



# A GUIDE TO EYE HEALTH

*TIPS FOR YOUR VISION  
CARE*

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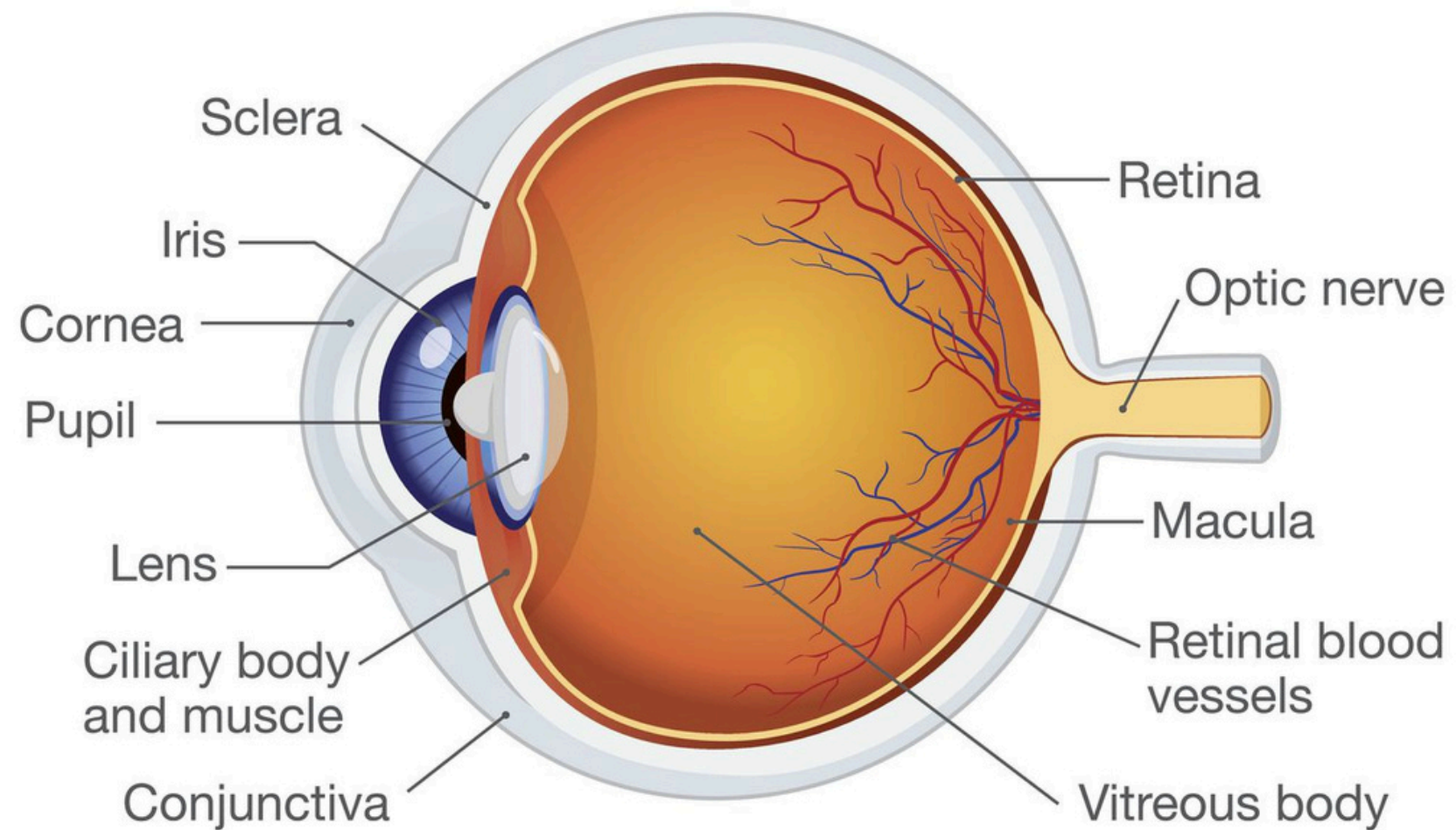
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# CHAPTER 1: INTRODUCTION

