Common Dermatologic Procedures

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Objectives
Upon completion of this lecture, the health care provider will be able to:

1. Discuss the protocol utilized in common dermatologic procedures performed in the primary care office setting.
2. Discuss which procedure is best suited to various dermatologic lesions.
3. Demonstrate performance of common primary care dermatologic procedures.
4. Identify personal areas of strength and need for improvement in performance of dermatologic procedures.

Financial Disclosures

• Consultant: Orasure Technologies

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Common Dermatologic Lesions

Skin Tags (Achrochordons)
• Very commonly encountered benign lesions
• Seen in approximately 25% of men and women
• Most common locations: axilla, neck, inguinal region
• Usually begin in 2nd decade and peak by the 5th decade of life

Skin Tags (Achrochordons)
• Appearance
  - Begins as a tiny flesh-toned or brown lesion
  - May increase to 1 cm in size
  - Hallmark: polypoid mass on a long narrow stalk
  - Bleeds very easily; particularly because they often get caught on a necklace or clothing
Diagnosis?  
Linked with ?

Skin Tags

Skin Tags (Achrochordons)
• Treatment
  - Shave excision
  - Cryosurgery
  - Electrocautery
Dermatofibroma

- Common, benign asymptomatic lesions
- May be slightly itchy; retract beneath the skin when you try to elevate them
- 1-10 lesions occurring on the extremities; most common location is the anterior surface of the lower leg
- Etiology: fibrous reaction to trauma, virus, or an insect bite
  - Multiple lesions: Systemic lupus

Treatment
- Elliptical excision
- Shave excision
- Cryosurgery
Verruca Vulgaris

• Common warts
• Benign lesions of the epidermis caused by a virus
• Transmitted by touch and commonly appear at sites of trauma, on the hands, around the periungual regions from nail biting and on the plantar surfaces of the feet

Verruca Vulgaris

• Appearance
  - Smooth, flesh colored papules which evolve into a dome-shaped growth with black dots on the surface
  - Black dots are thrombosed capillaries and can be visualized with a 15 blade

• Treatment
  - OTC products: Compound W; Duoplan
**Verruca Vulgaris**

- Treatment
  - Liquid nitrogen
  - Cryosurgery
  - Electrocautery
  - Duct Tape
  - Blunt dissection (plantar lesions)
  - Tagamet 600 mg bid x 2-4 weeks
  - Aldara

**Condyloma Acuminata**

- AKA: genital warts
- Etiology: human papillomavirus
  - More than 30 strains of HPV infect the genital tract
  - Usually caused by HPV subtypes 6, 11, 40 - 45, and 51
- Transmitted through sexual contact
- Incubation period of 1 - 6 months

**Condyloma Acuminata**

- Characteristics
  - Cauliflower appearing lesion
  - White or flesh toned
  - May be associated with abnormal pap smear
Condylomata Acuminata

- Treatment
  - Cryosurgery
  - Imiquimod 5% cream
  - TCA
  - Electrodesiccation
  - Laser
  - Podofilox

Seborrheic Keratoses

- Most common benign skin lesion
- Unknown origin
- No potential for malignancy
- Characteristics
  - Smooth surface with tiny round, embedded pearls
  - May be rough, dry and cracked
  - Appear stuck on the surface
Seborrheic Keratoses

Seborrheic Keratosis

Can Mimic a Malignant Melanoma
Seborrheic Keratoses
• Treatment
  - Lesions are only removed for cosmetic purposes or for a biopsy if pathology is unknown
  - If removed, shave excision
  - Cryosurgery

Molluscum Contagiosum
• Infection caused by the pox-virus
• Most commonly seen on the face, trunk and axillae
• Self-limiting
• Spread by auto-inoculation
• Incubation period: 2-7 weeks after exposure
• Contagious until gone

Molluscum Contagiosum
• Asymptomatic lumps
• May have 1 - hundreds
• Physical Examination
  - 2-5mm papule with an umbilicated center
  - Flesh toned - white in color
  - Most often around the eye in children
  - Scaling and erythema around the periphery of the lesion is not unusual
  - If in the genital area of a child - should consider sexual abuse
Molluscum Contagiosum

Plan
- Diagnostic:
  • None or KOH prep looking for inclusion bodies
- Therapeutic:
  • Conservative treatment is the best for children
    - Curettage
    - Cryosurgery
    - Tretinoin

Molluscum Contagiosum

Plan
- Therapeutic:
  • Salicylic Acid (Occlusal)
  • Laser
  • TCA
  • Aldara
Molluscum Contagiosum

