BrienHoldenVisionInstitute

NON-PAINFUL RED EYE

THINK

People may come to see you because they have a red eye, but they do not have any pain. Their eyes may feel uncomfortable, itchy, dry, hot or burning.

Redness without pain may mean that the eye problem is not dangerous, but be careful not to mistake the problem for a more serious red eye that will need to be referred.

WHAT YOU WILL LEARN

When you have worked through this unit you should be able to:

- List the causes of red eye without pain
- Identify which cases of red eye without pain need urgent or non-urgent referral
- Identify which cases of red eye without pain may need no referral.

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INFECTIOUS CONJUNCTIVITIS

WHAT IS IT?	• Inflammation of the conjunctiva, usually caused by bacteria or viruses • It is fairly common • Usually not dangerous to the eye or the eyesight • Both bacterial and viral conjunctivitis can be quite contagious – it can easily spread from one person to another • Can also easily spread from one eye of the person to their other eye.
CAUSES	• Infectious conjunctivitis is usually caused by bacteria or viruses • Viral infections are the most common causes of conjunctivitis in children and adults • Usually a person with a viral conjunctivitis recently had an upper respiratory tract infection, a common cold or a sore throat.
SYMPTOMS	• Redness • Burning and irritated eyes • Tearing or discharge • Eyelids may be stuck together in the morning • May be photophobic (light sensitive) • Vision should not be affected.
WHAT DO I ASK?	• How does your eye feel? • Do you have pain in your eye? • Does it feel like you have a foreign body in your eye? • How is your vision? Has your vision changed? • Did you have an injury to your eye? • Were your eyelids stuck together in the morning? • Have you had a cold recently? • Did it start in one eye or in both eyes?
WHAT DOES IT LOOK LIKE?	 ***Figure 9-1: A red, watery eye with pussy discharge due to infectious conjunctivitis (photo courtesy of the International Centre for Eye Health)***

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SIGNS	• Red eye
	• Minimal or no decrease in vision
	• Cornea will be clear
	• **Viral:**
	  ○ Both eyes are usually infected
	  ○ Watery discharge
	  ○ Lid swelling (edema)
	  ○ Red eye (more pink then red in colour)
	  ○ Eye may appear "glassy"
	  ○ Person can also have a runny nose or sinus congestion
	• **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 (edema)
	  ○ Red eye
	  ○ Crust or mucous on lashes and eyelids.

WHAT SHOULD I DO?	• Measure vision • Take a close look at the eye and lid with a torch or a slit lamp • Warn the person that the condition might be contagious.
TREATMENT PLAN	• A cold, damp clean cloth placed on the eyes (while closed) can make the eyes feel better • 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 • Explain to the person the contagious nature of the disease.

TREATMENT FOR VIRAL CONJUNCTIVITIS:

- **In the case of a viral conjunctivitis, an antibiotic ointment or eye drops will NOT cure the infection**
- **The reason we prescribe antibiotics in this case is to prevent any other infections from starting**
- **A viral conjunctivitis is like a "cold in the eye". We can give medication to relieve the symptoms, but there is nothing to cure the infection. It will get better with time**
- **The best way to manage viral conjunctivitis is practising good hygiene – to prevent re-infecting yourself and others.**

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GONOCOCCAL CONJUNCTIVITIS:

- **If a newborn baby (less than 4 weeks old) has conjunctivitis, with a lot of pus, they may have gonococcal infection**
- **This infection is passed on from the mother during birth**
- **Gonococcal conjunctivitis is a serious infection that needs an immediate referral to a medical practitioner**
- **If not treated immediately it can lead to blindness**
- **Both mother and baby should be sent to the hospital**
- **The mother of the child should be educated on the contagious nature of the infection and her husband/partner should get tested as well.**

PREVENTING THE SPREAD OF INFECTIOUS CONJUNCTIVITIS:

- **Explain that it is easy for other people to be infected by a person with conjunctivitis**
- **The spread of conjunctivitis can be stopped by:**
  - **Washing hands frequently, after touching each persons' eyes**
  - **Not sharing towels, face cloths, or handkerchiefs used to wipe the eyes**
  - **Frequently washing the face and the area around the eyes.**
- **Children with conjunctivitis should not go to school, share towels, or play with others while they are still infected**
- **In your clinic, any equipment and furniture used or touched by the person with conjunctivitis should also be cleaned with alcohol wipes.**

