BrienHoldenVisionInstitute

LIFESTYLE AND THE EYE

THINK

Imagine how becoming blind would affect your ability to do your job or look after your family.

People who smoke cigarettes are four times more likely to become blind from eye disease like macular degeneration.

Smoking is just one of a number of lifestyle choices that can affect your vision.

WHAT YOU WILL LEARN

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

- Identify lifestyle factors that affect the eye
- Describe how some lifestyle factors can cause visual impairment
- Explain strategies to prevent lifestyle factors from affecting the eyes.

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LIFESTYLE AND THE EYE

- We only get one set of eyes and we need to use them every day, so it is very important we look after them
- Damage to the eye is usually irreversible, so it is very important that we look after our eyes
- Our eyes are part of our body, so they can be affected by our general health and well being
- A healthy lifestyle can help maintain good eye health
- Lifestyle factors that can affect the eyes include:
  - Diet
  - Safety of our environment
  - Medical factors
  - Regular checkups
  - Immunisations
  - Cigarette smoking
  - Exposure to the sun
  - Exercise
  - Cleanliness
  - Environmental pollution
  - Personal hygiene.

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DIET

- The foods we eat can affect our eyes
- A healthy, balanced diet can help protect our eyes from eye disease
- A balanced diet includes food from each of the main food groups:
  - Fruit and vegetables
  - Meat and fish
  - Bread, cereals and potatoes
  - Milk and dairy foods
  - Fats and oils.

WHAT SHOULD I ASK?	• Do you eat fresh fruit and vegetables? How often? • What do you eat for breakfast, lunch and dinner? • How many glasses of alcohol do you drink per day / per week? • Do you take any vitamins or other dietary supplements? • Do you have diabetes? • If you have diabetes, how do you control your blood sugar? • Do you have high blood pressure?

WHAT CAN I EXPECT TO SEE?	**General health:**
	• A person with a poor diet can:
	  ○ Be overweight or underweight
	  ○ Have malnutrition
	  ○ Have pale skin
	  ○ Have poor general health including high blood pressure and/or diabetes
	  ○ Be tired all the time
	  ○ Have difficulty concentrating on work or study
	
	Eye health:
	• A person who follows a poor diet is more likely to have:
	  ○ Diabetic retinopathy → which can cause blindness from bleeding at the back of the eye
	  ○ Vitamin A deficiency → which can cause blindness from corneal ulcers
	  ○ Macular degeneration → which can cause blindness from the deterioration of central vision.

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WHAT SHOULD I DO?	**Discuss the importance of:**
	• A healthy diet, including:
	  ○ A variety of fresh fruits and vegetables
	  ○ Whole grains
	  ○ Nuts and seeds
	  ○ Fish
	  ○ Not too much fat, alcohol or salt
	• Maintaining normal blood pressure
	• Maintaining normal blood glucose levels
	• Regular exercise
	
	Figure 18-1: Fresh fruit and vegetables are an important part of a healthy diet
	
	Refer:
	Refer to a medical practitioner, anybody with:
	• Diabetes
	• High blood pressure
	• Vitamin A deficiency
	
	Educate:
	• Your community about the benefits of a healthy diet
	
	Advocate:
	• For local fresh food production
	• For access to affordable and accessible healthy food.

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SMOKING

- Smoking causes harmful chemicals to enter the blood
- These chemicals can affect the eye by damaging the lens and blood vessels – which can lead to vision loss.

WHAT SHOULD I ASK?	• Do you smoke?
	• If yes:
	  ○ How long have you been smoking?
	  ○ How many cigarettes do you smoke per day?
	  ○ Have you thought about quitting?
	  ○ Do you know that smoking can affect the health of your eyes and body?
	
	Figure 18-2: Cigarette smoking can damage your eyes

WHAT CAN I EXPECT TO SEE?	**General health:**
	• A person who smokes is more likely to have:
	  ○ Breathing difficulties
	  ○ Lung disease
	  ○ A bad cough
	  ○ Heart disease
	  ○ Cancers
	  ○ Uncontrolled diabetes
	
	Eye health:
	• A person who smokes is more likely to have:
	  ○ Cataract → 2 to 3 times more likely than a non-smoker
	  ○ Macular degeneration → 4 times more likely than a non-smoker
	• Smokers are also more likely to develop these conditions earlier than non-smokers.

