

VISUAL HYGIENE TIPS FOR CHILDREN LIVING IN SUBDIVIDED UNITS

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COMMON REFRACTIVE PROBLEMS IN CHILDREN



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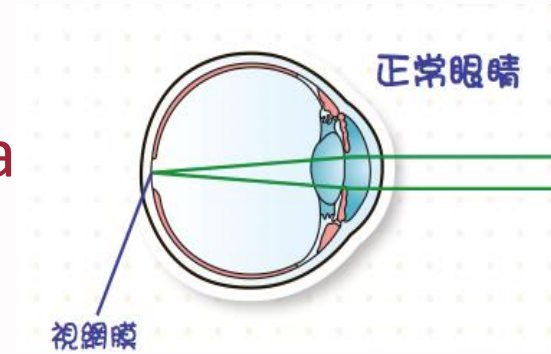


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Refractive error (屈光不正/度數)

- ✓ Light ray passing through ocular media
- ✓ Out-of-focus on the retina
→ **Blurry vision!**

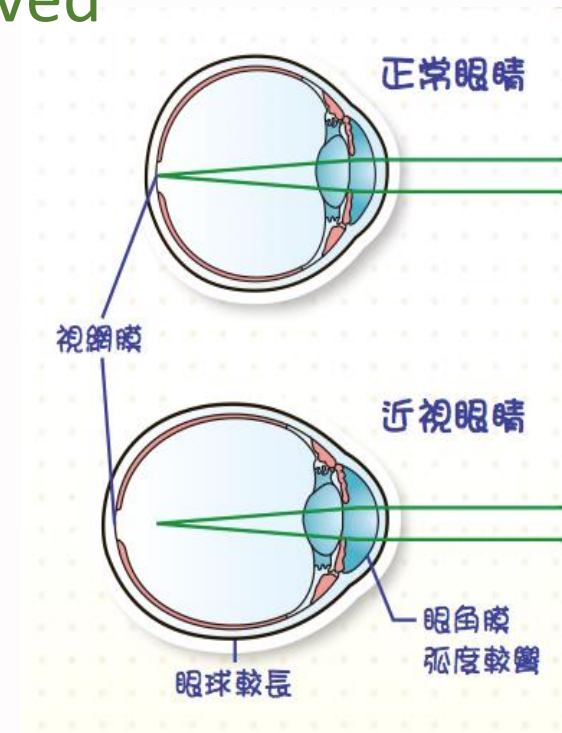


- ◆ Myopia / Short-sightedness (近視)
- ◆ Hyperopic / Far-sightedness (遠視)
- ◆ Astigmatism (散光)



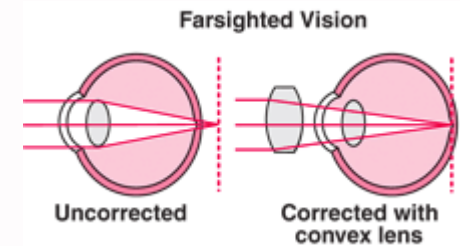
Refractive error - Myopia

- ✓ Eye length too long or Cornea too curved
- ✓ **Distance vision blurry**
- ✓ Image focused in front of the retina
- ✓ Wear **concave lens (凹透鏡)** to see better



Refractive error - Hyperopia

- ✓ Eye length too short or Cornea too flat
- ✓ Image focused behind the retina
- ✓ Wear **convex lens** (凸透鏡) to see better



Low hyperopia Distance and near vision both are clear

High hyperopia Difficult to focus, especially at near

Low hyperopia is normal in the early age (slowly regressing)
→ shorter eyes buffer from being myopic in near future
∴ Hyperopic dropping too early is not ideal



Refractive error - Astigmatism

- ✓ Different corneal curvature along different orientations
- ✓ E.g. basketball vs. American football



- ✓ **Both distance and near vision are affected**
- ✓ Unless ocular diseases, mostly stable
- ✓ Irrelevant of seeing halos (看東西散開)
- ✓ **Can accompany myopia / hyperopia**

Emmetropic	Myopic/hyperopic
aio	aio
Hor. astigmatic	Ver. astigmatic
aio	aio

MYOPIA

Short-sightedness (近視)