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ALLERGIC OR IRRITATIVE CONJUNCTIVITIS

WHAT IS IT?	• An allergy is an exaggerated reaction of the body to something in the environment • Common allergic reactions are: ○ runny nose ○ sneezing ○ sore throat ○ watery eyes ○ red, itchy eyes ○ skin rash. • The eye's reaction to an allergy-causing substance is called allergic or irritative conjunctivitis • A person with allergic or irritative conjunctivitis should have no changes to their vision and there will be no pus • Allergic conditions are not contagious • Allergic conjunctivitis is common, especially during certain times (seasons) of the year.
CAUSES	• Allergic conjunctivitis happens when a person comes in contact with an allergy-causing substance (allergen) • People can be allergic to all kinds of things like: ○ soap ○ perfume ○ plants ○ feathers ○ dust in the air ○ insect bites.
WHAT DO I ASK?	• How do your eyes feel? Are they itchy? • Do you have a runny nose or have you been sneezing? • How is your vision? • When did this start? • What were you doing when your eyes first became red and itchy? • Do you have any allergies that you know of? **If a person complains of itchy eyes, think ALLERGY!**
SYMPTOMS	• Itchy eyes • Redness (both eyes) • Tearing • Burning sensation in the eyes and surrounding tissues • Swelling (eyelids and conjunctiva).

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SIGNS	• Usually happens in both eyes • No change to vision • Red eyes • Swollen eyelids and/or conjunctiva • Watery discharge • There could be a white, stringy discharge • May have bumps on the eyelid conjunctiva.
WHAT DOES IT LOOK LIKE?	 ***Figure 9-2 Redness due to allergic conjunctivitis (photo courtesy of the Brien Holden Vision Institute)***
WHAT SHOULD I DO?	• Measure vision • Look under the top eyelid for bumps with a slit lamp or torch • 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.
TREATMENT PLAN	• There is no cure for allergic conjunctivitis, but we can control the symptoms to make the person more comfortable • Very cold cloths on the eyes can make the eyes feel better • Recommend an over-the-counter allergy medication (tablet or liquid form) • Refer the person to an ophthalmologist or medical practitioner if they are not better in 3 days, or if vision gets worse.

PREVENTION:

- **The person should try to keep away from things that seem to cause the allergic reaction**
- **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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SUB-CONJUNCTIVAL HAEMORRHAGE

WHAT IS IT?	• A sub-conjunctival haemorrhage is a small bleed just below the conjunctiva • It appears as a collection of blood on the white part of the eye • People often first notice them in the morning after waking up • It can take two or three weeks for the blood to disappear • Sub-conjunctival haemorrhages are fairly common.

CAUSES	• A sub-conjunctival haemorrhage is a break in one of the small vessels in the eye
	• Possible causes of a sub-conjunctival haemorrhage include:
	  ○ coughing, vomiting, rubbing eyes or straining to lift a heavy weight
	  ○ an injury to the eye
	  ○ high blood pressure or diabetes.

WHAT DO I ASK?	• When did you first notice it?
	• Have you noticed a change in your vision?
	• How does your eye feel? Does your eye hurt?
	• Do you know how this happened to your eye?
	  ○ Have you had an injury to your eye?
	  ○ Have you been coughing or vomiting lately?
	  ○ Have you been lifting heavy objects?
	• Do you have high blood pressure or diabetes?

SYMPTOMS	• 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.
SIGNS	• A bright red patch on the white of the eye • Usually it only covers part of the white of the eye, but sometimes all of it is covered with blood • Clear cornea.

