WORKS	ADVANTAGE(S)	DISADVANTAGE(S)
r B B B B antiviral properties.	X B B B application.	May cause itching, redness, sensitivity, or erosions in the days following application.

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American Mayapple
Podophyllum peltatum

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Warts

Other Treatments

Shave Removal/Excision/Laser/Electrocautery

Advantage

B B B B B B

Disadvantage

Post-op pain, scarring, prolonged wound healing.
Still no guarantee that the wart won't come back!

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Warts

Other Treatments

Fluorouracil (Efudex®, Carac®, etc.)

Advantage

m B B B B B
inflammation.

Disadvantage

Results are quite variable.
May take a long time to work (if it works).
Expensive - though still not as expensive as Imiquimod.

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Warts

Other Treatments

Vaccine (Gardasil®)

Protects against the 4 types of HPV that cause the majority of cervical cancers and genital warts.
Administered in 3 separate doses.

Usually administered by pediatricians, family doctors, and gynecologists. *Some dermatologists offer it as well.*

Unfortunately, it does not B B B B

Warts

Other Treatments

Mystery/Placebo (?)

Duct Tape

Applied daily to wart(s).

Cimetidine (Tagamet®)

Most often used for treating warts in children.

Most (but not all) studies have shown it to be ineffective.

m B B B B B B B B B
the wart and buried in the yard, etc.

Molluscum

First, so far as terminology...

Molluscum Contagiosum B B B B
this infection.

u B B B B B B (R B B
(R

Most working in dermatology will just say "molluscum".

Molluscum

What exactly is a "molluscum"?

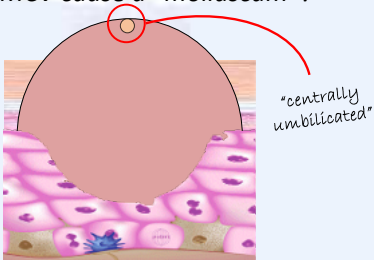
MC is a skin infection caused by the *molluscum contagiosum virus (MCV)*.

T B B B B B B not related to HPV!

Molluscum

ANIMATION ON SLIDE
w/twB B
REPRESENTED IN PDF!

How does MCV cause a "molluscum"?



Molluscum



Molluscum

Unique MCV Presentations

B BC - R B

While sometimes such a lesion is B B B
B B B B B B B B
immune system has recognized the virus and is trying to
B B

Molluscum Dermatitis

c B B - B B B B B
molluscum-infected area of skin.



Molluscum

MCV Risk Factors

Young and/or Immunosuppressed

Young (<10 years old)

B B B B B B B B B
immunity to the virus.
... B B B B B B B B B B
other.
I B B B B B B B B B B
parents allow them to do *nightly*.

Immunosuppressed

In adults (not children) that present with extensive MCV infection, some doctors will recommend HIV testing.

Molluscum

MCV Risk Factors

Compromised Epidermal Barrier Function

(B B B B B B
Eczema greatly B B B B T B
infection!

Counseling parents on proper bathing and moisturizing techniques can help to not only decrease the risk and spread of MCV, but can also help to control the

Molluscum

MCV Risk Factors

Exposure To The Virus

B B B B B B B
In children, close contact occurs naturally through

In adults, MCV usually presents as an STD.

C B B B B B
B R B B B B B
B B B - B

Warts

Treatment

MCV does pose a few unique challenges.

Because the great majority of patients with MCV

treatments are simply *not* an option.

dozens (if not *hundreds*) of lesions.

Treating *many* lesions at once can be pretty uncomfortable!

Warts

Treatment

OPTION #1 **DO NOTHING**

Many pediatricians advise parents to simply allow time for MCV to resolve spontaneously.

If left untreated, MCV *will* resolve on its own.

Spontaneous resolution takes **months to years**.

Until they resolve, they can spread and become increasingly symptomatic (*esp. "itchy"*).

visible lesions!

Warts

Treatment

Almost *any*

can be used to treat MCV.

treatment methods are used for MCV more often than for HPV.

Curettage removal is also a treatment option.

Maintaining a layer of clear fingernail polish or even

CONCLUSION



Phototherapy & PDT

Phototherapy & PDT

The use of light (especially UV light) in the treatment of skin conditions may seem like a contradiction.

Like any medicine, it has risks, but **also has benefits**.

Phototherapy & PDT

PUVA

Narrowband UVB (NB-UVB)

Blue Light Photodynamic Therapy (PDT)

Phototherapy



PUVA

PSORALEN → "PUVA" ← UVA

Used to treat a variety of conditions,

Psoriasis
Atopic Dermatitis (Eczema)
CTCL
Vitiligo
Lichen Planus

PUVA

B B B B

Definition

Chemical compound which, upon exposure to light, produces a *phototoxic* reaction.

PUVA

B B B B

Definition

Chemical compound which, upon exposure to light, produces a *phototoxic* reaction.

A

PUVA

B B B B

Definition

Chemical compound which, upon exposure to light, produces a *phototoxic* reaction.

A A A A

PUVA

B B B B B B B C

Definition

Chemical compound which, upon exposure to light, produces a *phototoxic* reaction.

PUVA

B B B B B B B C

Definition

"8-Methoxypsoralen"
(aka "8-MOP")

Chemical compound which, upon exposure to light, produces a *phototoxic* reaction.

"UVA"

PUVA

8-(B -(8 B B(

(B B B -(8 B B B B

May be taken *systemically* or applied *topically*.

Most patients undergoing PUVA treatments are prescribed the *systemic* version.

-(8 B B B B B B B B B CB
o B B B B B B B B B
usually taken 90 minutes to 2 hours prior to UVA exposure.



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PUVA



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Narrowband UVB

Narrowband UVB (NB-UVB), like the UVA used in PUVA, is also a form of ultraviolet light.

However, **Bpsoralens B B B B b-UVB!**

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Narrowband UVB

How Is NB-UVB Different?

P B PB B 320 nm)

The wavelength that causes sunburns.

PBB P

The most harmful UV light we receive because its energy is easily absorbed by epidermal cells.

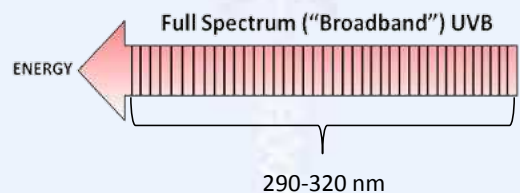
Causes DNA damage.

Temporarily (though significantly) has the ability to lower immune activity in the skin.

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Narrowband UVB

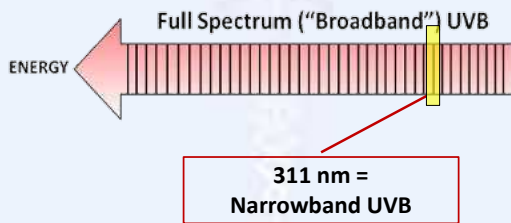
How Is NB-UVB Different?



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Narrowband UVB

How Is NB-UVB Different?



Narrowband UVB



PUVA & UVB

General Safety Considerations

Risks Associated w/ Ultraviolet Light

Increased Risk of Skin Cancer

Phototherapy is *generally avoided* in patients with a PMH of Melanoma, but *not necessarily* BCC/SCC.

Phototherapy is also *generally avoided* in patients with

Xeroderma Pigmentosum, etc.).

Phototherapy should also be *used with caution* in

PUVA & UVB

General Safety Considerations

Risks Associated w/ Ultraviolet Light

Increased Risk of Skin Cancer

R B B B B B B B
decrease risk in those areas. o B

May leave underwear/bra on during phototherapy.

Even if involved, men should keep groin covered!

PUVA & UVB

General Safety Considerations

Risks Associated w/ Ultraviolet Light

Increased Photoaging

Increased skin laxity, wrinkling, fragility, lentigines, etc.

Increased Risk of Cataracts

All patients (both UVB and PUVA) **must** wear eye protection while in phototherapy.

PUVA patients should *also* wear UVA-blocking sunglasses for up to 24 hours after taking 8-MOP!



Booth Goggles



"Wraparound"
UV Glasses

C B B B B B

Patients can have *too much* UV exposure B B B

 B B B B B B B B B B

phototherapy.

PUVA patients in particular should limit UV exposure
for up to 24 hours after treatment!

Females should be told this in case they become (or are) pregnant!

Phototherapy is the type of procedure that requires

- B B B B B

This module is intended to provide you with a solid foundation for such training, but by no means replaces it!

Skin Type

The minimum amount of energy required to produce uniform redness (erythema) 24 hours after exposure to ultraviolet radiation.

UVB phototherapy today. The office protocol indicates that this

PUVA & UVB

NUVB BOOTH DEMO VIDEO

Blue Light PDT

Blue Light PDT

B B B B B a

Definition

The use of a photosensitive agent that, when exposed to light, absorbs and subsequently transfers energy to adjacent cells, thereby resulting in therapeutic change to the surrounding tissue.

Blue Light PDT

B B B B B a

Definition

"Aminolevulinic Acid"
(aka "Levulan")

The use of a photosensitive agent that, when exposed to light, absorbs and subsequently transfers energy to adjacent cells, thereby resulting in therapeutic change to the surrounding tissue.

Blue Light

Blue Light PDT

Aminolevulinic Acid (Levulan®)

CB B B

Has the ability to *absorb* light energy, and then *release* that energy to its surroundings, **essentially causing**

B B B B

B B B

Can be applied topically.

Absorbed fairly rapidly.

Has an affinity for keratinocytes
keratinocytes.

B B



Levulan® Kerastick®

Blue Light PDT

Blue Light (BLU-U®)

BLU-U® is able to penetrate up to 2 mm into the skin.

Emits light at ~ 417 nm.

Blue Light is not a form of UV light!

u B B B B B B B B
B B B B B
B B B B B
1000 seconds.
B B B B B B B B

Blue Light PDT

Blue Light (BLU-U®)

BLU-U® is able to penetrate up to 2 mm into the skin.

Emits light at ~ 417 nm.

Blue Light is not a form of UV light!

u B B B B B B B B
B B B B B
B B B B B
1000 seconds. **BLUE-U®**
B B B B B B B B

Blue Light PDT

Blue Light (BLU-U®)

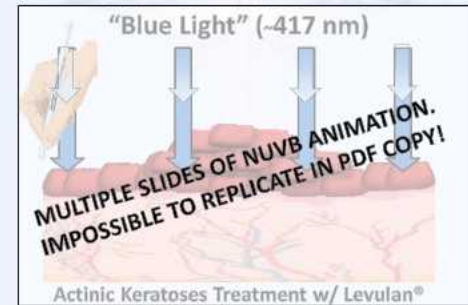
BLU-U® is able to penetrate up to 2 mm into the skin.

Emits light at ~ 417 nm.

Blue Light is not a form of UV light!

u B B B B B B B B
B B B B B
B B B B B
1000 seconds.
B B B B B B B B

Blue Light PDT



Blue Light PDT



Blue Light PDT



Blue Light PDT

General Considerations

Blue Light PDT is *generally avoided* in patients
B B B B B
Porphyria, etc.).

Patients will likely experience some degree of
redness, crusting, stinging, itching, and
inflammation both *during treatment and for*
about 5-7 days thereafter.

Many patients report that the reaction looks/feels similar
to that caused by Efudex® or Carac®, but that the duration
B B B

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Blue Light PDT

General Considerations

B B B B B B B
to 40 hours after Aminolevulinic Acid has been
applied to the skin!

This includes *either* sunlight **OR** bright indoor lighting.

Should even wear a wide-brimmed hat when going to their
car after the PDT treatment.

Simply applying sunblock **does not** protect patients from the
B B

Even after Levulan® loses its effect, any inflamed skin should
be protected.

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CONCLUSION

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Moisturizers & Medication Vehicles

Moisturizers & Medication Vehicles

Everyone

B B

B

Understand the role that moisturizers play in healthy skin care.

Be familiar with the different vehicles used to deliver medications to our skin.

Moisturizers

Moisturizers

A well-moisturized and intact epidermis is

B

Invasion by bacteria, viruses, allergens, and parasites.

- B B B c '

Excessive TEWL makes it difficult for our bodies to regulate body heat and maintain adequate internal hydration.

e.g., Patients with widespread 2nd/3rd degree burns.

Moisturizers

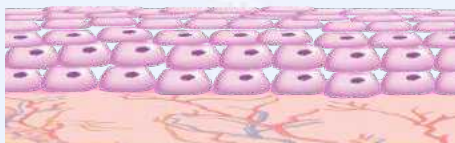
Intracellular Hydration

Keratinocytes perform this on their own through

B B) B B) (I

NMF production is *out of our control* and

B B B oBn our cells.



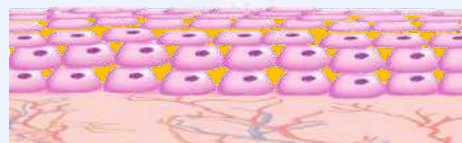
Moisturizers

Intercellular Hydration

' B

Forms a barrier **around** the keratinocytes.

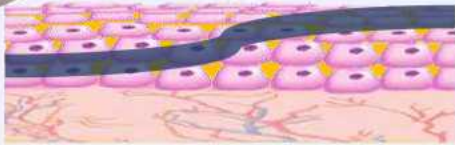
Repels foreign substances and helps keratinocytes to maintain moisture.



Moisturizers

Intercellular Hydration

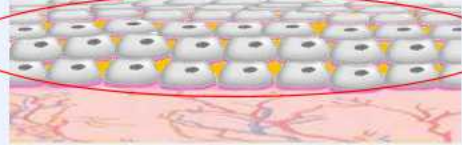
Forms a barrier **around** the keratinocytes.
Repels foreign substances and helps keratinocytes to maintain moisture.



Moisturizers

Cells without the outer protection of the "lipid bilayer" will more easily lose their internal "Natural Moisturizing Factor"!

This is where moisturizers come in!



Moisturizers

Common Moisturizer Ingredients

Occlusives

Petrolatum (Vaseline®)
Oils (e.g., Mineral Oil, Soybean Oil, Grapeseed Oil, etc.)
Propylene Glycol
Lanolin
Waxes (e.g., Beeswax, Paraffin, etc.)

Moisturizers

Common Moisturizer Ingredients

Humectants

Alpha-hydroxy Acids
Urea
Propylene Glycol
Glycerin
Hyaluronic Acid
Sodium Hyaluronate

Moisturizers

Common Moisturizer Ingredients

Barrier Repair

Ceramides
Cholesterol
Fatty Acids

Moisturizers

Common Moisturizer Ingredients

Barrier Repair

Ceramides
Cholesterol
Fatty Acids



Moisturizers

Common Moisturizer Ingredients

Emollients

B B B B B B B
e B
Oils (Mineral Oil, Soybean Oil, Avocado Oil, etc.).
Petrolatum (Vaseline®)
Lanolin
Squalene

Moisturizers

Common Moisturizer Ingredients

Occlusives

Humectants

Barrier Repair

Emollients

Any ingredient which plays a role in moisturizing the skin will fall somewhere within these categories!

Moisturizers

General Considerations

B B B B B

Everyone is different in their preferences and what they believe provides them with the best results.

However, those which address **impaired skin barrier function** B B B generally provide the best results for patients with Eczema (Atopic Dermatitis).

Moisturizers

General Considerations

No moisturizer

B B B B B
Down) (I B L B B B B
composition!

Many patients stay in the shower/bath for **too long**, using water which is **too hot**, applying **soap all over** their body, and **scrub** B B B B B
x B B B B B B B B B B
function in the first place!

Moisturizers

General Considerations

We should advise patients to avoid heavily-fragranced moisturizers.

Those who have a tendency toward *dry skin* are often the same that have a tendency toward *sensitive skin*.

Manufacturers of moisturizers which are heavily-fragranced have usually placed their focus on a good

B B B B B B

Moisturizers

General Considerations

The ideal time to apply a moisturizer is after a shower or bath.