• Plan
  - Educational
    • May resolve on own in 6 - 9 months
    • Contagious until lesions are gone
    • Benign
    • Recurrence very common

Actinic Keratoses

• Common sun-induced premalignant lesions
• Incidence: Increases with age, light complexion
• Clinical presentation: Slightly roughened area that often bleeds when excoriated
  - Progresses to an adherent yellow crust
  - Size 3-6 mm
  - Common location: scalp, temples, forehead, hands

Actinic Keratoses

• Prognosis
  - Can spontaneously regress if sun exposure is eliminated
  - Good prognosis if treated adequately
  - Small percentage transform into a squamous cell carcinoma which can metastasize
    • 60% of all squamous cell carcinomas began as an actinic keratosis
Actinic Keratosis

• Keratin may accumulate and transform lesion into a cutaneous horn
• Frequently seen on the pinna of the ear

Actinic Keratoses

• Treatment
  - Cryosurgery
  - Surgical Removal
  - Tretinoin
  - 5-fluorouracil
  - Acid peels
  - Sunscreen
  - Aldara
Basal Cell Carcinoma

- Most common malignancy found in humans
- Presenting complaint: bleeding or scabbing sore that heals and recurs
- Risk factors: fair skin, sun exposure, tanning salon, previous injury
- Incidence: Men > women: Incidence increases after age 40

Basal Cell Carcinoma

- Location: 85% appear on the head and neck; 25-30% on the nose alone
- Prognosis: Excellent because basal cell carcinomas rarely metastasize but will grow and spread to adjacent locations
- Very common for a 2nd or 3rd basal cell to appear
- Clinical Types:
  - Nodular, superficial, pigmented, cystic, sclerosing, nevoid

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Basal Cell Carcinoma

- Treatment
  - Electrodessication
  - Excision
  - Cryosurgery
  - Mohs’ micrographic surgery
  - Radiation
  - Aldara

Squamous Cell Carcinoma

- Arises in the epithelium and is common in middle-aged to elderly population
- 2 types
  - Areas of prior radiation or thermal injury and in chronic ulcers
  - Actinically damaged skin
Squamous Cell Carcinoma

• Risk factors
  - Sun exposure
  - Renal transplant recipients (253 fold increase secondary to immunosuppression)
  - Areas of chronic inflammation or thermal burns
• Location
  - Sun exposed regions: scalp, back of the hands, and superior aspect of the pinna

Squamous Cell Carcinoma

• Clinical Presentation
  - Thick, adherent scale with a red, inflamed base
  - Firm, movable, elevated lesion with a sharply defined border
  - Can spread locally and metastasize
• Treatment
  - Electrodesiccation
  - Excision with margins
Squamous Cell Carcinoma

Malignant Melanoma
- Very dangerous cancer that arises from the cells of the melanocytic system
- Can metastasize to any organ including the brain
- Epidemic proportions - Lifetime risk: 1:90
- Risk factors
  - Sun exposure
  - Family history of melanoma
  - Immunosuppression

Malignant Melanoma
- ABCDs of Malignant Melanoma
  - Asymmetry
  - Borders
  - Color
  - Diameter enlargement
  - Enlarging
  - Feeling
Malignant Melanoma

- Characteristics
  - Can be black, brown, red, white or blue

- Types
  - Superficial spreading
  - Lentigo maligna
  - Nodular melanoma
  - Acral lentiginous melanoma
Malignant Melanoma

• Treatment
  - Biopsy with elliptical excision only
  - Shave excision and punch biopsy are NOT recommended
  - Surgical excision with margin clearing
    • 1-2 cm margin

LOCAL ANESTHESIA

• Overview
  - Fibers that carry pain stimuli are thin and have no myelin sheath
  - Fibers that carry sensation of touch and pressure are thicker and myelinated
  - Infiltrates tissues and diffuses across neural sheaths and membranes
  - Acts by interfering with neural depolarization and transmission of impulses
  - 1% lidocaine will block pain; 2% blocks all sensations

LOCAL ANESTHESIA

• Pharmacologic Properties
  - Onset of Action
  - Duration
  - Toxicity
    • All are affected by local vascularity, type and amount of anesthetic, concentration, technique, accuracy of injection, and adjunctive use of epinephrine
LOCAL ANESTHESIA