# HOW DOES THE EYE WORK?

## Human Eye Anatomy

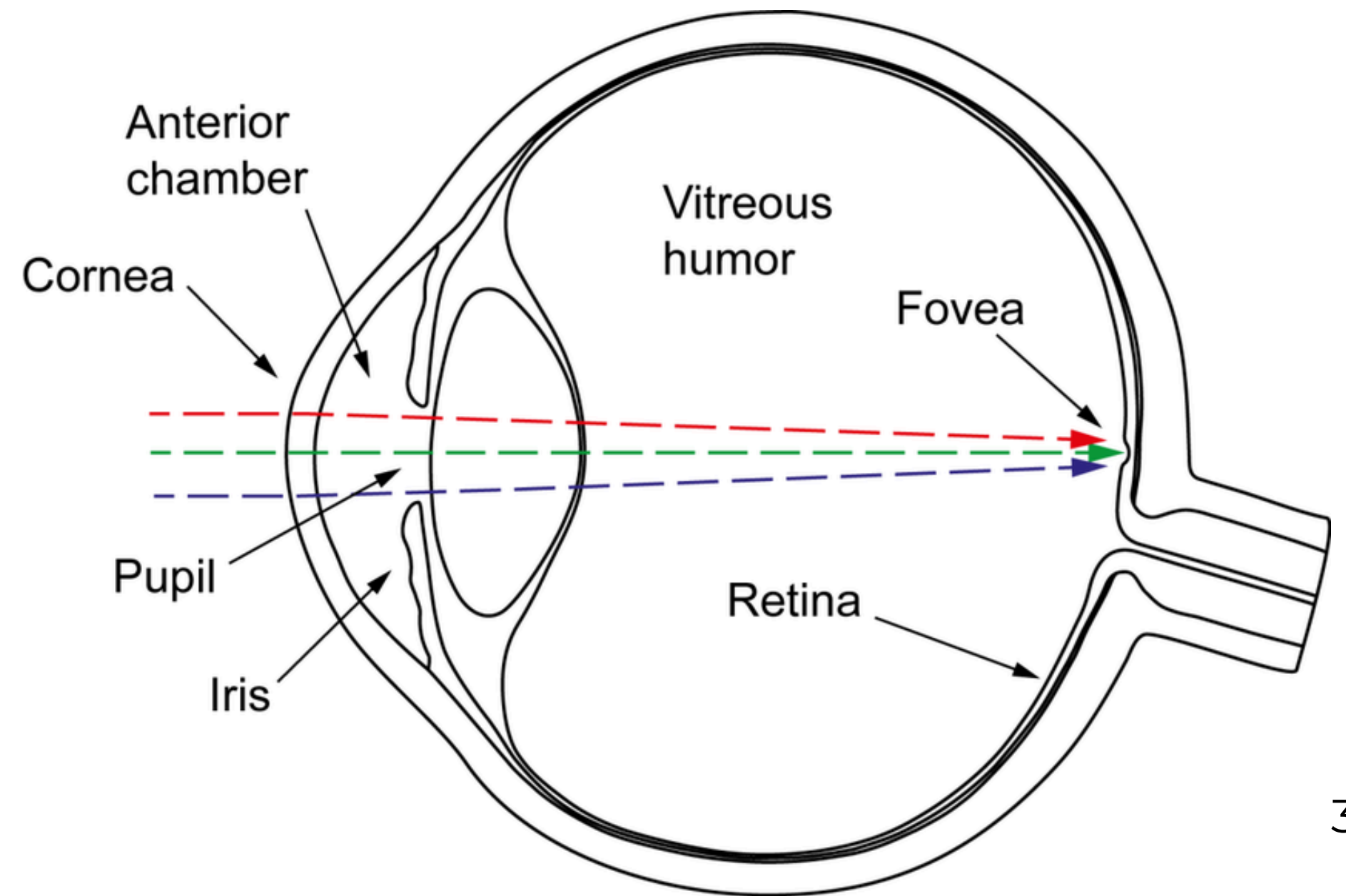


The eye is made up of a series of layers that **focus light** into the very back of your eye. The first layer of the eye that light passes through is the **cornea**. This is a clear, **shield-like layer** covering the very outside of the eye.

Light will then travel through the pupil of the eye and the amount of light let in is altered by the iris tightening or opening around it.<sup>1</sup>

After entering the pupil, the lens in the back of the eye bends the light to focus on the very back of the eye called the **retina**.

The retina is a **collection of cells stimulated by light** that send electrical signals to the brain. The brain interprets these electrical signals as images.<sup>1</sup>





# EYES ARE IMPORTANT

01

Eyesight is one of your most important senses. 80% of what you perceive is through your sense of sight. Protecting your eyes reduces chance of vision loss or blindness as well as certain eye diseases. <sup>7</sup>

02

4 in 10 adults are at high risk for vision loss. 40% of these high risk patients have not had an eye exam in over a year <sup>6</sup>

03

**Eye Health = Brain Health.** Keeping your eyes healthy, keeps your brain healthy. Good vision contributes to improved learning and comprehension, and better quality of life! <sup>7</sup>

# U.S. STATISTICS

**12**

million people  
suffer from  
vision  
impairment<sup>4</sup>

**80%**

of vision  
impairment is  
treatable and/or  
preventable<sup>5</sup>

**2000+**

people suffer  
eye injuries at  
work everyday<sup>4</sup>

**1.3**

million over  
the age 40  
are legally  
blind<sup>4</sup>



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**CHAPTER 2:**  
**COMMON**  
**EYE**  
**CONDITIONS**



# CHILDREN

The most prevalent childhood conditions are vision disorders including amblyopia, strabismus, and significant refractive errors<sup>1</sup>

Myopia (near-sightedness)

Hyperopia (farsightedness)

Astigmatism (distorted vision at all distances)<sup>1</sup>

Congenital defects (occurring at or before birth)<sup>1</sup>

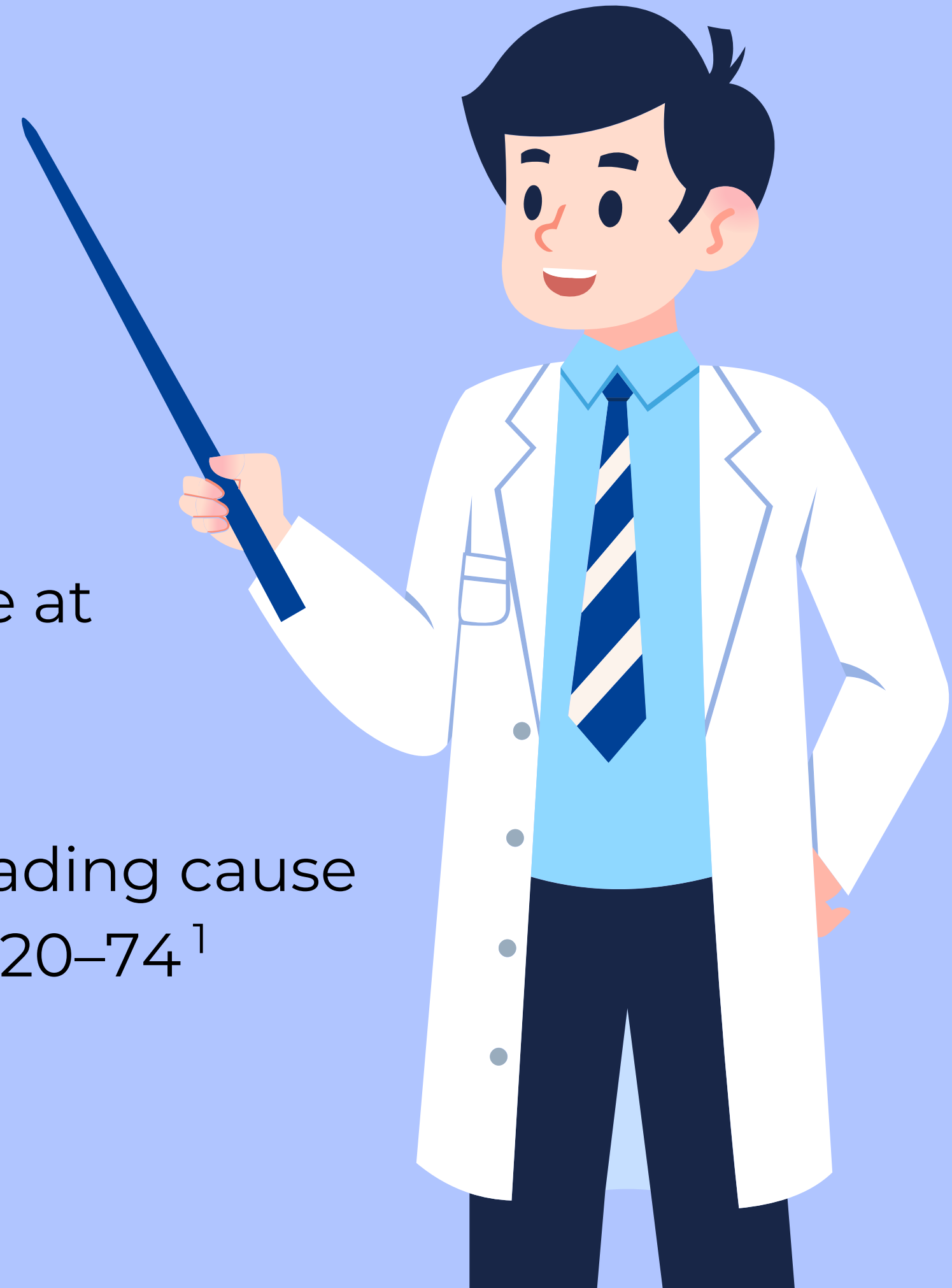


# TEENS & ADULTS

Under 40: most common are refractive disorders; myopia, hyperopia, astigmatism<sup>1</sup>

