

Óculos: a visão do especialista



Sidney J Faria e Sousa

USP- Ribeirão Preto

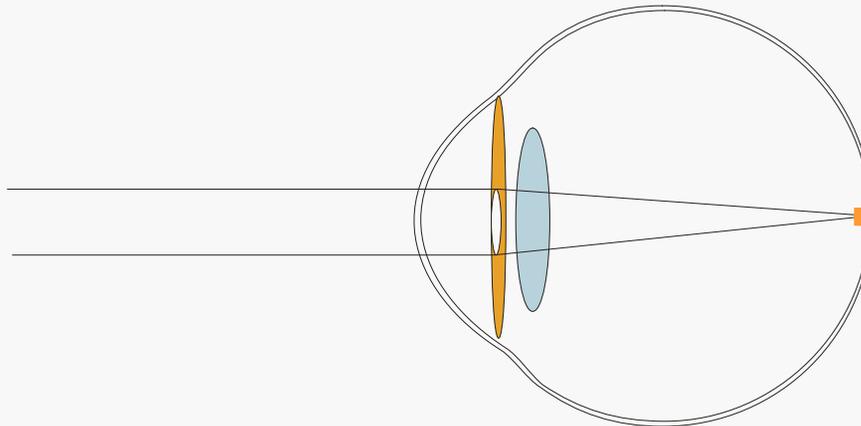