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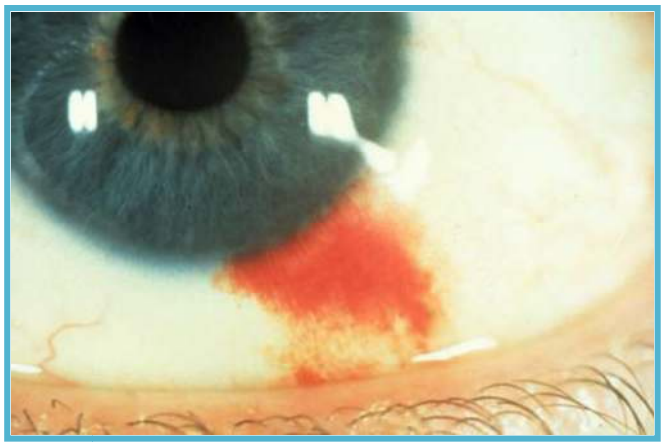
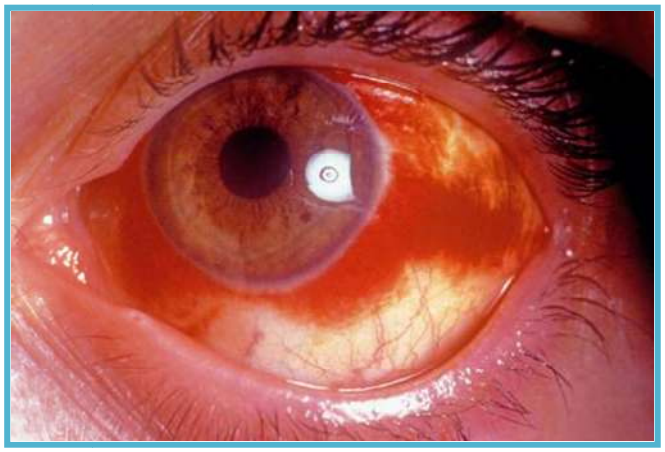
WHAT DOES IT LOOK LIKE?	 ***Figure 9-3: A sub-conjunctival haemorrhage (photo courtesy of the International Centre for Eye Health)***  ***Figure 9-4: A much larger sub-conjunctival haemorrhage (photo courtesy of the International Centre for Eye Health)***
WHAT SHOULD I DO?	• Measure visual acuity • Use 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, 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. **A person with a sub-conjunctival haemorrhage may be quite worried as it can look very dramatic. Once you are certain it is nothing more serious, you need to reassure the person that they do not need to worry.**

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TREATMENT PLAN	• 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.

POINTS TO REMEMBER ABOUT SUB-CONJUNCTIVAL HAEMORRHAGE:

- **There should be no change in vision, no discharge and no pain**
- **While a sub-conjunctival haemorrhage is not a serious risk to the eye, the underlying cause might be serious. Always examine the eye carefully for any other signs of an injury**
- **Reassure the person that the sub-conjunctival haemorrhage might change colour and look worse before it gets better**
- **Refer the person for a medical check-up if they have high blood pressure or diabetes**.

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DRY EYE SYNDROME

WHAT IS IT?	• People develop dry eye when there is not enough tears in the eye • This can be caused by a reduction in tear production, or a reduction in the quality of the tears • The quality of the tears is affected if the glands on the eyelids are blocked or not working properly • The tear film helps to protect and nourish the eye, and creates a smooth surface through which light can enter the eye • The tear layer has to keep the eye moist in-between blinks • If the tears evaporate too fast, it will leave the cornea dry • The time it takes for the tear layer to break up or evaporate after a blink is called the Tear Break-Up Time (TBUT) • Dry eye usually affects both eyes of a person • In severe cases of dry eye, the cornea can be damaged, which will cause a decrease in vision • Dry eye is a very common condition, especially in women and the elderly.

CAUSES	• Dry eye can be caused by:
	  ○ the sun
	  ○ dry and windy weather
	  ○ medication
	  ○ smoking.
	• Dry eye can also occur if the person is an incomplete blinker, or sleeps with their eyes open (a condition called lagophthalmos)
	• It is a good idea to watch how a person blinks as you talk to them; people with lagophthalmos do not close their eyes completely during a blink.

