Learning Objectives

1. Summarize the AAFP Core Educational Guidelines – Conditions of the Skin.
2. Recognize many of the dermatologic entities included in the curriculum guide, including but not limited to: psoriasis, tinea corporis, tinea versicolor, herpes zoster, toxicodendron dermatitis, scabies, acne vulgaris, rosacea, molluscum contagiosum, genital warts, basal cell carcinoma, seborrheic keratosis and malignant melanoma.

References

- Charles M. Phillips, MD
  – Dept. of Medicine, Brody School of Medicine
- Richard P. Usatine, MD
  – Dept. of Family Medicine, UTHSCSA
- Clinical Dermatology
  – Thomas Habif
    • 5th Edition, 2009
- Centers for Disease Control & Prevention
  – Sexually Transmitted Diseases Division

AAFP Core Educational Guidelines – Conditions of the Skin

- American Family Physician Vol 60 #4
  Sept. 15, 1999
- Curriculum guide for dermatologic entities that family physicians should be familiar with

Primary Lesion Types

- Macules
- Papules
- Nodules

Primary Lesion Types

- Plaques
- Pustules
- Vesicles/Bullae
Primary Lesion Types

- Wheals
- Scales
- Crusts

Primary Lesion Types

- Erosions/Ulcers
- Fissures/Atrophy
- Scars

Case # 1

A 45 y/o male presents with a chronic rash that is present over his knees and elbows

1. Which of the following represents the most likely diagnosis?
   A. Tinea corporis
   B. Psoriasis
   C. Discoid lupus erythematosus
   D. Localized ichthyosis

1. Which of the following represents the most likely diagnosis?
   - A. Tinea corporis
   - B. Psoriasis
   - C. Discoid lupus erythematosus
   - D. Localized ichthyosis
Plaques & Scales

- Psoriasis
- Chronic cutaneous (discoid) lupus
- Tinea corporis
- Paget's disease
- Lichen planus
- Cutaneous T-cell lymphoma

Discoid Lupus

- Eczema
- Pityriasis rosea
- Secondary syphilis
- Bowen's disease
- Ichthyosis

Tinea Corporis

Image courtesy of CDC

Pityriasis Rosea

Image courtesy of Wikipedia/James Heilman, MD

Ichthyosis

Image courtesy of Wikipedia

Bowen's Disease

Image courtesy of Wikipedia
Psoriasis

- Oval, erythematous, plaque-like lesions
- Can develop at sites of trauma
- Often involves extensor surfaces
  - Elbows, knees & scalp
- Pitting fingernails
- Associated with asymmetric polyarthritis

Psoriasis – Types

- Chronic plaque psoriasis
- Guttate psoriasis
- Pustular psoriasis
- Erythrodermic psoriasis

Psoriasis – Treatment

- < 20% of body involved
  - Topical corticosteroids
  - Calcipotriene (Dovonex)
    - Vitamin D3 analog
  - Tazarotene (Tazorac)
  - Anthralin (Anthra-derm)
  - Tar
  - UVB
  - Intralessional steroids

Psoriasis – Treatment

- > 20% of body involved (phototherapy)
  - UVB
    - Broad band, narrow band (II-III, B-C)
    - +/- topical, systemic, biologic agents
  - PUVA
    - Ultraviolet + psoralen (IA)
    - +/- topical, systemic, UVB (II-III, B-C)
  - Excimer laser (IIB)

Psoriasis – Treatment

- Severe recalcitrant disabling (FDA approved)
  - Methotrexate (eg, Rheumatrex) (IIB)
    - Gold standard
  - Acitretin (Soriatane) (IIB)
    - Plaque type
  - Cyclosporine (eg, Sandimmune) (IIB)
Case # 2

A 65 y/o woman presented with this painful rash on her face.

