BrienHoldenVisionInstitute

SUMMARY OF EYE CONDITIONS AND THEIR MANAGEMENT

The tables below describe many of the common eye conditions that you may see.

The first column of each table includes a brief description of the problem and the symptoms that someone with that problem may experience.

The second column describes what you should do and what you will see.

The final column explains how urgently and to whom you should refer.

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ACCIDENT OR INJURY

CHEMICAL BURNS OF THE EYE		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• When a chemical gets splashed into the eye or onto the eyelid
• The first and MOST important thing to do is to wash the chemical from the eye as soon as you can
• ***You should rinse the eye for at least 20 minutes before asking about symptoms!***
• Early symptoms could include:
  ○ Pain or irritation
  ○ Redness
  ○ Tearing
  ○ Sensitivity to light
  ○ Can struggle to keep the eye open
  ○ Blurry vision
  ○ Swelling of the eyelids.
  ○ Very serious burns can cause a total loss of vision.
	• The first and MOST important thing to do is to wash the chemical from the eye as soon as you can
	• Use saline or boiled water (that has cooled down) if you can, but use tap water if you have nothing else available
	• Keep rinsing the eye thoroughly for at least 20 minutes
	• Do not stop to take a comprehensive history or measure vision
	• If possible, get the person to an ophthalmologist or a doctor while you keep rinsing their eye
	• If there is no doctor available, you will have to examine the eye after 20 minutes of rinsing
	• Check visual acuity
	• Examine the eyelids, conjunctiva and cornea with a torch or slit lamp
	• Look for redness anywhere in the eye
	• If you can, also examine the cornea with fluorescein and cobalt blue light
	• Examine the skin around the eyes.
		• Ideally, all persons with a chemical burn of the eye should be seen by an ophthalmologist or medical practitioner as soon as possible – once the eye has been rinsed for at least 20 minutes
		• If that is not possible, you should at least refer any person with corneal staining
		• Any person with a chemical burn, who has eye pain, should also be referred.

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PENETRATING INJURY / FOREIGN BODY STUCK INSIDE THE EYE		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• When a foreign body penetrates the eyeball • Person might report something hitting them in the eye • There may be pain or discomfort • Opposite to what we might expect, penetrating injuries are often less painful than superficial foreign bodies on the eye – even though they are much more serious.	Measure vision (may be reduced, but not always) Carefully examine the eye with a slit lamp or a torch Check the pupils Try to keep the person calm Place a loosely fitting eye shield over the eye (not a pressure patch!) Make sure the shield does not press on the eye Have the person lie down while you arrange for a doctor or trained eye care professional to see them. **What NOT to do:** • Do *NOT* touch the person's eye • Do *NOT* let the person touch or rub their eye • Do *NOT* apply an eye patch • Do *NOT* try to remove or cut off any foreign body that might still be stuck in the eye • Do *NOT* allow the person to eat or drink anything – they might need to be given general anaesthesia and surgery to their eye.	• Anybody who has a penetrating eye injury needs to be referred to an ophthalmologist IMMEDIATELY – to prevent infection and to reduce further damage to the eye.

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SUPERFICIAL FOREIGN BODY (FB)		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• When a foreign body (like a piece of dust or dirt) rests somewhere on the eye, or gets stuck under the eyelids
• May cause discomfort or pain, which may be worse when blinking or with eye movements
• The person might report something flying into the eye.
	• Measure visual acuity
	• Examine the eye with a slit lamp or a torch
	• Check the cornea, conjunctiva and under the eyelids for:
	  ○ Foreign bodies
	  ○ Pus and blood
	• If possible, examine the cornea with a slit lamp and using fluorescein dye – this will also make it easier to find a foreign body in the eye
	• Try to rinse out the foreign body gently with clean water
	• Squirt the foreign body with a syringe (without a needle) which is filled with clean water or sterile saline – but be careful not to lodge it deeper into the eye!
	• Gently wipe off the foreign body with the corner of a clean cloth or paper towel
	• You should only remove the foreign body if:
	  ○ The object is NOT stuck on the eye
	  ○ It is at least 4 mm from the pupil.
	
	What NOT to do:
	• Do *NOT* let the person rub their eye
	• Do *NOT* give the person local anaesthetic drops to take home and use
	• Do *NOT* apply an eye pad
	• Do *NOT* touch the eye if the foreign body has penetrated the eyeball – this requires immediate referral to an ophthalmologist.
		• Immediately refer the person to an ophthalmologist or medical practitioner if:
		  ○ The foreign body is a piece of chemical
		  ○ There is pus or blood in the eye
		  ○ The foreign body has become embedded in the cornea, conjunctiva or sclera
		  ○ The foreign body has penetrated the eyeball
		  ○ You are not able to remove the foreign body
		  ○ There is staining with fluorescein after you take the foreign body out
		  ○ The person is in pain.