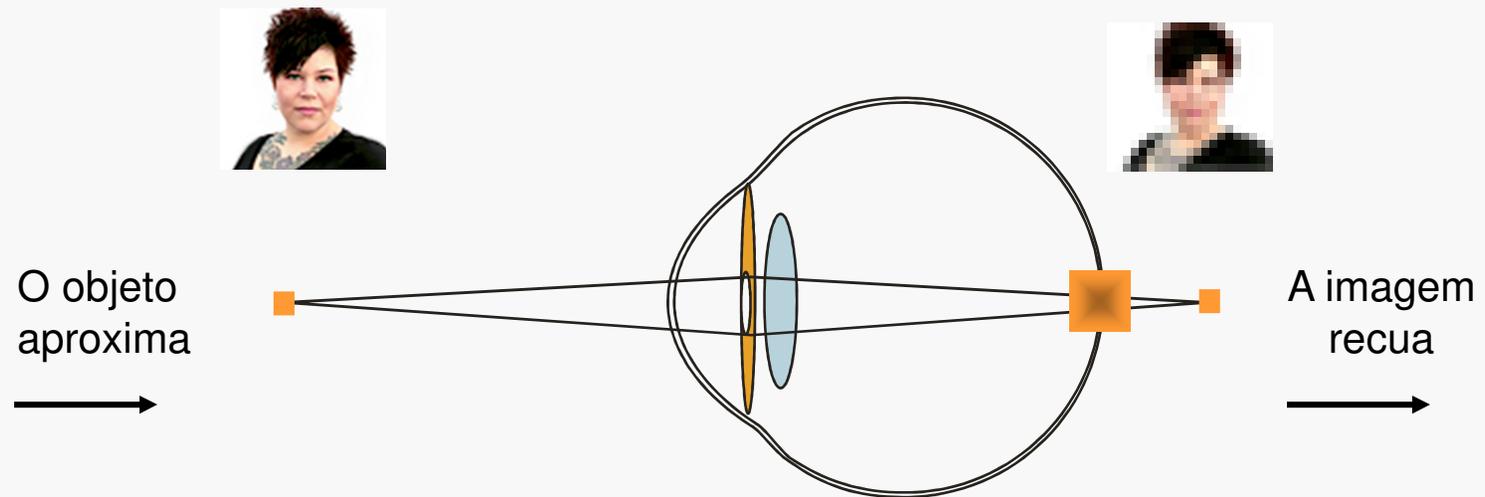
Olhando para o infinito



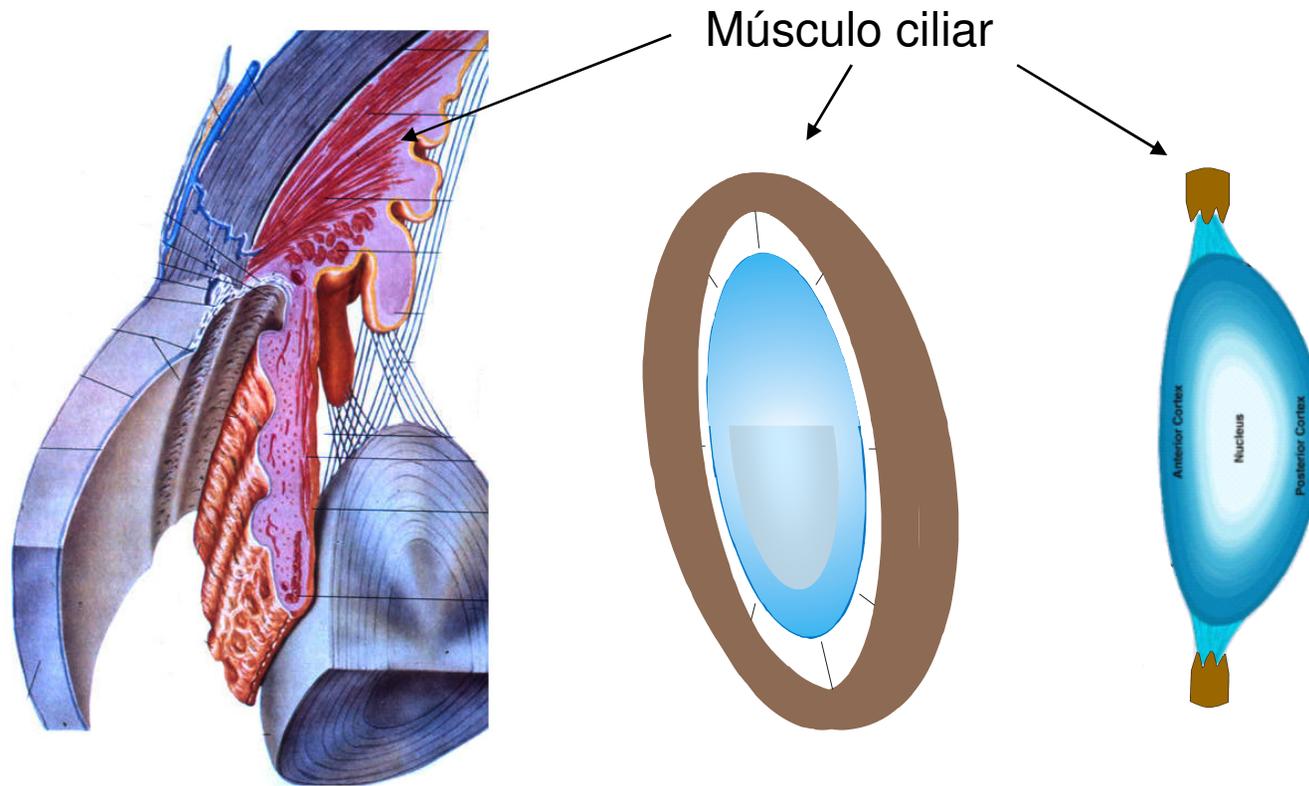
Objeto no infinito



Olhando para perto