2. Which of the following therapeutic modalities would be most beneficial?

- A. Topical triamcinalone 0.1% cream (eg, Kenalog)
- B. Acyclovir (eg, Zovirax)
- C. Silver sulfadiazine (Silvadene)
- D. Diphenhydramine (Benadryl)

Bullous Lesions

- Herpes simplex
- Herpes zoster
- Impetigo
- Dermatitis herpetiformis
- Burns
- Bullous pemphigoid
- Pemphigus vulgaris

Bullous Pemphigoid

- Erythema multiforme
- Porphyria cutanea tarda
- Fixed drug eruptions

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Herpes Zoster (Shingles)

- Varicella-zoster virus
- Reactivation of latent infection
- 10-20% lifetime incidence
- Generally involves skin of a single dermatome
- Pre-eruptive pain, itching, burning (4-5 days)
- Fever, headache, malaise

Herpes Zoster – Subtypes

- Ramsay Hunt syndrome
  - Zoster involves geniculate ganglion
  - Vesicles in mouth or ear
  - Facial weakness similar to Bell’s palsy
  - 8th nerve involvement causes nausea, vertigo, tinnitus & hearing loss

Herpes Zoster – Treatment

- Analgesics
- Wet compresses (Burrow’s Solution)
- Antiviral therapy
  - Acyclovir (eg, Zovirax)
    - 800 mg QID x 7 days
  - Famciclovir (eg, Famvir)
    - 500 mg q 8 hrs x 7 days
  - Valacyclovir (eg, Valtrex)
    - 1 g TID x 7 days
Herpes Zoster – Treatment
• Oral corticosteroids (eg, Prednisone)
  – May decrease pain initially during acute phase
  – Does not reduce subsequent postherpetic neuralgia
• Sympathetic nerve blocks
  – Bupivacaine
  – Must be given within 2 months of onset to be effective

Postherpetic Neuralgia – Treatment
• Narcotic analgesics
• Anticonvulsants
  – Pregabalin (Lyrica)
  – Gabapentin (eg, Neurontin)
• Tricyclics
• Capsaicin

Herpes Zoster Vaccine (Zostavax)
• Contains the same live attenuated varicella virus as Varivax but at a much higher titer of vaccine virus
• Approved by FDA for persons 50 years of age and older
• Recommended by CDC for > 60 y/o
• Regardless of past hx of zoster
• Do not use if immunosuppressed, immunodeficient, pregnant, TB, or allergic to neomycin/gelatin
• Administered by the subcutaneous route

Herpes Zoster Vaccine Efficacy
• Compared to the placebo group, the vaccine group had:
  – 51% fewer episodes of zoster
  – Less severe disease
  – 66% less postherpetic neuralgia
• No significant safety issues were identified
  
  NEJM 2005;352(22):2271-84

Case # 3
• A 23 y/o man presents with an itchy rash on his arm

Image courtesy of Wikipedia
2. What is the most likely etiology of this rash?

A. Poison ivy
B. Staphylococcus aureus (MRSA)
C. Herpes simplex
D. Thorn from a rose (sporotrichosis)

Rhus Dermatitis

- Caused by contact with urushiol (from sap)
- Found in plants from Anacardiaceae family, Rhus genus
  - Poison ivy
  - Poison oak
  - Cashew
  - Mango
  - Ginkgo
  - Japanese lacquer tree

Contact Dermatitis

- Linear lesions
- Vesicles
  - Fluid does not contain resin and won’t spread rash
- Erythema
- May occur within 8 hrs or up to a week after exposure
Rhus Dermatitis – Treatment

- Decontamination within 10 min after exposure
  - Not helpful after 1 hr
- Wet compresses
- Topical corticosteroids
- Systemic corticosteroids
  - Prednisone 20 mg BID x 1 week
  - Prednisone 40-60 mg single dose
- IM steroids
  - Triamcinalone acetonide (Kenalog) 40 mg IM

Case # 4

A 25 y/o male with known HIV infection, who lives in substandard housing, presents with a generalized pruritic rash

4. Which of the following represents the best treatment for this condition?
   A. Prednisone
   B. Hydroxyzine (Atarax)
   C. Permethrin 5% (Elimite)
   D. Triamcinalone 0.1% (Kenalog)

Papules (Pruritic, Erythematous)

- Miliaria rubra
- Atopic dermatitis
- Urticaria
- Insect bites
- Scabies
- Pruritic papular eruption (HIV)
- Pruritic urticarial papules and plaques of pregnancy (PUPPP)
Scabies

- Hypersensitivity reaction to Sarcoptes scabiei
  - Eggs, fecal pellets (scybala)
- Nocturnal pruritis
  - Scratching spreads mites to other areas
- Curved or linear burrows
- Vesicles or small papules
- Pustules indicate secondary infection