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LID LACERATION		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A cut in the eyelid due to trauma • Person might report something hitting them in the eye • The person will probably be in pain.	• Measure visual acuity (if the person can keep their eye open) • Look for a cut in the eyelid (upper or lower lid, or both) • There may be bleeding and bruising • The eyelids and area around the eyes may be swollen • Check for other injuries to the eye (e.g. cornea) if possible – but be careful not to touch the eyelid.	• Immediately refer to an ophthalmologist or medical practitioner!

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BLUNT TRAUMA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• When the eye is hit with a blunt, solid object
• Person might report something hitting them on the eye or in the face
• They may have double vision (especially if there was damage to the orbit)
• May have pain around the eye, and in their face and mouth
• May have numbness in the face and mouth (parts of the face and mouth that they cannot feel)
• Might see flashing lights or floaters (especially if there is damage at the back of the eye)
• May have loss of vision or poor vision.
	• Measure visual acuity
	• Check the pupils
	• Check the eye movements
	• Closely examine the cornea, conjunctiva, iris, lens and anterior chamber with a torch or slit lamp
	• There will most likely be a subconjunctival haemorrhage
	• May also see bruising of the eyelids
	• Examine the retina and vitreous with an ophthalmoscope if possible.
		• A person with blunt trauma to the eye needs immediate referral to an ophthalmologist or medical practitioner if:
		  ○ Vision is worse than normal
		  ○ The person sees flashes and floaters
		  ○ The person experiences double vision or numbness inside the mouth
		  ○ The injured eye appears sunken into the socket
		  ○ The pupil is not round or does not react to light
		  ○ There is a sub-conjunctival haemorrhage and you cannot see the white of the eye (sclera) all the way around the bleeding
		  ○ There is bleeding inside the eye
		• If a person has bleeding inside the eye, but for some reason they cannot get to a doctor immediately:
		  ○ Pad both their eyes (but only if you are sure there is only blunt trauma and no laceration or penetrating injury)
		  ○ The person needs to take strict bed rest for 5 days, and they should not bend down or forward
		  ○ They can use ice packs to help reduce the pain and swelling
		  ○ They should avoid using aspirin as this can make the bleeding worse
		  ○ If the blood has not cleared after 5 days, they HAVE TO see a medical practitioner.

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URGENT REFERRAL REQUIRED

ACUTE IRITIS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Inflammation of the iris • Pain (which gets worse in bright light) • Tearing • Blurry vision • Red eye, especially around the iris • Small or irregularly shaped pupil • Headache.	• Measure vision (may be reduced) • Check pupil reactions – the eye with iritis will be painful when you shine light in the other eye, which will cause the pupils to constrict • Examine the conjunctiva and cornea closely with a torch – note any redness or swelling (especially around the iris) • If possible, examine the anterior chamber of the eye with a slit lamp.	• Urgently refer to an ophthalmologist or medical practitioner – prescription medication is required • Iritis needs to be treated quickly because it can cause loss of vision.

ACUTE GLAUCOMA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A rapid or sudden increase in pressure inside the eye • Severely painful eye • Headache • Nausea and vomiting • Blurred vision • Sees haloes around lights (because the cornea is swollen) • Redness and tearing • Sensitivity to light (photophobia) • Usually in one eye only.	• Measure vision (may be reduced) • Check pupil reactions (one pupil might be larger, or not round) • If possible, check the eye pressure with a tonometer • If you can't do tonometry, use your fingers to assess the intra-ocular pressure. With the person's eyes closed, gently press on the eye with your fingers. An eye with acute angle closure will feel like a hard rock. • If possible, examine the cornea with a slit lamp if possible (may be cloudy due to corneal swelling).	• Refer urgently to an ophthalmologist or medical practitioner for immediate treatment! • Acute glaucoma needs to be treated quickly because it is a serious problem which can damage the optic nerve and cause a loss of vision • Surgery will be needed to stop glaucoma attacks from happening again in the future.

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PAPILLOEDEMA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• Swelling of the optic nerve (also called papilloedema)
• Due to raised intracranial pressure
• Person can be asymptomatic, especially in the early stages
• As the swelling progresses, the person may develop symptoms such as:
  ○ Headaches
  ○ Nausea and vomiting
  ○ Double vision
  ○ Fluctuating vision loss
  ○ Blurred vision
• If the swelling develops and lasts for a long time, the person could ultimately have a total loss of vision.
	• Check vision (may be normal)
	• Perform ophthalmoscopy
	  ○ Papilloedema is sometimes only noted on routine ophthalmoscopy examination
	  ○ The optic disc looks raised or elevated
	  ○ Blurring of the optic disc margins (edges)
	  ○ Filling of the optic disc cup
	  ○ Engorgement or congestion of the retinal veins
	  ○ Optic nerve could be pale or light pink / yellow
	  ○ Small haemorrhages over or around the optic disc
	• Check visual fields (may have visual field loss)
	• Check pupils (may have abnormal pupil reactions to light).
		• Refer to a medical practitioner
		• The underlying condition (which causes the raised intracranial pressure) needs to be identified and treated
		• Unless the intracranial pressure is reduced, the optic nerve will be permanently damaged → which could result in serious vision loss.