• Epinephrine
  - Pros
  - Cons

• Toxicity
  - Cardiovascular
  - CNS Effects
  - Syncope

Local Anesthesia

<table>
<thead>
<tr>
<th>Name</th>
<th>Concentration</th>
<th>Onset of action</th>
<th>Duration of action</th>
<th>Maximum dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidocaine 1%</td>
<td>&lt; 1 minute</td>
<td>30 – 120 minutes</td>
<td>4.5 mg/kg (30 cc)</td>
<td></td>
</tr>
<tr>
<td>Lidocaine 2%</td>
<td>&lt; 1 minute</td>
<td>30 – 120 minutes</td>
<td>2 – 3 mg/kg (15 cc – 20 cc)</td>
<td></td>
</tr>
<tr>
<td>Lidocaine with epinephrine 1%</td>
<td>&lt; 1 minute</td>
<td>60 – 360 minutes</td>
<td>7 mg/kg (50 cc)</td>
<td></td>
</tr>
<tr>
<td>Bupivocaine (Marcaine) 0.25%</td>
<td>5 minutes</td>
<td>180 – 420 minutes</td>
<td>3 mg/kg (50 cc)</td>
<td></td>
</tr>
</tbody>
</table>

• Prevention of Toxic Reactions
  - Avoid injecting into a blood vessel
  - Do not exceed recommended dosages
  - Gentle handling of patient
  - Patient always supine

• Decreasing Pain Associated with Anesthesia
  - Ethyl Chloride
  - EMLA Cream or Disk
  - Tetracaine/Adrenaline
  - Ice
  - Buffering anesthetics (Sodium Bicarbonate)
Punch Biopsy

• Definition: Removal of a small piece of tissue from the skin for microscopic evaluation
• Indications: Lesion or rash needing pathologic evaluation
  - Basal cell carcinoma
  - Squamous cell carcinoma
  - Actinic keratosis

Punch Biopsy

• Indications:
  - Seborrheic keratosis
  - Atypical nevus
  - Vaginal/Labial lesions
  - Rash of undetermined etiology
• Advantages
  - Enables the provider to confirm the pathology of a lesion or rash
  - Minimal scarring
  - No suturing needed

Punch Biopsy

• Equipment
  - Betadine
  - Fenestrated drape
  - Lidocaine (1% or 2%)
  - 5cc syringe with 27 gauge needle
  - Biopsy punch (disposable or reusable)
  - Forceps
  - Scissors
  - Container with formalin
Punch Biopsy

• Equipment
  - Silver nitrate or Monsel's solution
  - Sterile gauze
  - Adhesive tape

• Procedure
  - Position patient for provider comfort
  - Prep the area with betadine
  - Cover with a fenestrated drape
  - Using a ring block infiltration technique, anesthetize using 1% or 2% lidocaine
  - Using your thumb and forefinger, apply tension opposite the skin tension lines
  - Using the punch device, apply directly over the lesion or rash
  - Turn the punch device clockwise (or according to manufacturers directions)
  - Remove the punch device
  - Using forceps, lift the piece of skin
  - Clip and remove
  - Place specimen in container with formalin
Punch Biopsy

- Procedure
  - Cauterize using silver nitrate or Monsel’s solution
  - Cover with a sterile gauze
- Disadvantages
  - Many pathologists do not recommend punch biopsies when lesions may be cancerous because there is often significant tissue distortion from the procedure

Follow-up Care

- Keep lesion clean and dry
- RV/Call for redness, discharge, fever, streaking, significant bleeding or pain
- NSAID is helpful for discomfort
- Review pathology results at follow-up visit

Red Flags

- Lesions on the eyelid, lip, penis, or face
- Infected wound
- Bleeding disorder

CPT Code

- 21550, 21920 etc. Codes vary depending upon the location of lesion or rash
Shave Excision

- Definition: The removal of a elevated lesion for cosmetic purposes or for pathologic evaluation

- Indications:
  - Seborrheic keratoses
  - Skin tags
  - Benign nevi
  - Basal cell carcinoma
  - Actinic keratoses

Shave Excision

- Advantages
  - Simple, quick procedure
  - Minimal scarring
  - No sutures needed
  - No tissue distortion

- Disadvantages
  - May not achieve tissue depth adequate for complete removal (i.e. squamous cell)

Shave Excision

- Equipment
  - Betadine
  - Fenestrated drape
  - 1% or 2% Lidocaine
  - 5 cc syringe with 27 gauge needle
  - Number 11 or 15 blade scalpel
  - Monsel’s solution or silver nitrate sticks
  - Container with formalin
  - Dressing
Shave Excision