Location of lesions
- Finger webs
- Wrists
- Elbows
- Knees
- Buttocks
- Axilla
- Waist
- Breasts
- Genitals
Scabies – Diagnosis

- Locate burrow with felt tip pen ink
- Scrape with #15 curved scalpel blade
- View under mineral oil or KOH

Sarcoptes Scabiei

Images courtesy of Wikipedia

Norwegian Scabies

- Overwhelming infestation
- Crusted lesions
- Not particularly pruritic
- Seen mostly in immunocompromised patients

Scabies – Treatment

- Launder all bedding and clothes worn within 48 hrs in hot water or dry clean
- Treat patient, intimate contacts, and family members in same household

- 5% Permethrin cream (Elimite)
  - Drug of choice
  - Apply below the neck, may repeat in 1 week
- Lindane (eg, Kwell)
  - More toxic, especially in children/pregnancy
- Ivermectin (Stromectol)
  - Effective for Norwegian scabies
- Crotamiton (Eurax)
- Benzyl benzoate 25% lotion
- 6% precipitated sulfur in petrolatum

Case # 5

Images © Dr. Richard P. Usatine
Case # 5

• A 45 y/o woman c/o progressive facial rash. It has not improved with topical benzoyl peroxide

5. The most likely diagnosis in this case is:
   A. Acne vulgaris
   B. Rosacea
   C. Lupus erythematosus
   D. Seborrheic dermatitis

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   A. Acne vulgaris
   B. Rosacea
   C. Lupus erythematosus
   D. Seborrheic dermatitis

Acne Vulgaris

• Androgen mediated disorder of pilosebaceous units
  – Androgens stimulate sebum production and proliferation of keratinocytes
  – Keratin plug obstructs follicle os
  – Propionibacterium acnes proliferates in plugged follicle
  – P. acnes growth produces inflammation

Acne Vulgaris – Treatment

• Comedonal acne
  – Keratolytic agent
• Mild inflammatory acne
  – Keratolytic agent +/- BP/ topical antibiotic
• Moderate inflammatory acne
  – BP/ topical antibiotic +/- systemic antibiotic
• Severe (nodulocystic) acne
  – Isotretinoin

Image courtesy of Wikipedia
Acne Vulgaris – Treatment

Topical keratinolytics
- Tretinoin (eg, Retin-A)
  - start with lowest concentration of cream and advance as tolerated
  - apply hs after washing
  - may cause an initial flare of lesions
  - side effects include erythema, dryness, scaling
- Adapalene (eg, Differin)
  - apply hs after washing
  - better tolerated than tretinoin and equally effective

- Tazarotene (Tazorac)
  - binds to nuclear retinoic acid receptors
  - side effects similar to tretinoin, not as well tolerated
  - teratogenic
- Azelaic acid (Azelex, Finacea)
  - apply BID
  - keratinolytic, anti-inflammatory, and antibacterial
  - can cause hypopigmentation

Topical antibacterials
- Benzoyl peroxide
  - apply thin film 1-2x/day, preferably hs
  - no known resistance
  - may cause skin irritation and bleach clothes
- Benzoyl peroxide / erythromycin
  - apply once daily
  - must be refrigerated
- Benzoyl peroxide / clindamycin

- Erythromycin (A/T/S, Emgel, T Stat)
  - Increasing P. acnes resistance
- Clindamycin (eg, Cleocin T, Dalacin T)
  - apply BID
- Tetracycline (Topicycline) – 0.22% solution
  - apply BID
  - may cause skin to fluoresce in black lights
- Metronidazole (Metrogel, Metrocream)
  - Apply once daily

Systemic antibiotics
- Tetracycline
  - 500-1,000 mg daily
  - begin at high dose, and taper in 2-4 weeks if patient responds
  - do not use in children < 8 years old
  - may cause photosensitivity
- Minocycline (Minocin)
  - 50-200 mg daily
  - most effective and expensive of tetracycline group
  - less photosensitivity than tetracycline, but other side effects include vertigo, autoimmune hepatitis, and lupus-like syndrome
- Doxycycline (Vibramycin)
  - 50-200 mg daily
  - can take with food, but higher incidence of photosensitivity
Acne Vulgaris – Treatment