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CELLULITIS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• An infection of the tissue around the eye • Very swollen eyelid • Pain (especially when touching the eye) • Headache • Fever • Redness of the eyelid • Double vision • Decreased vision • Eye movements are limited.	• Measure vision • Take a close look at the lid and eye with a torch or a slit lamp (eyelid will be swollen) • Gently touch the lid to feel if it is hot • Check to see if the eye can move in all directions • Check the pupils.	• Immediate referral and hospitalisation is important to stop the infection from spreading • This is a life threatening condition which needs very URGENT treatment!

CORNEAL ULCER		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• An open sore on the cornea • Pain, usually in one eye only • Will be sensitive to light (photophobic) • Tearing • Blurred vision • May notice a white spot on the cornea.	• Measure vision (usually worse) • Severe conjunctival redness, especially near the cornea • Watery eye, often pus • Pus in the anterior chamber (hypopyon) • Can usually see a white spot on the cornea • The eyelids may be swollen • Usually occurs in one eye only • Usually sudden onset. **What NOT to do:** • Do *NOT* pad or patch the eye.	• All people with corneal ulcers need to be referred to an ophthalmologist or medical practitioner for antibiotic treatment • If it is a child with a corneal ulcer, advise the parent to also start the child on a healthy diet rich in Vitamin A to avoid a deficiency.

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THIRD NERVE PALSY		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• Damage to the third cranial nerve
• Sudden double vision
• May have pain
• Headache
• May have sudden onset droopy eyelid (ptosis)
• Inability to move the eye in all directions.
	• Ptosis
	• Eye turn (down and out)
	• Enlarged pupil of the affected eye
	• Will not be able to look in the up and nasal gazes.
		• Refer immediately any patient that has a SUDDEN onset of:
		  ○ Ptosis
		  ○ A dilated pupil
		  ○ Eye turn
		• The person needs to be sent to the hospital IMMEDIATELY → this could be an aneurysm of the brain, which can be fatal!

SUDDEN DOUBLE VISION		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Damage to or unusual pressure on one or many of the extraocular muscles that control eye movement, or the nerves that innervate them • Sudden double vision • Headache.	• Check ocular motilities (eye movements may be restricted) • Check visual fields (may be constricted) • Check cover test (there may be a squint / eye turn).	• Refer immediately if the person had a sudden onset of double vision • It can be a warning sign that the person had a stroke or has a tumour pressing on a nerve.

TRANSIENT ISCHEMIC ATTACK (TIA)		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A 'mini stroke' or a warning of a possible stroke (disruption in the blood supply to the brain) • Temporary loss of vision • Difficulty speaking • Weakness on one side of the body • Numbness or tingling to one side of the body • Loss of balance • Sudden, severe headache.	• Check vision (VA may be reduced) • Check ocular motilities (eye movements may be restricted).	• Refer the person immediately to the hospital – even if the symptoms go away after a few minutes • TIA could be a warning sign before the stroke → which can be cause serious brain damage or even be fatal.

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CONDITIONS AFFECTING BABIES AND CHILDREN

NEWBORN CONJUNCTIVITIS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Inflammation of the conjunctiva in a newborn • Usually affects both eyes • Usually develops between one day and two weeks after birth.	• Examine the eye with a torch • Look for: ○ a lot of pus ○ swollen, red and tender eyelids ○ watery, bloody discharge.	• Refer IMMEDIATELY to a medical practitioner • Newborn conjunctivitis is very serious – it can cause blindness or even be fatal.

RETINOBLASTOMA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A form of cancer of the retina • Usually develops before the age of 5 years.	• Check vision (VA may be reduced) • Examine the eye with a torch or slit lamp → look for a white pupil • Perform a cover test → look for a squint.	• Refer IMMEDIATELY to an ophthalmologist or medical practitioner • Retinoblastoma is very serious and can be fatal.

CHILDHOOD GLAUCOMA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• An increase in pressure of the eye because aqueous does not drain properly through the angle of the eye • One eye or both eyes can be affected.	• Large eye (buphthalmos) • Hazy cornea.	• Refer URGENTLY to an ophthalmologist or medical practitioner.

CONGENITAL CATARACTS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Clouding or opacification of the crystalline lens that is present at birth • One eye or both eyes may be affected.	• A cloudy, milky appearance of the lens • A black spot in the red reflex of the eye when examining the eye with a torch.	• Refer *URGENTLY* to an ophthalmologist • A cataract in a child is much more serious than a cataract in an adult as it can cause amblyopia.

