

## **Functions of the Eyes**



## We can use our eyes for...



## **Structure of the Eye**



**Cross Section of Eyeball** 

## **Visual Transmission**



Object image captured by eye is projected on the retina through the pupil, and then transmitted to the brain by optic nerves. The image is finally perceived by the brain and we, in turn, will respond accordingly.

### **Common Eye Diseases of Students**

### 1) Refractive error

### A. Myopia (short-sightedness)

• Distant object: Image focused in front of the retina, resulting in a blurred vision



Near object: Image can be seen clearly



clear

- Cause: Eyeball too long
- Correction: Wear proper glasses with concave lenses for clear vision of distant object



B. Hyperopia (long-sightedness)

• When looking at object: Image is focused behind the retina, resulting in a blurred vision



blur

• When focusing with extra accommodation: Image becomes clear



clear

- Cause: Eyeball too short
- Correction: Wear proper glasses with convex lenses for clear vision without extra accommodation of the eyes



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clear

## C. Astigmatism Unequal curvatures along the cornea causes rays from a luminous point not being focused at a single point on the retina, resulting in blurred images < for both distant and near objects 2) Strabismus (squint) Misalignment or asymmetrical position of both eyes 3) Red eyes Conjunctiva or cornea suffers from viral or bacterial infection, trauma or allergic reaction, resulting in tearing, itching, redness and swelling of the eyes 4) Eye injury 5) Colour vision deficiency Decreased ability to identify or distinguish certain colours

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## Ways to Take Care of Your Eyes – DOs



1. Maintain good posture by sitting upright and using chair and desk of suitable height



3. When you read, lighting should be sufficient, even and stable



2. Place reading materials at least 30 cm from the eyes



4. Rest your eyes regularly. After reading or using the computer for 20 to 30 minutes, take a break of 20 to 30 seconds or look at distant objects to relax your eyes



- 5. When you watch television :
  - Switch on the light in the room
  - TV screen should be at eye level Repair the TV if flashes and blurred images occur on the
  - screen



6. Wear quality sunglasses with ultraviolet (UV) rays protection under strong sunlight



7. Wear safety goggles if necessary, e.g. when playing squash



8. Pay extra attention when using sharp or pointed objects



9. Always be alert to home safety. Handle chemicals with care to avoid them getting into your eyes and causing injury



11. Sufficient sleep can provide your eyes with a good rest



10. Keep a balanced diet, including taking foods that are rich in vitamin A, e.g. water melon, tomato, papaya, carrot, other fruits or vegetables in red or orange



12.Regular exercise provides opportunities for you to relax and also train the coordination ability of your eyes



13. Have regular vision tests for early detection and treatment of any visual defects



14. Wear appropriate glasses. Consult ophthalmologist or optometrist if your glasses are no longer suitable and have them replaced



15.Seek advice from your doctor immediately in case of vision problem, red eyes or any eye discomfort



16. Check the name, dosage and expiry date of eye drugs before applying to the eyes

## Ways to Take Care of Your Eyes – DON'Ts



1. Cover your eyes with your hair



3. Read materials with small prints, poor printing quality, reflective papers or very bright colour



5. Read in moving vehicles



2. Read under strong lighting



4. Read with light shining directly into your eyes



6. Read or watch TV while lying down



7. Look directly at strong light



9. Swim in contaminated beach



11.Use other people's eye ointments or buy eye drops off the counter when your eyes feel uncomfortable



8. Rub your eyes with public towels



10. Rub your eyes with your hands



12. Engage in dangerous activities such as shooting or lighting firecrackers without safety measures

## **One-Minute Self-Reflection**

Are you always under the following situations?

- 1. When you read or concentrate on close objects, you
  - always rub your eyes

blink your eyes frequently

move the book or objects close to your eyes

- always miss several rows when you read
- always frown



feel tired, irritated, have a headache and eye discomfort

- 2. When you look at distant objects (e.g. the blackboard in the classroom), you
  - screw your eyes

have to move closer to the object

see double images

- have difficulty in seeing clearly and always copy incorrectly or need to copy from classmates
- 3. In your daily life, you
  - are always tripped by small objects
  - have difficulty catching moving objects,
  - e.g. balls

have a squint



ABO

\* If you find yourself suffering from any of the above problems, you may have visual defect. Please have your eyes checked as soon as possible.\*

# Good eye sight is valuable. Eye care! I care!