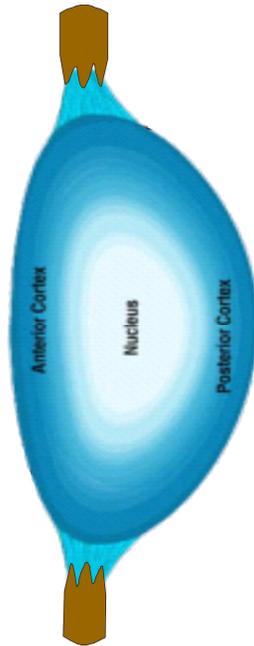
Sistema de focagem ocular



Relaxado



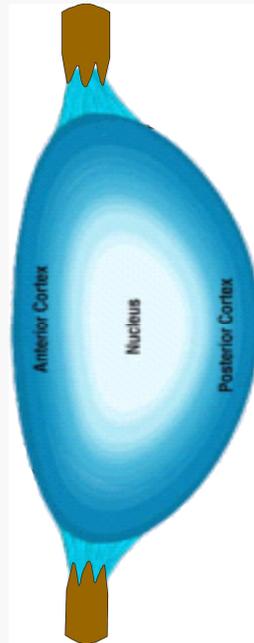
Acomodado



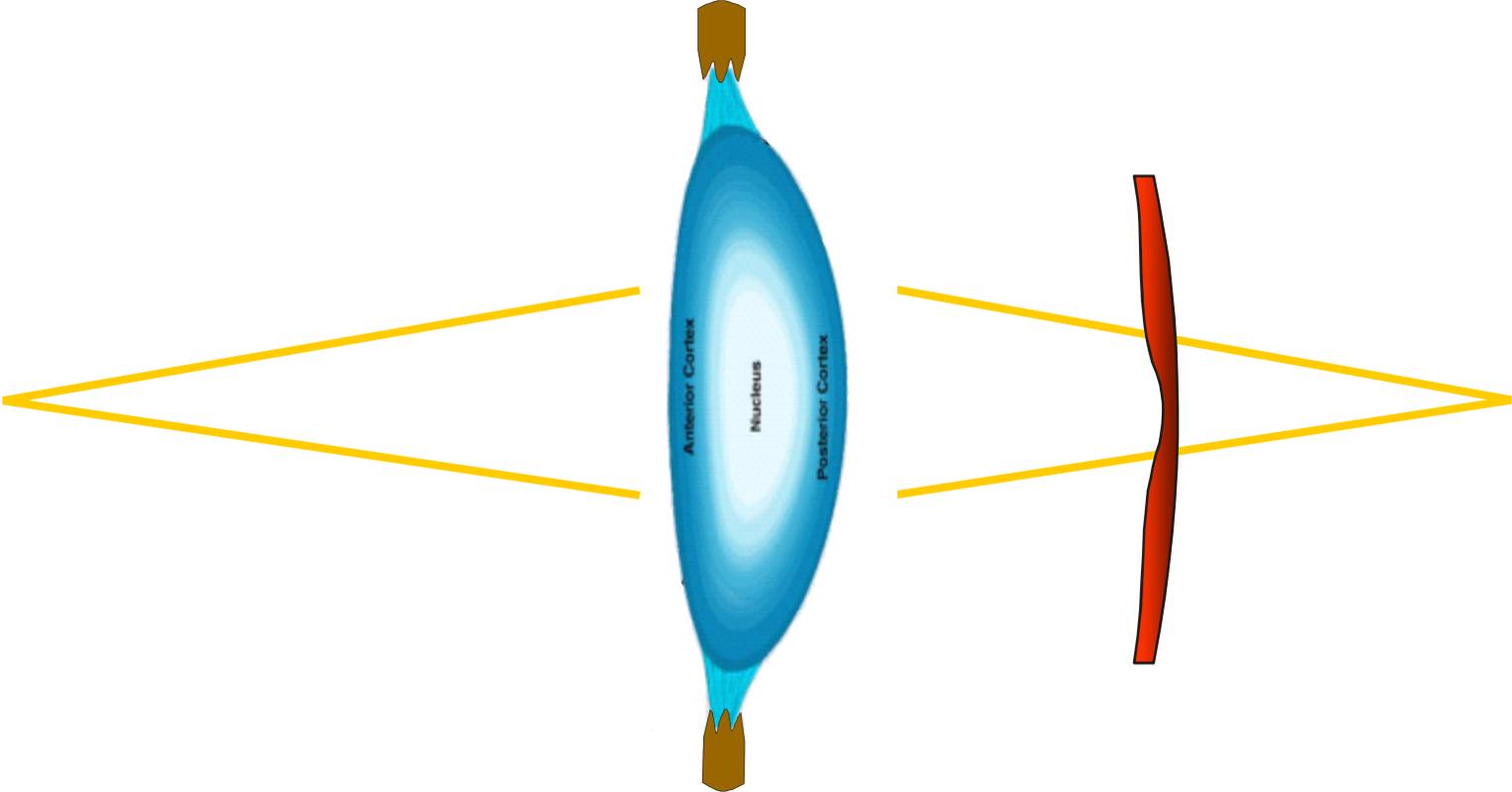
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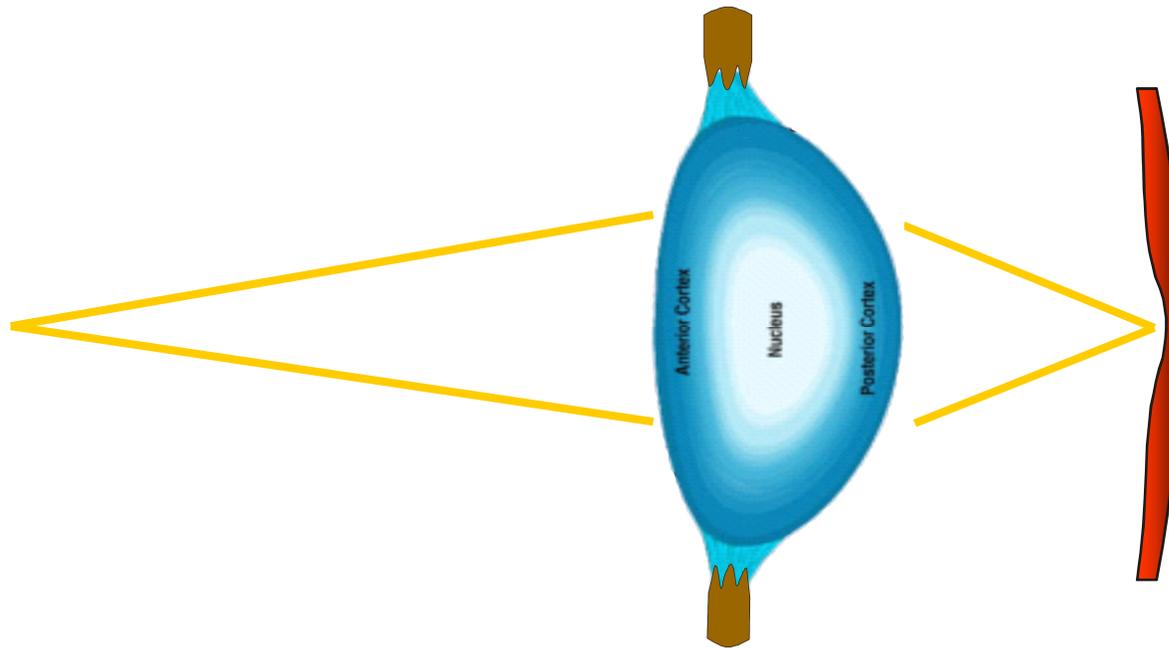
