



Eye Safety 眼睛安全

life  beats

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Eye Safety眼睛安全

“The eye is like a mirror, and the visible object is like the thing reflected in the mirror.” -- *Avicenna, early 11th century* “

眼睛就像一面镜子，可见物体就等同于反射在镜子的东西。” - 阿维森纳，11世纪初

- This presentation will be centered on the importance of keeping the one pair of eyes we are given, safe and healthy. It will explore anatomy, age progression, at work, and home safety as well as preventative measures to maintain a healthy pair of eyes.
- 本报告将在以保护眼睛的安全和健康为中心。它将探索解剖学，年龄的进展，在工作和家庭中的安全和预防措施，以保持一个健康的眼睛。



Examination of the Eye眼科检查

The human eye is one of the most complicated structures on earth and it requires many components to allow our advanced visual capabilities.

人类的眼睛是地球上最复杂的结构之一，它需要许多组件，让我们的先进的视觉功能。

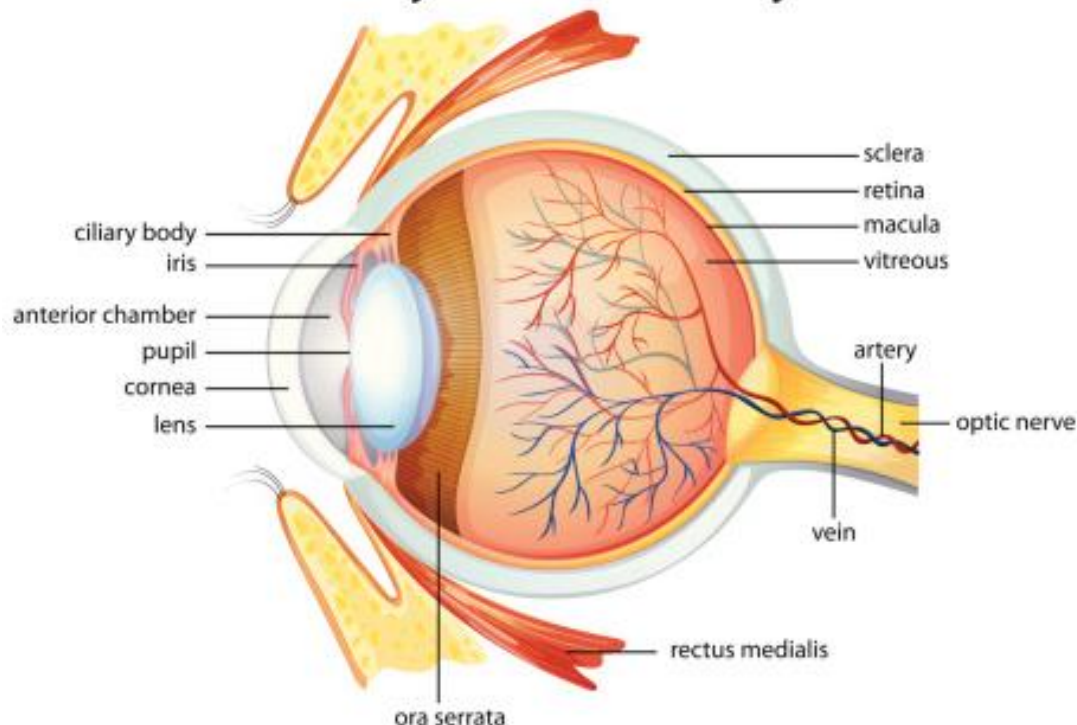
The eye has three major layers:

眼睛有三个主要层次：

- the sclera, which maintains, protects, and supports the shape of the eye and includes the cornea; 巩膜，它保持，保护和支持眼睛的形状，并且包括角膜；
- the choroid, which provides oxygen and nourishment to the eye and includes the pupil, iris, and lens; 脉络膜，它提供氧和营养的眼睛，并且包括瞳孔，虹膜和晶状体；
- the retina, which allows us to piece images together and includes cones and rods. 视网膜，这使得我们可以一块图像组合在一起，包括视锥与视杆细胞。

The optic nerve takes electrical signals from the retina of the eye to the brain. 视神经需要从眼睛的视网膜传到大脑的信号。

Anatomy of the Human Eye



The human visual system gives our bodies the ability to take in our physical environment.