American adults aged 40 years and older are at greatest risk for eye diseases.<sup>1</sup>

Diabetes affects this age group and is the leading cause of blindness among the working-age group 20–74<sup>1</sup>



# ELDERLY



Age-Related  
Macular  
Degeneration

AMD affects the macula, the central part the retina that allows the eye to see fine details<sup>2</sup>



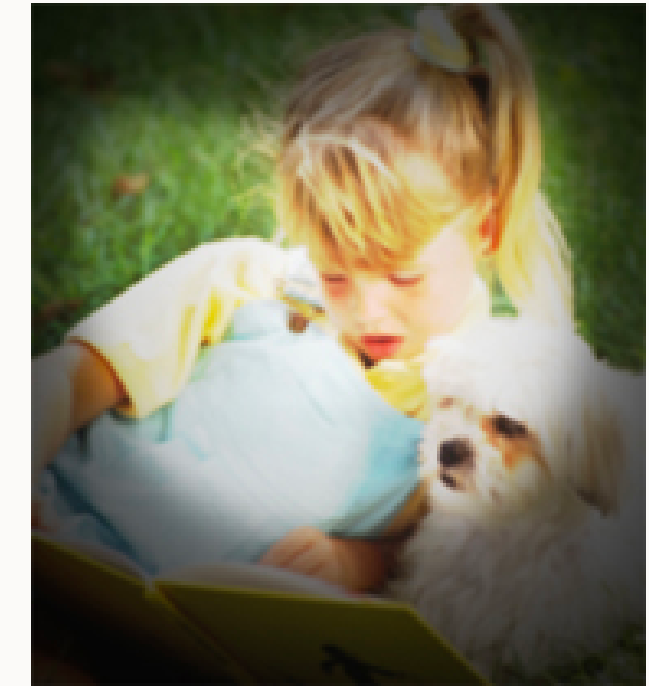
Cataract

Clouding of the eye's lens and is the leading cause of blindness worldwide  
Cataracts can occur at any age<sup>2</sup>



Diabetic  
Retinopathy

Progressive damage to the blood vessels of the retina, the light-sensitive tissue at the back of the eye that is necessary for good vision<sup>2</sup>



Glaucoma

Can damage the eye's optic nerve and result in vision loss and blindness<sup>2</sup>



# DIABETIC RETINOPATHY

Caused by high blood sugar due to diabetes<sup>3</sup>

Over time, having too much sugar in your blood can damage your retina — the part of your eye that detects light and sends signals to your brain through a nerve in the back of your eye (optic nerve)<sup>3</sup>

Anyone with any kind of diabetes can get diabetic retinopathy — including people with type 1, type 2, and gestational diabetes (a type of diabetes that can develop during pregnancy)<sup>3</sup>



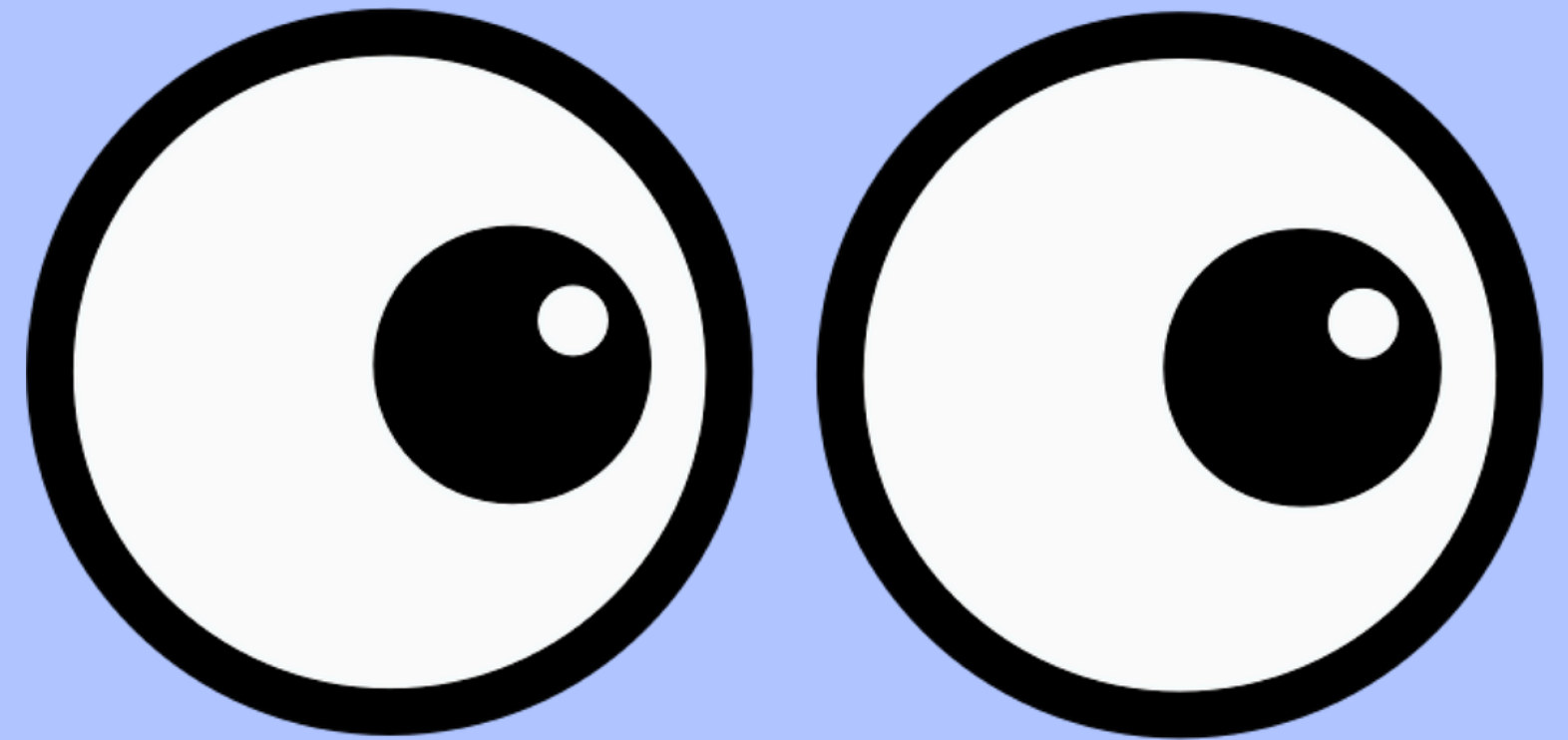
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# CHAPTER 3:

