Survival Guide to Implementing Injections and Minor Surgical Procedures

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Housekeeping

- No financial relationships to disclose
  - Lots of products/services discussed today
  - No affiliations with any products or companies
The Basics

- Hypodermic Needles
  - 2 numbers (e.g. 27 g ½”)
  - gauge (lumen)
    - 18-30
  - Length
    - ½” – 2”
  - Bevel
    - know where it is!

- Intravenous Needle (cannula)
  - hollow needle (aka the butterfly)
The Basics

- Syringes
  - barrel, tip, plunger
  - measured in cc (cubic centimeters)
  - commonly used: 1, 3, and 5 cc
Types of Injections Typically Used

- Subcutaneous infiltrative
- Intralesional
- Intramuscular
- Intravenous
- Subconjunctival
Subcutaneous, Infiltrative Injection

- Used to inject anesthetic around lesions prior to removal and/or excision & curettage

Intramuscular

- for larger volume
  - up to 5 mL for single injection
- for quicker absorption
  - 10-15 minutes
- less irritation from drug due to less sensory fibers
- 19-23 gauge; 1 to 2 inch needle
Intravenous

- highest risk to patient
- “no going back!”
- largest volume
  - no limit
- quickest route
  - immediate effect
Subconjunctival Injection

- may tent the conjunctiva
- look for bleb formation
- may inject more than one site

- complication
  - subconjunctival hemorrhage
Injectable Medications

- Local Anesthetics
  - Block nerve conduction
  - Slow conduction velocity
  - Lengthen refractory period
  - Increase firing threshold
  - Nerve becomes inexcitable
- Duration of action
  - Proportional to contact time, concentration, amount delivered and rate of removal by diffusion and circulation
**Injectable Medications**

- **Lidocaine (Xylocaine™)**
  - Amide
  - Pregnancy category B
  - Multi-use vials of .5%, 1%, and 2%
    - With or without epinephrine
  - 1% most commonly used for minor surgical procedures
  - Available in 4%: **NOT FOR INJECTION**
  - Onset of action 4-6 minutes
  - Duration of action 40-60 minutes
Injectable Medications

- Steroids
  - Triamcinolone Acetonide (Kenalog™)
    - Available concentrations
      - 10 mg/ml and 40 mg/ml
  - Triesence™
    - 40 mg/ml
Injectable Medications

- Steroids
  - Recommend start with 10 mg/ml for subconjunctival and intralesional injections
  - Increase to 40 mg/ml concentration depending on response
Injectable Medications

- **Antibiotics**
  - Subconjunctival injection formulations not commercially available, must be compounded like fortified topicals, however concentration is much higher in injectable form
  - Choice of antibiotic dependent on smear results:
    - Gram positive cocci: Cefazolin or Methicillin 100mg/ml
    - Gram positive rods: Gentamicin or Tobramycin 20 mg/ml
    - Gram negative cocci: Penicillin G 500,000 units/ml
    - Gram negative rods: Tobramycin and ticarcillin 20 mg/ml
Indications for Injections

- Inflammation
  - Uveitis (subconjunctival)
  - Chalazia (intralesional)
  - Bleb failure (subconj. Antimetabolites)
- Infection
  - Corneal Ulcers (subconjunctival)
Indications for Injections

- Anesthesia
  - Minor surgical procedures (subcutaneous)
- Anaphylaxis
  - Intramuscular
- Fluorescein Angiography
  - Intravascular
Indications for Injection Inflammation

• **Anterior Uveitis**
  - severe
  - refractory
  - topical ineffective
  - steroidal injection
    • Kenalog 10 or 40
    • Methyprednisolone
• **Route of Administration:**
  • Subconjunctival
Chalazion: Intral whether injection

**EVALUATION:**

- how long has it been there?
- how big?
- where is it?
  - anterior?
  - posterior?
Intralesional

- Intralesional steroid injections typically used in the management of chalazia

Steroid Injection

• Kenalog 10 or 40
  • triamcinolone acetonide 10 or 40 mg/mL
  • Inject .1cc to .3cc volume

• Route of Administration
  • intralesional
  • through skin if anterior
  • through conjunctiva if posterior
Chalazion: Intraleisonal Steroid Injection