X B B B B B B B B B B
otherwise evaporated.

If a patient forgets to apply it after a shower or bath, they will still benefit from applying it later!

Medication Vehicles

Medication Vehicles

What Is A Medication Vehicle?

Definition

The substance used to deliver a
of application.

Medication Vehicles

B B B

Solutions
Foams
Gels
Lotions
Creams
Emollient Creams
Ointments

THINNER
↑
↓
THICKER

Medication Vehicles

B B B

Solutions
Foams
Gels
Lotions
Creams
Emollient Creams
Ointments

ALCOHOL/WATER
CONTENT
↑
↓
EMOLLIENT/OCCUSIVE
CONTENT

Medication Vehicles

DEMONSTRATION VIDEO

Medication Vehicles

SOLUTIONS	
ADVANTAGE(S)	DISADVANTAGE(S)
Very thin consistency. Therefore more easily applied to May be applied in conjunction with another product.	(sensation upon application. Some patients may complain that

DEMONSTRATION VIDEO

FOAMS	
B'	B
ADVANTAGE(S)	DISADVANTAGE(S)
B B B B B B B B B B B B B B B	Some patients find them more bearing areas. (B B B B B application. Both generic and (especially) name-brand foams are EXPENSIVE!

DEMONSTRATION VIDEO

GELS	
BI	Bn
ADVANTAGE(S)	DISADVANTAGE(S)
B B B B B delivered to larger areas of skin such as throughout the trunk/extremities. R B B B B helpful in conditions like Acne, Rosacea, or Contact Dermatitis.	They typically moisturize the skin. u B B B B B B B B B creams/ointments).

DEMONSTRATION VIDEO

LOTIONS	
BX	B
ADVANTAGE(S)	DISADVANTAGE(S)
B B B B bases. Easier to spread than creams or ointments.	B B B B B B moisturizing that some patients need.

Medication Vehicles

DEMONSTRATION VIDEO

Medication Vehicles

CREAMS	
BR	BR
ADVANTAGE(S)	DISADVANTAGE(S)
Provide a higher level of moisturizing than lotions, but without the thickness of ointments. ' B B B B B B compared to solutions, gels, etc.	Depending on the patient, treatment site, or condition, some B B B B

Medication Vehicles

DEMONSTRATION VIDEO

Medication Vehicles

EMOLLIENT CREAMS	
BC	-C BR
ADVANTAGE(S)	DISADVANTAGE(S)
Provide many of the softening/smoothing qualities found in ointments, but with the B B B	Depending on the patient, treatment site, or condition, some B B B B B B B B

Medication Vehicles

DEMONSTRATION VIDEO

Medication Vehicles

OINTMENTS	
B	BB
ADVANTAGE(S)	DISADVANTAGE(S)
Provide the most softening/smoothing qualities of any medication vehicle. 8 B B B B B steroid is usually much stronger than - B Usually contain fewer preservatives . Rarely B B B	Many patients find them to be B B B B

Medication Vehicles

Solutions

Foams

Gels

Lotions

Creams

Emollient Creams

Ointments

Attempt to provide the final
"consistency" of a solution, but with
the "application control" of a gel.
Attempt to provide the "thin" application
qualities of a gel, but with some of the
"moisturizing" qualities of a cream.

CONCLUSION

Eczema

Eczema

The diagnosis and treatment of Eczema is one of today's dermatology practice.

Treating these patients can involve quite a bit of patient education *especially when children are involved!*

You can play a **significant role** in helping patients (and sometimes their parents) to better understand and manage this condition.

Eczema

So What Is Eczema?

Eczema is a chronic skin condition characterized by pruritus, compromised barrier function, a tendency toward xerosis, and heightened sensitivity to irritants and allergens.

It is a chronic* skin condition characterized by pruritus, compromised barrier function, a tendency toward xerosis, and heightened sensitivity to irritants and allergens.

significiant flares by early adulthood.



Eczema

Why Do Some People Get Eczema?

Genetics

One or both parents may report a history of

“ everyone that has the underlying genetics! ”

Eczema

Why Do Some People Get Eczema?

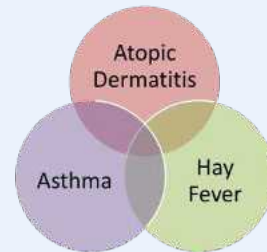
Genetics

Two genetic “predispositions” play the biggest role in influencing ones tendency to have Eczema.

x B B B B B B
CB B B B B B B
B B

Strong tendency toward sensitivities.

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“ALLERGIC TRIAD”



“ALLERGIC SHINERS”

Eczema

Why Do Some People Get Eczema?

Environment

Allergen Exposure

Food, pets, dust mites, pollens, trees, grasses, etc.

Improper Skin Care

Spending too long in the shower, not moisturizing, etc.

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Eczema

Why Do Some People Get Eczema?

Environment

Infections

Impetigo, Molluscum Contagiosum, Candida, etc.

Such infections can be both the *result and cause* of Eczema flares!

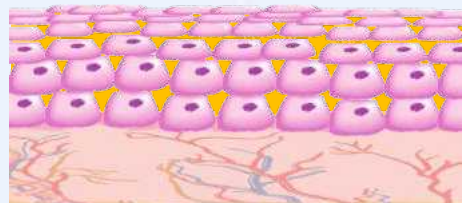
Irritation

B B B B B B B
e B B B B B

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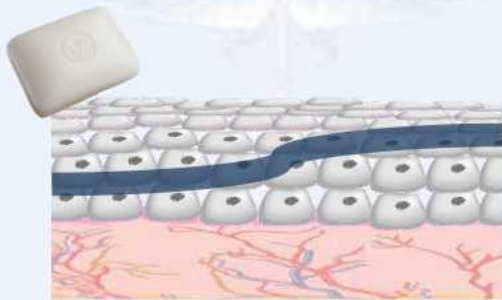
Eczema

“Lipid Bilayer” surrounds our keratinocytes – providing a “seal” of protection against invasion by allergens, bacteria, etc.



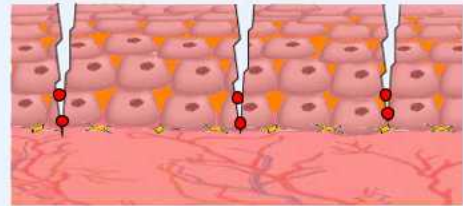
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Eczema



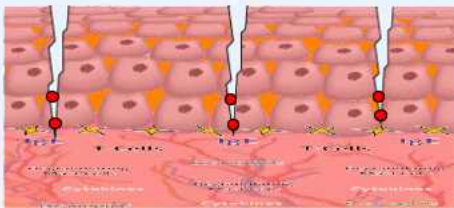
Eczema

ALLERGENS AND BACTERIA ENTER THROUGH THE COMPROMISED EPIDERMAL BARRIER



Eczema

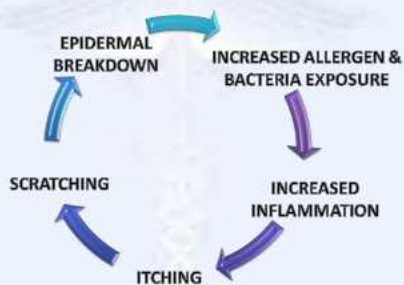
INFLAMMATION



Eczema

**THE
“VICIOUS CYCLE”
OF ECZEMA**

Eczema



Eczema

Treatment

R B B B B B B
B B B

Minimizing Epidermal Breakdown
Avoidance of Allergens
Control of Infections
Control of Pruritus (Itching)
Management of Inflammation

FOCUSING ATTENTION HERE...
CAN PREVENT MISERY HERE!

Eczema

Treatment

Minimizing Epidermal Breakdown

B

Avoid long, hot showers/baths.

Avoid using (or being exposed to) strong soaps, detergents, or solvents.

Avoid aggressive cleansing techniques.

For routine body cleansing, patients may consider using cleanser

B B B B B B B B B B

Apply a daily moisturizer.

Avoid physical stimulation/trauma.

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Eczema

Treatment

Avoidance of Allergens

First, know that **the role that allergens play in Eczema will vary from patient to patient.**

Allergy testing in patients w/ Eczema is not always helpful!

B B B B B B B

However, **identifiable allergens are sometimes to blame.**

I B B B B B B B B B B

Other common allergies include foods (e.g., milk, eggs, wheat, nut, and soy), fragrances, and environmental (e.g., various trees, grasses, pollens, pets, etc.).

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Eczema

Treatment

Every dermatology office is different when it comes to allergy testing and treatment.

First, know that **the role that allergens play in Eczema will vary from patient to patient.**

Allergy testing in patients w/ Eczema is not always helpful!

However, **identifiable allergens are sometimes to blame.**

If you don't already know which role your office takes in this, talk to your supervising physician.

I B B B B B B B B B B

Other common allergies include foods (e.g., milk, eggs, wheat, nut, and soy), fragrances, and environmental (e.g., various trees, grasses, pollens, pets, etc.).

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Eczema

Treatment

Control of Infections

I B B B B B B

Bacteria, viruses, yeast, etc. simply take advantage of the situation. Had epidermal breakdown not been present, the infection may not have occurred in the first place!

Treatment is tailored to the organism.

I B B B B B B B

are used for Impetigo, antifungals for yeast infections, etc.

B B B B B

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Eczema

"BLEACH BATHS"

Treatment

One calls for ¼ - ½ cup of bleach per tub.

• **Should only use unscented bleach.**

• **Usually performed just 1-2x/week.**

Bacteria, viruses, yeast, etc. simply take advantage of the situation. Had epidermal breakdown not been present, the infection may not have occurred in the first place!

Treatment is tailored to the organism.

I B B B B B B B

are used for Impetigo, antifungals for yeast infections, etc.

B B B B B

Eczema

Treatment

Management of Inflammation

Antihistamines

Non-Steroid Anti-Inflammatories

Topical/Systemic Corticosteroids

Phototherapy

Cyclosporine?

Very strong immune suppressant.

Typically reserved for short-term management of severe flares only.

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Eczema

Treatment

Control of Pruritus (Itching)

First, patients *must* maintain a healthy epidermis.

Dry skin alone tends to itch!

8 B B

Antihistamines

Topical Antipruritics

Non-Steroid Anti-Inflammatories

Topical/Systemic Corticosteroids

REVIEWED IN OUR
"MEDICATIONS"
MODULES!

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Acne & Rosacea

Acne & Rosacea

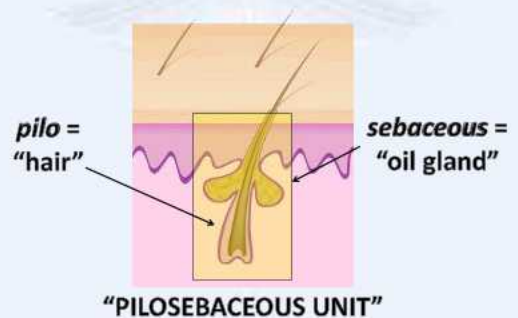
P B B B B B B B
chief complaints in dermatology.

It can also create some of the most *time-consuming visits*, as these patients understandably have a lot of questions!

There is **quite a bit of misinformation** out there
B B B

Acne

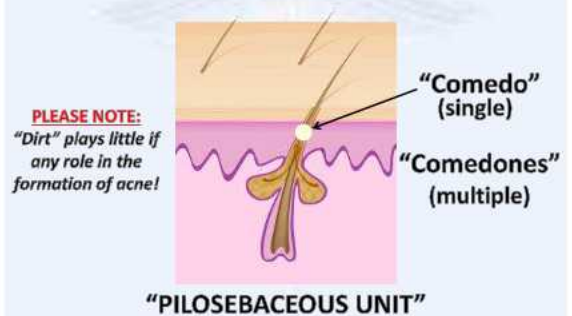
Acne



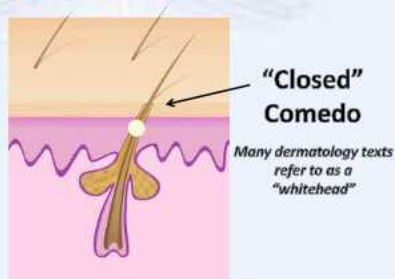
Acne

"Vellus" Hair

Acne



Acne



"PILOSEBACEOUS UNIT"

Acne

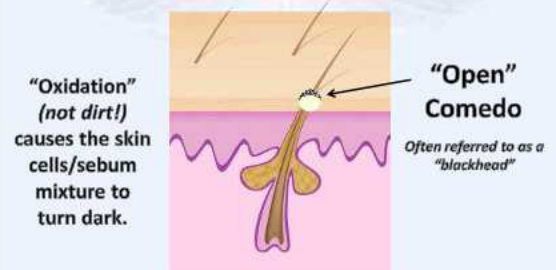


TYPICAL "CLOSED" COMEDONES

Acne



Acne



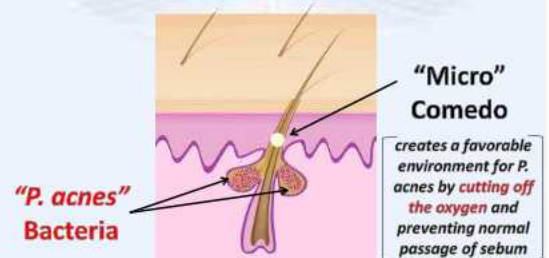
"PILOSEBACEOUS UNIT"

Acne



TYPICAL "OPEN" COMEDONES

Acne



"PILOSEBACEOUS UNIT"



"INFLAMMATORY" ACNE

Acne

Factors Influencing Acne Formation

Androgens

Including Testosterone, DHEA, DHT, and others.

B B B

Puberty

Menstrual Cycle

Stress

Corticosteroids

Acne

Factors Influencing Acne Formation

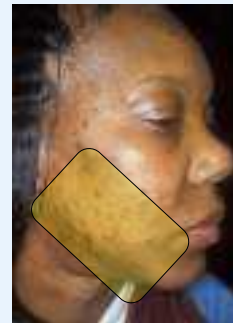
Androgen Sensitivity

m B B B B

Two people can have the *exact same hormone levels*, but their sebaceous glands and skin cells lining the follicles **react to those same hormone levels in two very different manners.**

C B B B B B B B

Especially in women!



Acne

General Treatment Approaches

B B

Primarily includes *Retinoids* and *Salicylic Acid*.

B B B B B B

interrupting the cycle of open/closed comedo and inflammatory acne papule development.

Acne

General Treatment Approaches

Antibiotics

C B B B B B B

Work by decreasing the number of *P. acnes* bacteria in the sebaceous glands. This, in turn, decreases the inflammation that the bacteria creates.

B B B B - B B

which is unrelated to their ability to kill bacteria.

Acne

General Treatment Approaches

Hormonal

Primarily OCPs and Spironolactone.

P B B B B B B B

influencing acne formation can be prevented in the first place!

Acne

General Treatment Approaches

Isotretinoin

r B B B B B B B B

shed, thereby preventing comedo formation.

Decreases sebum production.

By doing the above, it greatly lowers *P. acnes* count.

Acne

Patient Counseling Considerations

There is arguably no other condition for which managing patient expectations is so critical!



Acne

Patient Counseling Considerations

No treatment is 100% effective in all patients.

c B B B B B B B B

in which medicine is prescribed, the patient is later re-evaluated, and adjustments made accordingly.

Acne

Patient Counseling Considerations

Medicines take time to work!

c B B B B B *But least*
several weeks (and usually longer) to even begin
B -

Acne

Patient Counseling Considerations

B B B B

Patients may return frustrated with lack of results,
yet admit to not using medication as directed.

Especially true in younger patients.

Acne

Patient Counseling Considerations

Acne is *not* due to lack of hygiene.

Believing this can not only cause patients to feel
self-conscious and embarrassed, but can also lead
to overly-aggressive cleansing habits.