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VITAMIN A DEFICIENCY		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• Where there is not enough vitamin A in the body
• Problems with night vision and dark adaptation
• Dry eyes
• Watery eyes
• Light sensitivity
	• Check VA
	• Examine the eye with a torch or slit lamp
	• Look for:
	  ○ Dry, rough patches over the white of the eye
	  ○ Xerophthalmia → drying, hardening and thickening of the cornea and conjunctiva
	  ○ Bitot's spots → cheesy or foamy spots on the bulbar conjunctiva, which can be wiped off
	  ○ Corneal ulcers → which are painless, but can lead to corneal scarring and cause blindness.
		• Refer the person to a medical practitioner for vitamin A supplements
		• If the cornea does not look normal:
		  ○ Protect the eye with a shield
		  ○ Refer urgently to an ophthalmologist or medical practitioner
		• Vitamin A deficiency is very serious → it can cause blindness or even be fatal.

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REFERRAL ALWAYS REQUIRED

DIABETIC RETINOPATHY		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• Damage to the retina due to diabetes
• Diabetic retinopathy usually affects both eyes
• There are often no symptoms, especially in the early stages
• Vision may not change until the disease is well advanced
• Spots or 'floaters' in their vision
• Fluctuating vision and fluctuations in the spectacle prescription, especially if blood sugar levels are poorly controlled.
	• Check vision (VA may be normal)
	• Perform ophthalmoscopy
	• Ophthalmoscopy may show:
	  ○ Dot and blot haemorrhages on the retina
	  ○ Patches of white/yellow colour (cotton wool spots) → which occur because the affected area is starved of oxygen
	  ○ Discolouration of the macula (e.g. green, red, yellow)
	  ○ New blood vessels (neovascularisation) on the optic nerve, iris or retina
	• You might also see a clouding of the lens inside the eye → which could indicate the start of a cataract.
		• Refer all diabetics with poor vision or visual symptoms
		• Refer if you see:
		  ○ Retinal haemorrhages
		  ○ Cotton wool spots
		  ○ Neovascularisation on the optic nerve, iris and/or retina
		  ○ Any macular changes (colour, oedema)
		• Refer all newly diagnosed diabetics to a medical practitioner
		• Recommend annual eye health checks for all diabetics.

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OPEN ANGLE GLAUCOMA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• A gradual increase in intra-ocular pressure (IOP), although the anterior chamber angle is open
• This increase in pressure inside the eye damages the retina and the optic nerve
• In its early stages, open angle glaucoma is painless and happens very slowly
• Most people do not notice problems until significant visual loss has occurred – which makes open angle glaucoma quite a dangerous condition
• The outer (peripheral) field of vision is loss first
• In later stages of glaucoma, people might complain of bumping into things, or that they cannot see in things in the periphery of their visual fields
• Central vision is usually not lost until very late in the disease.
	• C:D ratio of 0.5 or greater, or a difference of 0.2 or greater in C:D ratio between the two eyes
	• High IOPs (greater than 20mm Hg in either eye, or a difference of 2mm Hg or greater between the two eyes)
	• Restricted confrontation visual fields
	• Optic nerve cupping (indentation of the optic disc)
	• Pale coloured optic nerve
	• Retinal haemorrhages in and around the optic disc (splinter or flame shaped haemorrhages).
		• Refer anyone with:
		  ○ C:D ratio of 0.5 or greater, or a difference of 0.2 or greater in C:D ratio between the two eyes
		  ○ High intra-ocular pressures (e.g. 20mm Hg or above)
		  ○ Restricted visual fields (confrontation test)
		• Refer anybody whom you suspect may have glaucoma due to risk factors such as a family history or diabetes.

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RETINAL VEIN OCCLUSION		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A blockage or blood clot in one of the blood vessels which drain blood out of the retina • Painless • May have a sudden loss of vision • Could be a total loss of vision in one eye (central retinal vein occlusion), or part of the visual field may be lost (branch retinal vein occlusion) • The person may complain of seeing flashes of light and floaters.	• Check visual acuity (may have reduced vision or loss of vision) • Check fields (may have a visual field defect) • Examine the fundus in all four quadrants (ophthalmoscopy) • Look for: ○ Blood on the retina ○ Swelling of the optic disc ○ Cotton wool spots ○ Swelling of the macula • Check pupils (may have an abnormal pupil reaction to light in the affected eye) • Check for distortion on an Amsler grid.	• Refer to an ophthalmologist anyone with: ○ Blood on the retina ○ Sudden, unilateral loss of vision.