人类的视觉系统告诉我们的身体对物理环境的承受能力

Aging of the Eyes 眼睛老化

Infants/Toddlers

婴/幼儿

Their eyes and visual system are not fully developed but significant improvement occurs as they are able to focus and develop images. 他们的眼睛和视觉系统尚未完全发育，但它们在专注看图像时能显著改善。

20-30's

20-30岁

Your eyes are generally healthy. You may be exposed to greater risk of sports or work safety injuries. Vision changes such as near- or farsightedness may continue to progress, but at a slower rate. 你的眼睛的健康。您可能会受到运动或工作安全伤害的风险更大。如近或远视视力变化可能会继续以较慢的速度进一步恶化。

40-50's

40-50岁

Normal changes in how your eyes focus may require the wear of reading glasses, or you may need to hold reading material farther away to read clearly.

在你眼睛焦距的变化需要你戴上眼睛，或者您可能需要把阅读材料放到更远的地方才能清楚地看到。

60-above

60以上

Your pupil size will start to shrink, which makes it more difficult to see in low-light or fluctuating light environments. Your peripheral vision will be reduced, and your color vision may change or decline. 你的瞳孔大小将开始萎缩，这使得它在低光或光线波动的环境中更难看到。你的周边视力会降低，你的色觉可能会改变或下降。

Eye Safety at Work 工作中眼睛的安全

Causes 原因

- 70% of injuries are from flying or falling objects 70% 的眼睛受伤时由于飞溅物或物体掉落
- 20% are from contact with chemicals 20% 是因为接触了化学物质。
- 60% of injured workers did not wear eye protection 60% 的伤害是没有带防护设备
- Others wore glasses, but had no side protection, or poor fitting glasses 其他的虽然带了眼镜，但是没有侧面防护或者带了差的不合适的眼睛

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Effects 结果

- Corneal abrasions, conjunctivitis 角膜擦伤，结膜炎
- Foreign objects imbedded in the eye 异物嵌在眼睛里
- Chemical burns 化学烧伤
- Welders flash burn 焊工闪烧
- Lacerations 撕裂伤
- Facial bruising, black eye from impact force 面色青紫，受冲击导致黑眼圈
- Puncture injuries 穿刺伤

Prevention 如何防范

- Create a safe work environment 创建一个安全的工作环境
- Evaluate safety hazards 评估安全隐患
- Wear the proper eye and face protection 佩戴合适的眼睛和面部防护
- Use good work practices 用良好的工作方法
- Have an eye wash or sterile solution on hand and do not rub 有洗眼或灭菌溶液的手，不要揉搓
- Know the eye safety dangers at your work 知道你的工作眼安全危险
- Keep safety eyewear in good condition and replace it if it is damaged 保持良好的状态护目镜和替换它，如果它被损坏

Eye Safety at Home 家庭中眼睛的安全

As the day winds down and home is heavy on the mind, it is easy to lose sight of the fact that dangers could be waiting for you at home. 时光飞逝，家庭在心中很重要，事实是在家中很容易忽视危险，即危险时刻存在家中如果你不注意。

- Each year, nearly 50 percent of the annual 2.5 million eye injuries occur at home; that's more injuries than occur in school and at the work place combined. 每年，250万眼外伤中50%发生在家中；这比发生在学校和工作场所的总和还要多。
- It is common to revert to a personal hobby to unwind after a long day at work but your home is only as safe as you are. 每天工作之后人们很正常会有一些个人兴趣。你要保证家里也是安全的。
- You have to remember that the GoalZero safety mentality that is applied at work needs to be carried in to the comfort of your home. 切记，零事故的目标同样适用在你舒服的家中。

FriendsforSight.org



Eye Safety at Home 家庭中眼睛的安全

Causes 原因

- Household Chemicals 家用化学品
- Workshop/Yard Debris 工作作坊/庭院垃圾
- Battery Acid 蓄电池酸液
- Sports Injuries 运动损伤
- UV Light 紫外光
- Toys/Games 玩具/游戏

Effects 影响

- Corneal abrasions, conjunctivitis 角膜擦伤, 结膜炎
- Foreign objects imbedded in the eye 异物
• 嵌在眼睛
- Chemical burns 化学烧伤
- Welders flash burn 焊工闪烧
- Lacerations 撕裂伤
- Facial bruising, black eye from impact force 面色青紫, 受冲击致黑眼圈
- Eye Bleeding 眼出血