C B B B B B B

but instead *the cleanser is simply used as a*

B B B B B B B

Benzoyl Peroxide, Salicylic Acid, etc.).

Acne

Patient Counseling Considerations

Acne affects every patient differently!

We should always try our best to be
compassionate and understanding in our efforts

B B B B B B

B B B B B B

nodulocystic acne.

Rosacea

Rosacea

What Is Rosacea?

Definition

^{*usually*}
Chronic skin condition involving the central face,
characterized by increased vascularity, flushing, and
acneiform inflammation. However, presentations and
symptoms *can vary significantly* from patient to patient.



Rosacea

What Causes Rosacea?

Infection?

P. acnes

Many *P. acnes* antibiotics seem to help Rosacea.

Demodex folliculorum

Microscopic mite which is common in our pores.

Bacillus oleronius

Bacteria associated with Demodex.

Intestinal Bacteria?

Rosacea

What Causes Rosacea?

Genetics?

B BR B Bi.e., English/Irish) are much more prone to Rosacea.

But what specifically about such genetics plays a role?

How to explain Rosacea in those with no such ancestry?

Rosacea

What Causes Rosacea?

Overactive Immune Response?

Rosacea-affected skin has been shown to have

B B B B B
B B B B B B
fight off infection.

Rosacea

What Causes Rosacea?

Role of Vascularity?

Those with Rosacea do tend to exhibit an increased
B B B B B B
even prominent blood vessels) *does not* define Rosacea.

u B B B B B
X B B Induce Rosacea, or is it a *result* of
the inflammation?

Increased vascular congestion in the dermis.

But is it a *cause* or an *effect*?

Myth

Rosacea *is not* a sign of
alcohol abuse!



W.C. Fields

Rosacea

Other Variations

The vast majority of patients with Rosacea will simply present with chronic flushing and/or acneiform inflammation. u B B B

Phymatous Rosacea

Occurs when vascular congestion and repeated inflammation leads to thickened, scar-like changes.

Ocular Rosacea

B B B B B B B

In dermatology, we play a limited role in treating.

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"RHINOPHYMA"

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Rosacea

General Treatment Approaches

Avoid Triggers

For some, avoidance of triggers is all it takes to keep Rosacea under control.

I B B B B B B B completely eliminate flares.

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Rosacea

General Treatment Approaches

m B B

Avoid harsh cleansing, scrubbing, irritating facial products, etc.

C B B B B B B B Rosacea flare!

B B B B B B more to preservatives, fragrances, alpha-hydroxy acids, etc. than they used to be.

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Rosacea

General Treatment Approaches

Antibiotics

Can be taken systemically, applied topically, or both.

e.g., Metronidazole 0.75% Gel, Doxycycline.

Their mechanism of action remains uncertain.

Do they work by killing bacteria? Or do they help

B B B - B B B B

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Rosacea

General Treatment Approaches

Topical Anti-Inflammatories

Work by directly addressing *inflammation*.
e.g., Protopic® or Elidel®.

B B B B B B B B
B B B B
) B B B B B B B
may not provide coverage.

Rosacea

General Treatment Approaches

Retinoids

Usually applied topically (e.g., Retin-A®, Differin®, etc.) or may be taken systemically (i.e., Isotretinoin).

Their use can be *very tricky!*

Topical retinoids are notorious for causing irritation.

Different patients may experience very different results.

u B B B B B B
provide little improvement for flushing/redness.

Rosacea

General Treatment Approaches

Laser & Light Therapy

Vascular Laser (e.g., Pulsed Dye, Alexandrite, etc.)
and Intense Pulsed Light (IPL).

Work by destroying the smaller vessels within the
treatment sites.

Doing so can help decrease visible telangiectasias,
flushing, and vascular inflammation.

X B B B B B B B B
results can be impressive.

Rosacea

General Treatment Approaches

Alternative Treatments

Treatment of intestinal bacteria?

Antihistamines?

Those who find improvement may simply have a
food allergy.

-Adrenergic Receptor Antagonists?

Homeopathic Remedies?

8

Rosacea

Prognosis

B B B B B B B B
but instead is something that they *grow into*.

They will **always be at risk for flaring** and there is
B .

This B B B B B B B

The right treatment approach will *greatly decrease the
frequency and intensity of flares*.

B B B B B B B B
returns at some point.

CONCLUSION

AKs & Dysplastic Nev

AKs & Dysplastic Nev

Academically speaking, Actinic Keratoses (AKs) and Dysplastic Nev (DN) are two **entirely different** types of lesions.

Practically speaking, though, they are the two lesions which are **most often referred to as**

B B B B by dermatologists and their staff.

Actinic Keratoses

**ACTINIC MEANS
"LIGHT-INDUCED"**

**KERATOSIS MEANS
"CONDITION OF (EXCESSIVE) KERATIN"**

**ACTINIC KERATOSIS =
"LIGHT-INDUCED SCALING"**

ultraviolet Light

Actinic Keratoses

Actinic Keratoses (AKs) are one of the first lesions that you learn about when starting in dermatology.

Spelling

Actinic Keratosis refers to a *single* lesion.

Actinic Keratoses refers to *multiple* lesions.



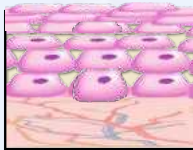


"Actinic Cheilitis"
(AKs on the lips)

Actinic Keratoses

Physiology

"Normal" Keratinocyte Life Cycle



Actinic Keratoses

Physiology

"Abnormal" Keratinocyte Life Cycle



Actinic Keratoses

Cause

Ultraviolet light is the most significant contributing factor to AK development!

It not only damages the keratinocyte DNA, but also inhibits our

B B B B B B

8 B B B

Immune Suppression

Exposure To Other Forms of Radiation

Individual Susceptibility

Especially age and Skin Type.

Certain Genetic Conditions

e.g., Xeroderma Pigmentosum, Albinism, etc.

Actinic Keratoses

Significance

A certain percentage of AKs will eventually evolve into skin cancer!

If/when they do, they become a *Squamous Cell Carcinoma (not Melanoma)*.

B B B B B B B B

Studies suggest anywhere from <1% up to 20%.

The bottom line is that they do carry a risk of turning into an SCC, so most dermatologists agree that treatment should be considered.

Actinic Keratoses

General Treatment Principles

There are *numerous* treatments available for Actinic Keratoses. Most will divide AK treatments into two categories:

Those which are particularly suited for treatment

B B B B

Those which are particularly suited for so-called

B

Actinic Keratoses

General Treatment Principles

X B B

Cryosurgery

Advantages

u B B B B B B B B B
generally quite effective.

Disadvantages

It hurts, causes visible inflammation in the days following
scarring. B B B B B B B B B



Actinic Keratoses

General Treatment Principles

X B B

8 B B

B B B B B B B

Efudex®, Carac®, Imiquimod, etc.

Shave Removal

Curettage

TCA Peel

Actinic Keratoses

General Treatment Principles

I B

Topical Chemotherapies (Efudex®, Carac®, etc.)

Advantages

B B B B B B B B B
cause hypopigmentation.

Disadvantages

Must be applied by the patient (not good for forgetful or unreliable patients) and usually applied over the course of at
B B B B B B B B B Most
importantly, the inflammation can be intense!



Actinic Keratoses

General Treatment Principles

- I B
- 8 B B
- Blue Light PDT
- Picato® Gel (Mechanism of Action?)
- Topical Retinoids
 - More effective at *preventing* rather than *eradicating* AKs.
- Chemical Peels
- Laser Resurfacing



"Euphorbia peplus"

Dysplastic Nevi

DYS- MEANS "ABNORMAL"

**-PLASTIC DESCRIBES
"GROWTH" OR "DEVELOPMENT"**

**DYSPLASTIC NEVUS =
"ABNORMALLY DEVELOPING MOLE"**

Dysplastic Nevi

Dysplastic Nevi (DN) are fairly common.

B BR Ø
x B B B B B B B B B
few other names...
C Ø
B B B -(

Spelling

Dysplastic Nevus refers to a *single* lesion.

Dysplastic Nevi refers to *multiple* lesions.



Dysplastic Nevi

Cause

Genetics

Dysplastic Nevus Syndrome

B B B B B B B B B B X)

**These patients are at much greater risk for Melanoma,
especially if a first degree relative has already had Melanoma.**

If you see this history in a patient, let your supervising
physician know!

UV Exposure

All UV is bad, but sunburns are *particularly* harmful.

Dysplastic Nevi

Significance

DN are considered a Melanoma risk factor!

Simply *having* DN is a sign that the patient is genetically at greater risk for Melanoma.

Plus, each Dysplastic Nevus has a slightly increased risk of turning into Melanoma itself.

The *exact* risk is difficult to determine.

Most DN will never turn into Melanoma B

Dermatologists generally agree that *the greater the degree of atypia, the greater the risk.*

Dysplastic Nevus Risk

"MILD ATYPIA"

"MODERATE ATYPIA"

"SEVERE ATYPIA"

Pre-Melanoma?

Pre-Melanoma?

MELANOMA

Talk to your supervising physician about how he or she feels DN are best described to patients, but as an example...

Dysplastic Nevus

B B **Not** see cancer,
B B B B B B

The more atypical, the greater the potential risk that the mole could one day turn into Melanoma. Your results

B B

$$\begin{array}{cccccccc}
 & & B & & B & B & & B & & B & B \\
 B & & B & B & & B & & & & B & B \\
 & B & & & & & & & & & \\
 r & B & B & & B & & & B & & & B
 \end{array}$$

Dysplastic Nevi

General Treatment Principles

Treatment Options

- Monitoring
 - Pictures can be very helpful.
 - Some offices simply utilize traditional digital cameras, while
- Dermoscopy is also being utilized more.
- Surgical
 - Excision

B B BR BM

B B BR M



Dermatoscope



Dysplastic Nevus

Patient Education

UV Precautions

B B B B B B B B B
particularly important for those with Dysplastic
Nevi!

**Refer to the "UV Light, Sunscreen, & Skin Type"
module found elsewhere in our program!**

Dysplastic Nevus

Patient Education

Patients with DN should come in for evaluation
if/when they notice any *significant* changes in the
size, shape, or color of their mole(s).

Especially true if such changes occur disproportionately
in *one* mole (aka, **B B**).

R B **the most important sign** that patients
should look out for, since many DN already fail a
B B **ABCDs of Melanoma**.

These patients are also generally encouraged to
undergo *more frequent skin exams* as well.

CONCLUSION

"Other"

Common Rashes & Conditions

PART I

Common Rashes & Conditions

u B B B B B B **brief**
synopsis of the most common diagnoses which

B B B B B

*The purpose is to provide you with a general
B B*

Typical Presentation

Etiology

"What Causes It"

Course/Prognosis

Most Common Treatment Approaches

Alopecia Areata

Alopecia Areata

Typical Presentation



Alopecia Areata

Cause

Results from the immune system (T-cells) mounting an attack against the follicles.

Reason why is *unknown*.

Genetics?

Stress?

Alopecia Areata

Course/Prognosis

Varies significantly from person to person.

Some experience a single episode, while others experience occasional flares throughout their lifetime.

Most flares resolve within a matter of months, occasionally longer. Very rarely, the hair loss is permanent.

Alopecia Areata

Treatment

Monitor

Most cases resolve without treatment.

Hair may grow back with different color/texture, though.

8

Corticosteroids (Topical/IL/Systemic)

Phototherapy

Anthralin, Squaric Acid, DPCP, etc.

Minoxidil

Androgenetic Alopecia

Androgenetic Alopecia

Typical Presentation



Androgenetic Alopecia

Cause

The name explains the cause.

Androgens like testosterone, DHEA, DHT, etc.

Androgenetic Alopecia

Androgenetic Alopecia

Cause

The name explains the cause.

Androgenetic Alopecia

Cause a genetically predetermined response in which the follicles go dormant

Androgenetic Alopecia

Course/Prognosis

C B B B B B B B
unless treatment intervenes beforehand.

Best treated early!

If follicles remain dormant for too long, they will

B B B B B B B B
able to produce hair again.

Androgenetic Alopecia

Treatment

Responses vary significantly.

Hormone Blockers

Finasteride (Propecia®)

Seems to be more effective in men.

Spironolactone

Generally prescribed only for women.

Minoxidil (Rogaine®)

Exactly *how* it works is uncertain.

Hair transplants effective, but *expensive*.

Asteatotic Eczema

Asteatotic Eczema

Typical Presentation



Asteatotic Eczema

Cause

Asteatotic Eczema and Xerosis go hand-in-hand.

used when inflammation
results from that dryness

used when someone simply
has "dry skin"

Asteatotic Eczema

Cause

Asteatotic Eczema and Xerosis go hand-in-hand.

B B B B B B B B B B B B B B B B
e B B B B B B B B B B
skin plays in causing inflammation.

Asteatotic Eczema

Course/Prognosis

Chronic unless measures are taken to prevent the dryness.

Asteatotic Eczema

Treatment

The xerosis (dryness) must be managed!

Topical corticosteroids help to manage acute inflammation.

Contact Dermatitis

Contact Dermatitis

Typical Presentation





Contact Dermatitis

Cause

There are two types:

Allergic Contact Dermatitis

Occurs when the immune system becomes *hypersensitive* to a substance and mounts a response in the form of swelling, blistering, etc.

B B

Irritant Contact Dermatitis

Occurs when a substance literally *irritates* the skin to the point of causing cracking, peeling, etc.

B r B B B B B B B

Contact Dermatitis

Course/Prognosis

Will always be prone to recurrence upon exposure to the offending substance.

Depending on the source of the exposure, it may become a chronic problem unless significant lifestyle changes are made.

Contact Dermatitis

Treatment

Avoidance of causative allergen or irritant is always the first priority.

Corticosteroids

Barrier Creams

Non-Steroid Anti-Inflammatories

Patch testing helpful if patient is uncertain of cause.



Drug Eruptions

Drug Eruptions

Typical Presentation



"Morbilloform" Drug Eruption



"Fixed" Drug Eruption

Drug Eruptions

Cause

Occurs when the immune system becomes *hypersensitive* to a drug or one of its

The reasons this hypersensitivity occurs are quite complex and largely unknown.

Genetics seems to play a role.

Drug Eruptions

Course/Prognosis

Will always be prone to recurrence upon ingestion of the offending substance.

However, not every reaction is severe.

If only suffering from mild itching and inflammation, and a suspected medication is crucial, sometimes the patient will stay on the medicine and treat the symptoms.

Drug Eruptions

Treatment

Avoidance of the causative agent (if possible).

Determination of the cause can be difficult!

Medications started in the 6 weeks prior to the rash onset are the most suspect.

It is possible, though, for a patient to experience a drug eruption from a medication that he/she has been taking for years.

Symptoms usually managed with corticosteroids (topical or systemic) and antihistamines.

Dyshidrotic Eczema

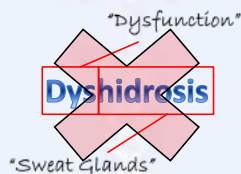
Dyshidrotic Eczema

Typical Presentation



Dyshidrotic Eczema

Cause



Dyshidrotic Eczema

Cause

The etiology is unknown.

Atopy may play a role.

Stress is *almost always* named as a contributing factor.

u B B B

Dyshidrotic Eczema

Course/Prognosis

B B
r B B B B B B

Dyshidrotic Eczema

Treatment

Potent topical corticosteroids for PRN use is the most common treatment.

Systemic corticosteroids (IM Kenalog, Prednisone, etc.) help acute flares, but are unsafe for repeated, long-term management.

Phototherapy sometimes used.



Granuloma Annulare

Granuloma Annulare

Typical Presentation



Granuloma Annulare

Cause

The etiology is unknown.

around broken down connective tissue. A naturally increased as well. But why?

Trauma?
UV Exposure?
Insect Bites?
Diabetes?
Many others

Granuloma Annulare

Course/Prognosis

Usually resolves spontaneously after a few years.

