Emergency Responses and Referral Procedures

Ocular Emergency Response & Referral Procedures

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Triage

• Sorting emergencies into urgent, priority and routine categories and routing them to the appropriate medical facility

Importance of Triage

• An error in judgment may cause:
  – Needless discomfort
  – Possible loss of vision
  – Potential malpractice suit

If In Doubt

• Check questionable emergencies with physician
• Err on the side of caution
• Schedule the patient ASAP

Tell Patient To Remove Lenses In Case Of

• Pain
• Redness
• Discharge
• Tearing
• Photophobia
• Foggy vision
• Haloes around lights
• WHEN IN DOUBT, TAKE IT OUT!

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Emergency Responses and Referral Procedures

Take A Thorough History

• What type of lenses are you wearing?
• Any redness, pain, itching, discharge, blur?
• Any sensitivity to light?
• When did the symptoms start?
• Did you try to treat them in any way?

History Taking

• Were you in a smoky environment?
• Were you exposed to chemical fumes?
  – Beauty salon
  – Handling hot peppers
• Do the lenses slip under your lids when you blink?
• Do the lenses film up quickly?

Critical Emergencies
Non Contact Lens Related

• Chemical burns
• Sudden loss of vision
• Penetrating injuries

Urgent Situations

History Taking

• Did you go to the ER or your family doctor?
• What solutions do you use? Please bring them.
• Do you usually sleep with your lenses in?
• Did you accidentally fall asleep with your lenses before the problem started?
• Did you wear your lenses longer than usual before your symptoms occurred?
Emergency Responses and Referral Procedures

The Red Eye
- Keratitis
- Keratoconjunctivitis
- Corneal ulcers
- Acanthamoeba keratitis
- Corneal abrasions
- Foreign bodies

The Red Eye
- Conjunctivitis
  - Bacterial
  - Viral
  - Chemical
  - Allergic
  - GPC

The Red Eye
- Hypoxia
- Tight lens syndrome
- Solution sensitivity
- Iritis
- Episcleritis
- Angle closure glaucoma

Symptoms of Corneal Involvement
- Watery and/or purulent discharge
- Blurred or cloudy vision
- Pain (often sharp or stabbing)
- Photophobia
- Circumcorneal injection
- Normal pupil size
Examples of Corneal Pathology

- Inflammation
- Abrasion
- Foreign body
- Chemical burn
- Damaged or poorly fit contact lens
- Corneal ulcer
- Infection

Corneal Ulcers

- Bacterial
- Viral (herpes simplex)
- Fungal
- Sterile

Corneal Infiltrates

- Inflammatory response to:
  - Trauma
  - Viral infection
  - Allergy
  - Toxic substances
  - Hypoxia
  - Environmental stimuli
Corneal Infiltrates

• Round, grayish-white sub-epithelial or stromal areas
• 0.5 to 2.0 mm in diameter
• Often with acute red eyes
• May resemble corneal ulcer

Acanthamoeba Keratitis

• Rare parasitic infection
• 1 / 500,000 incidence
• Red eye, photophobia
• Pain out of proportion to symptoms
• Pseudodendrite (often misdiagnosed as herpes simplex)
• Ring infiltrate
• Question patient regarding homemade saline, tap water rinses, wearing lenses in pool or hot tub

Corneal Staining

Remediable by Contact Lens Fitter

• 3 and 9 o’clock staining
• Arcuate staining
• Foreign body tracks (unless deep)
• Dimple veiling
• SPK from solution sensitivity, dirty or damaged lenses, improper lens fits
• Lens-related hypoxia
• Overwearing syndrome
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Corneal Staining
Refer to Eye Care Practitioner

- Possible viral infections
- Unknown etiology
- Severe coalesced staining from any cause
- Dellen formation
- Discrete lesions
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Corneal Abrasions and Foreign Bodies
- Redness
- Sharp, stabbing pain
- Photophobia

Lens Adhesion
- Causes of rigid lens adhesion
  - Dry eyes (loss of aqueous)
  - Abnormal tear chemistry (increased viscosity)
  - RGP extended wear

Lens Adhesion
- Causes of soft lens adhesion
  - Use of tap water
  - Dehydration
  - Sleeping with lenses
  - Tight fit

Cloudy Vision
- May be remedied by fitter
- Possibly corneal edema
- Old or coated lenses
- Steep lenses
- Pre-existing corneal dystrophy
Styes and Chalazia

- Stye is inflammation of lash follicle or surrounding glands
- Chalazion is chronic swelling of meibomian gland
  - No pain
  - No gross inflammatory signs
- Treat to avoid complications

Iritis

- Circumcorneal injection
- Blurred vision
- Moderate pain
- Photophobia
- No discharge
- Miotic pupil in affected eye
- Normal IOP

Episcleritis

- Localized inflammation of superficial scleral tissue
- Purplish injection, especially at canthi
- Pain on movement
- Deep pain, especially at night
- May indicate serious eye or systemic problem
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**Blepharitis**
- Inflammation of lid margin
- Acute or chronic
- Seborrheic or infectious (staph)
- Redness, burning, scaling of lid margins
- Multiple lesions, pus, crustiness
- Unstable tear film
- Prone to secondary infection
- May be poor CL candidate

**Pinguecula**
- Small yellowish-white elevated tissue mass
- On nasal or temporal bulbar conjunctiva
- Can become irritated from CL edge, irritation, dryness
- If lens related, modify RGP parameters and edge design

**Pterygium**
- Wing like growth of fibrovascular tissue
- Extend from the bulbar conjunctiva onto the cornea
## Angle Closure Glaucoma

- Red eye
- Marked blurring of vision
- Rainbows around lights
- Intense pain
- Partially-dilated oval pupil
- Cloudy cornea
- Elevated IOP
- Refer immediately as acute emergency

## Non-CL Related Acute Emergencies

- Lid lacerations
- Hyphema
- Blunt trauma
  - Blowout fracture
  - Hematoma
  - Hyphema
  - Retinal detachment
- Sudden onset of double vision in adults
- Protrusion of an eye
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Retinal Detachment
Symptoms
• Flashes of light
• Ascending veil or curtain
• Sudden loss of vision
• Serious, needs immediate referral

Vitreous Detachment
Symptoms
• Flashes of light
• Floaters
• Can result in retinal detachment but not generally serious

Priority Cases
• Most contact lens related priority cases can be managed by the fitter.
• Non contact lens related priority cases should be referred to the physician.
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Spectacle Blur
- Blur and distortion after contact lens removal
  - Corneal edema
  - Mechanical molding
  - Combination of edema and molding

Lens Slippage
- Possibly GPC
- Possibly inside out lens
- Possibly dirty lens
- Possibly poor fitting lens

Scleral Indentation
- Imprint of lens edge on sclera
  - Possibly tight lens
  - Possibly thick edge

Sub-Conjunctival Hemorrhage
- Possibly insertion or removal trauma
- Possibly spontaneous
- Possibly coughing spell or retching
- Possibly high blood pressure
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Ptosis

- Rigid lens wear
- Serious neurological problem

Lens Discomfort

- Dry eyes
- Damaged lenses
- Inverted lenses
- Soiled lenses
- Poor fit

Lens Discomfort

- Solution sensitivity
- Foreign body under or embedded in lens
- Allergies
- Adverse environmental conditions
- GPC
The Routine Case

- Decreased wear time
- Change in near or distance vision
- Fluctuations in vision
- Ghosting
- Lid twitches
- Lost or damaged lenses