- **Procedure**
  - topical anesthetic OU
  - swab conjunctiva with xylocaine 4%
  - apply chalazion clamp / Jaeger plate
  - +/- subcutaneous injection of anesthetic
  - inject Kenalog 10 (or 40) INTO lesion
    - 0.1 – 0.3 mm
  - massage
  - RTC 3-4 weeks
  - may need to repeat
Chalazion: Intrallesional Steroid Injection

- Complications
  - infection
  - recurrence
  - ineffective
  - depigmentation
Indications for Injections: Infection

- Microbial Keratitis
- Route of Administration: Subconjunctival
  - Non-compliant patients
  - Patients otherwise unable to instill drops
Subconj. Injection for Corneal Ulcers

- **Indications**
  - poor compliance
  - severe

- **Medications**
  - gentamicin
    - 0.5 mL – 1.0 mL of 40 mg/mL
  - cefazolin
    - 0.5 mL of 200 mg/mL
Indications for Injections

- Local Anesthesia
  - Route of Administration
    - local infiltrative
    - subcutaneous
      - eyelid is thinnest skin on body
  - Ensure no intravascular penetration (pull back on plunger)
  - Use a Jaeger plate
Local Anesthesia

- Xylocaine™ (lidocaine)
  - 1% and 2% for injections
  - ± epinephrine (1:100,000)
  - 4% for topical use only
  - Duration of action: 1-2 hours
  - Contraindicated:
    - amide hypersensitivity
Local Anesthesia

- Chalazion I&C
- Cyst drainage
- Eyelid lesion excision
- Laser procedures: punctaplasty, trichiasis management
- Suturing
Papilloma and Verruca Removal

- cosmesis
- biopsy
- visual disturbance
Squamous Papilloma

- aka skin tags or acrochordons
- epidermal hyperplasia
- skin-colored or hyperpigmented
- F > M
- one or many
- often pedunculated
- sites: neck, axilla, eyelids
Papilloma Removal: Procedure

- topical anesthetic OU
- ± sterile drape
- clean area
- local infiltrative injection of Xylocaine
  - use Jaeger plate if near globe
  - inject ~0.2 cc
Papilloma Removal: Procedure

- grasp lesion with tissue forceps
- remove at base with scissors or scalpel
- place lesion in fixative (if sending to lab)
- cauterize
- antibiotic ung
Papilloma Removal: Post-Operative

- Patient Education
  - Antibiotic, or antibiotic/steroid ung x 1 week
  - scab in 1-2 weeks
  - red area 6-8 weeks
- RTC 1 week
Papilloma Removal: Informed Consent

- Potential Complications
  - scarring
  - lid notching
  - infection
  - recurrence

- Get it in writing!!

- Make sure patient is not a keloid former!
Sebaceous Cyst Removal

- well-demarcated
- non-inflammatory
- creamy white if superficial
- skin-toned if deeper
- excise for cosmesis
Sebaceous Cyst Removal

- clean skin with alcohol
- patient fixates away from cyst
- Xylocaine injection
  - local infiltrative
- pull skin taut
- score the top of the cyst with a scalpel (cut away from the eye!)
Sebaceous Cyst Removal

- use cotton swabs to evacuate lesion
- best to cauterize wall of cyst
- antibiotic ung qid x 1 week
Sudoriferous Cyst Removal

- retention of sweat glands
- clear, fluid-filled
- remove for cosmetic reasons
- direct patient’s gaze away from lesion
- use tip of 25 gauge needle to puncture cyst
- use cotton swab to collect clear exudate
- apply antibiotic ointment in office
Other Indications: Local Anesthetic

- cyst excision
- punctoplasty (thermal or laser)
- laser treatment of trichiasis
- sutures
- chalazion incision and curettage
Incision and Curettage

- **Patient Preparation**
  - Potential complications
    - scarring
    - lid notching
    - recurrence
    - loss of cilia
    - permanent gland obstruction
  - written, informed consent
Incision and Curettage

- **Procedure**
  - determine if skin or conjunctival approach
  - topical anesthetic OU
  - +/- sterile drape
  - swab conjunctiva with Xylocaine 4%
  - apply chalazion clamp
  - inject with Xylocaine for local anesthesia
Incision and Curettage

- **Procedure**
  - make incision with scalpel
    - skin: horizontal
    - conjunctival: vertical
  - scoop out contents with curette
  - remove capsule wall and cauterize
  - may inject steroid
  - control bleeding
Incision and Curettage

- **Procedure**
  - suture if cutaneous approach
    - interrupted sutures
    - usually 3 or 4
  - antibiotic ung x 1 week
  - remove sutures in 3-5 days
  - RTC 1 week post-op
Suturing