AGE-RELATED MACULAR DEGENERATION (ARMD)		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A disease of the macula that destroys central vision • Both wet and dry ARMD do not cause any pain • Symptoms of dry ARMD may include: ○ Very little change in vision ○ May require more light for tasks such as reading ○ May see a growing blind spot in the centre of their field of vision as the ARMD increases ○ The person is not able to see much detail, such as faces or words in a book • Symptoms of wet ARMD may include: ○ Straight lines look wavy or crooked.	• Check visual acuity (distance and near) • Examine the fundus (ophthalmoscopy) • One of the earliest and most common signs of dry ARMD is drusen (yellow deposits) at the macula • Other signs of ARMD include; ○ Green/red spots at the macula ○ Macula haemorrhages (blood on the retina) ○ Pigment at the macula (brown/black spots) • Check with an Amsler Grid for distortion.	• Refer the person to an ophthalmologist as soon as possible if: ○ They have sudden central vision loss or distortion of the Amsler grid ○ They have an abnormal looking macula ○ They complain of loss of central vision, especially if they are over 60 or have any of the risk factors for ARMD (i.e. age, smoking, family history of ARMD , being female, obesity and/or high blood pressure, prolonged sun exposure).

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RETINITIS PIGMENTOSA (RP)		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• A hereditary eye disease that destroys peripheral vision
• Symptoms usually develop between the ages of 10 and 30 years old
• Difficulty seeing in the dark or in dimly lit areas
• Light and glare sensitivity
• The person may notice small flashes of light or visual aura in their peripheral vision
• Loss of peripheral (side) vision and a narrowing of the visual field (tunnel vision)
• Decreased visual acuity in later stages.
	• Measure visual acuity (may be decreased)
	• Examine the fundus (ophthalmoscopy)
	• Look for:
	  ○ Groups of small pigment clusters or dark lines on the peripheral retina
	  ○ Pale appearance of the optic nerve
	• Examine the visual field if possible (confrontation fields are useful) – may be constricted
	• Do a colour vision test (if possible) → may have colour vision defect
	• Cataract is often associated with RP.
		• Anybody suspected of having retinitis pigmentosa should be referred to an ophthalmologist or medical practitioner
		• Anyone who shows the signs and/or symptoms of RP should be referred to an ophthalmologist
		• Because it is a hereditary condition, family members of a person with RP should also be examined and referred.

HYPERTENSIVE RETINOPATHY		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• Damage to the retina caused by high blood pressure
• Person is usually asymptomatic
• May have decreased vision.
	• Check vision (occasionally reduced vision, but usually vision is normal)
	• Perform ophthalmoscopy (if possible)
	• Look for:
	  ○ Swollen optic nerve
	  ○ Small retinal haemorrhages (bleeds) → especially flame shaped haemorrhages
	  ○ Cotton wool spots
	  ○ Arteries that are narrower than usual (e.g. AV ratio 1:4)
	  ○ Tortuous (wriggly) veins
	  ○ Compression of veins by arteries (where the veins and arteries cross).
		• Refer anyone with hypertensive retinopathy to a general practitioner for a blood pressure check.

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SKIN CANCERS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A lump, growth or sore on or around the eyelids • Usually not painful • Does not get better • Can change in size, colour and appearance over time.	• Measure vision • Take a close look at the lid with a torch or slit lamp • Look for: ○ A raised, dark spot that is getting bigger and sometimes bleeds ○ A lump that has an ulcerated sore ○ A dark lump with irregular edges ○ A sore that does not heal • Measure the size of the sore → this will allow you to monitor the growth of the cancer over time.	• Immediate referral to a medical doctor is important to stop the cancer from spreading.

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INFECTIOUS CONJUNCTIVITIS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Inflammation of the conjunctiva, usually caused by bacteria or viruses • Symptoms may include: ○ Redness ○ Burning and irritated eyes ○ Tearing or discharge ○ Eyelids may be stuck together in the morning (esp. if bacterial) ○ May be photophobic (light sensitive) • Vision should not be affected.	• Measure vision (should have minimal or no decrease in vision) • Take a close look at the eye and lid with a torch or a slit lamp **Viral:** • Both eyes are usually infected • Watery discharge • Lid swelling (oedema) • Red eye (more pink than red in colour) • Eye may appear "glassy" • Person can also have a runny nose or sinus congestion • Cornea will be clear **Bacterial:** • One eye or both eyes are infected • Can quickly spread to the other eye, or to other people • Yellow discharge • Can have mild lid swelling (oedema) • Red eye • Crust or mucous on lashes and eyelids. • Cornea will be clear.	• Refer to an ophthalmologist or medical practitioner for antibiotic ointment or drops • Tell the person to get help again if their eye is not better after 3 days, or if the vision gets worse • A cold, damp cloth placed on the eyes (while closed) can make the eyes feel better • Explain to the person the contagious nature of the disease → they should not share towels or pillows, to avoid infecting others.