WHAT DO I ASK?	• Does your vision get better when you blink? • Do your eyes feel itchy and/or sandy? • Do your eyes burn after periods of reading or watching TV? • Does it feel like there is something in your eye? • Do your eyes water a lot?
SYMPTOMS	• Dryness and irritation • Burning and/or itching • Tearing • Redness • Can have blurry vision, which improves when blinking • Symptoms can get worse when it is windy, after reading / computer work / watching television, or in smoking environments.
SIGNS	• The eye can look normal • The TBUT will be less than 10 seconds, sometimes even less than 5 seconds • Redness of the conjunctiva • Watery eyes • When using fluorescein to examine the cornea, there could be staining of the central or inferior cornea.

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WHAT SHOULD I DO?	• Measure visual acuity • Measure the TBUT • If possible, check the cornea for staining.

TREATMENT PLAN	• There is no cure for dry eye, but treatment can be given to make the eyes feel more comfortable
	  ○ Recommend placing a warm wet clean 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).

REMEMBER:

- **Eyes that water or cry a lot (epiphora) can be a sign of dry eyes**
- **This is because:**
  - **When the eyes are dry, a message is sent to the brain**
  - **The brain will produce tears that will try to moisten the eye**
  - **Unfortunately, these tears evaporate faster than the normal tear film.**

HOW TO MEASURE A FLUORESCEIN TEAR BREAK UP TIME (TBUT):

- **People will sometimes say their symptoms are worse than what the signs indicate**
- **Fluorescein placed in their tears, and examined with the cobalt blue light of a slit lamp, will give you a better idea of the severity of the dryness**
- **TBUT Measurement:**
  - **Wet a strip of fluorescein with sterile saline solution and touch the strip the conjunctiva to instil the dye into the eye**
  - **Ask the person to blink normally, and then to look straight ahead and keep their eyes open**
  - **View the tear film with cobalt blue light and measure the time it takes from the last blink to the appearance of dark areas in the tear film (this indicates where dry spots are appearing)**
  - **A TBUT of less than 5 seconds is a sign of dry eye.**

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BLEPHARITIS

WHAT IS IT?	• Inflammation of the eyelids, especially at the lid margins • Usually the result of a bacterial infection • Typically affects both eyes • Person will usually complain of dry, irritated eyes • The most common sign is having debris and crust on the eyelashes • Blepharitis is very common, especially in the elderly, and with people who have poor hygiene, or who work in a dirty environment • It can be difficult to manage as it often recurs • If left untreated it can lead to other eye infections or cause dry eye problems.

CAUSES	• Anterior blepharitis:
	  ○ affects the front of the eyelid and the eyelashes
	  ○ usually caused by bacteria of dandruff of the scalp.
	• Posterior blepharitis:
	  ○ affects the inner eyelid (which is in contact with the eyeball)
	  ○ caused by problems with the oil gland of the eyelid.

WHAT DO I ASK?	• Do your eyes cry a lot? • Do your eyes feel itchy and/or scratchy? • Does it feel like there is something in your eye? • Have you noticed debris or crusts on your eyelashes, especially in the morning?
symptoms	• Red and swollen eyelids • Redness of the eye • Burning and tearing • Mild irritation • Crusting on the eyelids and lashes (worse upon awakening).
signs	• Debris and/or crustiness on eyelids and eyelashes • Redness of the lid margins • Swollen eyelids • Red eyes • Watery eyes.
WHAT SHOULD I DO?	• Measure vision • Examine the eyelashes and lid margins • If possible, examine the cornea with a slit lamp and fluorescein to check for staining.
TREATMENT PLAN	• 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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PTERYGIUM

WHAT IS IT?	• A pterygium (pronounced *te-ridge-ee-um*) is a red, fleshy tissue growing from the bulbar conjunctiva towards the pupil • When a pterygium grows close to or over the pupil, it will affect the person's vision • A pterygium does not cause pain, but it can sometimes feel uncomfortable • A pterygium can grow fast or slowly • A person may have a pterygium on one or both eyes • Usually located on the side closest to the nose.
CAUSES	• Pterygium usually occurs in people who work outdoors, or those who are exposed to lots of sunlight, dust, and wind • It is very common in people living in the tropics or near the equator, where there is lots of sunlight • Pterygium is not common in children.

