

Eye Trauma in Primary Care

A practical, memory-friendly guide to recognising and managing the injured eye — what to do in the first minutes, the red flags you must never miss, and who to refer (and how fast).

GP TRAINEES & IMGs

UK GUIDANCE · NICE-LED

QUICK-REFERENCE

★ THE ONE RULE THAT FRAMES EVERYTHING

Life before sight. In any major trauma, treat airway, breathing and circulation (ABCDE) first — a painful eye never outranks a life-threatening injury. **But the eye must still be examined.** A swollen eye left unexamined for days can quietly lose its sight. Make time, gain a view, and act on what you find. **The single exception:** a chemical splash — here you **irrigate first**, before history or examination.

1 Why this matters

Eye injuries are common in general practice, minor-injury units and minor surgery. Most are minor and settle quickly. A small number are sight-threatening emergencies where **minutes decide the outcome**. The skill is not treating every injury yourself — it is **sorting the dangerous from the trivial** and moving the dangerous ones fast.

This guide gives you a simple, repeatable approach, then walks through each major injury as a quick-reference card with the same headings every time: *what you'll see, what you must do, and how urgently to refer*.

👁 HOW INJURIES HAPPEN

- **Blunt** — fists, balls, falls, road traffic collisions (the commonest cause)
- **Sharp / penetrating** — glass, knives, hooks, broken spectacles
- **High-velocity** — hammering metal-on-metal, grinding, power tools (think hidden foreign body)
- **Chemical** — household cleaners, industrial acids and alkalis
- **Radiation (UV)** — welding arcs, sunbeds, bright snow

2 A 60-second anatomy refresher

You only need a working map of the eye to make safe decisions. Two pictures do the job: the **outside** (what tears and lids do) and a **slice through the middle** (where injuries cause trouble).

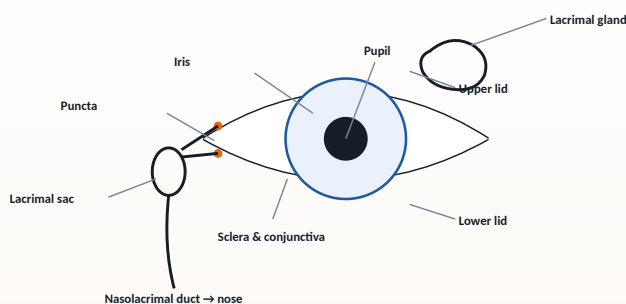


Figure 1 • The eye from the front. Tears flow gland → eye → puncta → sac → nasolacrimal duct → nose. The thin lids and conjunctiva bruise and swell easily.

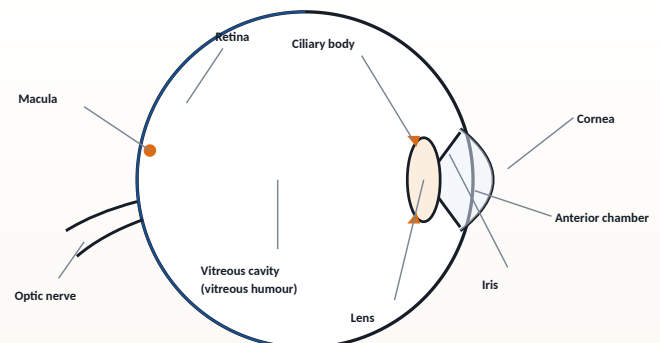
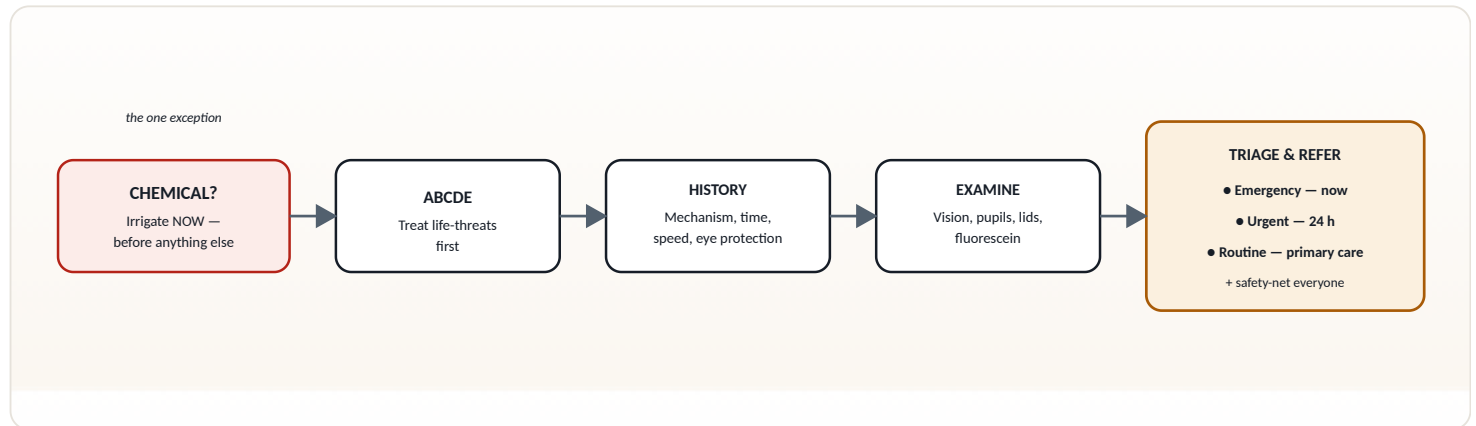


