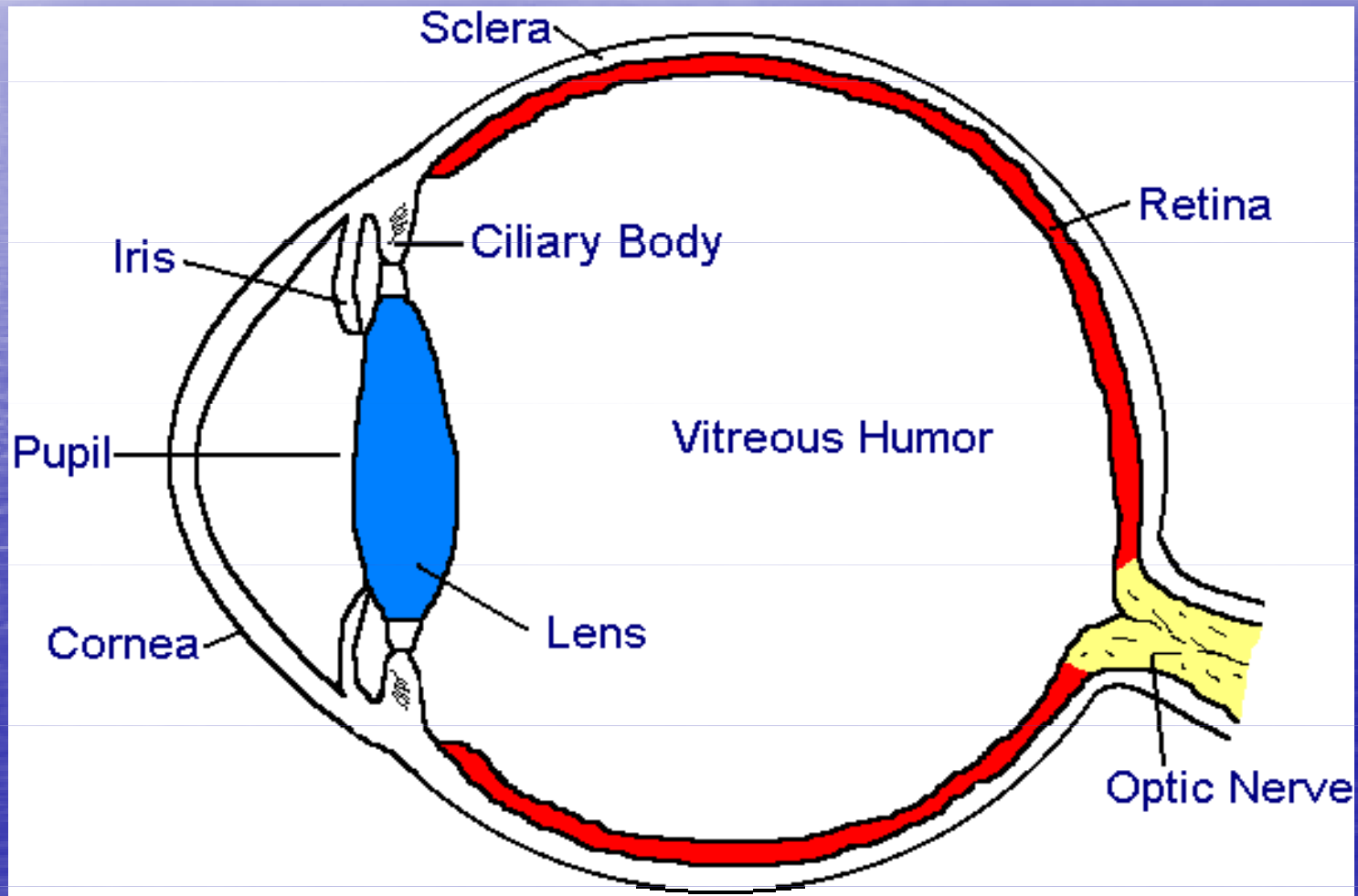
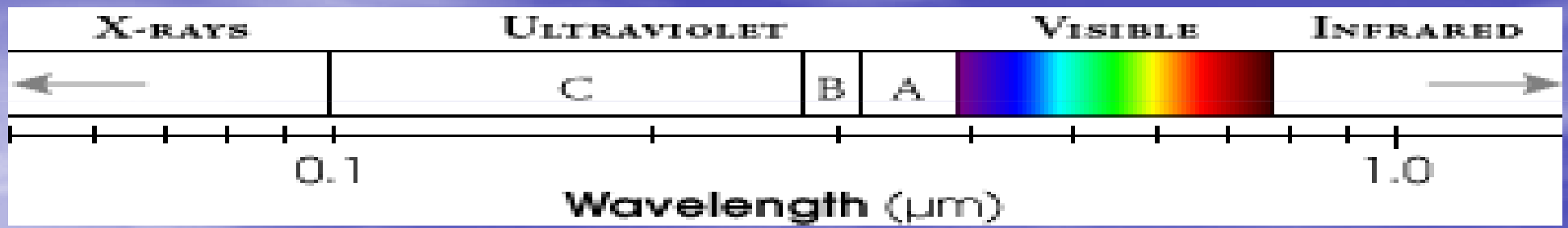