• Systemic antibiotics
  – Erythromycin
    • 500-1000 mg daily
    • GI side effects are commonly seen
    • resistance in P. acnes may limit effectiveness
  – Azythromycin
    • 500 mg initially then 250 mg x 4 days
  – Trimethoprim-sulfamethoxazole (Bactrim, Septra)
    • 1 DS tablet once or twice daily
    • used for gram negative folliculitis or resistance to tetracycline and erythromycin

• Oral contraceptives
  – ethinyl estradiol + Norgestimate (Ortho-tri-cyclen/Tri-Cilest)
  – Norethindrone (eg, Estrostep)
  – Levonorgestrel (Alesse/Loette)
  – Dospirenone (Yaz/Yasmin)
  – Spironolactone (eg, Aldactone)
    – Only use in women

• Isotretinoin (Accutane)
  – 60-90% cure rate
  – Given for 12-20 weeks
  – Side effects
    • Cheilitis, hyperlipidemia, pseudotumor
  – Highly teratogenic
    • Must register with iPLEDGE program
      – www.ipledgeprogram.com

Seborrheic Dermatitis

• Prevalence = 15 million in US
• Most common in Celtic ethnicity
• Most common after age 30
• More common in women
• Unknown etiology
• Chronic, intermittent
• Involves forehead, cheeks, nose, ocular area

Rosacea

• Prevalence = 15 million in US
• Most common in Celtic ethnicity
• Most common after age 30
• More common in women
• Unknown etiology
• Chronic, intermittent
• Involves forehead, cheeks, nose, ocular area
Rosacea

• Primary features
  – Erythema
    • Transient symmetric flushing
      – Accentuated by hot liquids and alcohol
    • Non-transient
  – Papules and pustules
  – Telangiectasia

Rosacea

• Secondary features
  – Burning or stinging
  – Plaque
  – Dry appearance
  – Edema
  – Nasal hypertrophy/scarring (rhinophyma)
  – Ocular manifestations

National Rosacea Society Classification Subtypes

• Erythematotelangiectatic
• Papulopustular
• Phymatous
• Ocular

Rosacea – Treatment

• Topical antibiotics
  – 0.75% Metronidazole (Metrogel) – BID
  – 1% Metronidazole (Noritate) – daily
  – Azelaic acid 15% (Azelex) – BID
  – Benzoyl peroxide 5% - BID
    • +/- erythromycin or clindamycin
  – Clindamycin cream – less effective
  – Pimecrolimus (Elidel)

• Oral antibiotics
  – Doxycycline (Vibramycin) 100-200 mg/day
  – Tetracycline 1 gram/day
  – Erythromycin 1 gram/day
  – Minocycline (Minocin) 100-200 mg/day
  – Metronidazole (Flagyl) 250 mg BID
  – Azithromycin (Zithromax) 500 mg, then 250 mg x 4 days

• Retinoids
  – Isotretinoin (Accutane) 0.5 mg/kg/day x 20 weeks for severe resistant cases

Rosacea – Treatment

• Vascular laser
  – Useful for resistant telangiectasia & persistent erythema

• Rhinophyma Rx
  – Mechanical dermabrasion
  – CO2 laser peel
  – Surgical excision
  – Electrocautery
Case # 6

• A 21 y/o male c/o pale spots on his back and upper chest

6. Despite treatment with a topical agent, they are essentially unchanged. These areas should now be treated with which of the following?

A. Benzathine penicillin G
B. 5% permethrin cream (Elimite)
C. Oral fluconazole (Diflucan)
D. Prednisone

6. Despite treatment with a topical agent, they are essentially unchanged. These areas should now be treated with which of the following?