• Procedure
  – Position patient for provider comfort
  – Scrub area with betadine
  – Cover with a fenestrated drape
  – Using a ring block infiltration, anesthetize using 1 or 2% Xylocaine
  – Alternative: Anesthetize directly under the lesion to create a wheal
  – Incise lesion by shaving with scalpel, parallel to the skin

Shave Excision

• Procedure
  – Remove lesion and place in formalin
  – Cauterize using Monsel's solution or silver nitrate sticks
  – Cover with a sterile dressing

Shave Excision

• Follow-up Care
  – May remove dressing in 48 hours
  – Monitor for redness, discharge, pain, streaking, fever and call immediately should any occur
  – NSAIDs for discomfort
  – RV for pathology if cancer is suspected
Shave Excision

- Red Flags
  - Bleeding disorder
  - Melanoma
  - Infected wound
  - Lesions on face
- CPT Code
  - 11303, 11305: Code varies depending upon location of lesion

Elliptical Excision and Biopsy

- Definition
  - Procedure used to remove suspicious or miscellaneous lesions
  - Allows the provider to remove sufficient tissue for an accurate diagnosis
- Indications
  - Diagnosis
  - Excision and cure
  - Cosmetic reasons

Elliptical Excision

- Indications
  - Basal Cell & Squamous Cell lesions
  - Condyloma (if cancer is suspected)
  - Dermatofibroma
  - Actinic or Seborrheic Keratosis
  - Lipomas
  - Melanoma
  - Atypical Nevi
Elliptical Excision

• Advantages
  - Improved diagnostic capabilities for tumors of uncertain diagnosis
  - Evaluation of deep pathology
  - Complete removal of lesion
  - Good cosmetic result

Elliptical Excision

• Disadvantages
  - Time needed for procedure
  - Some may need complicated closure
  - Patient must return for suture removal

Elliptical Excision

• Equipment
  - Gloves
  - Sterile drape
  - Betadine
  - 1% or 2% Xylocaine
  - 5 cc syringe with 25 gauge needle
  - Sterile 4x4
  - Normal saline
  - Scalpel with a number 10 or 11 blade
  - Suturing material (5-0 or 6-0 for face; 3-0 or 4-0 for trunk and extremities)
Elliptical Excision

- Procedure
  - Cleanse area with betadine
  - Place fenestrated drape around lesion
  - Anesthetize using a ring block infiltration technique
  - Make an elliptical incision around the lesion
    - Tissue should be 3x longer than the width
    - Parallel to the skin tension lines
  - Excise the tissue, including the lesion as a whole unit (This is called undermining)

Technique

Skin Tension Lines
Undermining

• Using forceps, hold and lift skin edge of wound
• Cut in a level plane across the dermal-subcutaneous junction

Simple Interrupted Suture

• Suturing is performed to approximate wound edges so it will heal without infection and with minimal scarring
• Procedure
  - With your needle holder securing the needle and the attached suture material, insert the needle at a right angle into the skin.
  - Begin in the center of the wound
  - Should be at least 2-4 mm from wound edge
  - Penetrate through the dermis
Simple Interrupted Suture

• Procedure
  - Go over to the inside of the wound on the other side and bring the needle up through the dermis
  - This should be the same distance from the edge of the wound
  - Approximate the tissue
  - Tie a knot and repeat four to five times
  - Cut the suture material
  - Next stitches should be on the outer aspect of the wound
Skin Closure with Simple Interrupted Suture

Elliptical Excision

- Follow-up Care
  - Keep wound & dressing clean
    - May shower in 24 hours
    - Avoid prolonged moisture
    - May keep open to the air at home
  - Dressing
    - Remove dressing in 2 days
    - Reapply a sterile dressing
  - RV/Call for Signs of Infection
    - Red, swollen, tender, warm, drainage; red streaks, tender lumps in groin or axilla, fever or chills

Elliptical Excision

- Follow-up Care
  - Return in 7-10 days for suture removal
  - Biopsy results
- Red Flags
  - Face, hands
  - Bleeding disorders
- CPT Code
  - 11400-11406: Excision benign lesion (except trunk, arms or legs)
  - 11420-11426: Excision except neck, hands, feet
SKIN TAG REMOVAL

• Indications
  - Cosmetic purposes

• Anatomy Overview
  - Areas found: eyelids, neck, axillae, groin
  - Pigmentation: flesh colored to hyperpigmented
  - Size: Less than 1 mm to over 10 mm
  - Shape: round to oval and are soft and pliable

• Equipment
  - Local anesthesia
  - Forceps
  - Sterile scissors
  - Silver nitrate sticks or Monsel's solution
  - Sterile 4 x 4 gauze