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WHAT SHOULD I DO?	**Discuss:** • How smoking can affect the eyes • Quitting smoking • Advise all smokers to have regular eye checks **Refer:** • Any smoker with blurry vision **Educate:** • Your community, especially young people, about the dangers of smoking • There are many organisations that help people to quit smoking **Advocate:** • For quit smoking campaigns and resources in your community

Find out the details of a quit smoking organisation in your community:

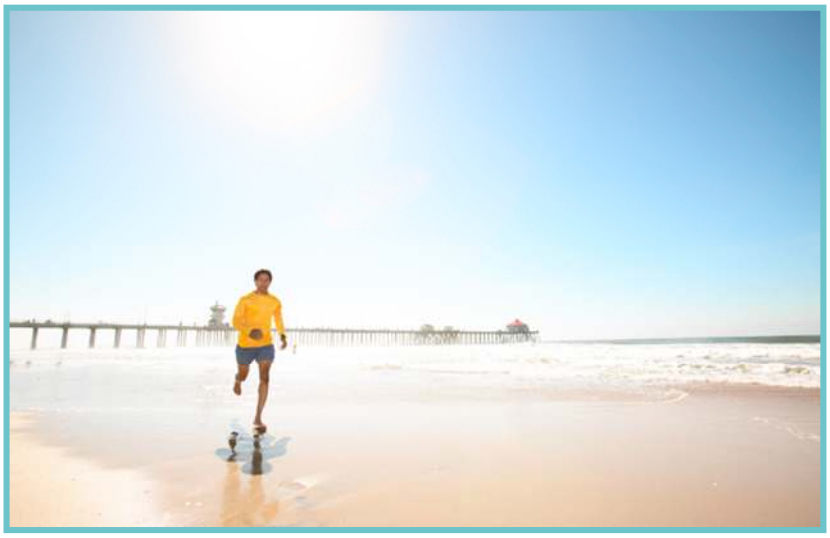
*Name of organisation:*_____

*Phone:*_____ *Website:*_____

Other information: _____

EXPOSURE TO THE SUN

- Exposure to the sun can damage our eyes.

WHAT SHOULD I ASK?	• Do you spend a lot of time outdoors? • Do you work outside? • Do you wear a hat and sunglasses when you are outside? • Have you noticed any changes in your eyes or vision?  ***Figure 18-3: Spending time in the sun can damage our eyes***
WHAT CAN I EXPECT TO SEE?	**General health:** • A person who spends a lot of time in the sun may have: ○ Sun burnt skin ○ Freckles ○ Moles ○ Skin cancers **Eye health:** • A person who spends a lot of time in the sun is more likely to have: ○ Pingueculae ○ Pterygia ○ Cancers in and around the eye ○ Cataracts.

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WHAT SHOULD I DO?	**Discuss:** • The importance of sun protection • Advise the person to wear a hat and sunglasses when outside • Stay in the shade in the middle of the day (between 10.00am and 2.00 pm) ***Figure 18-4: Use a hat and sunglasses when outside*** **Refer:** Refer to an ophthalmologist or medical practitioner anyone who has: • A pterygium • Growths on or around the eye • Cataracts **Educate:** • Your community, especially young people, about why protection from the sun is important for our eyes and general health **Advocate:** • For affordable and accessible sunglasses for your community. • For schools to encourage children to wear hat and sunglasses → this will help to give children good habits from an early age.

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CLIMATIC DROPLET KERATOPATHY

WHAT IS IT?	• An acquired, degenerative condition of the cornea • Most commonly affects men who work outdoors
CAUSES	• Unknown • Factors such as direct and reflected solar radiation, wind, dust and previous corneal inflammation may be related to its progress • A genetic role is likely as members within a family may have the disease.
WHAT DO I ASK?	• Have you spent a lot of time doing outdoor activities • Have you had any previous corneal inflammation
SYMPTOMS	• Most likely to be symptom free in the early stages • Dryness and grittiness as the condition progresses
WHAT DOES IT LOOK LIKE?	 ***Figure 18-5: Opalescent droplets forming a band [photo courtesy of Atlas of Ophthalmology]***
SIGNS	• Deposits in the cornea of material made up of degenerative corneal cells • Most cases are bilateral but can be unilateral • Begins as an accumulation of translucent/opalescent droplets in the anterior stroma • First signs are in the peripheral, inter-palpebral zone of the cornea • These coalesce to form a yellowish-grey band in the cornea covering the pupil • Usually no other corneal pathology is present
WHAT SHOULD I DO?	• Measure vision – vision is reduced when the droplets are more central • Check for fluorescein staining on the cornea • Advise the person about the need to protect the eyes from ultra-violet radiation by using sunglasses and a hat etc • Refer to an ophthalmologist as surgery may be required in more advanced cases
WHAT SHOULD I *NOT* DO?	• Ignore the importance of educating the patient about the progressive nature of the disease
REFERRAL CRITERIA	• Refer when the vision is reduced due to more central droplets

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ACCIDENTS AND EYE INJURIES

- Accidents can injure and damage the eye
- All injuries to the eye could cause blindness if not treated quickly and correctly.

