CEN: HEENT Emergencies

Eye trauma and sudden vision loss, cornea, orbital infection, nosebleeds, ear and nose foreign bodies, teeth and jaw, facial fractures, deep neck infections

AIRWAY FIRST, THEN SIGHT

RED FLAG	THINK	FIRST MOVE
Drooling, muffled voice, trismus, sitting forward	Ludwig angina, epiglottitis, deep neck abscess	Keep upright, no throat exam, airway team and surgical airway kit
Blood from the mouth, pale, tachycardic nosebleed	Posterior or large epistaxis	Seen first: airway and volume
Peaked pupil, visible laceration, shallow or deep chamber	Open globe	Rigid shield, no pressure, NPO, antiemetic
Chemical splash in the eye	Alkali or acid burn	Irrigate now, before history or acuity
Sudden painless loss of vision in one eye	Retinal artery occlusion	Stroke pathway at once
Proptosis, tense lids, falling vision, afferent pupil defect after trauma	Orbital compartment syndrome	Bedside lateral canthotomy and cantholysis, no wait for CT
Button battery in nose or ear	Liquefaction necrosis	Remove immediately, never irrigate

EXAM TIP Facial trauma: airway, c-spine and bleeding come before the eye or the teeth (see Trauma: Primary and Secondary Survey). Check visual acuity on every eye complaint except a chemical burn, where irrigation comes first.

EYE TRAUMA

INJURY	CLUES	DO	AVOID
Open globe	Laceration, Seidel sign, irregular pupil, odd chamber depth, no red reflex	Shield taped to bony rim, NPO, IV antibiotics, antiemetic, tetanus, CT	Patch, pressure, drops or ointment, MRI
Chemical burn	Alkali worse (liquefies, penetrates)	Irrigate at least 30 min, to pH 7.0 to 7.2, sweep fornices	Delay, neutralizing agents, home anesthetic
Hyphema	Layered blood in the anterior chamber	Head up 30 to 45 degrees, shield, IOP checks, sickle screen	NSAIDs, aspirin; acetazolamide or mannitol in sickle disease or trait
Orbital compartment syndrome	Proptosis, tense orbit, high IOP, afferent pupil defect, falling vision	Immediate lateral canthotomy and inferior cantholysis, HOB 45	Waiting for imaging or drugs
Blowout fracture	Diplopia on upgaze, enophthalmos, cheek and upper lip numbness	Thin-cut CT, check the globe	Nose blowing

SUDDEN VISION LOSS AND THE RED, PAINFUL EYE

CONDITION	PICTURE	ACTION
Central retinal artery occlusion	Sudden, painless, one eye; afferent pupil defect; pale retina, cherry-red spot (transient, may be absent late)	Stroke alert; over 50 screen for giant cell arteritis; massage and rebreathing unproven
Giant cell arteritis	Over 50, new headache, scalp tenderness, jaw claudication	ESR, CRP, platelets; steroids now, biopsy within 2 weeks after
Retinal detachment	Painless flashes, new floaters, spreading curtain; myopia, cataract surgery, trauma	Urgent ophthalmology; most urgent while central vision is threatened
Acute angle closure	Painful red eye, halos, hazy cornea, fixed mid-dilated pupil, nausea and vomiting; IOP often 40 to 80	Drops and acetazolamide at once, ophthalmology; avoid dilating drugs
Gas bubble after retina surgery	Recent vitrectomy or pneumatic retinopexy; bubble lasts up to 2 months	No nitrous oxide: it expands the bubble and can occlude the artery

CORNEA

FINDING	MEANS	PLAN
Vertical linear streaks on upper cornea	Particle under the upper lid	Evert the upper lid and remove it
Simple abrasion	Heals in 1 to 3 days	Antibiotic ointment, oral analgesia, recheck in 1 to 2 days; no patch
Abrasion in a contact lens wearer	Pseudomonas risk	Antipseudomonal drop or ointment (ciprofloxacin), no lenses until healed, no patch
White infiltrate, hypopyon	Bacterial keratitis; can destroy the cornea within 24 h	Same-day ophthalmology, scraping and culture
Branching lesion with end bulbs	Herpes simplex keratitis	Topical or oral antiviral, ophthalmology; no steroid drops

- ACEP 2024: for a simple abrasion, a 24-hour supply of topical anesthetic (1.5 to 2 mL at most, as needed up to every 30 min), the rest discarded at 24 h.