## WHAT CAN LEAD TO DEGENERATIVE EYE HEALTH



# TECHNOLOGY

## BLUE LIGHT

Most digital devices and LED lights emit more wavelengths near the short/bluer part of the spectrum<sup>1</sup>

## PROCEED WITH CAUTION!!

High and continual exposure to these wavelengths can slowly damage the retina<sup>1</sup>



# PROTECTION FROM TECHNOLOGY



## BLUE LIGHT GLASSES

Blue light glasses can protect your eyes by acting as a filter to reduce eye strain<sup>1</sup>



## LIMIT USE!

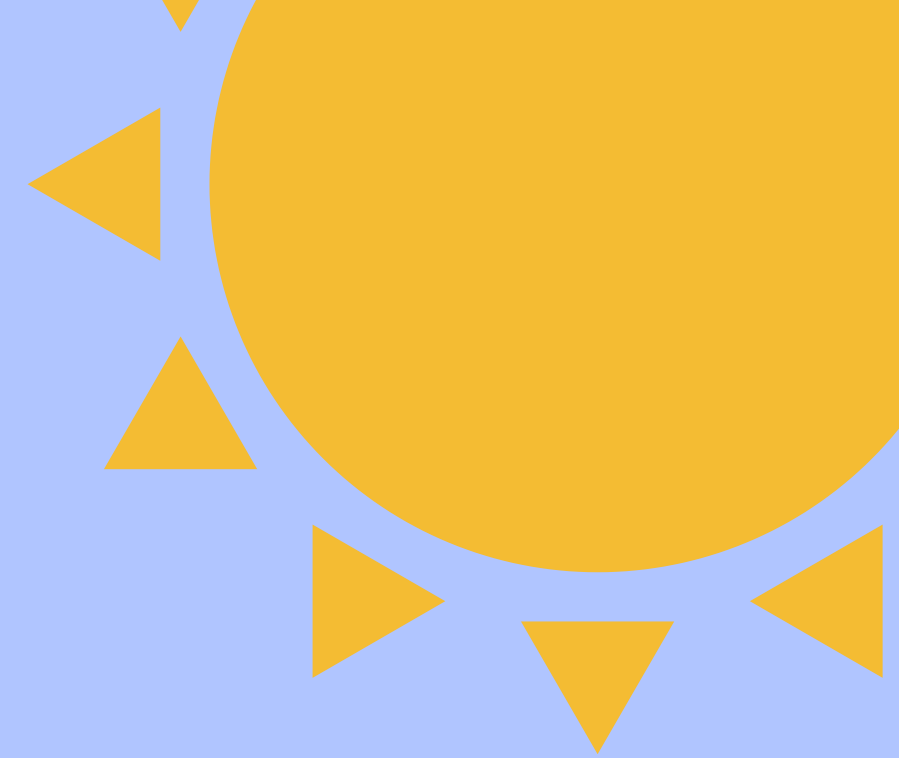
By moderating technology usage to avoid overuse, you can limit eye exposure to harmful light<sup>1</sup>



## HOW THEY WORK

They filter out the high-energy visible light emitted by blue light and prevent it from reaching your eyes<sup>1</sup>

# HOW CAN THE SUN DAMAGE MY EYES?



01

## UV EXPOSURE

The longer you are exposed to the sun without eye protection, the more likely you are to increase risk for eye damage<sup>2</sup>

02

## PIGMENTATION

People with darker skin and eyes will better absorb UV rays to protect from damaging effects when compared to those with lighter pigmentation<sup>2</sup>

Clouds don't  
block UV rays!<sup>2</sup>

# UV RADIATION TYPES



## UVC

Highest energy - absorbed by the ozone layer<sup>3</sup>



## UVB

Medium energy - absorbed by outer layer of skin<sup>3</sup>



## UVA

Primary UV radiation we feel - affects the middle layer of skin<sup>3</sup>

# UV Related Vision Problems

## PHOTOKERATITIS

Occurs after unprotected exposure to ultraviolet radiation, inflaming the cornea and conjunctiva. Can lead to light sensitivity, headaches, swelling, and potentially temporary vision loss.<sup>3</sup>

## CATARACTS

Cataracts are more common and can occur due to overexposure to the sun's UV rays. Symptoms include blurry vision, increased nearsightedness, perceiving lights as too bright, and more.<sup>3</sup>

## EYELID CANCERS

Occurs usually in those over the age of 50 who have experienced long-term sun exposure. Symptoms include: absence of eyelid healing, chronic infection of the eyelid, and potentially require removal of the eye.<sup>3</sup>



# INJURY

It's important to be cautious and ensure the protection of your eyes as any minor injury to it could lead to vision loss or potential blindness<sup>4</sup>