Figure 2 • A slice through the eye. Blood in the *anterior chamber* is a hyphaema; the large posterior space is the *vitreous cavity*. (The original chart mislabelled this as the "posterior chamber" — now corrected.)

3 Your first few minutes: a simple order of play

Follow the same path every time. It keeps you safe when the eye looks alarming and you feel rushed.



4 History: ask the questions that change your plan

A focused history often tells you the danger before you touch the eye. The high-velocity and chemical questions are the ones that catch hidden, sight-threatening injuries.

ASK	WHY IT MATTERS
What caused it, and how fast was the object moving?	Hammering, grinding or chiselling metal can fire a tiny fragment into the eye with almost no external sign. Treat any high-velocity injury as a penetrating injury until proven otherwise.
Was a chemical involved?	If yes — stop the history and irrigate. Identify acid vs alkali later; do not delay washing.
Was eye protection worn?	Goggles slow or stop fragments. Their absence raises the odds of a serious injury.
How is the vision now — and was it normal before?	New blurring, double vision or loss is a red flag. Always compare with the other eye.
Pain, light sensitivity, watering, "gritty" feeling?	Severe pain or marked photophobia suggests corneal or intra-ocular involvement, not a trivial graze.
Contact lenses — worn at the time, still in?	A contact-lens wearer with a red, painful eye is high-risk for sight-threatening infection. Remove lenses; refer.
Tetanus status & eye history (glaucoma, previous surgery, medication)?	Penetrating and dirty wounds may need tetanus cover; background disease changes risk and management.

5 Examination: a quick, safe routine

Work from the outside in. **Visual acuity is your single most important measurement** — record it for both eyes, with glasses or a pinhole if needed.

Look	Test	Feel — with care
• Lids: bruising, swelling, drooping (ptosis), lacerations • Sclera & conjunctiva: redness, blood, gel-like swelling (chemosis) • Cornea, iris, pupil: clarity, shape, any visible wound or foreign body • Evert the upper lid to find hidden sub-tarsal foreign bodies	• Pupils: size, shape, equal? Direct & consensual reaction • Eye movements in the "H" pattern — pain or restriction suggests a trapped muscle or fracture • Fluorescein under a blue light: epithelial defects glow green • Seidel sign — a stream of clear fluid washing through the green dye means the globe is leaking (open injury)	• Gently palpate the bony rim for steps, tenderness, crepitus • Check cheek/upper-lip sensation (infra-orbital nerve) • You must NOT palpate or press an eye that might be ruptured — pressure can push the contents out

ALWAYS

- ✓ Examine and compare **both** eyes
- ✓ Use a topical anaesthetic to gain a view of a painful eye — then actually examine it, don't defer for days
- ✓ Record visual acuity before and after any intervention

NEVER

- ✗ Force the lids open against a clenched, painful eye
- ✗ Press on, pad, or instil drops into a suspected open globe
- ✗ Send a patient home with topical anaesthetic drops

6 The injuries — what you'll see, what you must do

Each card uses the same three parts: **what you'll see**, **what you must do**, and a colour chip for **how urgently to refer**. The two red cards at the top are the ones where minutes matter most.



Chemical burn

Acid or alkali splash

EMERGENCY · NOW

YOU'LL SEE

- Severe pain, streaming tears, red eye
- Cornea may look hazy or opaque
- In severe alkali burns the eye can look *deceptively white* (blanched vessels) — a bad sign, not a good one

YOU MUST DO

- **Irrigate immediately** — before history or examination. Use 0.9% saline or Hartmann's; if neither is to hand, use tap water. Do not delay searching for the "right" fluid
- Anaesthetise, then evert both lids and sweep the fornices for particles
- Continue until pH is neutral (~7.0–7.5) and stays neutral ~10 min after stopping (normal eye pH 7.4)
- Refer same-day to the emergency eye service. **Do not prescribe steroids yourself**

Hook Alkali keeps digging; acid builds a wall. Alkalis penetrate deeper and for longer — so irrigate alkali burns even harder and longer.