LID SWELLING: PRESEPTAL OR ORBITAL?

FEATURE	PRESEPTAL	ORBITAL	CAVERNOUS SINUS THROMBOSIS
Where	Lid and skin in front of the septum	Fat and muscle behind the septum	Clot spread back through valveless veins
Signs	Lid swelling only; vision, motility, globe normal	Proptosis, pain with eye movement, ophthalmoplegia, chemosis, falling acuity	Signs in both eyes, CN VI palsy first, then III and V; confusion
Treat	Oral or IV antibiotics	Admit, IV meningitic-dose antibiotics, ophthalmology	High-dose IV antibiotics, heparin if no contraindication
Workup	Clinical	Contrast CT of orbits and sinuses	MRI or CT, venogram

SAFETY Recheck acuity, pupils and eye movement on every orbital cellulitis patient. Falling vision or a new afferent pupil defect means optic nerve compromise and emergency drainage.

NOSE

1. Sit up and lean forward; pinch the soft lower nose firmly for at least 5 min (AAO-HNS), 10 min in usual teaching.
2. Vasoconstrictor-soaked pledgets, find the site, cautery; then packing (resorbable if on anticoagulants or a bleeding disorder).
3. Posterior bleed: balloon or posterior pack, admit to a monitored bed, oxygen.

- Not life-threatening and anticoagulated: local measures first, before reversal, transfusion or stopping the drug.
- Toddler with one-sided foul discharge: retained foreign body. Button battery: remove immediately.
- Posterior pack: watch for the balloon slipping back or pushing the palate down, and falling SpO_2.

EAR

PROBLEM	DO	DO NOT
Live insect	Kill it first (lidocaine 2%, mineral oil or alcohol), then remove under vision	Instill anything if the eardrum may be perforated
Bean, seed, other organic object	Hook or instrument behind it; refer if it fails	Irrigate (it swells)

TEETH AND JAW

INJURY	KEY POINT	ACTION
Avulsed permanent tooth	Ligament cells die as the root dries	Hold by the crown, rinse 10 s at most, no scrubbing, replant now or store in milk or saline
Avulsed primary tooth	A replanted primary tooth dies, can get infected and can block the permanent tooth	Do not replant; dental check
Mandible fracture	Malocclusion, step-off, lip or chin numbness	Airway and suction; open fracture if through a socket: antibiotics
Anterior TMJ dislocation	Mouth locked open after a yawn; one side: chin shifts to the unaffected side	Trauma: CT first. No fracture: reduce promptly

DEEP NECK AND THROAT INFECTIONS

CONDITION	CLUES	PRIORITY
Ludwig angina	Lower molar infection, board-hard floor of mouth, tongue pushed up, drooling, trismus	Awake fiberoptic nasal intubation or tracheostomy; IV antibiotics; drainage
Epiglottitis	Drooling without a barking cough, tripod, toxic; adults now more common	No throat exam, upright and calm, airway in OR; ceftriaxone

SAFETY Ludwig angina can close the airway within hours. Securing the airway comes before CT, antibiotics or drainage.

FACE: STROKE OR BELL PALSY?

- Whole half of the face including the forehead: peripheral facial nerve (Bell) palsy.
- Forehead spared, can close the eye tightly: central lesion such as stroke.

Sources (33) are listed with links at erbasics.com/sheets/cen-heent.html. For education and exam preparation only. Not medical advice; follow current guidelines and your institution's protocols. ER Basics is an independent study aid not affiliated with any certifying body.