**Wear eye protection - such as safety goggles - just in case!<sup>4</sup>**

## WHAT TO WATCH FOR



Potential hazards in the workplace<sup>4</sup>



Potential hazards in sporting<sup>4</sup>

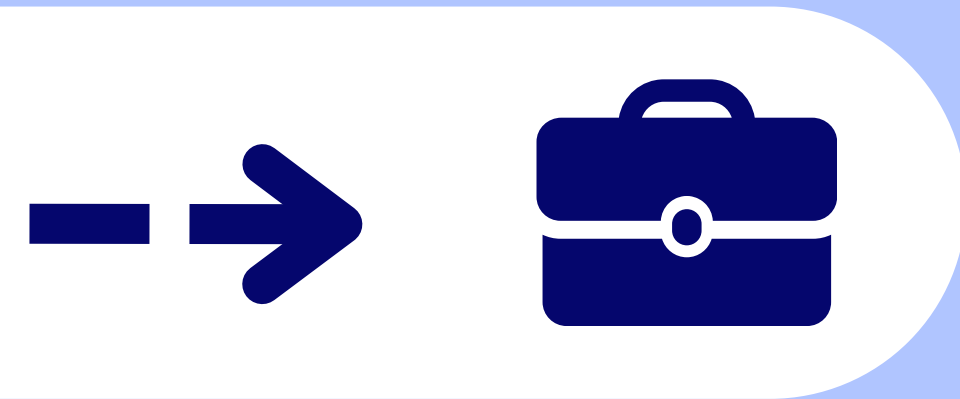


Potential hazards in everydaylife<sup>4</sup>



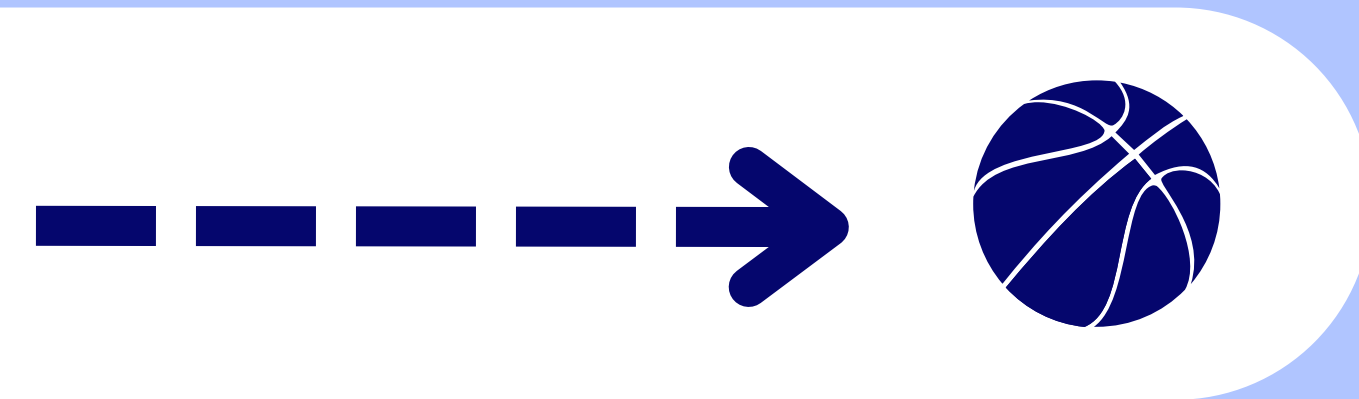
# POTENTIAL HAZARDS

## THE WORKPLACE



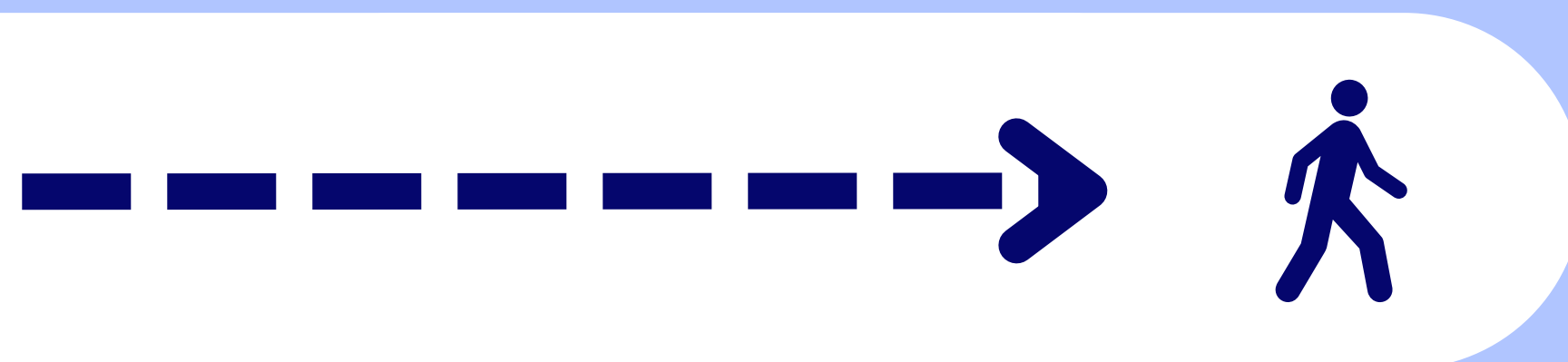
- Striking/Scraping - Rogue foreign objects of any shape and size can scrape the eyes<sup>4</sup>
- Penetration - Sharper edged items, such as staples, nails, and more can pierce the eyes<sup>4</sup>

## SPORTING



- Blunt injuries - Seen from sports balls, contact with body parts, and sporting equipment<sup>4</sup>
- Scraping - Occurs from foreign objects often seen as dust and other outdoor particles<sup>4</sup>

## EVERYDAY LIFE<sup>4</sup>



- Hazardous chemicals
  - Bleach, fertilizers, etc.
- Projectiles
  - Branches, leaves, etc.

