Golden eye rules

Examination techniques

1 Always test and record vision

wearing distance spectacles

test each eye separately

A 1mm pinhole will improve acuity in refractive errors

Snellen chart (6 metre)

2 More mistakes in medicine are made by not looking than not knowing

good illumination and magnification (slit lamp optimal)

for examination of the fundus and if no head injury, use tropicamide 0.5% to dilate the pupil (risk of precipitating angle closure crisis is low)

Slit lamp microscope

3 Examine the pupil reflexes if visual acuity is abnormal with no obvious cause

a relative afferent pupillary defect suggests an optic nerve defect or a large retinal insult.

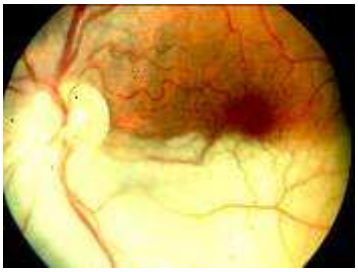
a unilaterally dilated pupil can be the first sign of a third nerve palsy from intracranial aneurysm.

other causes of abnormal pupils includes drugs, trauma, angle closure glaucoma and uveitis

Iritis: bound down pupil

4 Visual field examination can differentiate an eye cause from central cause of vision loss

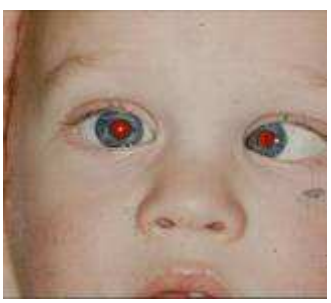
Horizontal defect in glaucoma, branch retinal artery or vein occlusion
Bitemporal vertical defect suspect pituitary tumour
Homonymous vertical defect suspect intracranial lesion, CVA



Branch artery occlusion

5 no child is too young for an eye exam

check the red-reflex of every newborn
refer any suspected squint immediately



Left esotropia: normal red reflex

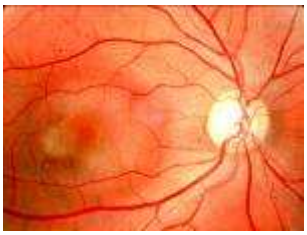
Urgent ophthalmic conditions

6 sudden loss or blurring of vision is an emergency

always exclude temporal arteritis (headache, jaw claudication, scalp tenderness, constitutional symptoms, relative afferent pupil defect, raised ESR, CRP) because of immediate risk to other eye

other causes are retinal artery or vein occlusion, vitreous and macular haemorrhage, retinal detachment (vision loss preceded by floaters and flashes) and optic nerve ischaemia.

Distortion of vision may indicate macular disease



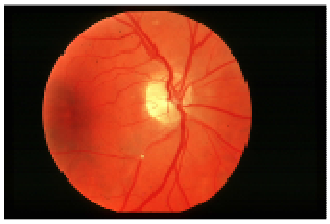
Age related macular disease

7 transient blindness can be serious

temporal arteritis

carotid artery disease

exclude migraine aura



Retinal arteriole embolus

8 never ignore new onset diplopia

binocular diplopia can be the first sign of temporal arteritis or posterior communicating artery aneurysm.

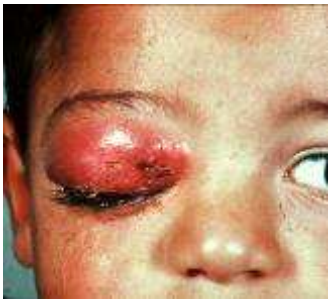
low threshold for imaging

Temporal arteritis

9 orbital cellulitis is a life threatening infection

pain on eye movement is often the first sign of orbital involvement in a patient with lid swelling and redness.

Late signs include proptosis, diplopia, and relative afferent pupillary defect.



Orbital cellulitis: orbital foreign body

10 headaches are rarely due to a refractive cause

ocular causes - examine for acute angle closure crisis and iritis

extra-ocular causes - examine for papilloedema, visual field defects and temporal arteritis

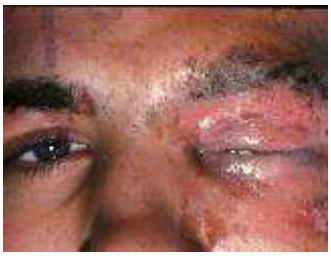
Papilloedema

Trauma

11 always irrigate chemical burns

immediately irrigate copiously with water for 15 minutes (instill local anaesthesia to assist)

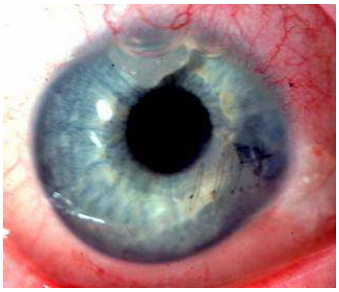
immediate referral



Recent alkali burn

12 A penetrating eye injury is an emergency

cover with an eye shield, nil by mouth, and refer. Do not instill any drops or ointment if penetrating injury suspected.