Prevention 预防措施

- **READ** instructions and labels carefully 仔细阅读说明书和标签
- **THINK** about the work you will be doing and wear protective eyewear 想想你会做的工作, 并戴上防护眼镜
- **INVEST** in at least one pair of ANSI/UNE EN-approved eyewear 至少买一对经ANSI / UNE EN-批认可的眼镜

Eye Protection眼睛保护

There is a wide variety of eye protection for everyone. Whether you are a construction worker pouring concrete or an eight-year old helping Dad in the garage, there are safety glasses for everyone and every job. 有各种各样的措施为大家保护眼睛。无论你是一个建筑工人浇筑混凝土或仅仅八岁在车库里帮助爸爸，每个人，每个岗位都有合适的安全眼镜。

- The type of eye protection that is worn should, at least, meet the requirements established by the regulations/laws set by your government to ensure that you are fully protected from the hazards associated with what you are doing. 防护眼镜类型和穿戴，至少应满足法规法律的要求和规定，以确保你完全从事相关的危险工作释受到保护。



Types of Protective Eye Wear 护目镜的类型

Safety Glasses 安全眼镜

- Mechanical protection against 机械防护
 - flying particles, 防止颗粒飞进眼睛,
 - dusts, and 粉尘,
 - high impact objects 高冲击的物体



Safety Goggles 护目镜

- 360 eye coverage 全方位保护眼睛
- Mechanical protection against particle and dropped objects; dusty and smoky environments 对颗粒和坠落 防环境中的尘和防烟
- Biological protection against fines, gases, sprays, mists, aerosols. 对生物, 气体, 喷雾剂, 雾, 气溶胶进行保护。
- Protects against physical agents (specific treatment) such as IR, UV and sun radiations 防止红外线, 紫外线和太阳辐射

Welding Eye Protection 焊接眼部保护

- Mechanical protection against hot particle impacts 针对热颗粒物的影响的保护
- Protection against physical agents (with specific treatment)
 - IR,
 - UV, and
 - Sun Radiation
 - 防止IR, UV和太阳辐射



Preventative Maintenance for Eyes 预防性维护眼睛

- **Eat Healthy 吃的健康**

- Nutrients such as omega-3 fatty acids, lutein, zinc, and vitamins C and E might help ward off age-related vision problems

营养素 ω -3脂肪酸，叶黄素，锌和维生素C和E等可能有助于预防与老化有关的视力问题

- **Quit Smoking 不抽烟**

- **Step Away from Your Computer 离开电脑**

- Every 20 minutes, rest your eyes by looking 20 feet away for 20 seconds. At least every 2 hours, get up and take a 15-minute break.

每 20分钟往20 英尺看，让眼睛休息20秒。至少每2个小时，休息15分钟。



Preventative Maintenance for Eyes 预防性维护眼睛

- **Visit Your Eye Doctor Regularly** 定期访问您的眼科医师
 - Everyone, even young children, should get their eyes examined regularly 每个人，甚至年幼的孩子，眼睛也应该得到 定期检查
- **Use Safety Eyewear at Work and at Home** 在工作和家庭中使用安全眼镜
- **Exercise Your Eyes** 锻炼你的眼睛
 - Eyes, as other body parts, should be exercised to keep them in good shape.
 - 眼睛，和其他身体部位一样，应经常运动，让他们在良好的工作状态



Preventative Maintenance for Eyes 预防性维护眼睛

Eye exercises: 眼保健操:

- Lubrication by reducing ocular dryness and associated symptoms 润滑能有效减少降低眼部干燥和缓解症状
 - Open and close eyes strongly for 3-5 seconds 睁开和关闭的眼睛3-5秒
 - Repeat this movement 7-8 times 重复7-8次
- Ocular muscle exercises improve the eye movements muscles, reduces fatigue and improves accuracy 眼部肌肉锻炼改善眼部肌肉的运动, 减少疲劳和提高了肌肉运作的精度
 - Rotate the eyes clockwise and then counterclockwise. Repeat 5 times and blink between each time. It can be performed with closed or open eyes. 顺时针, 再逆时针转动眼睛。重复5次, 每次之间眨眨眼。
 - Look to the right, then look to the left, up and down, as well as to the 4 corners of your field of vision. It is important to force the position although the discomfort may occur. , 向右边看, 向左边看, 向上向下看, 强迫看四个视野的四个角落是非常重要的虽然可能会引起不舒服。

Here's Looking at You...

You only get one pair of eyes,
so treat them right!



Trivia Extra:

- The muscle that allows your eye to blink is the fastest muscle in your body!

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