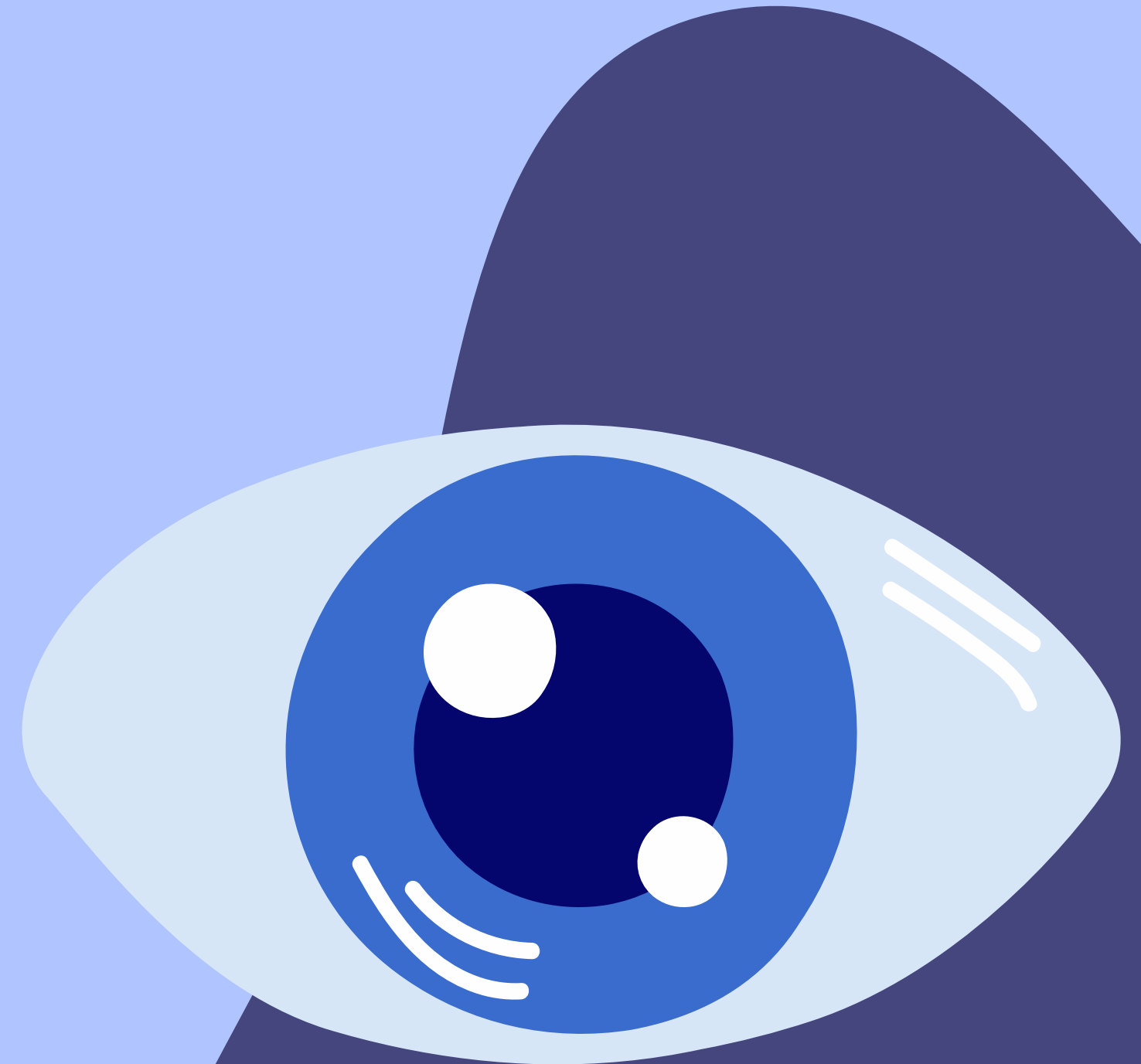
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**CHAPTER 4:**

**HOW TO  
PROTECT  
YOUR EYES**



# EYE EXAMS 01

People who wear contacts or glasses should get eye exams every year. Others should get one every two years.<sup>1</sup>

Less than 15% of all preschool children receive an eye exam.<sup>2</sup>

Some diseases such as glaucoma, diabetic retinopathy, and macular degeneration have no symptoms and can only be diagnosed by an optometrist.<sup>2</sup>



# FAMILY HISTORY 02

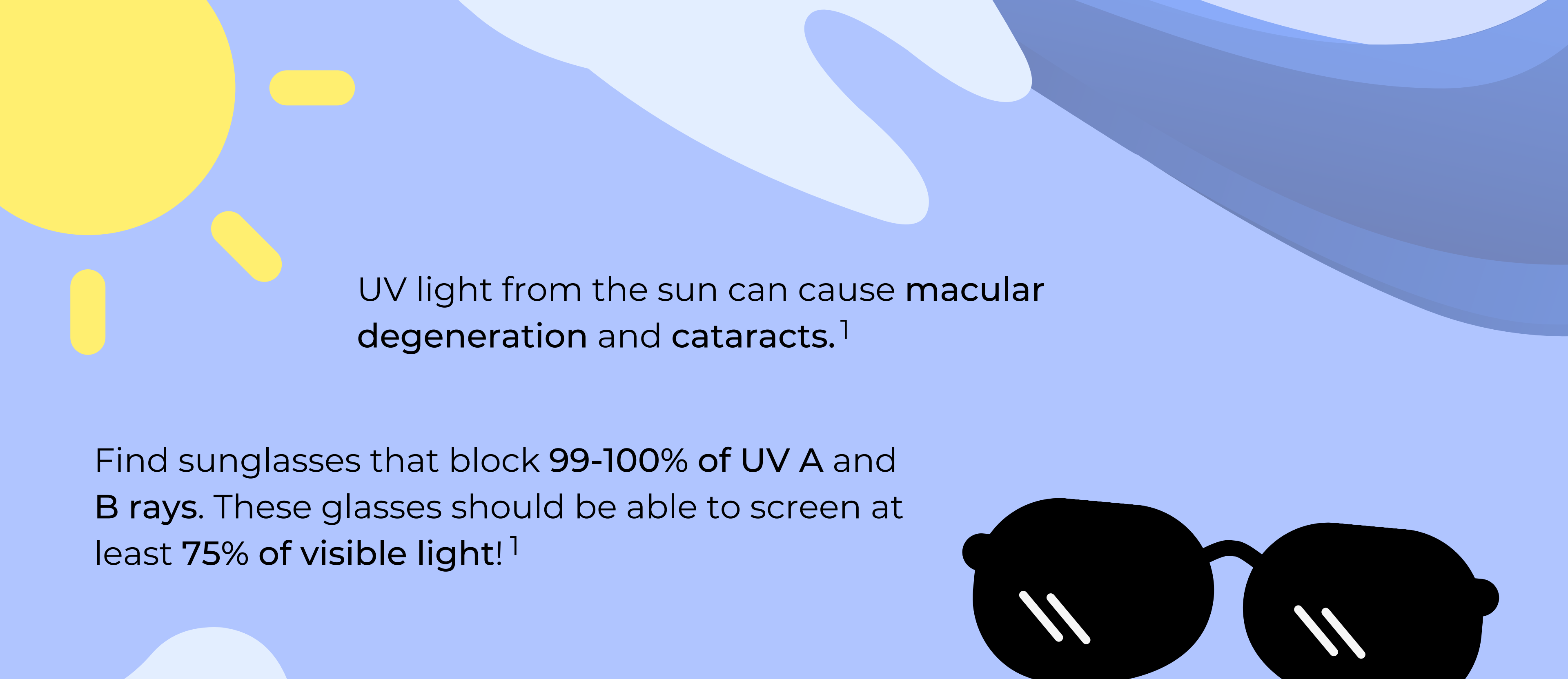


Knowing what illnesses run in your family can help you to catch diagnoses early. <sup>2</sup>