- Practice, practice, practice
  - Pigs feet, oranges, your neighbor’s kids
- If planning on minor surgical procedures, must know this skill
- Training aids, videos available
  - www.simulab.com
Indications for Injections

- Anaphylaxis
- Route of Administration: Intramuscular
  - immediate hypersensitivity reaction
  - may begin with hives
  - airway obstructions
  - hypotension
  - 20-30 minutes after exposure
Anaphylaxis

- **Epinephrine**
  - IM or subcutaneous
    - 1:1000
    - 0.3 – 0.5 mL
  - IV
    - 1:10,000
    - 3-5 mL
  - no absolute contraindication in life-threatening situation

- **Benadryl**
  - 10-50 mg
  - adjunct to epinephrine
Other indications for IM Injections

- Antiemetic: 25 mg/ml promethazine (Phenergan™)
  - AACG
  - Prior to Fluorescein angiography

- Steroid
  - poison ivy around eyes
    - Benadryl – only gives 4 hours relief
    - Kenalog 40 + Betamethasone 4 mg/mL
      - 1 cc each for 70 kg male
      - sustained relief

- Adjunct to anaphylaxis
  - steroid or benadryl
Tools of the Trade

- Needles/Syringes
- Scalpels
- Westcott scissors
- iris scissors
- tissue forceps
- chalazion clamp
- curette(s)
- Jaeger plate
- Cautery unit
- Suture
- Needle Drivers
- Instrument Tray
- Sterile Drapes
- Sterile/Examination Gloves
Tools of the Trade

- Needles/Syringes
Tools of the Trade

- Scalpels
  - Usually #11, or #15 disposables work great
Tools of the Trade

- Scissors
  - Iris, couple of types
  - Westcott, or Vannas
- Used to remove tissue and cut sutures

Iris

Vannas

Westcott
Tools of the Trade

- Forceps
- Tissue
- Tying
- Chalazion, a.k.a. chalazion clamp
Tools of the Trade

- Curettes- Cup sizes 1.75 mm to 3.5 mm
- Designed to remove contents of chalazion after excision
Tools of the Trade

- Jaeger Plate/Corneal shield
  - Designed to protect globe from accidental stick
Tools of the Trade

- Cautery Unit
  - Available as disposable unit, or with replaceable tips
Tools of the Trade

- Suture
Tools of the Trade

- **Needle drivers**
  - Fairly expensive, available in locking and non-locking
  - Good old hemostats work great- $10
Tools of the Trade

- Instrument Tray with sterile drape
- Sterile Gloves/Examination Gloves
Tools of the Trade

- Ellman surgical unit
  - Utilizes RF (radiofrequency) to cut/cauterize tissue
  - Currently utilized heavily by our Oklahoma colleagues
Instrument Sterilization / Disinfection

- Autoclave
  - Gold standard
- Ethyl Oxide Gas
  - Alternative to autoclave
- Chemical Germicide
  - Destroys most bacteria and viruses
  - May not eliminate spores
  - Adequate for cleaning instruments prior to heat sterilization
- Follow manufacturer’s guidelines
The survival kinetics for thermal sterilization methods, such as steam and dry heat, have been studied and characterized extensively, whereas the kinetics for sterilization with liquid sterilants are less well understood. The information that is available in the literature suggests that sterilization processes based on liquid chemical sterilants, in general, may not convey the same sterility assurance level as sterilization achieved using thermal or physical methods. The data indicate that the survival curves for liquid chemical sterilants may not exhibit log-linear kinetics and the shape of the survivor curve may vary depending on the formulation, chemical nature, and stability of the liquid chemical sterilant. In addition, the design of the AOAC Sporicidal Test does not provide quantification of the microbial challenge. Therefore, sterilization with a liquid chemical sterilant may not convey the same sterility assurance as other sterilization methods.