EYE ACCIDENTS AND INJURIES	• Accidents can happen at work or at home • For example, from: ○ Welding ○ Gardening ○ Working with chemicals (such as household cleaners) ○ Working with sharp objects ***Figure 18-6: Welding with eye protection can prevent flash burn***
WHAT SHOULD I ASK?	• What is your occupation? • What are your hobbies? • Do you wear safety glasses when you perform tasks that could cause damage to your eyes?
WHAT CAN I EXPECT TO SEE?	**General health:** • A person with eye injuries from an accident may also have injuries to other parts of their face or body **Eye health:** • A person with eye injuries may have: ○ Lid lacerations ○ Foreign bodies in or on their eye ○ Blunt trauma ○ Chemical burns ○ Flash burns.

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WHAT SHOULD I DO?	**Discuss:** The importance of: • Washing hands after using chemicals • Storing chemicals away from children • Wearing safety glasses • Wearing a welding mask when welding ***Figure 18-7: Wearing safety glasses can help to prevent eye injuries*** **Refer:** • Anyone with injuries to their eye or face **Educate:** Your community about: • Wearing safety glasses at work and at home • Storing chemicals properly • Washing hands after using chemicals • Wearing a welding mask when welding **Advocate:** • For access to safety glasses for all workers at risk of eye injuries • For better occupational health and safety standards at work.

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HYGINE AND THE ENVIRONMENT

- The environment we live in can affect our health
- Disease will spread quickly in environments with exposed garbage, sewage and dirty water
- Clean hands and faces can help to stop the spread of disease
- People who have had eye surgery need a clean environment to prevent infection.

WHAT SHOULD I ASK?	• Does your community have regular rubbish and sewage removal? • Does your community have a clean water supply? • Do you have access to clean water, community sewage and garbage removal at home? • How often do you wash your hands and face? • How often do you shower or bath? • Do you know how eye infections are spread?
WHAT CAN I EXPECT TO SEE?	**General health:** A person living in a dirty environment or with poor personal hygiene may have: • Dirty hands and face • Dirty clothing • Body and facial sores • Other environmental related diseases **Eye health:** A person living in a dirty environment or with poor personal hygiene may have: • Conjunctivitis • Trachoma • Other eye infections • Sores on their eyelids Families and communities may have the same problems.

WHAT SHOULD I DO?	**Discuss:**
	• How to improve the environment and living conditions, and reduce the number of flies in the community, by removing rubbish and sewage
	• The importance of good personal hygiene, including:
	  ○ Regularly washing hands and face
	  ○ Not sharing towels or sheets
	  ○ Not sharing eye drops
	• Improving access to clean water
	
	Refer:
	Anyone with:
	• Sore or itchy eyes
	• Signs of symptoms of trachoma

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- Eyelid sores

Educate:

Educate individuals and your community about:

- Living in a clean environment to stop disease spreading
- Washing hands and faces
- Not sharing towels
- Not sharing eye drops

Figure 18-8: *Good personal hygiene, including hands and face washing, can help to reduce the spread of eye disease*

Advocate:

- For access to clean water
- For community controlled sewage and garbage removal.

People who live in dirty environments may still have good personal hygiene.
People who live in clean environments may still have poor personal hygiene.

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HEALTH DURING PREGNANCY

- The health of the mother during pregnancy will affect the size, weight and health of her baby.

WHAT SHOULD I ASK?	• Ask all women of childbearing age if they have been immunised against rubella and measles
	• Ask all pregnant women:
	  ○ If they drink alcohol
	  ○ If so, how many alcoholic drinks do they have per day / per week?
	  ○ If they smoke cigarettes
	  ○ If so, how many cigarettes do they smoke per day / per week?
	
	Figure 18-9: The health and lifestyle of a pregnant woman can affect the health and eye health of her baby

WHAT CAN I EXPECT TO SEE?	• Mothers who contract measles or rubella during pregnancy risk having babies with cataracts
	  ○ Cataracts in babies can cause blindness if not treated quickly
	• Mothers who drink alcohol or smoke cigarettes during pregnancy risk having premature babies
	  ○ Premature babies can have eye problems such as high refractive errors and/or bleeding at the back of the eye.

WHAT SHOULD I DO?	**Discuss:**
	• Advise all women to have immunisations against rubella and measles
	• Encourage pregnant women:
	  ○ Not to smoke
	  ○ Not to drink alcohol, or at least limit their alcohol intake to one drink per day
	
	Refer:
	• Pregnant women for pre- and post-natal care
	• Babies who:
	  ○ Have cataracts
	  ○ Appear to be unable to see
	
	Educate:
	• Women in the community about the importance of looking after their health, especially during pregnancy
	
	Advocate:
	• For affordable and accessible immunisations for young women.