WHAT DO I ASK?	• When did you first notice the growth?
	• Do you spend a lot of time outdoors, in sunny or windy conditions?
	• How does your eye feel?
	  ○ Is your eye irritated or painful?
	  ○ Does it feel dry and scratchy?
	  ○ Is your eye watery?
	• Does it feel worse in the sun or wind?
	• How is your vision? Is your vision blurry?

SYMPTOMS	• People with pterygium often notice the growth on their eye • They may complain of dryness or irritation, redness and tearing.
SIGNS	• A pink or red, fleshy growth on the cornea • Has the shape of a triangle, with the apex usually pointing towards the cornea • It can grow over the pupil – which affects vision.
WHAT SHOULD I DO?	• Measure visual acuity • If the pterygium is growing onto the cornea, measure how much of the cornea it has covered • You can use the distance between the limbus and the pupil margin as a guide • Is it ¼ of the way to the pupil? Is it halfway?

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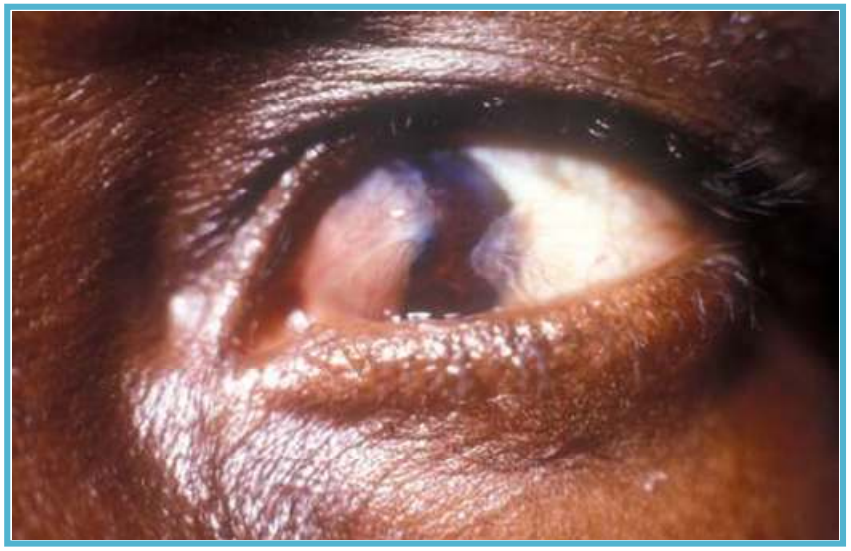
WHAT DOES IT LOOK LIKE?	
	Figure 9-5: Pterygium, with the apex growing over the limbus (photo courtesy of the International Centre for Eye Health)  *Figure 9-6: An eye with two pterygia – nasally and temporally; note how the nasal pterygium is growing over the pupil (this pterygium will be affecting vision) (photo courtesy of the International Centre for Eye Health)*

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TREATMENT PLAN	

	• Advise the person to wear sunglasses and a hat to protect the 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
	
	Figure 9-7: Wearing sunglasses and a hat can help prevent pterygium
	• The person may need to be referred to have the pterygium removed through surgery
	• 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.
	• A pterygium may grow back after surgery.

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PINGUECULA

WHAT IS IT?	• A pinguecula (pronounced *ping-gwek-u-lah*) is a yellow-white deposit or lump on the conjunctiva, close to the limbus • It is sometimes mistaken for a pterygium • A pinguecula is not dangerous; it does not grow on the cornea and will not cause poor vision • It is a very common.
CAUSES	• Pingueculae usually occur in people who work outdoors, or those who are exposed to lots of sunlight, dust, and wind • Pingueculae are very common in people living in the tropics or the desert where there is lots of sunlight.

WHAT DO I ASK?	• Have you noticed the lump on your eye?
	  ○ How long has it been there?
	  ○ Does it bother you?
	• Do you spend a lot of time outdoors, in sunny or windy conditions?
	• How does your eye feel? Does your eye hurt?