In-office Disinfection/Sterilization

- Recommend clean instruments thoroughly, soaking instruments in chemical disinfectant per manufacturers guidelines, rinse with sterile water, then into autoclave
In-office Disinfection/Sterilization

- Autoclave is gold standard for instrument disinfection
  - Traditional Steam Autoclave
    - Tuttnauer Valueklave™ 1730
    - STATIM™ 2000
Infection Control

- **Universal Precautions**
  - Assumes all patients and all blood and body fluids harbor disease
    - Hand washing
    - Donning gloves
    - Protective eyewear
    - Maintenance of basic sterile technique
Infection Control

- Sterile gloves
  - Used by the individual performing the procedure
- Non-sterile gloves
  - Used by assistants, clean-up/disposal staff
- Remember basic sterile technique
  - Only the doc with the sterile gloves touches instruments, supplies, etc. All others maintain a discrete distance and DO NOT TOUCH instruments
Biohazardous Waste and Sharps

- **Biohazardous Waste**
  - “any material other than sharps that is contaminated with blood, other body fluids, or tissue”
  - dispose in proper containers according to OSHA
- Needles and other sharps go in proper container
- NEVER recap a needle
- Blood spills can be disinfected with 1:10 bleach
OSHA Guidelines

- Review Universal Precautions
- Create the Exposure Control Plan for your practice
  - Template available at http://www.osha.gov/Publications/osha3186.html
- Create the Hazard Communication Plan, same download as above
- Maintain the Injury and Illness Recordkeeping log
  - OSHA form 300
- Dispose of sharps containers and biohazard bags appropriately
  - Sharps Disposal by Mail System™
Laboratory Affiliation

- Pathology evaluation
  - Excised lesions
- Local hospital labs or private labs available for affiliation, i.e. LABCORP™
Procedure Safety Precautions

- Office Protocols
- Preoperative vitals
  - Blood pressure
  - Pulse
  - Temperature
- Informed consent
  - Written!
- Postoperative instructions
  - Contact numbers
“Minor Surgical Procedures” defined by most insurance companies are those procedures with a post-operative period less than 90 days.

Basic Descriptions for the minor surgical procedures we perform:
- Removal
- Shaving
- Destruction
- Excision

CPT codes categorized by the location and the procedure type above.
Billing and Coding

- Review of the most common codes utilized when performing minor surgical procedures
- Consult the Current Procedural Terminology manual from the AMA for code descriptions, updates
- Better descriptions found in the Coding Companion for Ophthalmology, a supplemental manual from CPT that is ophthalmology specific
Billing and Coding

• Lid Lesion Removal
  – Lots of different codes depending on the method of removal and/or the number/size of the lesions

• Let’s Review Them:
  – Code 10060
    • Incision and drainage of abscess (eg, carbuncle, suppurative hidradenitis, cutaneous or subcutaneous abscess, cyst, furuncle, or paronychia); simple or single\(^1\)

\(^1\) Coding Companion for Ophthalmology, copyright 2012 American Medical Association
Billing and Coding

- CPT 10060: Incision and drainage of abscess
  - Explanation:
    - The physician makes a small incision through the skin overlying an abscess for incision and drainage (e.g., carbuncle, cyst, furuncle, hidradenitis). The abscess or cyst is opened with a surgical instrument, allowing the contents to drain. The lesion may be curetted and irrigated. The physician leaves the surgical wound open to allow for continued drainage or the physician may place a Penrose latex drain or gauze strip packing to allow continued drainage. Report 10060 for incision and drainage of a simple or single abscess. Report 10061 for complex or multiple cysts. Complex or multiple cysts may require surgical closure at a later date.
Billing and Coding

- CPT 10060
  - Approved diagnoses are listed in the Coding Companion for Ophthalmology™
  - For our purposes:
    - 686.1 Pyogenic granuloma
    - 706.2 Sebaceous cyst
- Medicare reimbursement: $106.53
Billing and Coding

- CPT 11200
  - Description
    - Removal by scissoring or any sharp method, ligature strangulation, electrosurgical destruction or combination of treatment modalities, including chemical destruction or electrocauterization of wound, with or without local anesthesia.

- CPT 11200
  - Removal of skin tags, multiple fibrocutaneous tags, any area; up to and including 15 lesions
Billing and Coding

- Approved diagnoses:
  - 216.1  Benign neoplasm of eyelid including canthus
  - 374.51  Xanthelasma
  - 374.84  Cysts of Eyelids
  - 686.1  Pyogenic granuloma
  - 706.2  Sebaceous cyst
  - Others listed in the local coverage determination included in the handbook
Billing and Coding

- **CPT 11310**: Shaving of epidermal or dermal lesion, single lesion, face, ears, eyelids, nose, lips, mucous membrane; lesion diameter 0.5 cm or less