It may last longer in some patients.

May also recur after what seemed to be full resolution.

Granuloma Annulare

Treatment

One option is to **do nothing**.

eventually resolve on its own.

Topical corticosteroids can help, but intralesional more effective.

Otherwise, there are *a lot* including the topical anti-inflammatories, phototherapy, antibiotics, and many others.

Intertrigo

Intertrigo

Typical Presentation



Intertrigo

Cause

Those who are obese, have large breasts, etc. are particularly vulnerable.

Sweat
Heat
Friction
Yeast

Intertrigo

Course/Prognosis

As long as skin folds remain tightly occluded, these patients will always be prone to inflammation.

Most patients have a more difficult time controlling inflammation during the summer months.

Intertrigo

Treatment

Goal #1 Decrease the degree of occlusion!

Usually involves weight loss, which is easier said than done.

Keep the skin folds dry.

Talcum powder helps many patients.

Antifungal creams help for some, but not so much for others.

Corticosteroid or corticosteroid/antifungal combo creams usually work well, but must be used with caution.

Nonsteroid Anti-u B B B B B B application to these sensitive areas.

Keratosis Pilaris

Keratosis Pilaris

Typical Presentation



Keratosis Pilaris

Cause

B B B. B B B B B
 plug within the hair follicles.
 Exactly why this occurs is a mystery.
 B B

Keratosis Pilaris

Course/Prognosis

The majority of individuals with KP seem to
 B B B B
 For those in whom it does persist into adult years,
 the course is variable.

Keratosis Pilaris

Treatment

Some dermatologists will recommend that
 patients avoid treatment altogether.

Patients should avoid harsh cleansing techniques!
 If exfoliation is attempted, doing so gently with the
 use of keratolytics is preferable over physical
 B B

Lichen Planus

Lichen Planus

"Textbook"
~~Typical~~ Presentation



Lichen Planus

Cause

Etiology is unknown.

8 B B B - B B B B B
B B B B B B B

what triggers their activity.

Infection?

Allergens?

Lichen Planus

Course/Prognosis

Varies from patient to patient.

Often waxes and wanes for several years.

May recur after what seemed to be a remission.

IMPORTANT Oral LP can increase risk of SCC!

Those with oral involvement should follow-up regularly with both their dentist *and* their dermatologist.

Lichen Planus

Treatment

There are far more treatments for LP than we can possibly list here!

S B B

Corticosteroids (Topical/Systemic)

Non-Steroid Anti-Inflammatories

Otherwise, alternatives include Retinoids (Topical/Systemic), Immunosuppressants, Antibiotics (e.g. Metronidazole) and many, many others.

LSC & Prurigo Nodularis

LSC & Prurigo Nodularis

Typical Presentation



LSC & Prurigo Nodularis

Cause

Both Lichen Simplex Chronicus (LSC) and Prurigo Nodularis (PN) are caused by essentially the

B

' RB B B B B B
) B B B B B

The urge to scratch/rub/pick varies from patient to patient.

Sometimes scratching at underlying Eczema, Contact Derm, etc. just got out of hand.

Other times (especially with PN patients), the patient has an underlying psychological disorder.

LSC & Prurigo Nodularis

Course/Prognosis

Depends *entirely* on whether the patient can abstain from picking/scratching/rubbing.

If they can stop, the inflammation will resolve.

If they cannot, it never will.

LSC & Prurigo Nodularis

Treatment

MOST IMPORTANT Convincing the patient to stop picking/scratching!

Topical/IL corticosteroids are helpful, especially if pruritus is the reason for scratching.

Topical anti-pruritics (e.g., Zonalon®) and the

B B B B B B B

only for combatting pruritus.

If patient unable or unwilling to stop picking/scratching, referral back to PCP or even to a psychiatrist may be necessary.

Melasma

Melasma

Typical Presentation



Melasma

Typical Presentation



Melasma

Typical Presentation



Melasma

Cause

B (B
[Genetics + Hormones + UV Exposure]
Estrogen is thought to be the primary hormonal stimulus,
B B B B B B BB B B
P B B B BB Melasma occurs almost
entirely in women (esp. when pregnant, taking oral
contraceptives or estrogen therapy, etc.).
c B B B B B B -
B B B B B

Melasma

Course/Prognosis

The course is variable.

Those prone to Melasma will always be prone to
B B B B B

Melasma may improve if a hormonal trigger can be
identified and avoided.

**Longstanding Melasma is especially difficult to
treat!**

c B B B B B B B B B
B BBB - B

Melasma

Treatment

Must avoid UV exposure!

Discontinuation of exogenous hormones (if
applicable).

B B

Topical products containing Hydroquinone,
Retinoids, Azelaic Acid, Kojic Acid, and others.

Procedures such as chemical peels, laser, or IPL.

...continued **BnB**
Part II

"Other"

Common Rashes & Conditions

PART II

Notalgia Paresthetica

Notalgia Paresthetica

Typical Presentation



Notalgia Paresthetica

Cause

Etiology of NP is unknown.

Various theories exist.

B B B B B B B B
degree of spinal nerve entrapment.

Notalgia Paresthetica

Course/Prognosis

B B B B

Rarely, patients may indicate that it causes
significant pruritus.

Notalgia Paresthetica

Treatment

Topical Antipruritics

Topical/IL Corticosteroids

***Most patients are simply curious about it,
and don't necessarily seek treatment.***

Nummular Eczema

Nummular Eczema

Typical Presentation



Nummular Eczema

Cause

Etiology is unknown.

Many who have Nummular Eczema do not have a history of Atopic Dermatitis.

Xerosis and/or allergens may play a role.

Nummular Eczema

Course/Prognosis

Generally chronic.

B B B B B B B B B
usually respond well to treatment.

Nummular Eczema

Treatment

B B B B B B

Practicing proper skin care.

Avoidance of harsh cleansing techniques.

Should use daily moisturizer.

Allergens (if any identified) should be avoided.

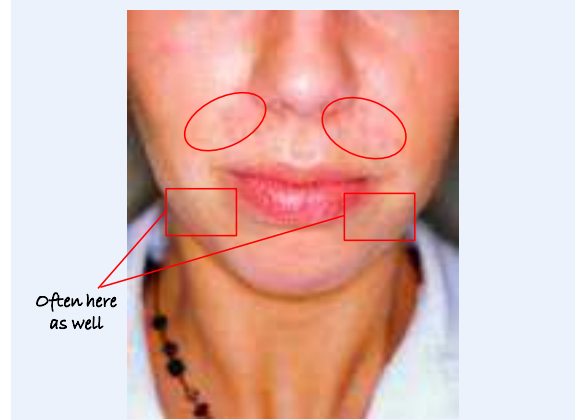
Topical corticosteroids help for acute flares, while products like Protopic® and Elidel® can help with long-term management.

Antihistamines can help control pruritus.

Perioral Dermatitis

Perioral Dermatitis

Typical Presentation



Perioral Dermatitis

Cause

Etiology is unknown.

Hormones?

Perioral Derm happens almost exclusively in children and adult females.

Bacteria?

Antibiotics are the most consistently effective treatment.

Topical Steroids?

B B B B B B B B B B

Perioral Dermatitis

Course/Prognosis

Most cases resolve quickly with treatment.

It can recur, though, and the frequency of any recurrences will vary from patient to patient.

Perioral Dermatitis

Treatment

Antibiotics (topical or systemic) are the mainstay of treatment.

Topical anti-inflammatories such as Protopic® or Elidel® can also be helpful.

Patients must avoid using topical steroids!

Pityriasis Alba

Pityriasis Rosea

Pityriasis Rosea

Typical Presentation



"Herald Patch"

Pityriasis Rosea

Cause

The etiology is *uncertain*.

(B B BB B B **Exanthem.**

Means "widespread
breakout/rash"

Happens most often in the young.

B B B BB B B

However, it is *exceedingly* rare for a patient to report that others around them are also breaking out.

Pityriasis Rosea

Course/Prognosis

Usually lasts for only a month or two and then resolves on its own.

Rarely, may last several months or longer.

Pityriasis Rosea

Treatment

Usually no treatment is necessary.

If associated pruritus is significant, then the
B

Topical Corticosteroids

Topical Antipruritics

Antihistamines

Phototherapy

Pseudofolliculitis

Pseudofolliculitis

Typical Presentation



Pseudofolliculitis

Cause

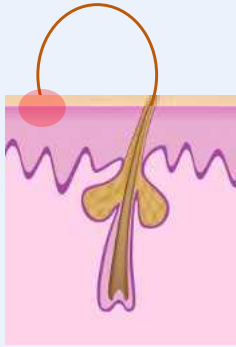
u ~~But~~ the result of bacterial invasion of the hair follicles.

Essentially caused by ingrown hairs.

Pseudofolliculitis

Pseudofolliculitis

"false"
or
"pretend"



Pseudofolliculitis

Course/Prognosis

u **Chronic.**

If hairs soften or become less curly with age, then it *may* improve with time.

Pseudofolliculitis

Treatment

Very difficult condition to treat!

uB B B B B B B B B B
affected areas.

uB B B B B B B B B B
B B

uBB B B B BB - B BB
(B B B B B B

hairs helps, but can be tedious.

If bacteria is causing a secondary infection, either topical or systemic antibiotics can be used.



Seborrheic Dermatitis

Seborrheic Dermatitis

Typical Presentation



Seborrheic Dermatitis

Typical Presentation



Seborrheic Dermatitis

Cause

B B B B

Immune response to the presence of naturally-occurring yeasts (*Malassezia*), or their byproducts, is the likely cause.

Malassezia yeasts prefer skin rich in sebaceous gland activity, hence the predilection for Seb Derm on the face, scalp, ears, and mid chest.

R B B B

Season

Stress

R B B B

Seborrheic Dermatitis

Course/Prognosis

Generally chronic, though has a tendency to

B B

Seborrheic Dermatitis

Treatment

Antifungals

Yeast-killing shampoos for the scalp and topical

B B -hair- B

Topical corticosteroids are frequently used, but patients must be careful to avoid overuse.

Topical anti-inflammatories (Protopic® and Elidel®) are prescribed frequently as well.

Stasis Dermatitis

Stasis Dermatitis

Typical Presentation





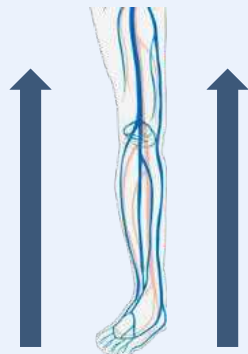
Venous ulceration
resulting from
chronic
inflammation.

Stasis Dermatitis

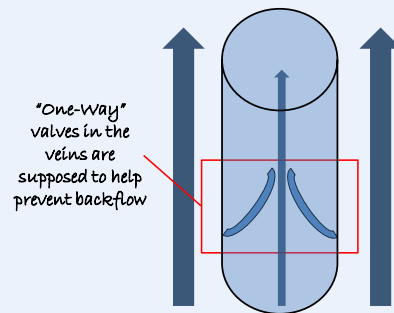
Cause

Inflammatory reaction to serous fluid and
extravasated

B B B B B
B B B B B B



RT Lower Extremity Veins



"One-way"
valves in the
veins are
supposed to help
prevent backflow

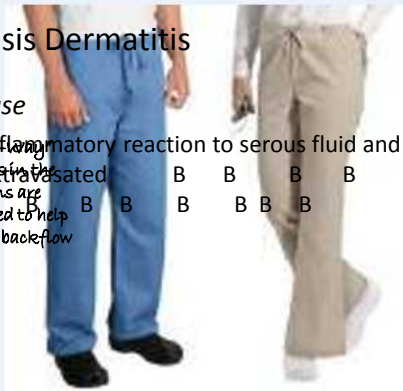
Inside The Veins



Stasis Dermatitis

Cause

• Inflammatory reaction to serous fluid and extravasated red blood cells
 • Venous valves in the veins are supposed to help prevent backflow



Stasis Dermatitis

Under pressure, the veins become "porous", allowing serous fluid and blood cells to escape into the surrounding tissue...

Cause

• Inflammatory reaction to serous fluid and extravasated red blood cells
 • Venous valves in the veins are supposed to help prevent backflow



...not unlike how gardening "soaker hoses" release water into the surrounding soil.

Stasis Dermatitis

Under pressure, the veins become "porous", allowing serous fluid and blood cells to escape into the surrounding tissue...

DRIP HOSE DEMO VIDEO

...not unlike how gardening "soaker hoses" release water into the surrounding soil.

Stasis Dermatitis

Course/Prognosis

Will be chronic as long as venous return is compromised, but *may* improve upon elimination of the reason for that compromise.

If pregnancy was impeding venous return, then it may resolve after delivery.

If obesity is the primary factor, it may improve after sufficient weight loss.

it will *always* be a constant battle.

R B B B B B B B B

Stasis Dermatitis

Course/Prognosis

Will be chronic as long as venous return is compromised, but *may* improve upon elimination of the reason for that compromise.

If pregnancy was impeding venous return, then it may resolve after delivery.

If obesity is the primary factor, it may improve after sufficient weight loss.

it will *always* be a constant battle.

R B B B B B B B B

Stasis Dermatitis

Treatment

Weight loss (if applicable).

Regular use of medical-grade compression socks.

collect.

back to the heart.

Topical corticosteroids help acute flares, but patients must avoid overuse.

Non-Steroid Anti-Inflammatories can help to provide long-term control w/o steroid side-effects.

Tinea Versicolor

Tinea Versicolor

Typical Presentation



Tinea Versicolor

Typical Presentation



Tinea Versicolor

Typical Presentation



Tinea Versicolor

Cause

u B B B **Malassezia** yeast.

The various *Malassezia* yeasts can be found on

B B B B B B B B B

Through absorption of UV light?

Because it produces azelaic acid after breaking down surface fatty acids?

Sound familiar?

Tinea Versicolor

Course/Prognosis

Usually resolves quickly with treatment.

May recur, though, especially in teens and young adults.

May take weeks (or even months) for the

B B B B B B B B

Tinea Versicolor

Treatment

Focus is on killing (or at least diminishing) the *Malassezia* yeast.

Antifungal shampoos can be used as a body wash.
Systemic antifungals are used more often nowadays.

Urticaria

Urticaria

Typical Presentation



Remember that *wheel* is the medical term for a “hive-like” papule.

Urticaria

Cause

' B B B B B B B B
B B B B B B B B
causes the vessels to become inflamed?

The reason varies from person to person!

Sometimes an allergic reaction (but often not).

B B B B B B B B
c B B B B B B B
cold, etc.) can cause it in others.

BOTTOM LINE – The number of “potential” triggers is huge, but in most, no identifiable cause is found!

Urticaria

Course/Prognosis

Acute Urticaria (< 6 Weeks Duration)

May struggle initially, but generally not too difficult to manage. In most, it ultimately resolves on its own.

Chronic Urticaria (> 6 Weeks Duration)

Can be difficult and frustrating to manage!

Unless an avoidable trigger can be identified, it often comes down to simply controlling inflammation while waiting for it to resolve on its own.

Urticaria

Treatment

Antihistamines are at the heart of *most* Urticaria treatments (both acute and chronic).

Systemic corticosteroids help for acute flares.

Topical corticosteroids can help provide local symptom relief.

B B B B B B B B
B B B B B B B B
physical exertion, excessive scratching, etc.).

Urticaria

Treatment

Antihistamines are at the heart of most Urticaria treatments (both acute and chronic).

Symptom relief: **Otherwise, anything else your supervising physician deems important!**

Symptom relief:

B B B B B B B
B B B B B B B
physical exertion, excessive scratching, etc.).

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Vitiligo

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Vitiligo

Typical Presentation



© 2012 Association of University Dermatology Centers

Vitiligo

Typical Presentation



© 2012 Association of University Dermatology Centers

Vitiligo

Typical Presentation



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Vitiligo

Cause

B B ~~Exactly~~ certain.