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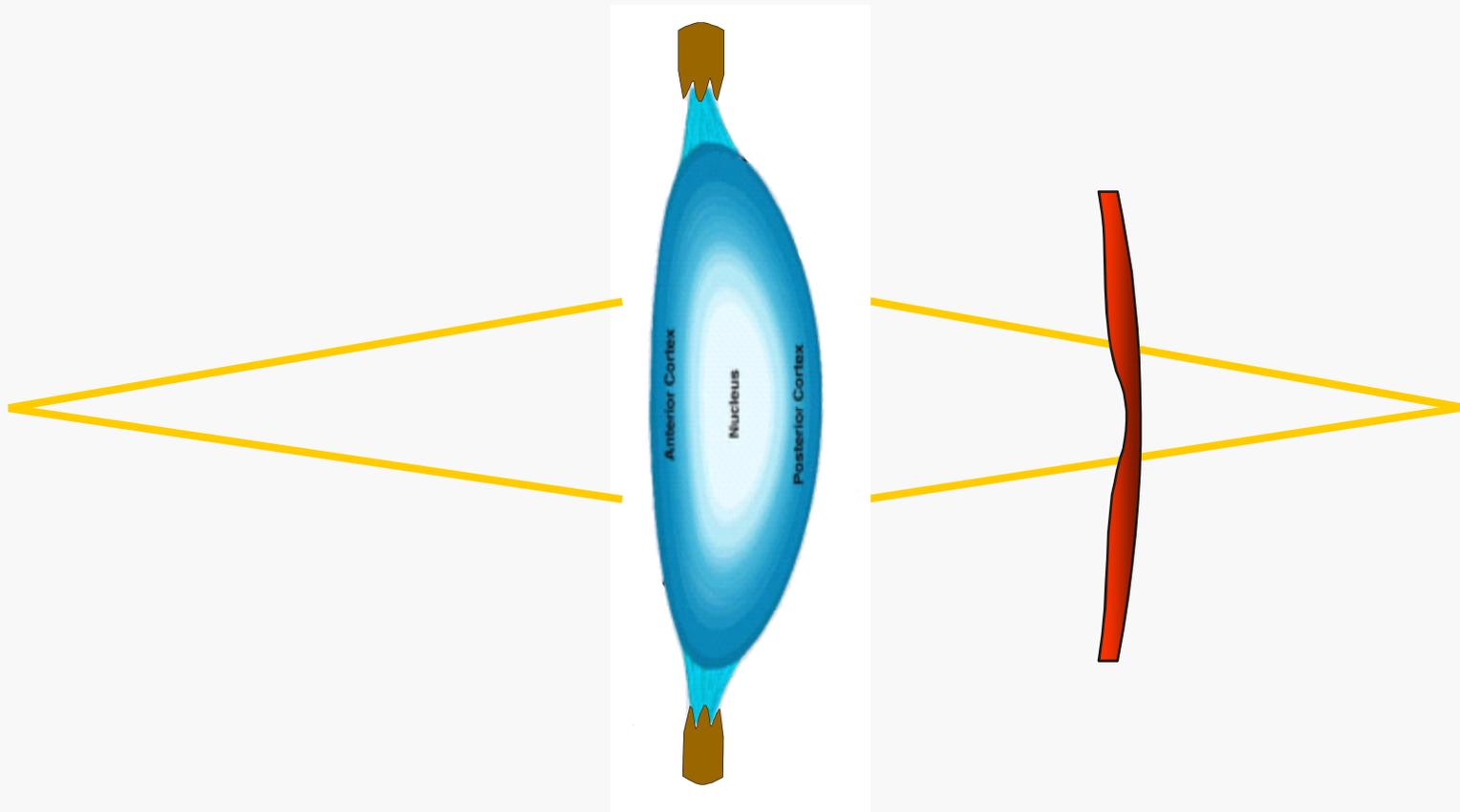
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