A. Benzathine penicillin G
B. 5% permethrin cream (Elimite)
C. Oral fluconazole (Diflucan)
D. Prednisone

Acquired Hypopigmented Lesions

• Pityriasis alba
• Vitiligo
• Tinea versicolor
• Postinflammatory hypopigmentation
• Leprosy
• Halo nevus
• Chemical induced
• Phytophotodermatitis

Pityriasis Alba

This is not an adult
Vitiligo

Tinea Versicolor

The Tinea Family

- **Tinea**
  - Means fungal infection
- **By site**
  - Tinea capitus
  - Tinea corporis
  - Tinea pedis
- **Other**
  - Tinea versicolor
  - Tinea gladitorum
  - Tinea incognito

Tinea Corporis

Image courtesy of the CDC

Tinea Capitus

Image courtesy of Wikipedia

Tinea Incognito

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Tinea Versicolor

• Caused by Pityrosporum (orbiculare & ovale)
• Lesions result from conversion from budding to mycelial form
• Occurs with heat, humidity, pregnancy, steroids, immunosupression
• More common at ages associated with high sebaceous activity

Tinea Versicolor

• Lesions begin as circular macules which enlarge
• Occur as tan, dark brown, or hypopigmented lesions
• Have a powdery scale that is noted with scraping
• Usually occur on upper trunk, neck, abdomen
• Pale yellow fluorescence with Woods lamp

Tinea Versicolor – Treatment

• Topical – for limited disease
  – Ketoconizole 2% shampoo (Nizoral) x 3 days
  – Selenium sulfide 2.5% x 7 days or q week x 4
  – Terbinafine 1% solution (Lamisil) BID x 1 week
  – Traditional topical anti-fungals BID x 2-4 weeks

Tinea Versicolor – Treatment

• Oral – for extensive disease or non-responders
  – Itraconazole (Sporanox) 200 mg daily x 5-7 days
  – Fluconazole (Diflucan) 300 mg single dose, repeat in 1 week
  – Ketoconizole (Nizoral) 400 mg single dose, repeat in 1 week

Tinea Versicolor – Treatment

• Prophylaxis
  – Ketoconizole 2% shampoo (Nizoral) q week
  – Ketoconizole (Nizoral) 400 mg PO q month
  – Itraconazole (Sporanox) 200 mg PO BID q month x 6 months

Case # 7

Picture courtesy of the CDC
Case # 7

• This 26 y/o male presented to your office concerned about a new patch of “warts” on his penis.

7. “Funny that you should ask, my girlfriend has some on her bottom as well.”

The most likely cause of his lesions is:

A. Smallpox virus
B. Herpes simplex virus
C. Human papilloma virus
D. Molluscum contagiosum virus

Common Warts
Genital Warts

• Patient administered
  – Podofilox -0.5%
    • BiD x 3 days, off 4 days, repeat cycle x 4
  – Imiquimod -5% cream (Aldara)
    • HS, 3x/week, x 16 wks

Genital Wart – Treatment

• Provider administered
  – Cryotherapy
  – BCA/TCA
  – Podophylin resin 10-25%
  – Surgical or laser removal
  – Interferon alfa-2B (Intron-A)

Genital Wart – Treatment

Genital Herpes

• Acyclovir (Zovirax)
  – Primary = 400 mg TID x 7 days, 200 mg 5x/day x 7 days
  – Recurrent = 400 mg TID x 5 days, 800 mg TID x 2 days
  – Suppression = 400 mg BID

• Famciclovir (Famvir)
  – Primary = 250 mg TID x 7 days
  – Recurrent = 125 mg BID x 5 days, 1 g BID x 1 day
  – Suppression = 250 mg BID

• Valacyclovir (Valtrex)
  – Primary = 1 g BID x 7 days
  – Recurrent = 1 g daily x 5 days, 500 mg BID x 3 days
  – Suppression = 500 mg or 1 g daily

Genital Herpes – Treatment

Molluscum Contagiosum

• Caused by double-stranded DNA Poxvirus
• Spread by skin to skin contact and autoinoculation
• Umbilicated, firm, flesh-colored, dome-shaped papules
• Children
  – Lesions anywhere except palms & soles
• Adults
  – Lesions mostly in genital area
Molluscum Contagiosum

Molluscum Contagiosum – Treatment

- Curettage
  - May cause scarring
- Cryosurgery
- Imiquimod 5% cream (Aldara)
  - TID x 5 days/wk x 1 month
- Cantharidin
- Cimetidine (Tagamet) 40 mg/kg/day x 2 months (children)
- Laser
- TCA peel q 2 weeks
- KOH 5%

Case # 8

Case # 8

- A 68 y/o male was sent in by his daughter who was concerned about a small growth on her father's scalp