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REFERRAL SOMETIMES REQUIRED

FLASH BURN		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Damage to the eye caused by exposure to ultraviolet (UV) radiation • Symptoms usually begin hours after exposure to UV light • The person may report that they were welding or spent a lot of time in the sun • Pain • Sensitivity to light • Excessive tearing • Poor vision • Irritation or foreign body sensation in the eye • Both eyes are usually involved.	• Measure visual acuity in each eye (will be reduced) • Take a close look at the cornea of each eye with a torch or a slit lamp (look for redness and tearing) • Examine the cornea of each eye with a slit lamp, using fluorescein and cobalt blue light if possible (look for corneal staining) • If you are sure that the problem is definitely caused by flash burn, you should only: ○ Wash out both eyes with sterile saline or distilled (boiled and cooled down) water ○ Tell the person that the pain and discomfort should start improving in a few hours • A clean, cold cloth over the eyes could help relieve some of the discomfort • Explain to the person that this could be serious next time as the eyes are prone to infection after a flash burn → they should wear appropriate eye protection.	• If you are not sure that the problem is definitely a flash burn, or if it is not better after one day, you need to refer the person to an ophthalmologist or medical practitioner.

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CROSSED EYES		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Where one eye is straight, and the other is turned • Person may have double vision (especially if the squint started recently) • Might not be able to see out of the turned eye (if it is an old squint) or have blurred vision out of the turned eye • Headaches • Eye strain.	• Measure visual acuity in both right and left eye (may have reduced vision in the turned eye) • Perform cover test (if you have learnt how to do this). • Perform a Hirschberg test (if you have learnt how to do this).	• Refer the person to a medical practitioner or an ophthalmologist • Adults who suddenly get a squint need to be referred immediately – it could be a very serious condition • All babies and children with a squint should be referred so that any refractive error can be corrected and any disease treated.

NYSTAGMUS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• A continual, rhythmic movement of the eyes that a person cannot stop or control
• Poor vision
• Blindness.
	• Measure vision in both right and left eye
	• Conduct a thorough case history → focusing on family history
	• Look at the eyes; you will see:
	  ○ Movement of the eyes
	  ○ Movement will decrease when looking in a certain direction
	  ○ The person may have a head turn or head tilt.
		• People with nystagmus need to be referred to a medical practitioner or ophthalmologist
		• It is important when nystagmus is first seen, that the child or adult is referred to a medical practitioner immediately
		• Nystagmus may be the first sign of a serious eye or brain problem.

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CATARACT		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• A clouding of the lens inside the eye.
• Blurry vision, even with spectacles on
• The blurry vision will have happened slowly, not suddenly
• Light from the sun or lamps will look very bright and glaring
• Colours may appear dull.
	• Check visual acuity (may be reduced)
	• Examine the lens with a slit lamp (if you can). You may see:
	  ○ A cloudy, milky appearance of the lens
	  ○ A change in the colour of the lens (e.g. yellow, green, brown or white)
	• The pupil may look white
	• You might see a black spot in the red reflex of the eye when you are looking at the eye with a torch or an ophthalmoscope.
		• In the early stages of cataract, vision may be improved with new spectacles and good lighting
		• If vision with pinhole is less than 6/18, refer to ophthalmologist
		• If vision with pinhole is better than 6/18, ask the person to return in one year for review.

REFRACTIVE ERROR		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• When light does not focus correctly on the retina • Blurry distance or near vision • Headaches • Sore eyes.	• Eyes look normal • Measure visual acuity • Do pinhole VA if vision is 6/18 or worse • If vision improves with pinhole, refer for a refractive examination • Spectacles will help a person with refractive error to see more clearly and comfortably.	• Refer to an ophthalmologist for eye health check if vision is worse than 6/18 and does not improve with pinhole • If vision improves with pinhole, refer for refraction.

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PINGUECULA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A yellow-white deposit or lump on the conjunctiva, close to the limbus • Usually asymptomatic • Occasionally pingueculae can become inflamed, causing slight discomfort.	• Measure vision (should be normal) • Take a close look at the raised growth with a torch or slit lamp • Look for: ○ A slightly raised, yellow or white lump on the bulbar conjunctiva ○ Usually on the nasal side, but can appear on either side of the cornea ○ Pingueculae can increase in size over the years.	• If there is no redness or discomfort → no action required • Advise the person that wearing a pair of sunglasses and a hat in the sun could prevent further growth of the pinguecula • If the eye is red or sore → refer the person to an ophthalmologist or medical practitioner.