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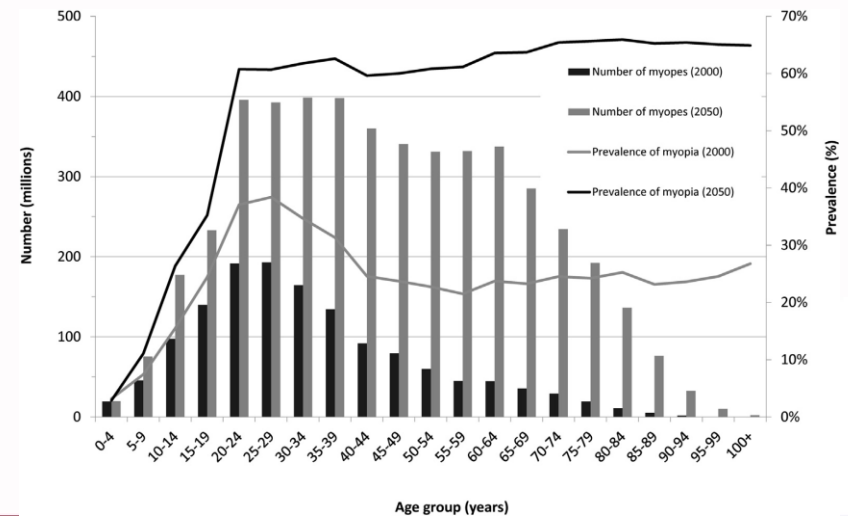


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Prevalence of myopia

- Global epidemic of myopia, esp. in S.E. Asia
- ~90% in **teenagers / young adults** (HK, TW, SG)
- ↑ to 49.8% of global population in 2050

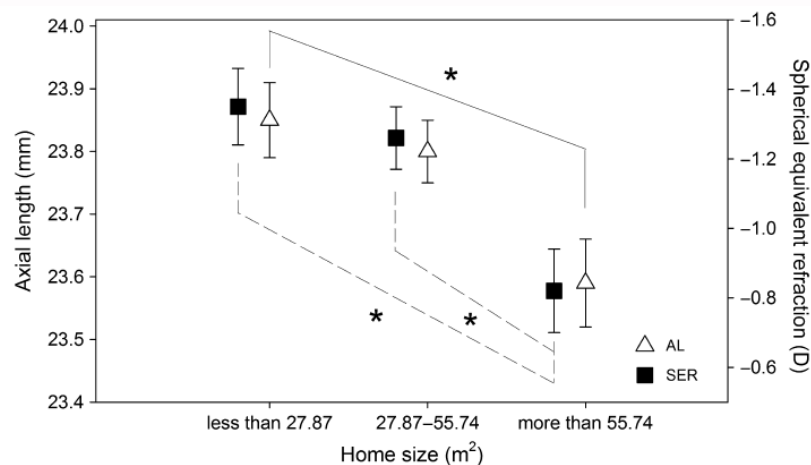
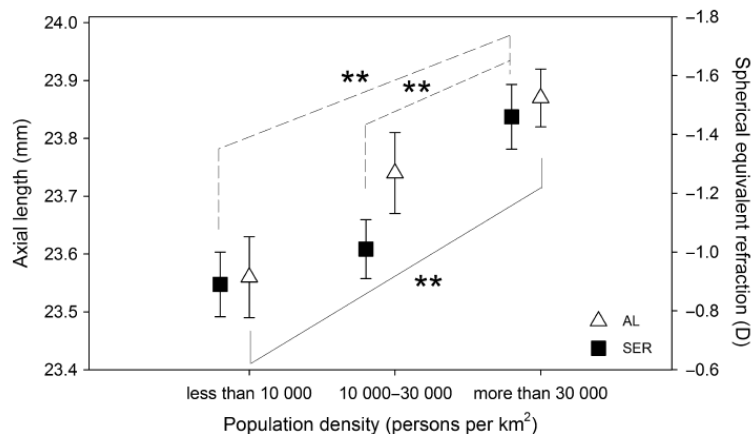


Risk factors for myopia?

- Genetic factors:
 - ✓ Parental myopia
- Environmental factors:
 - ✓ Prolong near work
(reading/writing, use of digital devices)
(poor postures)
 - ✓ Insufficient lighting
 - ✓ Lack of time outdoors
- ✓ Constricted living environment