8. Which of the following is the most likely diagnosis?

A. Keratoacanthoma
B. Dermatofibroma
C. Sebaceous hyperplasia
D. Basal cell carcinoma

20%  A. Keratoacanthoma
9%  B. Dermatofibroma
4%  C. Sebaceous hyperplasia
67%  D. Basal cell carcinoma
Nodular Lesions

- Basal cell carcinoma
- Squamous cell carcinoma
- Keratoacanthoma
- Sebaceous hyperplasia
- Melanoma
- Neurofibroma
- Hemangioma
- Prurigo nodularis

Basal Cell Carcinoma

- Most common skin cancer
- Male > female
- Mostly in age > 40
- 85% occur in head/neck
- Clinical course is unpredictable
  - Can remain small for years or develop in growth spurts
- Diagnosis by biopsy

Basal Cell Carcinoma – Subtypes

- Nodular
  - Most common
  - Less aggressive
- Superficial
  - Plaque like
- Sclerosing
  - Rare
- Pigmented

Sebaceous Hyperplasia

Keratoacanthoma

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Managing Common Cutaneous Problems

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Basal Cell Carcinoma (Superficial)

• Excisional biopsy
  – Often adequate for small lesions
• Electrodesiccation and curettage
  – Nodular < 6 mm & superficial

Basal Cell Carcinoma (Sclerosing)

• Moh’s micrographic surgery
  – Sclerosing
  – Other BCCs with poorly defined margins
  – High-recurrence areas
    • Nose, eyelid
  – Very large primary or recurrent BCCs

Basal Cell Carcinoma – Treatment

• Radiation
  – Non-surgical candidates
• Imiquimod 5% cream (Aldara)
• 5-Fluorouracil 5%(Efudex)
  – BID x 12 weeks

Case # 9

Images © Dr. Richard P. Usatine
Case # 9

A 55 y/o male is found to have these skin lesions at the time of a routine exam.

9. Which of the following would be the most reasonable course of action?

A. Intralesional corticosteroid injection
B. Observation of lesions
C. Excisional biopsy with wide 4 cm margins
D. Referral for Moh's micrographic surgery

9. Which of the following would be the most reasonable course of action?

A. Intralesional corticosteroid injection
B. Observation of lesions
C. Excisional biopsy with wide 4 cm margins
D. Referral for Moh's micrographic surgery

Pigmented Lesions

- Intradermal nevus
- Melanoma
- Seborrheic keratosis
- Kaposi’s sarcoma
- Cherry angioma
- Pigmented basal cell carcinoma

Cherry Angiomas

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Atypical (Dysplastic) Nevus

Images © Dr. Richard P. Usatine

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Nevi (Benign)
- Junctional
- Dermal
- Compound
- Blue
- Halo
- Atypical

Malignant Melanoma
- Mostly found in non-Hispanic Caucasians
- Median age = 53
- Men 1.5x > women
- Metastasize widely

Malignant Melanoma – Risk Factors
- Large number of atypical nevi
- Other skin cancers
- Congenital giant nevus
- Family history of melanoma
- Immunosuppression
- UV radiation exposure

Malignant Melanoma – Subtypes
- Superficial spreading
  - Most common
  - Upper back & legs in 40-50 y/o
- Nodular
  - Mostly men in 50-60 y/o
- Lentigo maligna
  - Facial location in 60-70 y/o
- Acral lentiginous
  - Digits & mucous membranes

ABCDE’s of Melanoma
- A – Asymmetry
- B – Border irregularity
- C – Color variegation
- D – Diameter greater than 6 mm
- E – Evolving (changing)
Malignant Melanoma

• Thickness determines prognosis
  – Breslow microstage (mm)
    • Most accurate
  – Clark level
    • Histologic layer of dermis involvement

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Seborrheic Keratosis vs. Melanoma – Diagnosis

• Melanoma suspected
  – Full thickness biopsy
    • Excision preferred
    • Very wide excision not necessary
      – Generally 2-3 mm is sufficient
    • Punch if small enough

Seborrheic Keratosis – Treatment

• Certain seborrheic keratosis
  – Destructive treatment
    • Curettage +/- electrodesiccation
    • Cryosurgery
  – Observation

Answers

1. B
2. B
3. A
4. C
5. B
6. C
7. D
8. D
9. B