Most evidence suggests that it results from autoimmune destruction of the melanocytes.

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Vitiligo

Course/Prognosis

Varies significantly from person to person, but is generally progressive (just gets worse).

In most patients, it will continue to spread for a period of time, but then reaches an endpoint and

B B B B B

Just *how much* it spreads in any given patient is unpredictable.

Vitiligo

Treatment

Very difficult to treat.

x B B B B

Topical Corticosteroids

Topical Anti-Inflammatories

If widespread or if failed topicals

Phototherapy

B B B

Makeup can be used to conceal depigmentation.

e.g., [Covermark®](#)

CONCLUSION

Infections & Infestations

Infections & Infestations

x B B B B B B B B
B B B B B

Most Common Bacterial, Fungal, & Viral Infections

(B B u
Head Lice and Scabies

Bacterial Infections

Bacterial Infections

e B B B B B B B
B B



Impetigo



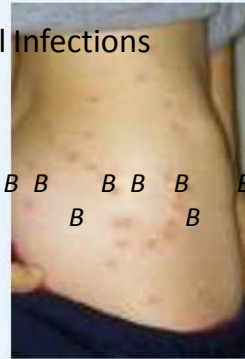
Impetigo

Bacterial Infections



Cellulitis

Bacterial Infections



Folliculitis

Bacterial Infections



Paronychia

Bacterial Infections



Pseudomonal Nail Infection

Bacterial Infections

The majority of skin infections are caused by

B B B B B B B B

especially *Staph aureus* and MRSA.

Spelled S-T-A-P-wB B B)!

MRSA

Stands for Methicillin-Resistant *Staph Aureus*.

Used to indicate that a given strain of *Staph aureus* is showing signs of antibiotic resistance.

Oxacillin-Resistant *Staph Aureus* is an alternative designation.

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Bacterial Infections

The majority of skin infections are caused by

Both "MRSA" and "ORSA" are simply

"more-resistant-than-average"

versions of *Staph aureus*.

Spelled S-T-A-P-wB B B)!

MRSA

Stands for Methicillin-Resistant *Staph Aureus*.

Used to indicate that a given strain of *Staph aureus* is showing signs of antibiotic resistance.

Like any *Staph* infection, they can cause complications, but by and large they are fairly straightforward to treat.

Bacterial Infections

The majority of skin infections are caused by

B. B. B.

especially *Staph aureus* and MRSA.

B. B. B. B. B.

e.g., *P. B - B.*

Pseudomonas aeruginosa

Bacterial Infections

& *B. B. B. B.*

E. coli

H. influenzae

B. B.

Others

Bacterial Infections

B. B. B. B. B.

Compromised Immune System

e.g., HIV, Diabetes, Renal Disease, etc.

Compromised Circulation

e.g., Diabetes, Smoking, etc.

P. B. B.

Estimated that up to 30% of the population routinely carries *Staph aureus* somewhere on their body (usually in the nose).

Bacterial Infections

B. B. B. B. B.

Close Contact w/ Infected Individuals

e.g., *Staph* spreading amongst football team.

Compromised Barrier Function

When the skin is dry, cracked, inflamed, or even overly moist/occluded, the barrier function is compromised, allowing bacteria to enter the skin.

Bacterial Infections

Diagnosis & Treatment

Many bacterial infections can be diagnosed and treated based on examination alone.

Even if the exact *B. B. B. B.*

Based on past experience treating similar infections

Bacterial Infections

Diagnosis & Treatment

Many bacterial infections can be diagnosed and treated based on examination alone.

Even if the exact *B. B. B. B.*

B. B. B. B. B. B. B. B.

Doing so allows lab to identify the causative bacteria and the sensitivity of that bacteria to various antibiotics.



Bacterial Infections

Diagnosis & Treatment

Treated with antibiotics (topical or systemic).

Exact regimen to be determined by your supervising physician.

Bacterial Infections

Prevention

The majority of bacterial infections will resolve easily with treatment and will not recur.

However, you will encounter some patients that have frequent recurrences.

B B B B B B B B
determine exactly which measures to recommend.

e.g., Proper bathing/moisturizing techniques, how to take a Clorox® bath, etc.

Fungal Infections

Fungal Infections

e B B B B B B B
B B



Tinea Corporis (Body)

Fungal Infections

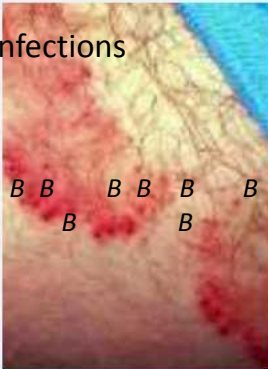
When a patient uses the term “ringworm” to refer to their fungal infection, it’s important to clarify to them that “worms” play no role in causing it!

Fungal Infections



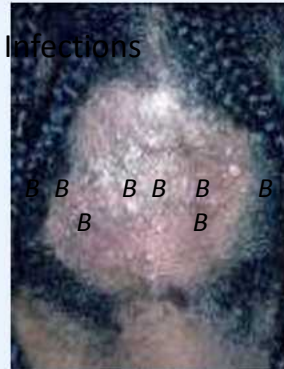
Tinea Pedis

Fungal Infections



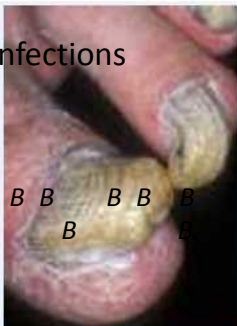
Tinea Cruris (Groin)

Fungal Infections



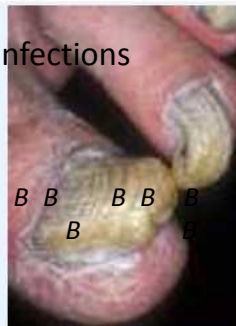
Tinea Capitis (Scalp)

Fungal Infections



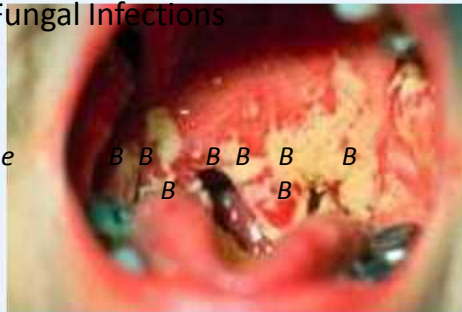
Tinea Unguium
(Infection by “dermatophyte” only)

Fungal Infections



Onychomycosis ✓
(Infection by “dermatophyte”, yeast, and/or mold)

Fungal Infections



Candidiasis

Fungal Infections



Candidiasis

Fungal Infections

B B B B B

Compromised Immune System

Compromised Circulation

Contact With Common/Shared Surfaces

e.g., Walking barefoot in locker room, sharing a comb with a child that has Tinea Capitis, etc.

Heat/Occlusion

The microorganisms which naturally reside on the cutaneous and mucosal surfaces.

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Fungal Infections

"Good Bacteria"

B B B B

Compromised Immune System

Compromised Circulation

Contact With Common/Shared Surfaces

e.g., Walking barefoot in locker room, sharing a comb with a child that has Tinea Capitis, etc.

Heat/Occlusion

The microorganisms which naturally reside on the cutaneous and mucosal surfaces.

C

BR

BK

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Fungal Infections

Diagnosis & Treatment

Many fungal infections can be diagnosed and treated based on examination alone, though a

..8 r B B B B B

Involves gently scraping cells on to a slide, applying Potassium Hydroxide (KOH), and analyzing under a microscope.

A fungal culture (DTM) is more sensitive, but can take weeks before results can be interpreted.

Fungal Infections

Diagnosis & Treatment

Many fungal infections can be diagnosed and treated based on examination alone, though a

..8 r B B B B B

Involves gently scraping cells on to a slide, applying Potassium Hydroxide (KOH), and analyzing under a microscope.

A fungal culture (DTM) is more sensitive, but can take weeks before results can be interpreted.



Fungal Infections

Diagnosis & Treatment

Treated with antifungals (topical or systemic).
Exact regimen to be determined by your supervising physician.

Fungal Infections

Prevention

C B8 B
e.g., Walking barefoot in the locker room, allowing child to share comb with a friend that has Tinea Capitis, etc.

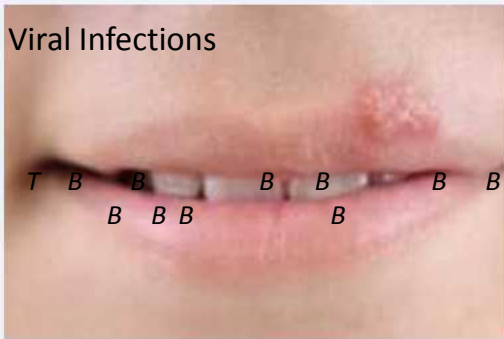
(B B B
e.g., Keep blood sugar levels under control, minimize heat/occlusion, etc.

Viral Infections

Viral Infections

T B B B B B B B
B B B B

Viral Infections



Herpes Simplex (HSV)

Viral Infections

There are 2 types of HSV (HSV-1 & HSV-2).

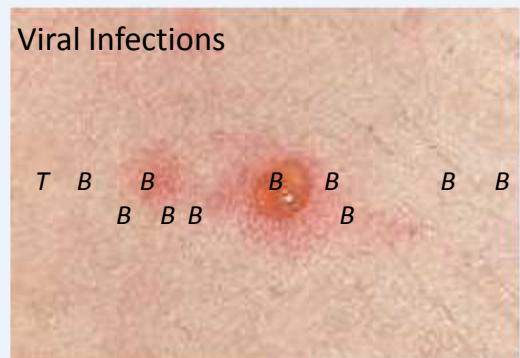
In the past, HSV-1 was associated w/ "fever blisters" and HSV-2 was associated w/ "genital herpes". Nowadays, the distinction is gone, as either type has been shown to affect either area.

Viral Infections



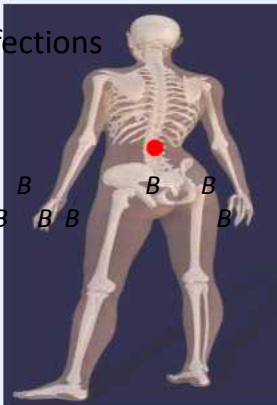
Varicella Zoster (aka "Chickenpox")

Viral Infections



Varicella Zoster (aka "Chickenpox")

Viral Infections



T B B B B B B B

Viral Infections



"dermatomal distribution"

T B B B B B B B

Herpes Zoster (aka "Shingles")

Viral Infections

dermatomal

T B B B B B B B

"Dermatomes"

Viral Infections

B B B B B

EXPOSURE!

HSV is spread through direct contact.

indirect contact (airborne particles).

HZV is *always* the result of reactivation of the Varicella virus.

However, Shingles patients could potentially give Varicella
R B B B -previously-infected/immunized
individual through *direct contact only*.

Viral Infections

B B B B B

Compromised Immune System

Failure To Be Immunized

No vaccine available for HSV.

Varicella vaccine is usually given by pediatricians.

In theory, it should also prevent Shingles as well.

Shingles vaccine now available!

***Those who have had Shingles already
generally don't need the vaccine.***

Viral Infections

Diagnosis & Treatment

Usually diagnosed and treated based on examination alone.

B B B

Viral Culture

Direct Fluorescent Antibody

Polymerase Chain Reaction (PCR)

Serologic Antibodies

Viral Infections

Diagnosis & Treatment

Treated with antiviral medications.

Topicals generally provide very little benefit.

Systemic options include Acyclovir, Valacyclovir (Valtrex®), and Famcyclovir (Famvir®).

Exact regimen, if any, to be determined by your supervising physician.

uB B B B B B B B
then medications may provide little (if any) benefit.

Viral Infections

While both Chickenpox and Shingles are conditions which typically occur "once",

HSV does recur intermittently throughout ones lifetime.

Treated with antiviral medications.

Topicals generally provide very little benefit.

Systemic options include Acyclovir, Valacyclovir (Valtrex®), and Famcyclovir (Famvir®).

Exact regimen, if any, to be determined by your supervising physician.

it is not uncommon to prescribe antivirals for the next time" they experience an outbreak.

Viral Infections

Prevention

Avoid Exposure

Especially w/ regard to HSV.

Those who already have HSV can reduce the risk of transmitting it to an uninfected partner by taking daily prophylactic antiviral therapy.

Vaccinate

Patients can die from both Varicella and HZV!

Postherpetic Neuralgia (PHN) a concern as well.

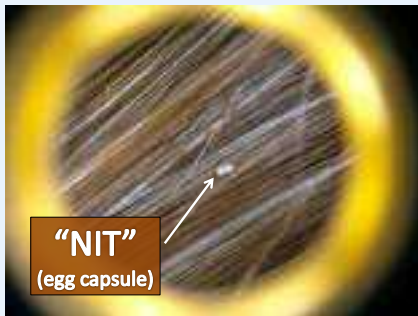
PHN is chronic, sometimes debilitating pain resulting from Shingles nerve damage.

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The “infestations”

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Head Lice



Head Lice



Pediculus humanus capitis

*From Wikipedia - Gilles San Martin

Head Lice

B B B B B

Direct Contact

BC B B B B B

The most likely reasons that children are much more likely to get head lice.

Children tend to play in a manner which physically brings them very close to their friends/classmates.

Indirect Contact

i.e., Sharing items such as a hairbrush, clothing, pillow, etc.

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Head lice infestation is not a sign of poor hygiene or low socioeconomic status!

Head Lice

Diagnosis

Usually diagnosed based on examination alone.
Sometimes, live adult lice can be seen on very close inspection.
If necessary, microscopic exam of the hair shaft can confirm the presence of a nit.

Head Lice

Treatment

T B B B B B B B
is actually an effective treatment.

B B B
Topical *Pyrethrins* (OTC RID®) as well as the
Permethrins (OTC Nix® 1% and Rx 5%).
Newer products include *Malathion* (Ovide®) and
Ivermectin (topical Sklice® and systemic Stromectol®).

Head Lice

Treatment

Nits can remain adherent to the affected hairs long after the lice have been killed!

) R B B B B B B B B
and hair treatments can help.
B B B B B B

All visible nits are **at least** 1 cm from scalp.
The patient is asymptomatic.
No live head lice are seen on very close examination.

Head Lice

Prevention

Initial Infestation

Avoid direct or indirect contact with infected individuals.

B B B B B B B B
infected friends (at least until successfully treated).

Head Lice

Prevention

Recurrent Infestation

Avoid direct or indirect contact with infected individuals.

B B B Bu B B
All infected individuals within a given family or social
circle **MUST** be treated simultaneously.

Head Lice

Prevention

Recurrent Infestation

Adult lice can survive for 2-4 days off of the scalp,
while unhatched nits can survive up to 10 days.

Sweaters, jackets, combs, etc. that can be put away
and not used for a few weeks should be.

Otherwise, all exposed clothing, linens, hair
brushes, hair clips, etc. should be washed in hot
soap and water. If able, drying the cleaned items

B B B B

Scabies



Scabies



Scabies



Scabies

B B B B

Direct Contact

B B B

R B B B B B B B
school, etc.) pose a greater risk because of the amount of potential exposure.

u B B B B B greatly
increases the risk of spread.

"Fomites"

Indirect Contact

i.e., Sharing clothing, linens, bedding, furniture, etc.

Scabies

Diagnosis

Sometimes diagnosed based on examination

B B B B B
B B B B

Scabies Mite

Scabies Eggs

Scybala

"Fecal Pellets"



Scabies

Treatment

Most treatments are topical.

Lindane Lotion (Kwell®) and *Permethrin 5% Cream (Elimite®)* are the most common.

Lindane Lotion has some safety issues (such as potential neurotoxicity) and is **generally not used in children**.

Permethrin 5% Cream is used *far* more often.

Either product is applied throughout the entire cutaneous surface (from the neck down) at bedtime.

u B B B B B B B B B B
B B B B B B

Scabies

Treatment

Most treatments are topical.