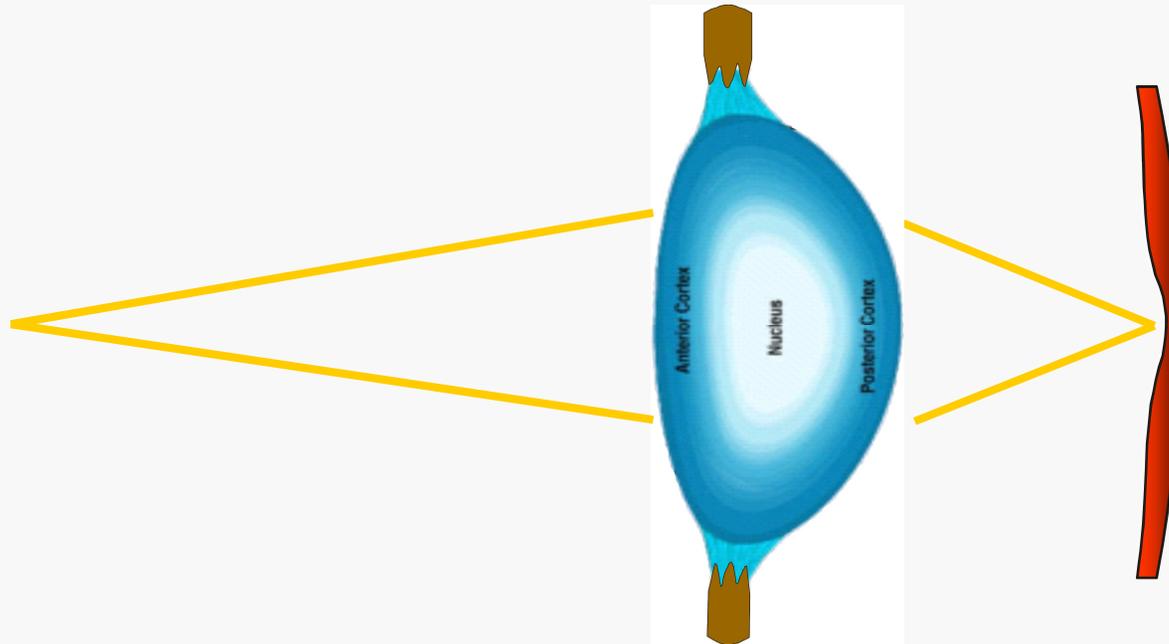
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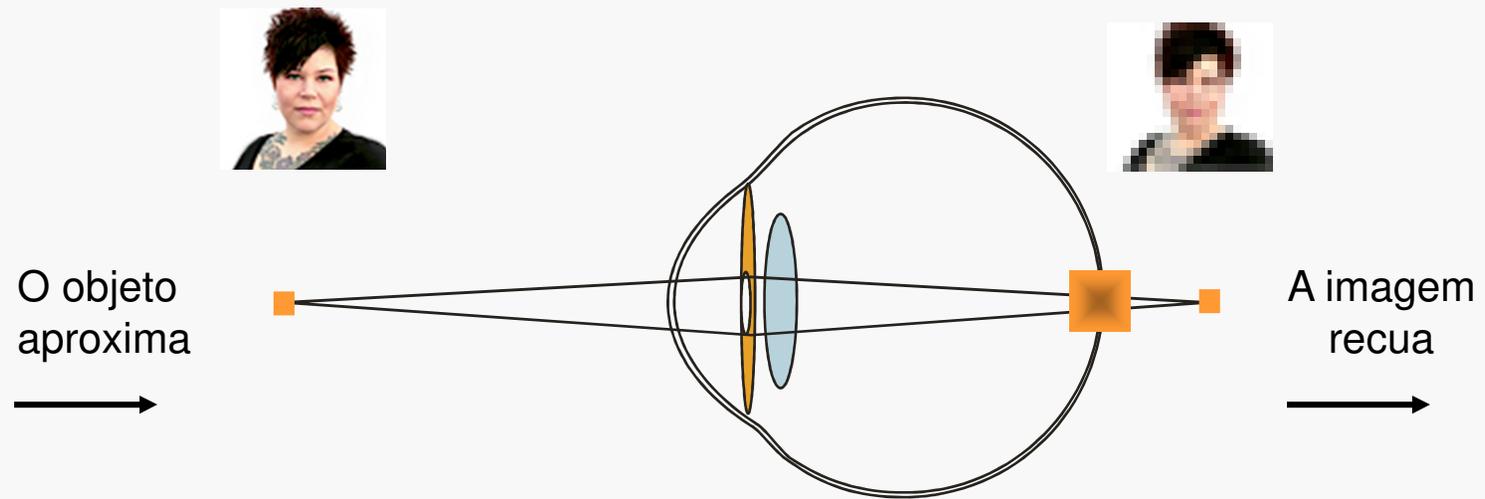
Relaxado