Open globe / penetrating injury

Includes intra-ocular foreign body

EMERGENCY · NOW

YOU'LL SEE

- A full-thickness wound, or a tear-drop ("peaked") pupil
- Dark uveal tissue in the wound; a soft, low-pressure eye
- A positive Seidel sign. **May follow hammering metal with almost nothing to see**

YOU MUST DO

- ✗ You must **NOT** press, pad or instil drops
- ✗ You must **NOT** remove a protruding object
- ✓ Cover with a **rigid shield** (e.g. Cartella) on the bony rim — no pressure
- ✓ Keep nil by mouth; give analgesia *and* an anti-emetic (vomiting raises eye pressure)
- ✓ Give tetanus cover; refer to ophthalmology **immediately**
- ✓ Imaging is **CT**. **MRI is contraindicated** until a metallic fragment is excluded

Hook Treat it like a **cracked egg**: never squeeze it — just shield it and move it carefully.



Hyphaema

Blood in the anterior chamber

EMERGENCY · SAME-DAY

YOU'LL SEE

- Blood pooled in front of the iris, settling to a level when upright
- Pain and reduced vision (harder to spot in brown eyes)

YOU MUST DO

- ✓ Sit upright / elevate the head to ≥30–45° and rest — blood settles and clears the line of sight
- ✓ Protect with a shield; avoid bending and straining
- ✓ **Avoid aspirin and other NSAIDs** (rebleed risk) — use paracetamol
- ✓ Refer same-day. Rebleeding risk peaks in the **first 3–5 days**

Hook Like **sediment in a glass** — sit the patient up and the blood settles out of the way.



Blunt trauma & orbital (blow-out) fracture

Punch, ball, fall

REFER · URGENCY VARIES

YOU'LL SEE

- Periorbital bruising and swelling
- **Double vision, especially looking up**, with restricted movement (a trapped muscle)
- Numb cheek/upper lip; a sunken-looking eye (enophthalmos); surgical emphysema

YOU MUST DO

- ✓ Check eye movements, diplopia and cheek sensation
- ✓ Always exclude a hidden globe injury and hyphaema
- ✓ **Advise the patient NOT to blow their nose** — it forces air into the orbit
- ✓ Refer to ophthalmology / maxillofacial. **Same-day** if globe injury, marked diplopia/entrapment or any vision change



Corneal abrasion & superficial foreign body

The everyday eye injury

OFTEN PRIMARY CARE

YOU'LL SEE

- Pain, watering, photophobia, "something in my eye"
- Green staining of the defect with fluorescein under blue light

YOU MUST DO

- ✓ Anaesthetise to examine; **evert the upper lid** to catch a hidden foreign body
- ✓ Lift a loose, superficial foreign body off with a moist cotton bud
- ✓ Prescribe topical **chloramphenicol** as prophylaxis (ointment also soothes; fusidic acid if pregnant or family history of blood dyscrasias)
- ✓ Oral analgesia. **Do not pad routinely**; do not send anaesthetic home

REFER (DO NOT REMOVE YOURSELF)

- Embedded, central or visual-axis foreign body, or a rust ring
- Not improving in 24–48 h, or any contact-lens wearer



Photokeratitis (arc eye)

UV "sunburn" of the cornea

OFTEN PRIMARY CARE

YOU'LL SEE

- **Both eyes**, intense pain, watering and photophobia **6–12 h after** welding, a sunbed or bright snow
- Fine punctate staining with fluorescein

YOU MUST DO

- ✓ Reassure: like sunburn of the cornea, it usually heals in **24–48 h**
- ✓ Oral analgesia and lubricants; consider chloramphenicol prophylaxis
- ✓ Anaesthetic to examine only — never for home use
- ✓ Advise proper UV eye protection. Refer if vision is reduced, the cornea is hazy, or it is not settling



Traumatic iritis (anterior uveitis)

Inflammation behind the cornea

URGENT · WITHIN 24 H

YOU'LL SEE

- An aching red eye with marked photophobia, watering and blurred vision, days after blunt trauma
- **Consensual photophobia** — shining light in the *good* eye hurts the bad one
- Redness gathered around the cornea ("ciliary flush"); a small or irregular pupil

YOU MUST DO

- ✓ Refer to ophthalmology **within 24 hours** (same-day if severe pain with vision loss)
- ✓ Treatment is specialist — a topical steroid plus a dilating drop. **Do not start steroids yourself**



Subconjunctival haemorrhage

Blood under the surface

REASSURE · PRIMARY CARE

YOU'LL SEE

- A flat, bright-red patch under the conjunctiva; the rest of the eye is white
- Vision normal, no pain

YOU MUST DO

- ✓ Reassure — it looks dramatic but is harmless and clears over 1–2 weeks

BUT AFTER TRAUMA

- If you **cannot see the back edge** of the blood, or there is pain or reduced vision, exclude a ruptured globe and refer
- If recurrent or spontaneous, check blood pressure and anticoagulation

⚠ EYELID LACERATIONS — KNOW WHICH ONES TO REFER

A simple, shallow skin cut away from the lid margin can be cleaned and closed locally. **You must refer** (oculoplastics) any laceration that involves the **lid margin**, the **inner corner / tear-drainage area** (canaliculus), is **full-thickness**, shows **orbital fat**, or affects the muscle that lifts the lid (levator) — and always exclude an underlying globe injury first.