Precipitated Sulfur 5-10% is another (rare) option.

Usually reserved for use in babies and pregnant females (because of safety reasons).

Its effectiveness is not as well established as either *Lindane* or *Permethrin*.

It smells and can be messy to apply.

Regimens vary, but one option is to apply it for 8 hours/day x 3 days in a row.

Scabies

Treatment

Ivermectin (Stromectol®) is now available for systemic treatment.

Dosage is based on body weight.

B B B B B B B
uB B B B B B B B
B B B B B B

know it by the brand name (Stromectol®).

Don't tell
patients it's a
heartworm
medicine!



Scabies

Prevention

Initial Infestation

Avoid direct or indirect contact with infected individuals.

Unfortunately, most with Scabies suffer for weeks, if not months, before they get diagnosed and treated, thereby exposing it to many of those around them!

Scabies

Prevention

Recurrent Infestation

A B Bu B B

All infected individuals within a given family or social circle MUST be treated simultaneously.

Many dermatologists even recommend that asymptomatic members of the same household undergo treatment, since it can take 4-6 weeks before an infection becomes symptomatic!

Scabies

Prevention

Recurrent Infestation

Scabies mites can survive off of the body for only 2-3 days at most.

Clothing, towels, and linens that *have been used in the past few days, and will be used again in the next few days* should be washed in hot soap/water and (if able)

B B B B B B B B B B
night of treatment or the very next day.

Otherwise, **clothing, towels, and linens that have been in the closet or hamper for weeks do not pose a risk.**

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Scabies

Prevention

Recurrent Infestation

If patients treat topically, they need to be sure to apply the cream or lotion everywhere!

One of the more common reasons for topical treatment failure is from the patient not treating

B B B B B

e.g., Scabies mites (and their eggs) can even collect beneath the fingernails!

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CONCLUSION

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Autoimmune Conditions

Autoimmune Conditions

Autoimmune skin diseases are some of the most complicated (and misunderstood) conditions that we treat in dermatology!

As a member of the clinical support staff, you

B B B

Understanding of the autoimmune disease process.

Familiarity of the most common conditions.

Autoimmune Conditions

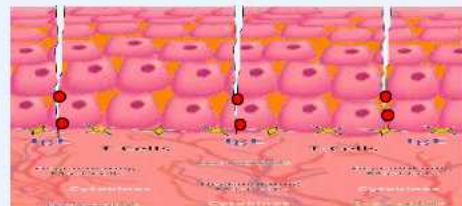
Definition

Diseases which result from the body mistakenly directing an immune response against its own tissue.

"Normal" Bmmune Bunction...

ANIMATION ON SLIDE WHICH ISN'T REPRESENTED IN PDF!

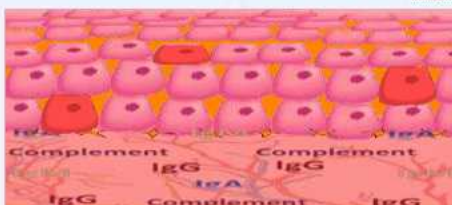
Inflammation should only occur in response to a "foreign threat" such as bacteria, viruses, parasites, etc.



"Cbnormal" Bautoimmune) Bunction...

The immune system mistakenly identifies the patient's own cells or naturally-occurring substances as a "foreign threat".

ANIMATION ON SLIDE WHICH ISN'T REPRESENTED IN PDF!



Autoimmune Conditions

Most autoimmune conditions have the potential to affect multiple organ systems.

e.g., the bones, lungs, heart, kidneys, etc.

Rheumatology is the specialty of medicine which

B B B B B

involvement.

Dermatology plays an active role in the treatment of patients whose autoimmune activity is limited to their skin.

Autoimmune Conditions

With regard to those autoimmune conditions which affect the skin, the primary factor which

The “site” of inflammation!

In Bullous Pemphigoid...

uw r -w 'uw r A t '

ANIMATION IS IMPOSSIBLE TO REPRESENT IN PDF!

THE EPIDERMIS SEPARATES FROM THE DERMIS

Complement IgG Complement IgG Complement IgG Complement IgG

In Bullous Pemphigoid

uw r -w 'uw r A t '

THE EPIDERMIS SEPARATES FROM THE DERMIS

Bullous Pemphigoid

x B pemphigus...

“DECOMPOSITION”
INFLAMMATION
(The “Glue” Between The Keratinocytes)

ANIMATION IS IMPOSSIBLE TO REPRESENT IN PDF!

THE KERATINOCYTES SEPARATE FROM EACH OTHER

IgA Complement IgG Complement IgG Complement IgG Complement IgG

x B



THE KERATINOCYTES SEPARATE FROM EACH OTHER

Pemphigus Vulgaris

x B pus...

The cells themselves become the target of inflammation!
ultraviolet light is a common trigger.

ANIMATION IS IMPOSSIBLE TO REPRESENT IN PDF!

IgA Complement IgG Complement IgG Complement IgG Complement IgG

x B&

The cells themselves become the target of inflammation.
ultraviolet light is a common trigger.



Discoid Lupus (DLE)

aka "Chronic Cutaneous Lupus Erythematosus"

x B&

The cells themselves become the target of inflammation.
ultraviolet light is a common trigger.



Lupus "Butterfly Rash"

Autoimmune Conditions

B B B

Dermatomyositis

Can affect both muscles and the skin.

R B B B(B Bm

UV light is a trigger for cutaneous involvement.

Morphea

Epidermolysis Bullosa Acquisita (EBA)

B B B B B B B B

the epidermis to the dermis is affected.

Autoimmune Conditions

B

B

"Gottron's
Papules"

Dermatomyositis

Can affect both muscles and the skin.

R B B B(B Bm

UV light is a trigger for cutaneous involvement.

Morphea

Epidermolysis Bullosa Acquisita (EBA)

B B B B B B B B

the epidermis to the dermis is affected.

Dermatomyositis

Autoimmune Conditions

B B B "

Dermatomyositis

Can affect both muscles and the skin.

R B B B(B Bm

UV light is a trigger for cutaneous involvement.

Morphea

Epidermolysis Bullosa Acquisita (EBA)

B B B B B B B B

the epidermis to the dermis is affected.

Morphea

Autoimmune Conditions

B

B

B

"

Dermatomyositis

Can affect both muscles and the skin.

R B B B(B Bm

UV light is a trigger for cutaneous involvement.

Morphea

Epidermolysis Bullosa Acquisita (EBA)

B B B B B B B B

Epidermolysis Bullosa Acquisita (EBA)

Autoimmune Conditions

Diagnosis

Definitive diagnosis requires testing.

Biopsy

H&E Stain

B B Hematoxylin & E

This the most common type of biopsy performed.

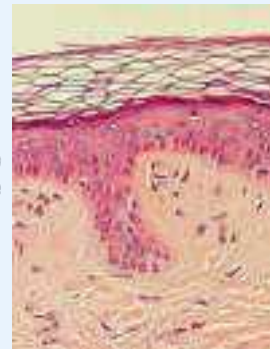
Direct Immunofluorescence (DIF)

Highlights the level and type of immune cell activity within the tissue specimen.

B B' B B

© 2012 Association of University Dermatology Societies

Hematoxylin
provides the
dark color.



Eosin provides
the "reddish"
color.

H & E Biopsy Stain

Autoimmune Conditions

Direct Immunofluorescence (DIF)

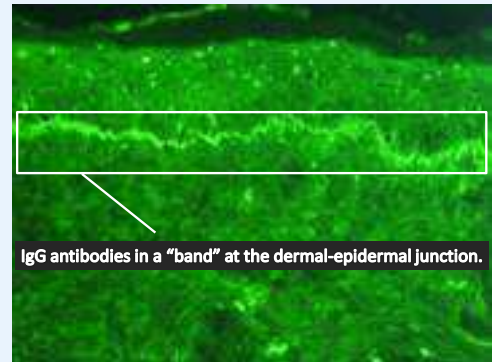
Processed in a different medium than H&E biopsies.

If your SP performs a DIF, you must place the specimen in the appropriate bottle, or else it will be ruined!

Some labs will ask that DIF specimens remain refrigerated until processed.

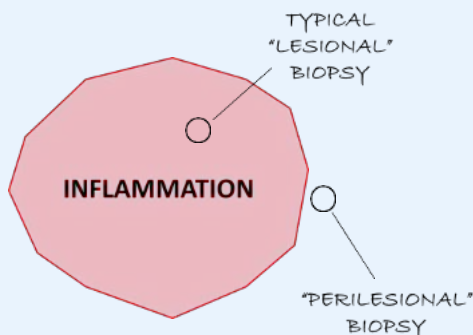
8 B B B perilesional B

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IgG antibodies in a "band" at the dermal-epidermal junction.

Direct Immunofluorescence (DIF)



Autoimmune Conditions

Diagnosis

Definitive diagnosis requires testing.

Serum Antibodies

Antinuclear Antibody (ANA) Test

"AGAINST"

"THE NUCLEUS"
(of our own cells)

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Autoimmune Conditions

Diagnosis

Definitive diagnosis requires testing.

Serum Antibodies

Antinuclear Antibody (ANA) Test

(B B B B

If positive, the lab can provide us with a *titer*.

The titer is generally not considered significant

B ~~but~~ *at least* 1:40.

"one drop of serum"

"still has visible antibodies
after being diluted 40 times"

© 2012 Association of American Medical Colleges

Autoimmune Conditions

Diagnosis

Definitive diagnosis requires testing.

Serum Antibodies

Antinuclear Antibody (ANA) Test

(B B B B

If positive, the lab can provide us with a *titer*.

The titer is generally not considered significant

B ~~but~~ *at least* 1:40.

» Those with active autoimmune disease usually have
much higher titers (e.g., 1:320 or greater).

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Autoimmune Conditions

Diagnosis

Definitive diagnosis requires testing.

Serum Antibodies

Specific Antibody B

- anti- CB B B
- anti- PB B' B
- anti-Sm B B
- anti-dsDNA
- anti-Centromere
- anti-SCL-70
- Others

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Autoimmune Conditions

Treatment

Those with *systemic* involvement are generally
referred to (and managed by) Rheumatology.

o B B B B

C B B B B B

Especially if UV sensitive, avoidance of UV and daily use of
broad-spectrum sunblock should be encouraged.

uB B B B B B

Avoid excessive friction and/or trauma.

Practice proper skin care (gentle bathing, daily moisturizing, etc.).

Promptly treat any secondary infections.

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Autoimmune Conditions

Treatment

Medications

Goal is always to limit the overactive immune
response!

o B B

Topical steroids and the Non-Steroid Anti-Inflammatories
(i.e., Protopic® and Elidel®) are the most common
treatment.

o B B

Options include Prednisone, Plaquenil®, Methotrexate,
Cyclosporine, and many more!

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CONCLUSION

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Most Common Labs

Most Common Labs

x B B B B B B B
those labs which we order and interpret on a
B B B B B B

The purpose of each lab test.

The most common clinical scenario in which the test is ordered for dermatology patients.

Any important instructions that must be followed in order for it to be successfully processed.

Biopsies

B B B B B B B

H&E Stain

B B Hematoxylin B

This the most common type of biopsy performed.

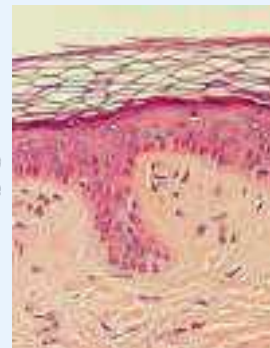
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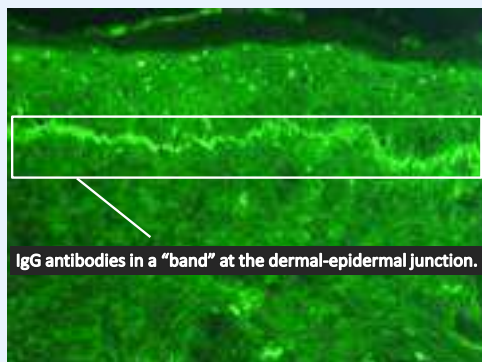
B B' B B

Hematoxylin provides the dark color.

Eosin provides the "reddish" color.



H & E Biopsy Stain



IgG antibodies in a "band" at the dermal-epidermal junction.

Direct Immunofluorescence (DIF)

Biopsies

Direct Immunofluorescence (DIF)

Processed in a different medium than H&E biopsies.

If your SP performs a DIF, you must place the specimen in the appropriate bottle, or else it will be ruined!

Some labs will ask that DIF specimens remain refrigerated until processed.

TEST	RESULT	UNIT	REFERENCE RANGE	UNIT
CBC With Differential/Platelet				
Hgb	9.7	g/dL	12.0-15.0	g/dL
Hct	31.7	%	37.0-47.0	%
Hemoglobin	9.7	g/dL	12.0-15.0	g/dL
Hematocrit	31.7	%	37.0-47.0	%
WBC	14	10 ⁹ /L	4.0-10.0	10 ⁹ /L
NE	79.2	%	37.0-54.0	%
MO	94.4	%	31.0-58.0	%
EO	26.7	%	11.0-15.0	%
Platelets	210	10 ⁹ /L	140-400	10 ⁹ /L
Neutrophils	47	%	40-70	%
Lymph	48	%	20-40	%
Monocytes	4	%	2-10	%
Eos	1	%	1-5	%
Basos	0	%	0-2	%
Neutrophils (Absolute)	1.8	10 ⁹ /L	1.5-7.0	10 ⁹ /L
Lymph (Absolute)	7.8	10 ⁹ /L	0.7-4.0	10 ⁹ /L
Monocytes (Absolute)	0.6	10 ⁹ /L	0.1-1.0	10 ⁹ /L
Eos (Absolute)	0.1	10 ⁹ /L	0.0-0.4	10 ⁹ /L
Basos (Absolute)	0.0	10 ⁹ /L	0.0-0.2	10 ⁹ /L
Immature Granulocytes	0	%	0-1	%
Immature Neut. (Abs)	0.0	10 ⁹ /L	0.0-0.1	10 ⁹ /L

CBC

Complete Blood Count

C

The red blood cells (RBC) and their oxygen carrying capacity.

Hemoglobin (Hgb) and hematocrit (Hct) indicate whether or not a patient is anemic.

The white blood cells (WBC) play a role in our immune system.

Elevation may be a sign of infection.

Decrease may be caused by medicines or illness.

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TEST	RESULT	UNIT	REFERENCE RANGE	UNIT
CBC With Differential/Platelet				
Hgb	9.7	g/dL	12.0-15.0	g/dL
Hct	31.7	%	37.0-47.0	%
Hemoglobin	9.7	g/dL	12.0-15.0	g/dL
Hematocrit	31.7	%	37.0-47.0	%
WBC	14	10 ⁹ /L	4.0-10.0	10 ⁹ /L
NE	79.2	%	37.0-54.0	%
MO	94.4	%	31.0-58.0	%
EO	26.7	%	11.0-15.0	%
Platelets	210	10 ⁹ /L	140-400	10 ⁹ /L
Neutrophils	47	%	40-70	%
Lymph	48	%	20-40	%
Monocytes	4	%	2-10	%
Eos	1	%	1-5	%
Basos	0	%	0-2	%
Neutrophils (Absolute)	1.8	10 ⁹ /L	1.5-7.0	10 ⁹ /L
Lymph (Absolute)	7.8	10 ⁹ /L	0.7-4.0	10 ⁹ /L
Monocytes (Absolute)	0.6	10 ⁹ /L	0.1-1.0	10 ⁹ /L
Eos (Absolute)	0.1	10 ⁹ /L	0.0-0.4	10 ⁹ /L
Basos (Absolute)	0.0	10 ⁹ /L	0.0-0.2	10 ⁹ /L
Immature Granulocytes	0	%	0-1	%
Immature Neut. (Abs)	0.0	10 ⁹ /L	0.0-0.1	10 ⁹ /L

CBC

Complete Blood Count

Most often ordered to ensure that a

B B B B B B B
B B B

e.g., for those on Isotretinoin, MTX, Dapsone, etc.