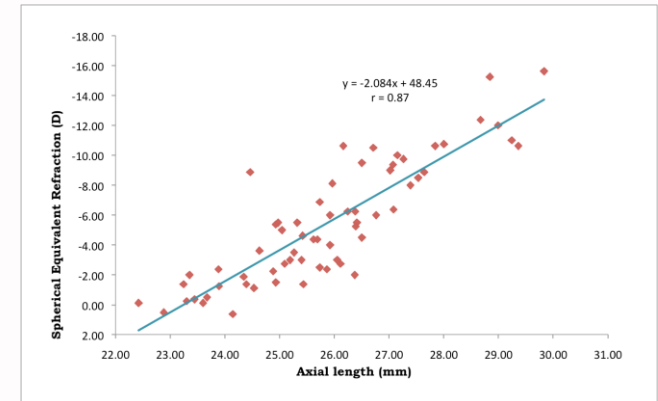
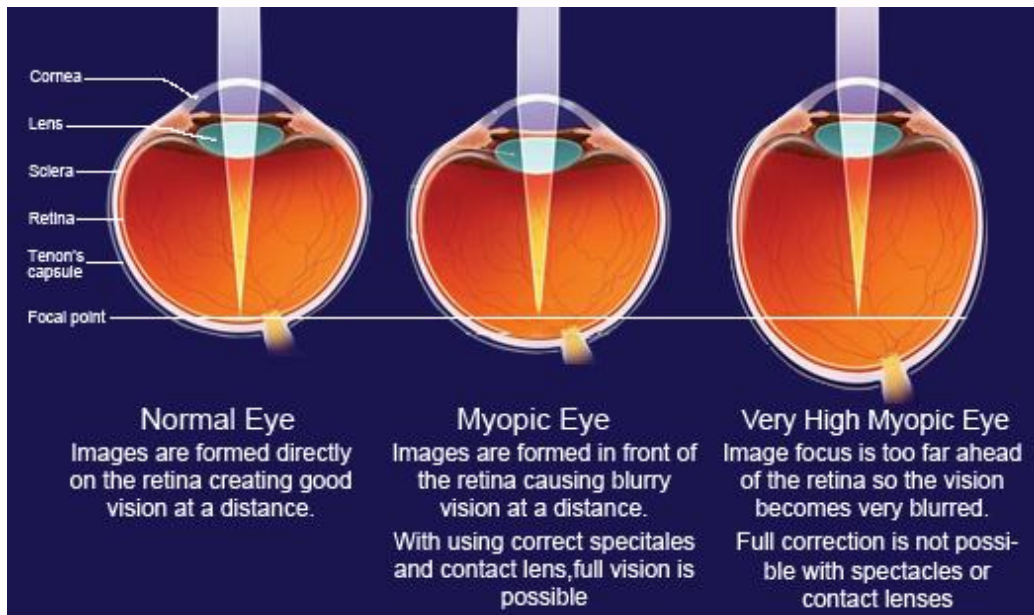


Risk factors for myopia?