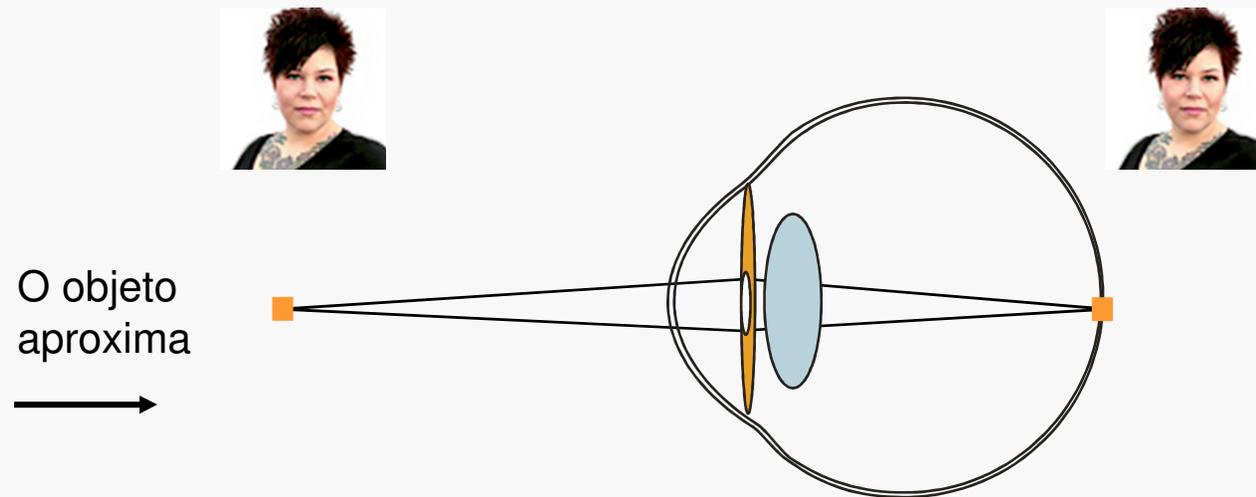
Acomodado



Olhando para perto

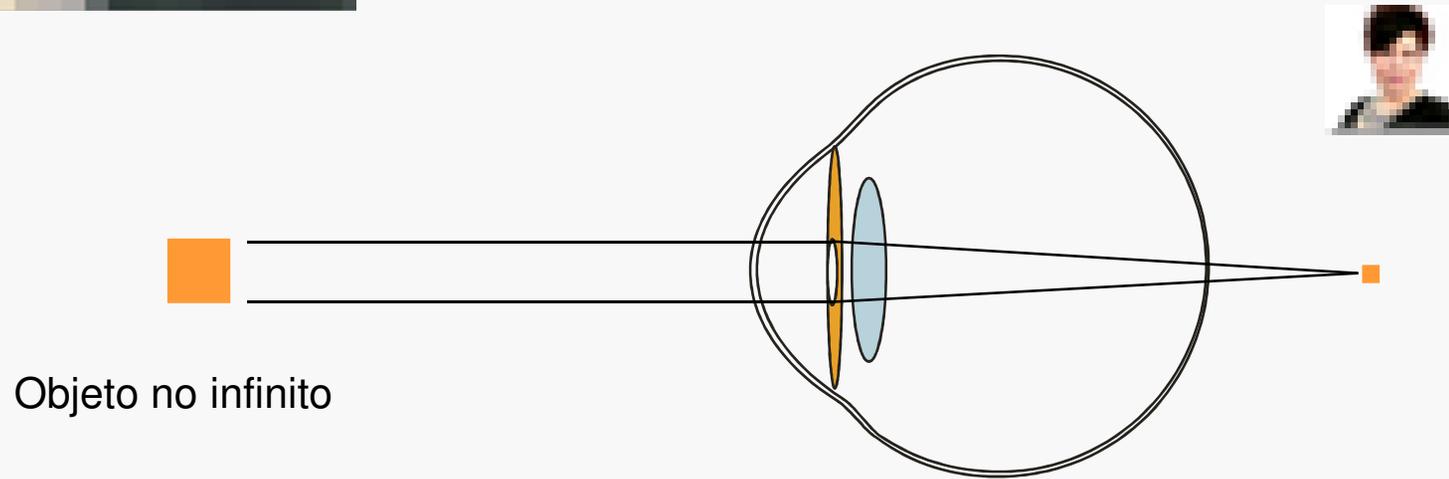


Olhando para perto acomodando



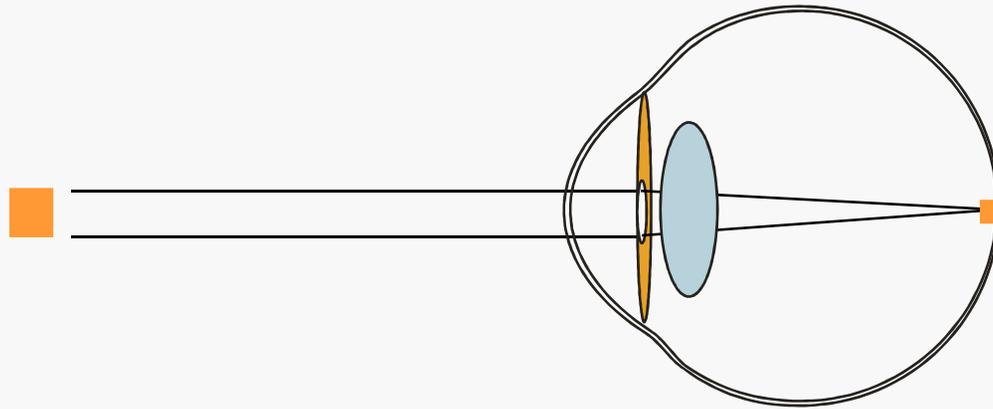


Hipermetrope: olhando para o infinito