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Lipid Panel

aka Lipid Profile

Evaluates cholesterol and triglycerides.

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Component Results

Component	Your Value	Standard Range	Units	Flag
Total cholesterol	133	<200	mg/dL	
Reference Range, Cholesterol, Total				
Desirable: <200 mg/dL				
Borderline: 200-239 mg/dL				
High: >240 mg/dL				
Triglyceride	143	<150	mg/dL	
HDL cholesterol	48	>40	mg/dL	
LDL Calculated	99	<130	mg/dL	
LDL CHOLESTEROL CLASSIFICATION				
≤100 mg/dL Optimal				
100-129 mg/dL Near or above optimal				
130-159 Borderline high				
160-189 High				
>189 Very high				
Cholesterol to HDL Ratio	2.8	<5.0		

Lipid Panel

aka Lipid Profile

Primarily ordered when monitoring treatment

B B B B B Retinoids

i.e., Isotretinoin and Acitretin

BgB C BqC ! r B B cg B B

PROVIDE THE MOST ACCURATE RESULTS!

Generally defined as avoiding any calorie-containing food or drink for 8-12 hours beforehand.

Water and/or a cup of black coffee is OK, though.

Hepatic Function Panel

aka Liver Function Tests (LFTs)

Provides measurements that might indicate the presence of inflammation or compromise of ones hepatic function.

Parameters	Reference values
Total protein (g/L)	60-80
Albumin (g/L)	33-45
AST (U/L)	< 35
ALT (U/L)	< 45
ALP (U/L)	54-128
Total bilirubin (μmol/L)	0.0-14
Conjugated bilirubin (μmol/L)	0.0-1.4

Hepatic Function Panel

aka Liver Function Tests (LFTs)

Any number of medications might require monitoring of the hepatic function.

Isotretinoin, (B B B B B B B B B B common examples.

Serum Potassium

B(B

(B B B B B B B B B blood stream.

The main function that K⁺ serves in our body is in the transmission of electrical signals between our nerves and muscles.

Evaluated in the monitoring of Spironolactone treatment.

BUN/Cr

aka BUN/Creatinine

BUN

Stands for Blood Urea Nitrogen.

C B BP-U-)

Results from protein digestion.

Creatinine

Results from muscle breakdown.

Both are normally filtered as a part of healthy kidney function.

Together, they essentially provide an

B B B B B

BUN/Cr

aka BUN/Creatinine

The most common reason for checking the BUN/Creatinine is with the management of certain medications.

e.g., Both Cyclosporine and MTX have the potential
B B B B B B P) R B B
usually monitored.

Comprehensive Metabolic Panel

BS

u B B - B
u B B B B B B B B
described (such as BUN, Creatinine, Potassium, and liver enzymes).
B B B B B B R(B B B
order the previously mentioned tests individually.
Just know that if your supervising physician orders
BR(B other tests, make sure that those
other tests B B B B BR(

Hepatitis Panel

Detects the presence of antibodies against Hepatitis A, B, and C.

Provides an indication of whether a patient has been infected (or vaccinated).

NOT THE SAME AS HEPATIC FUNCTION PANEL!

: B B B B B B B

Almost exclusively drawn for screening patients

B B B B B B B B

Sometimes for MTX patients as well.

hCG

B B

Stands for **human chorionic gonadotropin**.

There are a few variations of hCG tests

R B B B B B B B B
B B BCG

There are two types of serum hCG

Qualitative

» B B B B B)

Quantitative

» Provides a specific hCG quantity.

HCG LEVELS IN NORMAL PREGNANCY	
Weeks Of Pregnancy	HCG level mIU/ml
1	5-50 (Average=14)
2	5-50 (Average=21)
3	5-50 (Average=42)
4	10-425
5	19-7340
6	1080-56500
7-8	7650-229000
9-10	25700-288000
13-16	13300-254000
17-24	4060-165400
24-40	3640-117000

Bacterial Culture

Works by applying a swab to the infection site and then sending that swab to the lab where

B B B B B B

Usually takes 5-7 days to get the full results.

B B B B

Aerobic Bacterial Culture

Bacteria which thrive in oxygen-rich environments.

Anaerobic Bacterial Culture

Bacteria which prefer low-oxygen environments.

MOST COMMON!



Bacterial Culture

Works by applying a swab to the infection site and then sending that swab to the lab where

B B B B B B

Usually takes 5-7 days to get the full results.

B B B B

Bacterial Culture (Alone)

Simply identifies any bacteria which are present.

Bacterial Culture & Sensitivity (C & S) — MOST COMMON!

Identifies bacteria and their sensitivity to antibiotics.

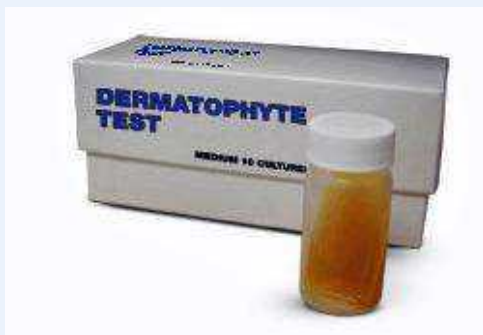
Fungal Culture

Ba

DTM stands for **dermatophyte** B

Performed by applying a sample (e.g., toenail clipping or skin cell scraping) to the test medium.

Helpful when a KOH prep is negative, but it can take weeks before the results are available.



Potassium Hydroxide Prep

B(u

Performed by gently scraping cells on to a slide and then applying KOH and a cover slip.

The potassium hydroxide helps to dissolve the keratin protein in the cells, thereby allowing for easier visualization of hyphae.

Helpful for traditional fungal infections (e.g., Tinea Pedis, Tinea Corporis, etc.) as well as Candida and even Tinea Versicolor.



Wet Mount

B B B B B

Performed by the same process as the KOH prep, except that another fluid (e.g., mineral oil or saline) is used instead of potassium hydroxide.

Most commonly performed for evaluation of Scabies, though many docs will now simply use a KOH prep for all such slide examinations.



ANA

ANA stands for *antinuclear antibody*.

(B B B

You must indicate the extent of testing that you wish to have performed!

ANA (Alone)

B B B B

ANA w/ Titer

Most Doctors Want This One!

A titer will also be performed if positive.

PAS Stain

PAS stands for **B** -schiff .

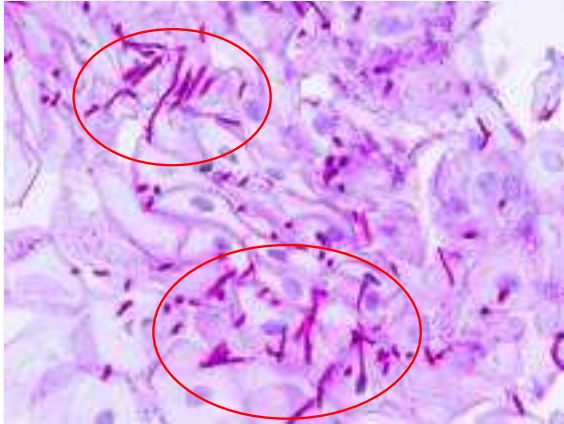
Type of a staining technique used by the lab.

Performed by sending a tissue specimen (e.g., toenail clipping) to the lab and

B B B C B

Provides a much faster result than a DTM culture.

Most often used to confirm Onychomycosis.



V58.69

When labs are ordered, an accompanying ICD code must indicate the reason for the lab.

u B B B B B B B B
B B B B B B B

requiring labwork.

B B B B B B B

V58.69

ICD code which indicates to the lab (and insurance) that the labs are being performed because the

B B B B - B

CONCLUSION

Most Common Procedures

PART I

PLEASE NOTE

This module incorporates a number of video procedure demonstrations embedded from "YouTube".

Most participating in our program are quite familiar with how these procedures are performed. Watching the demo videos is voluntary and is simply intended as an introduction for those who are new to dermatology.

If your office internet utilizes a "filter" which prevents access to sites such as "YouTube", then access to the demo videos may be limited at your workplace.

Most Common Procedures

x B B B B B

The most common dermatology procedures.
The most common surgical instruments used.
Suture sizes and variations.

Cryosurgery

The most common procedure performed in dermatology clinics throughout the country.

Performed with *liquid nitrogen* B')

(B B B B B B applied with a cotton-tipped applicator).

Temperature is -320.4°F (-195.8°C)!

C B B B B B B B B

Must be stored in a specialized tank called a *dewar*.

! B B B B B B B B container, the expanding gas could cause it to explode!

Cryosurgery

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Cryosurgery

Most primary care doctors **do not** use LN2.

More likely to use products like Histo-Freezer®
B B B B B -Away®).

Contains *dimethyl ether/propane* which can be stored
in a closed container.

u B B B B B57°C.

Sometimes necessary to point this out to patients

B B B B B B B
B B B B



Cryosurgery

c B BB B B B
the affected tissue.

Halts circulation to the affected cells.

Induces intracellular crystal formation.

Ruptures cell membranes.

Cryosurgery

B B

It hurts!

(B B B B B B B

B B B B

If the freeze penetrates down to the level of the melanocytes, it can
cause hypopigmented scarring.

Sites turn red and sometimes make a blister.

H B B B B B B

Treatment sites usually turn dark in the following days to weeks,
and eventually affected tissue is sloughed away.

B B B B B B B B B



Biopsy

Procedure in which a **sample** of tissue is obtained for laboratory examination.

The two most common methods of obtaining tissue samples are via *punch biopsy* and *shave biopsy*.

Biopsy

Punch Biopsy

Utilize a tool which we often describe to patients as

B B B -

Essentially a circular blade which is available in a variety of sizes (most common being 3-4 mm).

Primary Advantage

B B B BB - B

Primary Disadvantage

P B B BB - B B B
wound usually requires suture closure.

Some will insert Gelfoam® into the wound instead.



Biopsy

Shave Biopsy

B B B B B B B B
for the lab to evaluate.

Primary Advantage

No suturing is required.

More convenient and more cost-effective.

Primary Disadvantages

Because no suture, hemostasis (control of bleeding) is sometimes more difficult.

If the shave were to go very deep, it could result in a

B B B





Electrodesiccation & Curettage

8 B B BR X B BcX R

B

Curette

Round, beveled loop which is sharp on one side.

B B B B B B B B
B B B B B B

Electrocautery

C B B B B B B

DESICCATE

Electrodesiccation & Curettage

8 B B BR X B BcX R

B

Curette

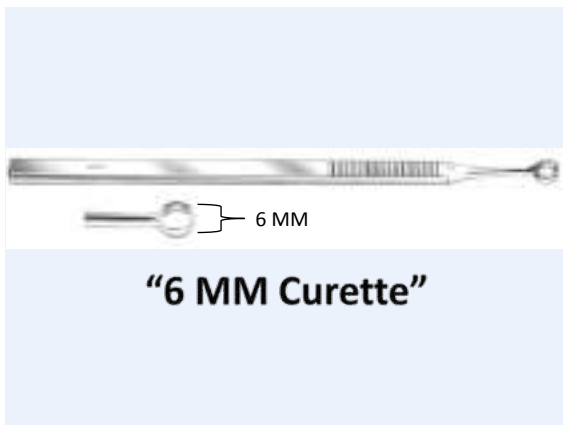
Round, beveled loop which is sharp on one side.

B B B B B B B B
B B B B B B

Electrocautery

C B B B B B B

C B B B





Electrodesiccation & Curettage

Primary Advantage

Quick and easy.

Some dermatologists will perform at same time as biopsy.

Ideal for places where excision might be more prone to

B B B

No suture removal required.

Primary Disadvantages

Not appropriate for all skin cancers (or locations).

Generally results in a *round hypopigmented scar* which some may find unsightly.

B B B B B B B

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Shave Removal

Procedurally speaking, it is very similar to the

B B

The very same technique can be called a shave biopsy or shave removal (can be confusing).

SHAVE BIOPSY

I B B B B B B B B B

is unlikely to have provided definitive (final) treatment.

SHAVE REMOVAL

C B B B B B B B B B

no further treatment should be needed in the future.

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Excision

u B B B B B B B

effort to **remove it in its entirety.**

B B - B B B B B B

subcutaneous fat).

B B B B B B B

together) the wound edges for healing.

aka Healing by **primary intention.**

Sometimes the wound is instead left open and allowed to

B B

aka Healing by **secondary intention.**

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Excision

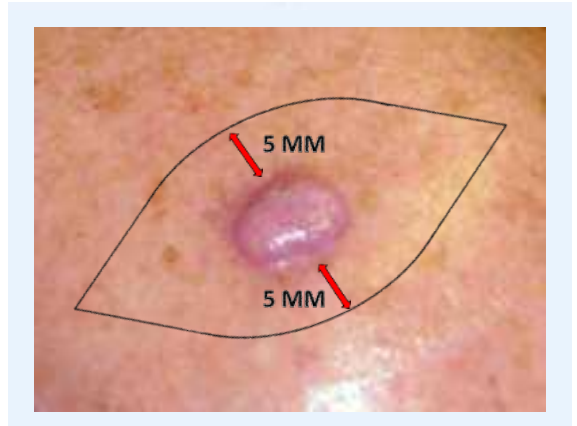
Most often performed for the treatment of skin

B B B B B

Margins are usually taken.

Area of seemingly healthy tissue around the lesion is also removed so as to ensure that all of the lesion has been removed in its entirety.

u B B B B B - B B
B B B B B B B B



...continued in Part II

Most Common Procedures

PART II

Mohs Surgery

Like traditional excision, involves “cutting out” a lesion in an effort to remove it in its entirety.

However, there are some significant differences
B

The physician performing the excision also performs the pathology examination of the tissue specimen at the time of the surgery.

Allows the dermatologist to remove the smallest possible margin of healthy/uninvolved surrounding tissue.

Patients don't have to wait for the “peace of mind” that all the skin cancer has been removed.

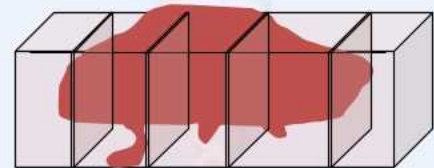
Mohs Surgery

Like traditional excision, involves “cutting out” a lesion in an effort to remove it in its entirety.

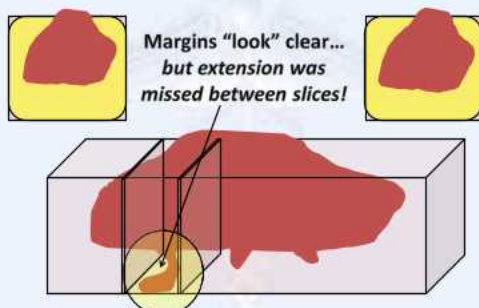
However, there are some significant differences
B

The tissue specimen is evaluated in a manner which is different (and more thorough) than usual!

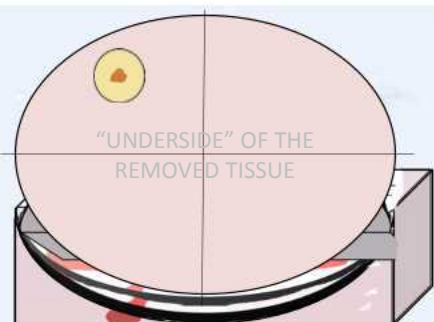
It's the primary reason that Mohs surgery offers the highest cure rates (up to 99.8%).



Traditional evaluation involves taking random “bread loaf” slices.



Traditional evaluation involves taking random “bread loaf” slices.



Mohs surgery pathology evaluation exposes the entire border of the removed tissue specimen.

Mohs Surgery

PRIMARY DISADVANTAGES

Not everyone performs Mohs surgery.