# STAY HYGENIC 03

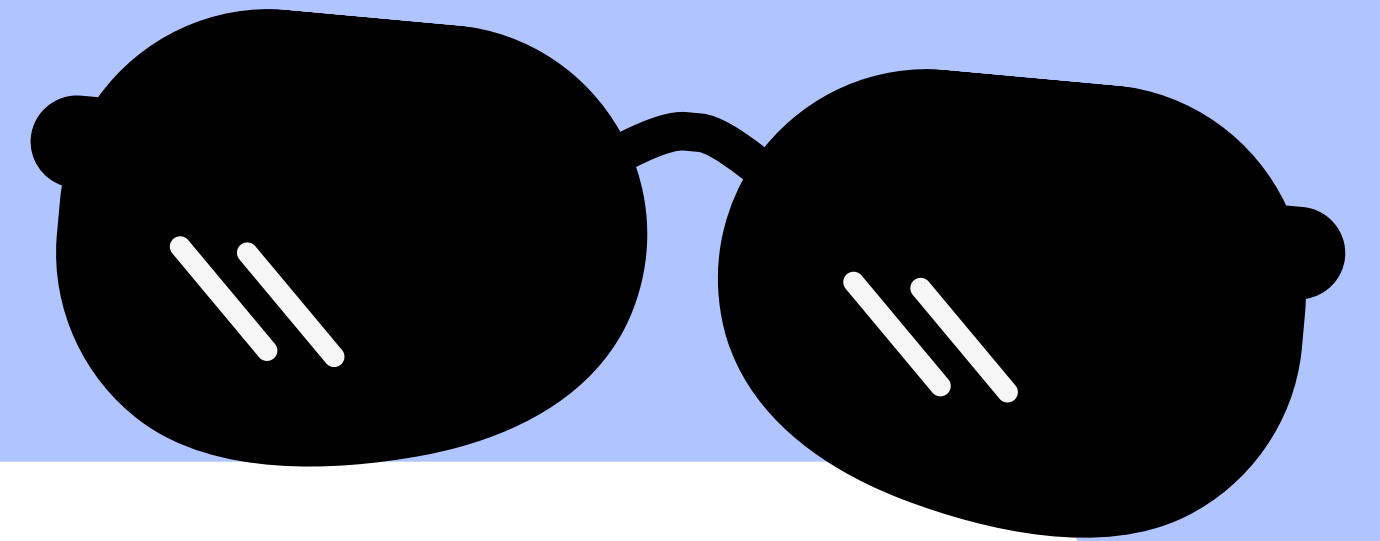


To avoid contracting infections avoid sharing eye makeup and eye drop products, wash your hands often, and avoid touching your eyes. <sup>1</sup>



UV light from the sun can cause macular degeneration and cataracts.<sup>1</sup>

Find sunglasses that block 99-100% of UV A and B rays. These glasses should be able to screen at least 75% of visible light!<sup>1</sup>



**WEAR SUN GLASSES 04**

Wear **protective gear** to avoid injuries, especially in the workplace! Gear can include **face shields, goggles, and eye guards.**<sup>2</sup>

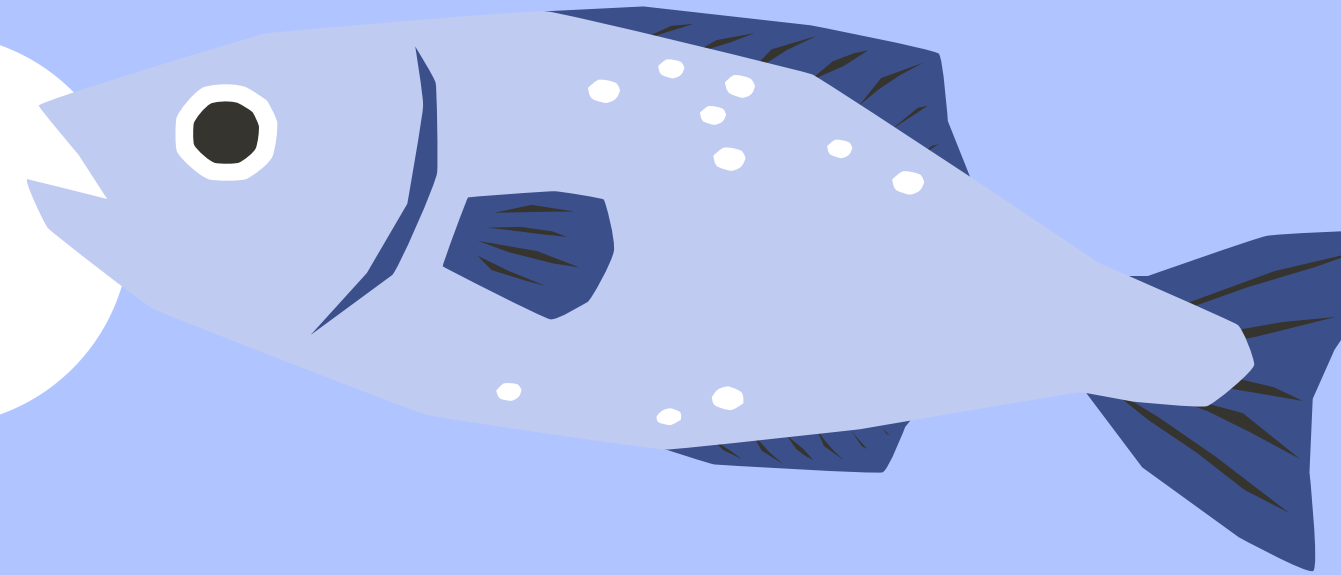
Much of this gear is composed of **polycarbonate**, a material **10 times** stronger than plastic!<sup>2</sup>

# PROTECTIVE GEAR 05





# HEALTHY DIET 06



**90% of diabetic retinopathy is preventable!**

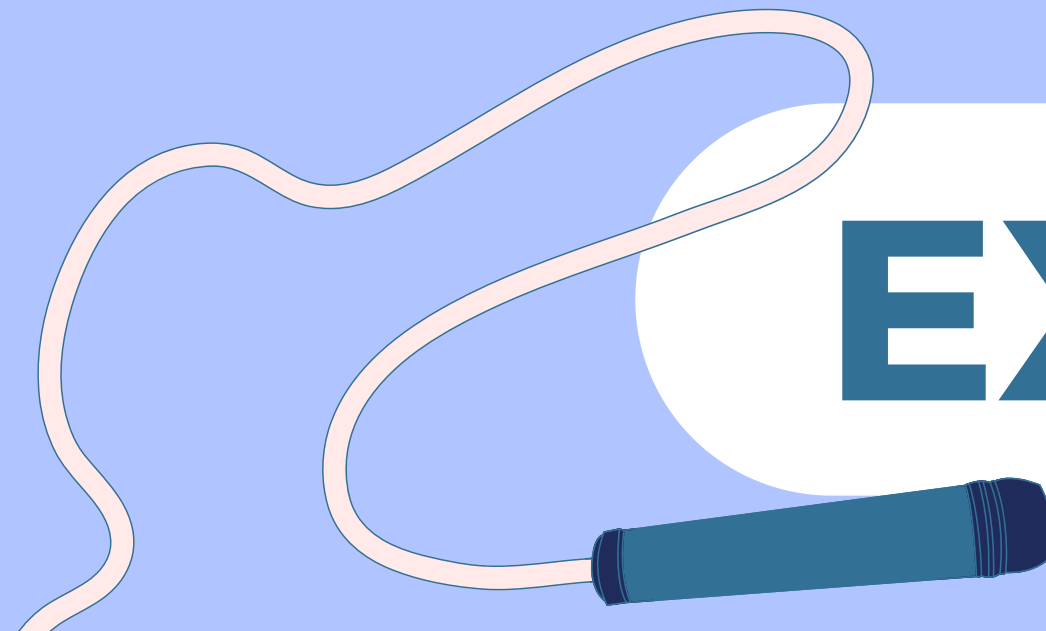
Eating healthy foods rich in omega 3 fatty acids can prevent diabetes.