SYMPTOMS	• Pinguecula can increase in size over the years • Occasionally, pinguecula can become inflamed causing slight discomfort.
WHAT DOES IT LOOK LIKE?	 ***Figure 9-8: An eye with pinguecula on the nasal conjunctiva (photo courtesy of the Brien Holden Vision Institute)***
SIGNS	• Slightly raised, yellow or white lump on the bulbar conjunctiva • Usually on the nasal side, but can appear on either side of the cornea • Typically in the space between the eyelids, which is exposed to the sun.
WHAT SHOULD I DO?	• Measure vision • Take a close look at the raised growth with a torch or slit-lamp.

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TREATMENT PLAN	• 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.

WHAT IS THE DIFFERENCE BETWEEN A PINGUECULA AND A PTERYGIUM?

- **A pterygium can grow onto the cornea, but a pinguecula will not**
- **A pterygium may cause poor vision but a pinguecula will not**
- **A pterygium may grow quickly but a pinguecula usually grows very slowly**
- **A pterygium may need to be removed surgically but a pinguecula does not.**

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SUMMARY – NON-PAINFUL RED EYE

INFECTIOUS CONJUNCTIVITIS

- Inflammation of the conjunctiva
- Usually caused by bacteria or viruses
- Fairly common
- Yellowish discharge if bacterial infection
- Watery discharge if viral infection
- Can easily spread from one eye to the other, or from person to person
- Hygiene is important – wash hands, do not share towels.

ALLERGIC OR IRRITATIVE CONJUNCTIVITIS

- Allergic conjunctivitis is the eye's reaction to an allergy-causing substance.
- Itching is the main complaint/problem
- Redness (in both eyes)
- May have watery eyes
- Usually happens in both eyes
- May be eyelid swelling
- Symptoms can be relieved with clean, cold and damp cloths on the eyes.

SUB-CONJUNCTIVAL HAEMORRHAGE

- A small bleed just below the conjunctiva – appears as a collection of blood on the white part of the eye
- A sub-conjunctival haemorrhage can happen with:
  - coughing, vomiting, rubbing eyes or straining to lift a heavy weight
  - an injury to the eye
  - high blood pressure or diabetes
- If vision is unchanged, and if there is no injury, no pain and no discharge – tell the person it is not serious and it will get better in 2 to 3 weeks without treatment.

DRY EYE SYNDROME

- Happens when the eye does not have enough tears
- Caused by a decrease in tear production or poor tear quality
- Dryness, irritation and red eyes
- Can have blurry vision which improves after blinking
- There is no cure, but warm compresses and artificial tears can help relieve the symptoms.

BLEPHARITIS

- Inflammation of the eyelids, especially at the lid margins
- The most common sign is debris and/or crust on the lid margins and eyelashes (worse upon awakening)
- Red and swollen eyelids
- Regular cleaning of the eyelids is the best treatment.

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PTERYGIUM

- A pterygium is a pink or red, fleshy tissue that grows from the bulbar conjunctiva towards the cornea
- Caused by exposure to sunlight, dust and wind
- Advise people to wear sunglasses and a hat when they are outside
- Refer if the pterygium:
  - tip is more than halfway between limbus and pupil edge
  - is raised and irritated
  - causes poor vision.

PINGUECULA

- Pinguecula is a yellow deposit on the conjunctiva
- Can become irritated and appear red
- Caused by exposure to sunlight
- Advise wearing sunglasses and a hat when going outside.

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TEST YOURSELF QUESTIONS

1. **Name three common causes of red eye without pain:**
   a. _____
   b. _____
   c. _____

2. **What is the main problem that a person with allergic conjuctivitis will usually complain about?**
   _____

3. **If a newborn baby has conjunctivitis, with a lot of pus discharge, what do you suspect it is and what should you do?**
   _____
   _____
   _____

4. **Name three things you can do to stop conjunctivitis from spreading:**
   _____
   _____
   _____

5. **What are some of the questions you would ask a person if you suspect they have dry eyes?**
   _____
   _____
   _____

6. **What will you see in a person who has blepharitis?**
   _____
   _____

7. **A sub-conjunctival haemorrhage is quite common. A person who has a haemorrhage for the first time might be very worried. What would you tell this person?**
   _____
   _____
   _____

8. **When would you refer someone with a pterygium?**
   _____
   _____
   _____
   _____

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