7 Principles that apply to every eye injury

ALWAYS DO

- ✓ Check and record **visual acuity** in both eyes — the most important single number
- ✓ Give adequate analgesia; reassure and keep the patient calm
- ✓ Consider **tetanus cover** for penetrating or contaminated wounds
- ✓ Remove contact lenses; advise no eye-rubbing
- ✓ **Safety-net everyone** — clear instructions on what should improve and when to return

NEVER DO

- ✗ Never press on or pad a possibly ruptured globe; never remove a penetrating object
- ✗ Never instil drops into a suspected open globe
- ✗ Never start **topical steroids** in primary care for an undifferentiated red or injured eye
- ✗ Never dispense topical anaesthetic for home use
- ✗ Never assume a quiet, swollen eye is uninjured without examining it

Why no anaesthetic to take home? It is like **switching off the smoke alarm**: the pain stops, but the warning is gone — repeated use is toxic to the cornea and hides a worsening injury.

TETANUS

Penetrating eye injuries and wounds containing foreign material or contamination are **tetanus-prone**. Assess immunisation status and give a tetanus-containing vaccine ± immunoglobulin in line with current UKHSA guidance.

SYMPATHETIC OPHTHALMIA

A rare autoimmune inflammation of **both** eyes that can follow a penetrating injury to one eye — from days to years later. Prompt specialist care of the injured eye lowers the risk: another reason penetrating injuries reach ophthalmology fast.

PREVENTION IS PART OF THE CONSULTATION

Most serious eye injuries are preventable. Advise impact-rated eye protection for DIY, grinding, hammering metal and sport, and UV-rated protection for welding, sunbeds and bright snow. A 20-second word about goggles can save an eye.

8 Triage at a glance — who goes where, how fast

When in doubt, **speak to the on-call eye team**. It is always safer to discuss a worrying eye than to wait.

Colour shows urgency, not diagnosis — a "routine" condition with red-flag features moves up the list.

URGENCY	TYPICAL INJURIES	ACTION
EMERGENCY · NOW	Chemical burn · suspected open globe / penetrating injury or intra-ocular foreign body · hyphaema · sudden loss of vision after trauma · high-velocity or glass injury · suspected globe rupture	Irrigate a chemical burn <i>first</i> . Otherwise shield, keep nil by mouth if surgery likely, and refer to / discuss with the emergency eye service immediately .
URGENT · ≤24 H	Traumatic anterior uveitis (iritis) · orbital blow-out fracture with diplopia, entrapment or numbness · margin / medial / deep eyelid laceration · embedded or rust-ring foreign body · contact-lens wearer with a red, painful eye · abrasion that is large, central or not settling	Refer to ophthalmology (or maxillofacial for fractures) within 24 hours. Give analgesia and clear safety-netting.
ROUTINE · PRIMARY CARE	Small, simple corneal abrasion · easily removed superficial foreign body · mild settling photokeratitis · subconjunctival haemorrhage · periorbital bruising with a normal eye examination	Manage in primary care. Prophylactic chloramphenicol where indicated, analgesia, and review in 24–48 h if not improving.

9 Safety-netting: the words that protect your patient

Tell every patient with an eye injury to return urgently — or go to the emergency eye service — if any of these happen:

- Vision drops, blurs or doubles
- Pain gets worse rather than better
- New flashing lights, floaters or a "curtain" over vision
- Increasing redness, discharge or light sensitivity

Document the advice you gave, the visual acuity you recorded, and the time of any referral. Good notes are part of good safety-netting.

10 Key UK sources

- NICE CKS. *Red eye; Corneal superficial injury* (assessment, red flags, prophylactic chloramphenicol, when to refer).
- College of Optometrists. Clinical Management Guidelines: *Photokeratitis (arc eye); Anterior uveitis; Corneal abrasion / foreign body*.
- Royal College of Ophthalmologists & Community Eye Health Journal — *Managing eye injuries* (open-globe, hyphaema, IOFB; shield not pad; CT, MRI caution).
- RCEMLearning / BJGP / Prescriber (2024) — emergency management of chemical eye injury and the red eye in primary care.
- UK Health Security Agency (2024). *Tetanus: management of tetanus-prone wounds*.
- BNF / NICE — topical anaesthetics (tetracaine, oxybuprocaine, proxymetacaine) and chloramphenicol eye preparations.

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