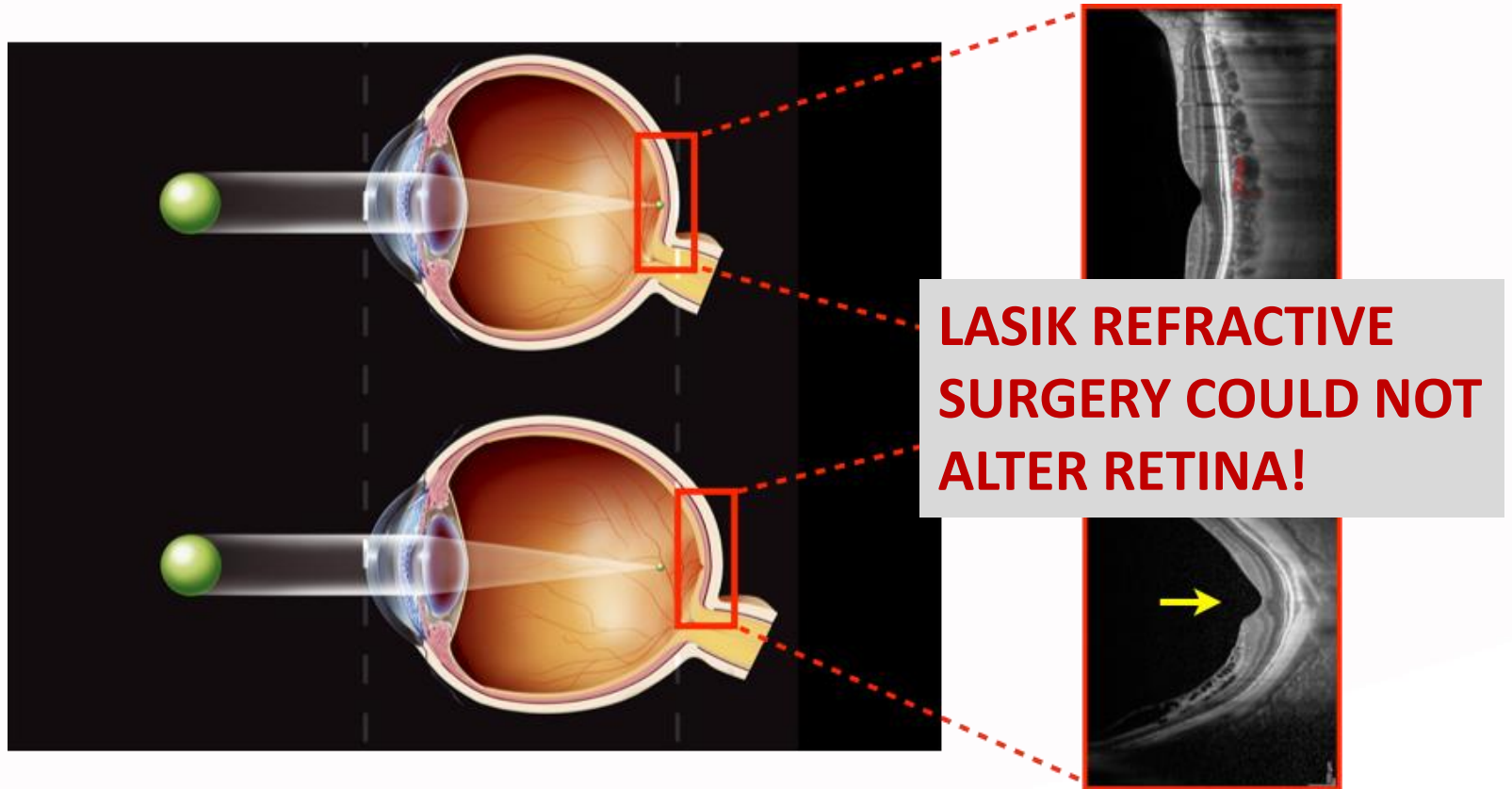
Severity of myopia

Low:	-0.50 to -2.75 D
Moderate:	-3.00 to -5.75 D
High:	-6.00 D or above



**Higher myopia
→ Longer eyes**

Structural change in myopia

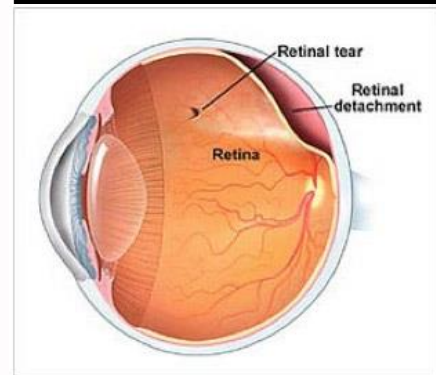
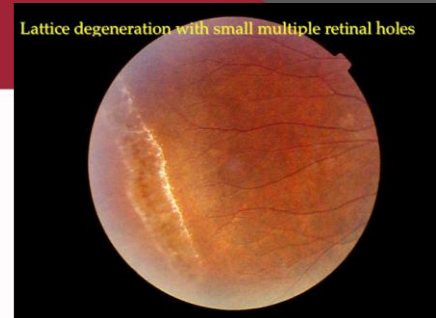


Complications

- Increased risks of :

- ❖ Retinal degenerations (視網膜退化)
- ❖ Macular degenerations (黃斑病變)
- ❖ Retinal detachments (視網膜脫落)
- ❖ Glaucoma (青光眼)
- ❖ Cataract (白內障)
- ❖

- May lead to **BLINDNESS** (失明)



VISUAL HYGIENE TIPS

Myopia prevention



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Eye care tips



- **Proper posture**

- **Keep distance!**

- ❖ Mobile phones: > **30** cm
- ❖ Reading/writing: > **40** cm
- ❖ Tablets/computers: > **50** cm

- **For very young children:**



- **May avoid tall desk & short chair**



Eye care tips



20/20/20 rule

- Every **20** minutes
- Look at **20** feet away
- For at least **20** seconds



Eye care tips

- Blink more frequently
→ Keep the eye moisturised
- Do not rub eyes
- Indoor **lighting**
 - Sufficient, evenly spread, and stable
 - No near-work in dim environment



Eye care tips



- Avoid spending too much time on **digital devices**
- **Go more outdoors!**
 - ❖ May alleviate the effect of small homes as well





Regularly have EYE EXAMS!

And follow instructions from eye care practitioners



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