Much more expensive than traditional excision.

Only indicated for (and insurance may only cover) certain specific types of skin cancers in certain locations.

Often takes much longer to perform.

Whereas traditional excision may take 45 minutes to an hour, Mohs surgery may take many hours!

ASMS VIDEO

Video Courtesy of

[American Society for Mohs Surgery](#)

Incision & Drainage (I&D)

Most often used to treat inflamed cysts/abscesses.

Involves incising the abscess in an effort to relieve pressure and promote drainage of the underlying blood, pus, and keratin debris.

! B B B B B B B B
derm have the hardest time getting used to!



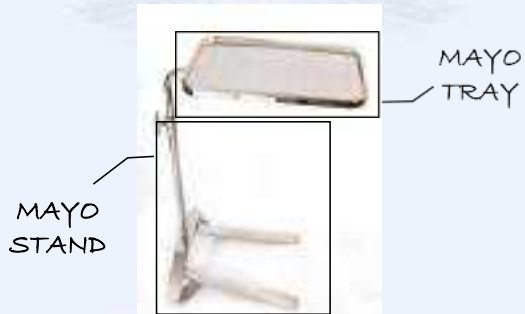
Instruments Review

Instruments

For those of you with dermatology experience, you're probably familiar with the name and purpose of the various instruments.

For those of you “new” to dermatology, hopefully this will provide you with a preview of what you’ll be working with!

Mayo Stand/Tray



Needle Driver



aka "Suture Driver" or "Needle Holder"



Forceps



Hemostats



Scissors



Scissors



"Iris Scissors"

Scissors



"Suture Removal Scissors"

Scissors

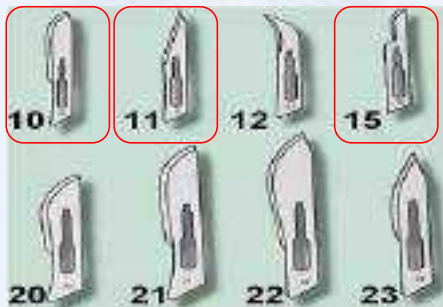


"Bandage Scissors"

Scalpel (Blade) Handle



Scalpel Blades



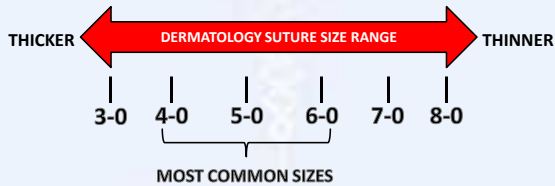
Sutures

Sutures

Several factors help to distinguish the various

B B B

SUTURE SIZE



Sutures

Several factors help to distinguish the various

B B B

SUTURE MATERIAL

"Absorbable"

e.g., Vicryl, PDS, etc.

Typically placed "within" the skin *in addition to* overlying "non-absorbable" sutures.

Made of material which *should* be absorbed naturally.

» When it's not absorbed, a B Results.

"Non-Absorbable"

e.g., Nylon, Silk, Prolene, etc.

Placed on "outside" and need to be later removed.

Sutures

Several factors help to distinguish the various

B B B

SUTURE NEEDLE TYPE

Cutting Edge

e.g., FS-2 "Reverse Cutting Edge" 

Arc Length

 3/8 CIRCLE  1/2 CIRCLE

Overall Needle Length

 13 MM  19 MM

Sutures

Several factors help to distinguish the various

B B B

SUTURE NEEDLE TYPE

The most common needles used in dermatology are the P-3, FS-2, and PS-2.

[CLICK HERE](#) to see the Ethicon® needle selection chart.

CONCLUSION

Principles of Cosmetic Dermatology

Principles of Cosmetic Dermatology

Those with extensive **clinical** dermatology

B B B B B B

needs of **cosmetic** dermatology patients!

x B B B B B

Define the changes seen in aged/damaged skin.

Explain why these changes occur.

Review how the various cosmetic products and procedures used in dermatology specifically address the needs of our patients.

Principles of Cosmetic Dermatology



Changes seen in aged/damaged skin...

- Lines and wrinkles.
- Loss of "fullness".
- Irregular surface texture.
- Irregular surface tone.

All products and procedures work by addressing one or more of these four changes!

Principles of Cosmetic Dermatology



Changes seen in aged/damaged skin...

- Lines and wrinkles.
- Loss of "fullness".
- Irregular surface texture.
- Irregular surface tone.

All of these changes are influenced by the same underlying process!!

Principles of Cosmetic Dermatology

All components of our body have a natural life cycle (on average ranging from only a few days to a few months).

B B B B B B B B

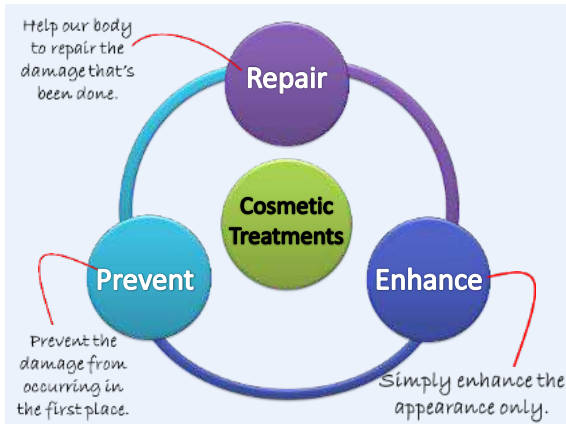
our body is constantly repairing and replacing every living cell which has either been damaged or reached the end of its natural life cycle.

The **imperfect repair and replacement** B B B living cells - and the substances which support that life - B B B B B

At least as far as our skin goes!



THE "REPAIR & REPLACEMENT" PROCESS



While *preventative measures* don't rebuild damaged tissue, they can decrease the burden which might otherwise be encumbering the body's own natural "regenerative potential".

Therefore, *preventative measures* can enable the body to repair and replace its own tissue, to the extent that the patient's "regenerative potential" is strong enough to do so.

Principles of Cosmetic Dermatology

Lines & Wrinkles

B B B B Rhytid

Occur when the skin has been stretched beyond, but then fails to return to, its original state.

DYNAMIC COMPONENT

Due to underlying muscle contraction.

STATIC COMPONENT

Persists independent of any underlying muscle contraction.



Principles of Cosmetic Dermatology

Lines & Wrinkles

Dynamic Rhytids

X B B B

Treated w/ Botulinum toxin

Toxin produced by *Clostridium botulinum*.

Injected into the affected muscle where it prevents the release of *acetylcholine* (the neurotransmitter that enables muscle contraction).

Effects last for approximately 3 months.

NO BACTERIA IS WITHIN THE INJECTIONS!!

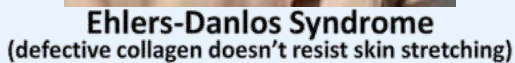


Lines & Wrinkles

Occurs because of imperfect "repair and replacement"

Collagen

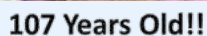
Elastin



Lines & Wrinkles

The reason **prevention** is so important!

C B B B B ~~B~~smoking).



Lines & Wrinkles

Otherwise



Principles of Cosmetic Dermatology

Lines & Wrinkles

Static Rhytids Treatment

Procedures

In order for a treatment to provide any significant improvement, it **must** target the dermis!

Deep Chemical Peels (e.g., TCA Peels)
Laser Resurfacing (e.g., CO2 Laser)

Principles of Cosmetic Dermatology

& B Bo

Occurs because of atrophy of the subcutaneous fat and decreased **extracellular matrix**.

Collagen
Elastin

Also degrades because of imperfect "repair and replacement"!

Glycosaminoglycans

Provide much of the volume within the dermis and especially help to retain moisture.

Principles of Cosmetic Dermatology

& B Bo

Treatment

Prevention

UV avoidance and sunscreen use.

Avoidance of (e.g., smoking).

Topical retinoids can help to decrease the enzymes which

Principles of Cosmetic Dermatology

& B Bo

Treatment

Replacement

Hyaluronic Acid Fillers

Include products like Restylane®, Juvederm®, and others. Injected *into* the skin where they replace lost extracellular matrix volume.

» Sometimes used to provide volume that was never there in the first place!

Naturally reabsorbed over time and repeat treatment is necessary in order to maintain the results.

Applying HA topically does NOT increase the levels within the skin!

Principles of Cosmetic Dermatology

Irregular Surface Texture

causes scaling!

We must first rule out rashes (e.g., Seb Derm) and lesions (e.g., AKs, SKs, or even skin cancer) as the cause of irregular surface texture.

The result of imperfect "repair and replacement" over the years!

Irregular surface texture is the result of aged/damaged skin when the patient was younger.

Uniformity and normal moisture retention is lost.

Principles of Cosmetic Dermatology

Irregular Surface Texture

Treatment

Prevention

UV avoidance and sunscreen use.

Avoidance of B B (e.g., smoking).

B B B B

Principles of Cosmetic Dermatology

Irregular Surface Texture

Treatment

Proper Moisturizing

Studies consistently show that the moisturizer base of products often provides just as much (if not more) benefit as the active ingredients themselves!

Principles of Cosmetic Dermatology

Irregular Surface Texture

Topical Treatments

Normalization

The process of returning the keratinocyte growth and life

B B B B B

Keratinocytes make their way to the surface more rapidly so that the outer epidermis is instead covered with younger, healthier, and more uniform cells.

B B

Retinoids

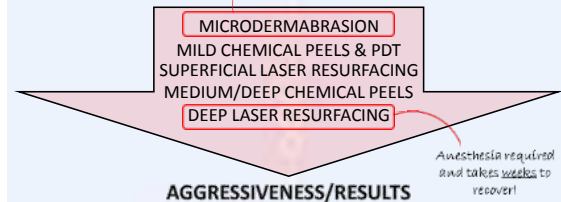
Alpha/Beta Hydroxy Acids

Principles of Cosmetic Dermatology

Irregular Surface Texture

Procedures

Resurfacing



Principles of Cosmetic Dermatology

Irregular Surface Tone

B B B B B

Melanin

The most significant contributor.

Keratin

Vascularity

Other Factors

Treatment depends on the source of the color!



Acanthosis Nigricans

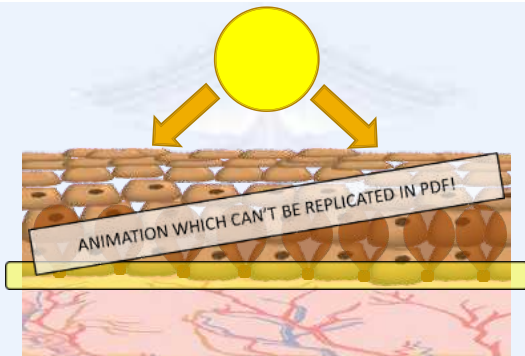
(excess keratin within thickened epidermis makes skin darker)



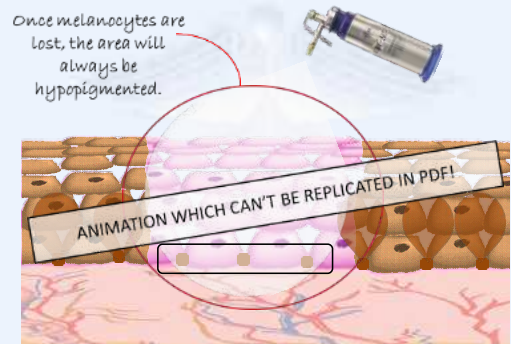
Seborrheic Keratosis
(dark color is primarily due to keratin)



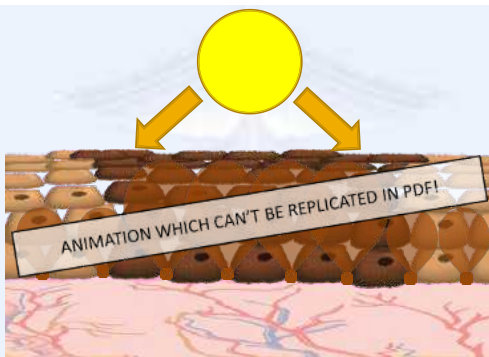
Poikiloderma of Civatte
(network of telangiectasias and hypermelanosis)



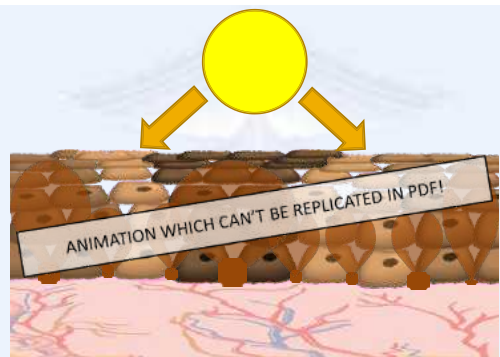
Normal Melanin Distribution



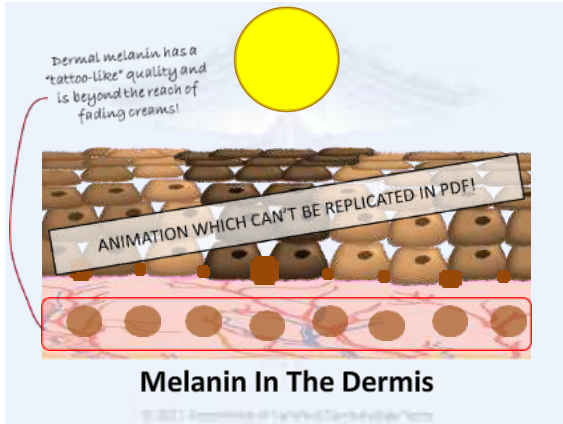
Cryosurgery-Induced Hypopigmentation



Hyperpigmentation of Melasma



Chronic Sun Damage



Principles of Cosmetic Dermatology

Irregular Surface Tone

Treatment

Prevention

UV avoidance and sunscreen use.

Avoidance of B (e.g., smoking).

Use of B B

Retinoids B B B B B B in a timely manner (w/ less time for melanin uptake).

Principles of Cosmetic Dermatology

Irregular Surface Tone

Treatment

Hyperkeratosis

q B B B B

Instead, *keratolytics* (i.e., Urea, Glycolic Acid, etc.) or even cryosurgery (depending on the problem).

Principles of Cosmetic Dermatology

Irregular Surface Tone

Treatment

Vascular

Vascular Laser

Intense Pulsed Light (IPL)

Principles of Cosmetic Dermatology

Irregular Surface Tone

Treatment

Melanin (Epidermal)

Fading Creams (i.e., Hydroquinone and/or Kojic Acid)

Alpha and Beta Hydroxy Acids

Resurfacing (e.g. Microdermabrasion, Chemical Peels, etc.)

Laser (e.g., Q-switched Ruby, Alexandrite, Pulsed Dye, etc.)

IPL

Principles of Cosmetic Dermatology

Irregular Surface Tone

Treatment

Melanin (Dermal)

~~Fading Creams (i.e., Hydroquinone and/or Kojic Acid)~~

~~Alpha and Beta Hydroxy Acids~~

~~Resurfacing (e.g. Microdermabrasion, Chemical Peels, etc.)~~

Laser (e.g., Q-switched Ruby, Alexandrite, Pulsed Dye, etc.)

IPL

Principles of Cosmetic Dermatology

CB B B

Take advantage of treatments which provide the widest range of benefits.

Sunscreen

Retinoids

Antioxidants

u B B B B B B B B B B
B B B B B

Always look for studies which **prove** the benefits of a given treatment rather than simply trusting what the sales rep says!

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Principles of Cosmetic Dermatology

CB B B

Always try to find out **specifically** what the patient is trying to improve.

Never promise unrealistic results!

Recognize where the abilities of dermatology end and those of plastic surgery begin.

"RECIPE FOR DISGRUNTLED PATIENT"

ADD ONE COSMETIC SERVICES PATIENT TO A HANDFUL OF UNREALISTIC EXPECTATIONS

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CONCLUSION

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