Influence UV radiation on the human eye

Made by M & M

UV radiation

- electromagnetic radiation (100 – 400 nm)
- types - UVA -(315 – 400)- longwave- skin irritation, melanoma
 - UVB-(280 – 315)-mediumwave-damage to the skin, more intensive in summer, melanoma
 - UVC -(100 – 280)- shortwave-absorption by atmosphere
 - 90-99% UVA, 1-10% UVB
- source - sun, artificially source
- effects - photochemical
 - heat
- reflection from the snow (80%), water-level



Absorption

- Drapers rule
- | | |
|---------|-----------------------|
| cornea | -UVC, UVB about 270nm |
| lens | -UVB 295-315 |
| age | |
| vitreum | |
| retina | -less then 1% of UVA |

Ofthalmoheliosis

Ofthalmoheliosis

eyelid	wrinkles, burns, melanoma
surface of eye	keratitis, pinguecula, pterygium, Labrador keratopathy
choroidea	melanoma, miosis, pigment dispersion
lens	cataract, early presbyopia
vitreous	synchysis
retina	maculopathy, erythroptasia, macular degeneration
glaukom	experimentally
position of eyes	intermittent exotropy



Influence UV on the cornea

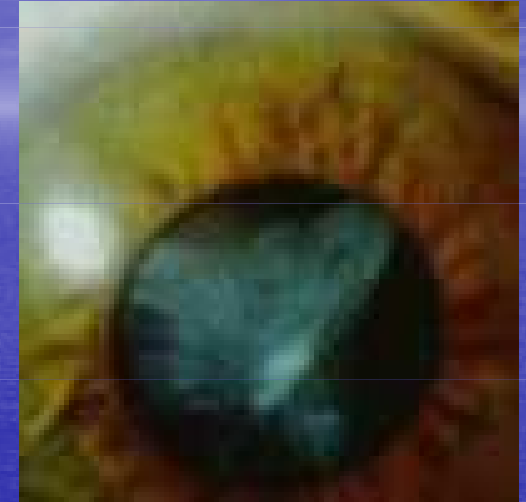
- main UVC and UVB, max. 270 nm
- photokeratitis - snow blindness
 - 30s on the sun
 - sun lamp, welding
- cause – change and damage of the keratocyte and endothelial cells