- salmon
- halibut
- tuna
- kale
- spinach
- collard greens <sup>2</sup>

Regular exercise also aids in preventing diabetes and heart disease.

- aerobics
- weight lifting <sup>2</sup>

# EXERCISE 07





# DONT SMOKE 08

Smoking increases the risk of developing

- age related macular degeneration
- cataracts
- optic nerve damage.<sup>2</sup>



# REST 09

Look away from work for a few seconds to relieve strain on your eyes!<sup>2</sup>

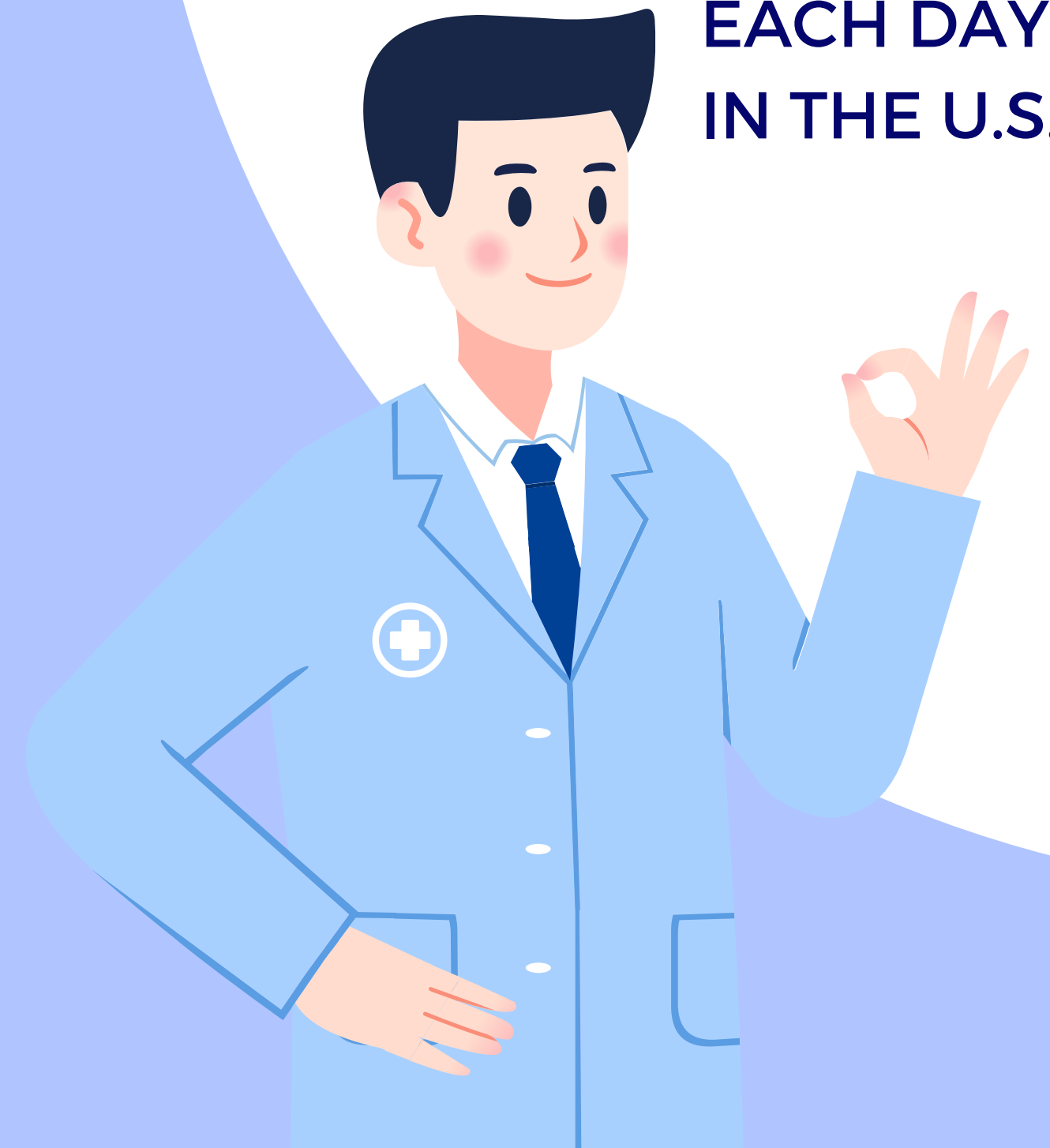
# HOW TO WEAR CONTACTS

Wash and dry your hands before putting your contacts in.<sup>3</sup>

Never swim or shower with your contacts in. Water can introduce bacteria to your eyes. That being said, never disinfect your lenses with spit or water!<sup>3</sup>

Clean your lens case with solution or a clean, dry tissue, never water!<sup>3</sup>

**45 MILLION  
PEOPLE** WEAR  
CONTACTS  
EACH DAY  
IN THE U.S.



# CONTACT WEAR

## DID YOU KNOW?

Sleeping in your contacts will give you **eight times** the risk of an eye infection!<sup>3</sup>

Water can cause contact lenses to **change shape, swell, or stick to your eye** which can lead to a scratched cornea or infection.<sup>3</sup>

Wearing your contacts for too long can cause **keratitis or inflammation of the cornea.**<sup>4</sup>

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3. CDC. Healthy Contact Lens Wear and Care. 2022;
4. CDC. Germs & Infections. 2022;

# CONCLUSION

Remember the 4 P's

**Prevent**

**Protect**

**Preserve**

**Prioritize**

Eyesight is one of your most important senses.

Your eyes allow you see and interpret the world around you.

You only have 2 eyes so take care of them now before it's too late!