- **CPT 11310**
  - Report 11310 for lesion diameter of 0.5 cm or less; 11311 or 0.6 cm to 1 cm; 11312 for 1.1 cm to 2 cm; and 11313 for lesions greater than 2 cm
  - Approved, relevant diagnoses:
    - 686.1 Pyogenic granuloma
    - 216.1 Benign neoplasm of eyelid, including canthus
  - Reimbursement: $87.71 (11310)
Billing and Coding

- CPT 11440: Excision, other benign lesion including margins, except skin tag (unless listed elsewhere), face, ears, eyelids, nose, lips, mucous membrane; excised diameter .5 cm or less
  - Relevant diagnoses:
    - 216.1 Benign neoplasm of eyelid, including canthus
    - 686.1 Pyogenic granuloma
    - 706.2 Sebaceous cyst
  - Reimbursement: $123.55
Billing and Coding

- CPT 17110: Destruction (eg, laser surgery, electrosurgery, cryosurgery, chemosurgery, surgical curetttement), of benign lesions other than skin tags or cutaneous vascular proliferative lesions; up to 14 lesions **Ellman Unit**

  - Relevant diagnoses
    - 078.0 Molluscum contagiosum
    - 216.1 Benign neoplasm of eyelid, including canthus
    - 706.2 Sebaceous cyst

  - Reimbursement: $99.84
Billing and Coding

- **CPT 17000**: Destruction (eg, laser surgery, electrosurgery, cryosurgery, chemosurgery, surgical curettament), premalignant lesions (eg, actinic keratoses); first lesion **Ellman Unit**
- **Report 17003** second through 14 lesions
  - Relevant diagnosis: 702.0 Actinic keratosis
  - Reimbursement: $73.91 (17000), $6.18 per lesion for 17003
Billing and Coding

• CPT 11900: Injection, intralesional; up to and including 7 lesions
  • Description: The physician uses a syringe to inject a pharmacologic agent underneath or into seven or fewer skin lesions in 11900 and more than 7 in 11901. The lesions may be any diagnosed skin lesions. Steroids or anesthetics (not preoperative local anesthetic) may be injected.
  • Relevant diagnosis is 373.2 Chalazion
  • Reimbursement: $ 51.04
Billing and Coding

- **CPT 67800**: Excision of chalazion, single
  - 67801: Multiple, same lid
  - 67805: Multiple, different lids
- **ICD-9 Code**
  - 373.2 Chalazion
- **Medicare reimbursement:**
  - 67800: $121.67
  - 67801: $158.21
  - 67805: $195.92
Billing and Coding

- CPT 67840: Excision of lesion of eyelid (except chalazion) without closure or with simple direct closure

  - Relevant diagnoses:
    - 216.1 Benign neoplasm of eyelid, including canthus
    - 374.51 Xanthelasma of eyelid
    - 374.84 Cysts of eyelids
    - 706.2 Sebaceous cyst

- Reimbursement: $255.76
Billing and Coding

- CPT 67850: Destruction of lesion of lid margin (up to 1 cm) **Ellman Unit**
  - Relevant diagnoses:
    - 216.1 Benign neoplasm of eyelid, including canthus
    - 373.2 Chalazion
    - 374.84 Cysts of eyelids
    - 706.2 Sebaceous cyst
  - Reimbursement: $197.41
Billing and Coding

- **CPT 68200: Subconjunctival injection**
  - Relevant diagnoses
    - 364.3 Unspecified iridocyclitis
    - 372.71 Hyperemia of conjunctiva??
    - **NOTE** microbial keratitis not in the coding companion, although description mentions antibiotic injection
  - Reimbursement: $39.45
Billing and Coding

- Comments
  - The 11....codes are often associated with the removal of “benign skin lesion removal”. The reimbursement is lower, and the coverage is less reliable. If the diagnosis supports it, use the 67....codes
  - Often times insurance will request medical records for review of the 11....codes and will tend to pay only if there is clinical suspicion of malignancy; naturally if you had a strong suspicion of malignancy, you wouldn’t be the one removing anyway....
  - Otherwise consider explaining the coverage issues with your patients and consider a cash pay arrangement
  - For further info see the Local Coverage Determination for Removal of Benign Skin Lesions (L30330)
Wrap-up

- Hopefully this presentation has allowed you to be better prepared to offer injections and minor surgical procedures to your patients’
- Knowledge of the indications, the medications, patient education, infection control, office safety and billing are critical to the implementation of these services

- THANKS