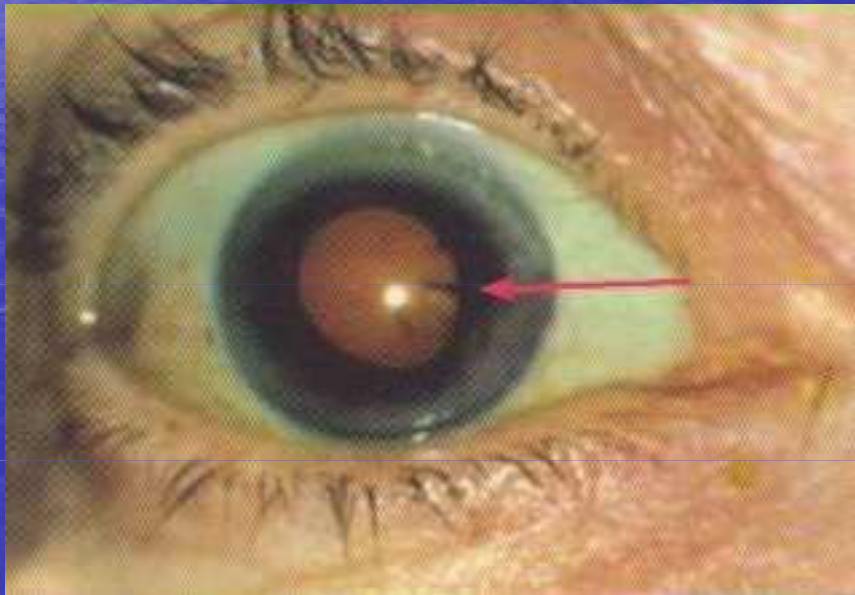
Influence UV on conjunctiva

- piguekula -spheroid corneal degeneration
- pterigium

Influence UV on the lens

- UVB, max. 295 – 315 nm
- katarakta
- sunny areas, fishermanns, various of atitude
- opacits, swelling of epiteliall cells, change of lens proteins





Influence UV on retina

- Relation between makula degeneration and UV (fishermans, thicker ozon layer)
- It depends on age

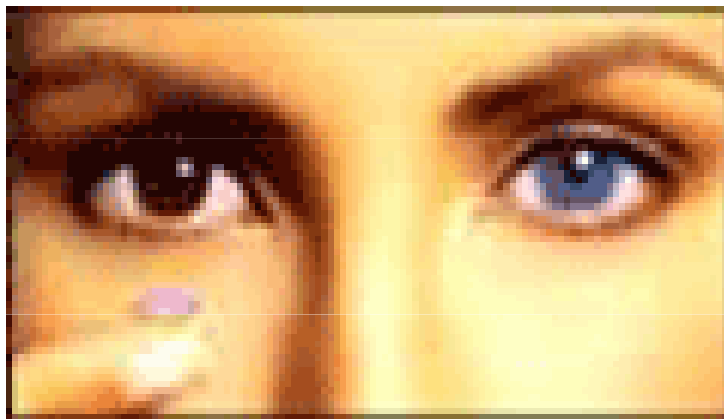
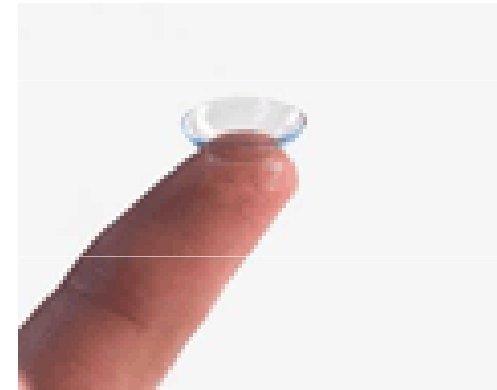
Protection - glasses

- „old“
- positives – many types
- negatives - activities – surfer, postillion
 - min. lateral protection
 - scratchy eyeglass
 - smallest visual field
 - misting up
 - price



Protection

- Contact lenses
- „Less is sometime more“



Summary

- dangerous(UVB)
- illnesses(katarakta, photokeratitis, drags...)
- our help hand(glasses, contact lenses)
- protection

Thanks for your time

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