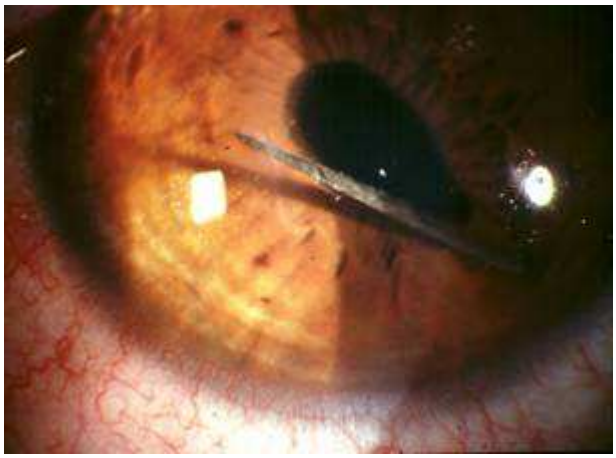
Penetrating eye injury: ointment within eye

13 Do not remove all ocular foreign bodies

do not remove corneal foreign bodies that are deep central.

Do not remove penetrating foreign bodies

suspect intraocular foreign body if history of hammering or high-speed injury



Penetrating foreign body through cornea

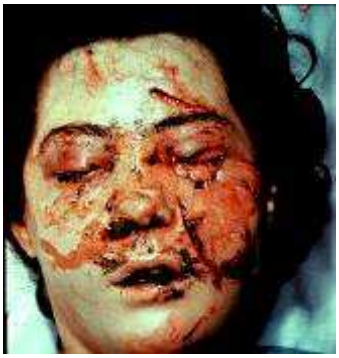
14 a corneal abrasion should improve in 24 hours if the cause is removed

evert the eyelid to exclude foreign body and check conjunctival fornices
exclude corneal ulcer (white infiltrate, common in contact lens wearer)
use antibiotic ointment
consider padding if pain is severe
review daily until lesion heals

Subtarsal foreign body

15 eye injury needs to be excluded in facial and lid injury

eye lid lacerations require accurate apposition of the lid margin
do not excise eyelid skin
beware of inner canthal injury to lacrimal drainage system



Facial and eyelid lacerations: eyes needs attention first

Acute red eye

16 beware the unilateral red eye

Common causes include foreign body, trauma, corneal ulcer, uveitis, acute glaucoma, herpes simplex keratitis or herpes zoster ophthalmicus (especially if nose involved).

in herpes simplex, it may be relatively painless, with a history of recurrence

increasing redness or reduction in vision in any patient with recent intraocular surgery is intraocular infection until proven otherwise

if cause uncertain refer

Corneal foreign body

17 Red eye examination can determine urgency

Test vision first as the combination of reduced vision and red eye is an emergency

remove contact lens if present

use local anaesthetic drops in examination of painful lesions, not for continued pain relief.

fluorescein highlights epithelial abrasions or ulcers

redness maximal around cornea may indicate intraocular inflammation

less urgent: tarsal gland infections, subconjunctival haemorrhage in absence of trauma

Intraocular infection

18 irritable eyes are often

dry eyes if they burn and sting
blepharitis if lids are red and raw
allergy if itchy

Eye drop allergy

19 conjunctivitis is almost always bilateral

usually self limiting and will resolve without antibiotics
swollen pre-auricular node suggests viral or chlamydial cause
always wash your hands after examination

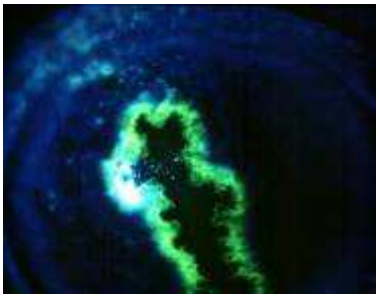
Bacterial conjunctivitis

20 Topical steroid use should be limited and supervised

Topical steroid induced glaucoma can lead to blindness. Do not allow prolonged use without ophthalmic supervision.

Topical steroids can promote herpes simplex corneal ulceration and fungal infection

Systemic steroids can induce cataract



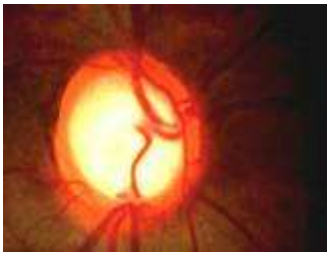
Steroid promotion of herpetic ulceration

Gradual vision loss

21 Early diagnosis and adherence to treatment are keys to glaucoma management

Refer relatives of a patient with glaucoma for screening

Ensure patients have a supply of glaucoma medication and promote compliance



Glaucoma optic neuropathy

22 blindness in diabetes mellitus is largely preventable

tight glycaemic control, reducing lipid and blood pressure reduce the risk of retinopathy developing and progressing

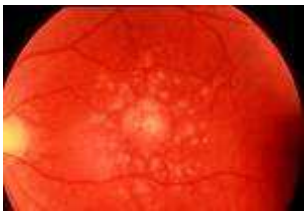
refer all patients with diabetes for retinopathy screening

concurrent management of hypertension is critical

Refer as soon as diagnosed or suspected

23 Age-related macular degeneration may be treatable

Suspect age-related macular degeneration if gradual vision loss and distortion on Amsler grid. Sudden changes need urgent assessment.



Macular drusen: any vision disturbance is an emergency

24 Cataract surgery is the commonest eye operation

refer if quality of life is impacted by cataract
less risk when surgery undertaken early than late
no need to cease anticoagulants prior to routine cataract surgery

cataract

25 Simple lifestyle advice can improve ophthalmic health

Regular eye exam every 2 years
Use eye protection (sports, industry and sunglasses). UV exposure related to pterygium, cataract, macular health and lid tumours (most are BCC)
Eat fish and green vegetable (macular health)
Smoking cessation (macula health, diabetic, cataract risk)
Wearing seat belts

Pterygium