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REGULAR EYE (HEALTH) CHECKS

- Regular eye exams or check ups will help to find vision or eye health problems early
- 80% of all blindness and visual impairment is avoidable – but early detection and timely treatment of problems is essential.

HOW OFTEN SHOULD WE HAVE OUR EYES CHECKED?

- Each person may be advised differently by their eye care provider – depending on their eye health and individual needs
- Some general guidelines for the recommended frequency of eye examinations are listed below:

Healthy adults	Every 2 – 5 years
Healthy children	Every 1 – 2 years
People with diabetes	Every year (unless otherwise advised)
People with early cataract	Every year
People with refractive error	Every 2 years

WHO SHOULD CHECK MY EYES?

- Eye care workers differ from country to country, and from community to community
- Some examples of cadres of eye care workers, and the types of eye care services they might provide, are listed below

Cadre of eye care worker:	Eye care services they might provide:	
Community Health Worker Community Nurse	Screening	Case History Visual Acuity
Eye Health Worker Refractionist Ophthalmic nurse	Screening	Case History Visual Acuity Plus lens test Check for trachoma Binocularity test Colour vision Retinal photographs
Optometrist	Comprehensive eye examination	Refraction & spectacle provision Diagnosis of eye conditions
Ophthalmologist	Comprehensive eye examination	Treating eye conditions Surgery

Find out details about the eye health providers in your country and community!

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EDUCATION AND ADVOCACY

To enable people to have a lifestyle that promotes good general health as well as good eye health, we need to make changes at personal, community and governmental levels of society.

COMMUNITY EDUCATION

Health workers are an important source of information for the community. They can help to encourage healthy lifestyles to promote eye health by educating the community on:

- Healthy eating
- The importance of regular health check ups and eye exams
- Sun protection
- Dangers of smoking
- Eye safety at work and at home
- Clean environments and personal hygiene
- Maternal health

Health workers can do this by talking to:

- School groups
- Community groups
- Community elders.

ADVOCACY

Health workers are important advocates for community health. They understand what needs to be done at a community and government level to encourage healthy lifestyles.

To help improve eye health, health workers can advocate for accessible and affordable:

- Fresh food supply
- Strategies and support to help people quit smoking
- Sunglasses, hats and safety spectacles
- Clean water
- Garbage and sewage disposal
- Pre- and post-natal care

Health workers can do this by talking to:

- Community elders
- Local, state/territory and national/federal government
- Health organisations
- Relevant industry.

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SUMMARY – LIFESTYLE AND THE EYE

DIET

Poor diet can lead to blindness from:

- Vitamin A deficiency
- Diabetic retinopathy
- Macular Degeneration
- Cataract

- Advise people on the importance of following a healthy diet.

SMOKING

- Smoking increases the risk of cataracts and macular degeneration
- Advise people to quit smoking.

THE SUN

- Too much time in the sun can cause pingueculae, pterygia, cataracts and cancers of the eye
- Advise people to wear a hat and sunglasses in the sun.

ACCIDENTS

- Accidents can cause blindness if not treated quickly and correctly
- Accidents can cause lid lacerations, foreign bodies in or on the eye, blunt trauma, flash burn or chemical burns
- Advise people to wear eye protection and to store chemicals correctly.

THE ENVIRONMENT

- Dirty water, garbage, sewage and flies spread diseases like trachoma and conjunctivitis
- Advise people to maintain a clean living environment.

HYGIENE

- Poor personal hygiene can facilitate the spread of eye diseases like trachoma and conjunctivitis
- Advise people to wash their hands and faces and not to share sheets and towels.

HEALTH DURING PREGNANCY

- Poor maternal health can cause health problems and eye conditions in newborn babies
- Encourage immunisation of all women against measles and rubella
- Advise all pregnant women to stop smoking and not to drink alcohol.

REGULAR HEALTH CHECKS

- Regular health checks will help to find vision and eye health problems early
- 80% of visual impairment is avoidable, if detected and treated early.

ADVOCACY AND EDUCATION

- Advocacy and education are vital for community change
- Health workers are ideal people to advocate for and educate within the community
- Health workers can educate all sectors of the community to promote healthy lifestyles.

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TEST YOURSELF QUESTIONS

1. **Name four lifestyle factors that can affect the eyes:**

_____
_____
_____
_____

2. **What advice would you give a pregnant mother, to help prevent her baby from having eye problems?**

_____
_____

3. **A gardener wants to know how to protect his eyes. What do you tell him?**

_____
_____
_____

4. **How can smoking cause vision loss or blindness?**

_____
_____

5. **Name four things that you could educate your community about, to improve eye health:**

_____
_____
_____
_____

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