PTERYGIUM		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Red, fleshy tissue growing from the bulbar conjunctiva towards the pupil • Symptoms may include: ○ Dryness ○ Irritation ○ Redness ○ Tearing • People with pterygium often notice the growth on their eye.	• Measure visual acuity • Use a slit lamp or a torch to examine the conjunctiva • Look for: ○ A pink or red, fleshy growth on the cornea ○ A pterygium has the shape of a triangle, with the apex usually pointing towards the cornea ○ If the pterygium is growing onto the cornea, measure how much of the cornea it has covered.	• Advise the person to wear sunglasses and a hat to protect their eyes from the sun, wind and dust • Remind them that being outside in the sunlight for long periods of time can make a pterygium worse • Refer the person if: ○ The apex of the pterygium is more than halfway between the limbus and the edge of the pupil ○ The pterygium is raised and irritated ○ Vision is affected by the pterygium ○ The person's eye is dry, scratchy, or uncomfortable.

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TRACHOMA		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A bacterial infection of the conjunctiva • Common in poor communities • Symptoms include: ○ Photophobia (light sensitivity) ○ Foreign body sensation (feels as if there is something in the eye) ○ Watery eyes ○ Stinging pain in the eye ○ Swollen eyelids • Eye irritation, redness and discharge (conjunctivitis).	• Take a thorough case history • Measure visual acuity • Take a close look at the cornea and conjunctiva with a torch and 2.5x magnifying loupe or slit lamp • You may see: ○ Inflammation inside the upper eyelid ○ Follicles (yellow or white spots or bumps) on the eyelid conjunctiva ○ If the inflammation is active and severe, the conjunctiva may look thick and velvety, making the underlying blood vessels difficult to see ○ Scarring and distortion of the upper eyelid → might appear as white lines or bands of scar tissue ○ Eye lashes that turn inwards, causing eyelashes to rub against the cornea (trichiasis) ○ Abnormal blood vessels growing on the cornea ○ The cornea may look cloudy or opaque • Grade the trachoma: ○ ***Trachomatous inflammation, follicular (TF):*** Five or more follicles of ≥0.5 mm in diameter in the central part of the upper tarsal conjunctiva ○ ***Trachomatous inflammation, intense (TI):*** Inflammatory thickening of the upper tarsal conjunctiva, obscuring more than half the deep tarsal vessels ○ ***Trachomatous scarring (TS):*** White bands of scar tissue in the upper tarsal conjunctiva ○ ***Trachomatous trichiasis (TT):*** At least one ingrown eyelash	• **SAFE strategy:** ○ **S**urgery (to correct advanced stages of the disease) ○ **A**ntibiotics (to treat active infection) ○ **F**acial cleanliness (to reduce disease transmission) ○ **E**nvironmental improvement (to increase access to clean water and improved sanitation) • **TF and TI** ○ Refer for antibiotics ○ Trachoma is contagious, so the whole community may need treatment • **TS** ○ Recheck the person regularly to make sure it does not progress to TT ○ Tell the person to come back if they feel as if there is something in their eye (foreign body sensation) • **TT and CO** ○ Do not try to pull out the eyelashes that are growing inward ○ Refer to an eye specialist → these people need surgery.

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	touching the globe, or evidence of eyelash removal ○ ***Corneal opacity (CO):*** Corneal opacity blurring part of the pupil margin.	

BLEPHARITIS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Inflammation of the eyelids, especially at the lid margins • Red and swollen eyelids • Redness of the eye • Burning and tearing • Mild irritation • Crusting on the eyelids and lashes (worse upon awakening).	• Measure vision (should be normal) • Examine the eyelashes and lid margins with a slit lamp or torch • Look for: ○ Redness of the lid margins ○ Swollen eyelids ○ Debris and/or crustiness on the eyelid and eyelashes ○ Watery and red eyes • If possible, examine the cornea with a slit lamp and fluorescein to check for staining.	• The best treatment is keeping the eyelids clean and free of crusts • Recommend placing a warm wet cloth over the closed eyes twice a day • Then lightly scrub the eyelid with a cotton swab and a mixture of water and baby shampoo • If the problem persists after 2 weeks or gets worse, refer to a medical practitioner for antibiotic treatment.

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SUB-CONJUNCTIVAL HAEMORRHAGE		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• A bleed just below the conjunctiva
• The person may report that they woke up with it, or they might not be sure exactly when it happened
• The haemorrhage itself causes no pain
• No itchiness or burning
• Does not affect vision
• Could have mild discomfort, but usually no symptoms.
	• Clear cornea.
	• Measure visual acuity (should be normal)
	• Use a torch or slit lamp to examine the eye
	• You will see a bright red patch on the white of the eye
	• The red patch usually only covers part of the white of the eye, but sometimes all of it is covered with blood
	• Use fluorescein to check for any abrasions on the cornea or conjunctiva
	• Check the anterior chamber for the presence of blood
	• Examine the iris, to make sure it is intact
	• Get the person to look in different directions → make sure you can see white sclera all the way around the haemorrhage
	• If you can't see white sclera all the way around the haemorrhage, it may mean that the person has something more serious and needs referral
	• You might want to ask the person to have their blood pressure and blood sugar levels checked by their doctor.
		• If vision is unchanged, there is no pain, no discharge and there has been no injury, you can tell the person:
		  ○ It is not serious and it will get better in 2 to 3 weeks without treatment
		  ○ It will change in colour before disappearing (from red to brown or green)
		  ○ Not to rub their eyes
		  ○ Not to take any aspirin
		  ○ To come back if their vision gets worse, there is pain, or discharge
		• The person should immediately be referred to an ophthalmologist or medical practitioner if:
		  ○ Their vision has changed
		  ○ There has been an eye injury
		  ○ They have pain or any discharge from the eye
		  ○ The cornea is not clear
		  ○ There is blood in the anterior chamber
		  ○ You cannot see all the way around the haemorrhage
		  ○ There is a tear or hole in the iris.