• Procedure
  - Determine need for local anesthesia
  - Administer local anesthesia as needed; typically administered just below the lesion to create a wheal
  - Grasp skin tag with forceps
  - Quickly snip the tag
  - Apply silver nitrate or Monsel's solution to stop bleeding

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SKIN TAG REMOVAL

• Follow-up Care
  - Inform patient that area may bleed slightly after the procedure
  - Instruct patient to keep areas dry and clean
  - Review signs and symptoms of infection with the patient
  - No specific in office follow-up unless complications occur, such as an infection

SKIN TAG REMOVAL

• Red Flags
  - History of hypertrophic scarring or keloid formation after surgery
  - Consider referral to Dermatology for skin tags on the eyelids
  - Refer all skin tags on the face of a child to Dermatology

Cryosurgery

• Definition: The process of applying extreme cold to a lesion for the purpose of destruction
• Indications
  - Seborrheic keratoses
  - Actinic keratoses
  - Skin tags
  - Verruca vulgaris
Cryosurgery

- Indications
  - Plantar warts
  - Condyloma acuminatum
  - Molluscum contagiosum
- Advantages
  - Minimal discomfort
  - Minimal scarring
  - No sutures needed

Cryosurgery

- Disadvantages
  - May not be effective for all lesions, particularly warts
  - Some individuals report moderate pain during the procedure
- Equipment
  - Betadine
  - 4X4 gauze
  - Freeze kit or nitrous oxide cryosurgery unit

Cryosurgery

- Equipment
  - Cotton applicators
  - Vaseline petroleum jelly
  - Dressing
Cryosurgery

• Procedure
  - Position the patient for provider comfort
  - Cleanse the lesion with betadine
  - Cover the lesion with a water soaked dressing for 5-10 minutes
  - Using the cotton applicators, surround the lesion with vaseline petroleum jelly
  - Choose the appropriate wand for the lesion
  - Freeze the lesion for the appropriate amount of time

• Time Frame
  - Seborrheic keratoses: 30 seconds
  - Actinic keratoses: 90 seconds
  - Skin tags: 60-90 seconds
  - Verruca vulgaris: 60-90 seconds
  - Plantar warts: 30-40 seconds
  - Condyloma acuminatum: 45 seconds
  - Molluscum contagiosum: 30 seconds

Adapted from Ambulatory Care Procedures for the Nurse Practitioner. Colyar and Ehrhardt, 1999.

• Another method is to apply the freeze until a frost ring appears approximately 1-2 mm around the lesion

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Cryosurgery

• Procedure
  - Apply additional pressure for deeper tissue penetration
  - Cover with a dressing
• Follow-up
  - Monitor for redness, discharge, fever, pain, streaking
  - Recheck lesion in 1 week

Cryosurgery

• Red Flags
  - Malignant lesions
  - Facial lesions
  - Infected lesion
• CPT Code
  - 17000: Destruction, any method, all benign
  - 17110: Destruction, flat warts or molluscum contagiosum

INCISION & DRAINAGE OF AN ABSCESS

• Definition:
  – Collection of pus in the cutaneous tissue which results in a painful, erythematous, fluctuant mass.
• Indication:
  – This procedure is performed to decrease the pain associated with an abscess and to minimize damage to the surrounding tissues.
• Anatomy Overview

Cryosurgery
INCISION & DRAINAGE OF AN ABSCESS

• Equipment
  – Betadine
  – Sterile drape and gloves
  – 1% Xylocaine
  – Ethyl Chloride
  – 5 cc syringe with 27 gauge needle
  – #11 Scalpel blade
  – Hydrogen Peroxide
  – Normal saline

• Equipment (cont)
  – Forceps
  – Irrigating syringe
  – Packing gauze
  – 4 x 4 pads
  – Tape

• Procedure
  – Gown, Glove – BE PREPARED!
  – Prep area
  – Locate Fluctuant Region
  – Anesthetize
  – Cleanse the abscess
  – Incise
  – Irrigate
  – Pack
  – Dress wound
INCISION & DRAINAGE OF AN ABSCESS

Follow-up Care
- Cleanse wound
- RV/Call for increasing pain, d/c, redness, fever

Red Flags
- Facial, palmar, and periurethral abscess
- Diabetes
- Immunosuppression
- Deep foreign body

Tense, non-fluctuant region
- Pulsatile mass
Thank You

I Would Be Happy To Entertain Any Questions That You May Have!!