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STYE		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• An infection of a gland in the eyelid, at the base of an eyelash
• A painful, red lump on the eyelid margin
• Could develop a white or yellow top
• Painful and tender.
	• Measure the vision
	• Closely examine the eyelids with a torch or a slit lamp
	• Internal stye:
	  ○ Red swollen eyelid
	  ○ Yellow 'point' on the skin or eyelid conjunctiva
	• External stye:
	  ○ Red swollen lump on the eyelid
	  ○ Yellow point may develop near the base of lashes
	• Styes may:
	  ○ Occur on the upper and/or lower lid
	  ○ Have more than one lump
	  ○ Involve one or both eyes.
		• Most styes will get better in a week or two without any treatment
		• Advise the person:
		  ○ To put a warm, wet, clean cloth on the eyelid (close the eye) for about 10 minutes, three or four times a day for a week
		  ○ To return to see you if it is not better after a week
		• If the stye does not disappear after a week or two, refer the person to a medical practitioner.

CHALAZION		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**

• An enlarged or blocked eyelid gland
• At first a chalazion might look and feel like a stye → a red and swollen eyelid which is tender to touch
• After a day or two, these symptoms disappear → leaving a round, painless lump or swelling on the eyelid
• This lump can slowly increase in size for about the first week.
	• Measure vision
	• With a torch or slit lamp, carefully examine the lump
	• You should see a round, hard lump in the eyelid, away from the lid margin
	• Can be on the upper or lower lid
	• Not as red as a stye
	• Does not hurt when touched
	
	What NOT to do:
	• Do *NOT* try to squeeze the lump.
		• Most chalazia disappear within a few weeks without any treatment
		• Advise the person to apply warm compresses 2 to 3 times a day until it disappears
		• Good lid hygiene to treat associated blepharitis
		• Refer to a medical practitioner if:
		  ○ The chalazion is large
		  ○ It is painful
		  ○ It does not disappear within 2 months
		  ○ There is more than one chalazion
		  ○ It keeps returning
		  ○ The person is unhappy about the lump.

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DRY EYE SYNDROME		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• A deficiency of tears in the eye • Symptoms could include: ○ Dryness and irritation ○ Burning and/or itching ○ Tearing ○ Redness ○ Blurry vision, which improves when blinking • Symptoms can get worse when it is windy, after reading / computer work / watching television, or in smoking environments.	• Measure visual acuity • If possible, check the cornea for staining (there could be staining of the central or inferior cornea) • Measure the TBUT (will be < 10 seconds, or maybe even < 5 seconds) • Use a torch or slit lamp to examine the eye for: ○ Redness of the conjunctiva ○ Watery eyes.	• Currently there is no cure for dry eye, but treatment can be given to make the eyes feel more comfortable ○ Recommend placing a warm wet cloth over their closed eyes twice a day ○ Recommend artificial tears or saline drops • Remind the person to blink enough and blink fully → this will help to spread the tears across the eye.

ALLERGIC CONJUNCTIVITIS		
Condition and Symptoms:	**Signs and What to Do:**	**Referral:**
• Reaction of the body to something in the environment • Symptoms could include: ○ Itchy eyes ○ Redness (both eyes) ○ Tearing ○ Burning sensation in the eyes and surrounding tissues ○ Swelling (eyelids and conjunctiva).	• Both eyes usually affected • Measure vision (should be normal) • Examine the eye with a slit lamp or torch • Look for: ○ Red eyes ○ Swollen eyelids and/or conjunctiva ○ Watery discharge ○ There could be a white, stringy discharge ○ May have bumps on the eyelid conjunctiva • Try to find out what the person is allergic to (this is often hard to do) and ask them to try to keep away from it in future if at all possible.	• There is no cure for allergic conjunctivitis, but we can control the symptoms to make the person more comfortable • Very cold clean cloths on the eyes can make the eyes feel better • Recommend an over-the-counter allergy medication (in tablet or liquid form) • Refer the person to an ophthalmologist or medical practitioner if they are not better in 3 days, or if vision is affected • People who often have itchy eyelid margins could use a mixture of baby shampoo and warm water to wash their eyelids and lashes regularly.

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