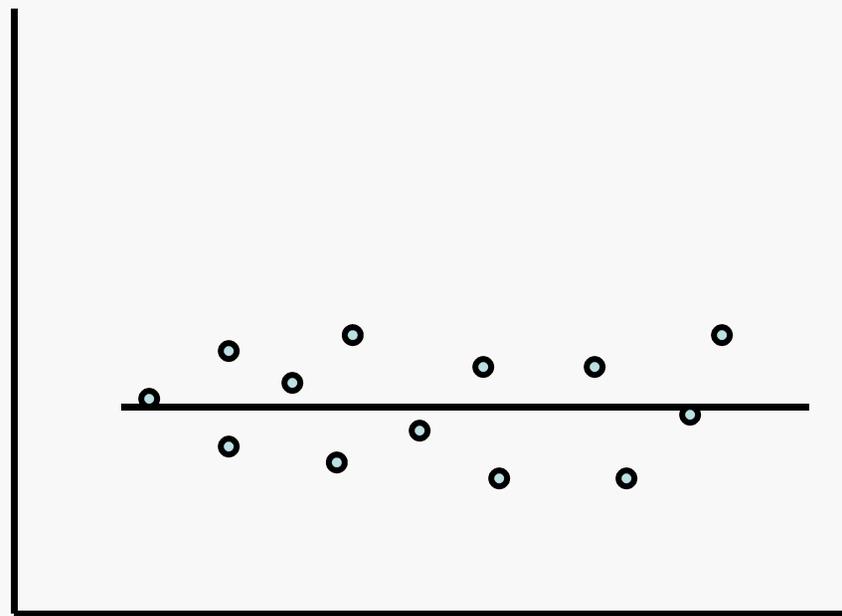
Hipermetropia: olhando para o infinito acomodado



Força do músculo ciliar e idade

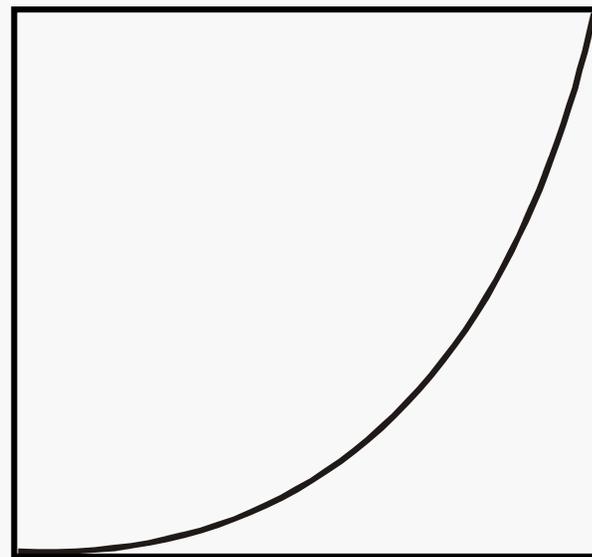
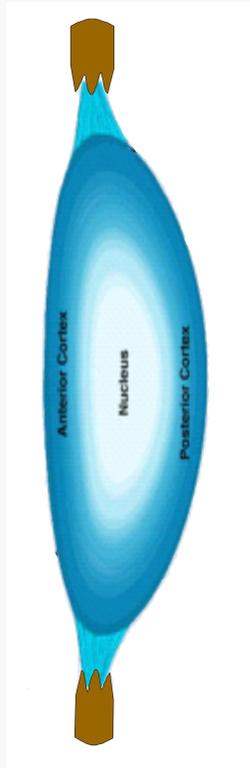


Força
muscular



Idade (anos)

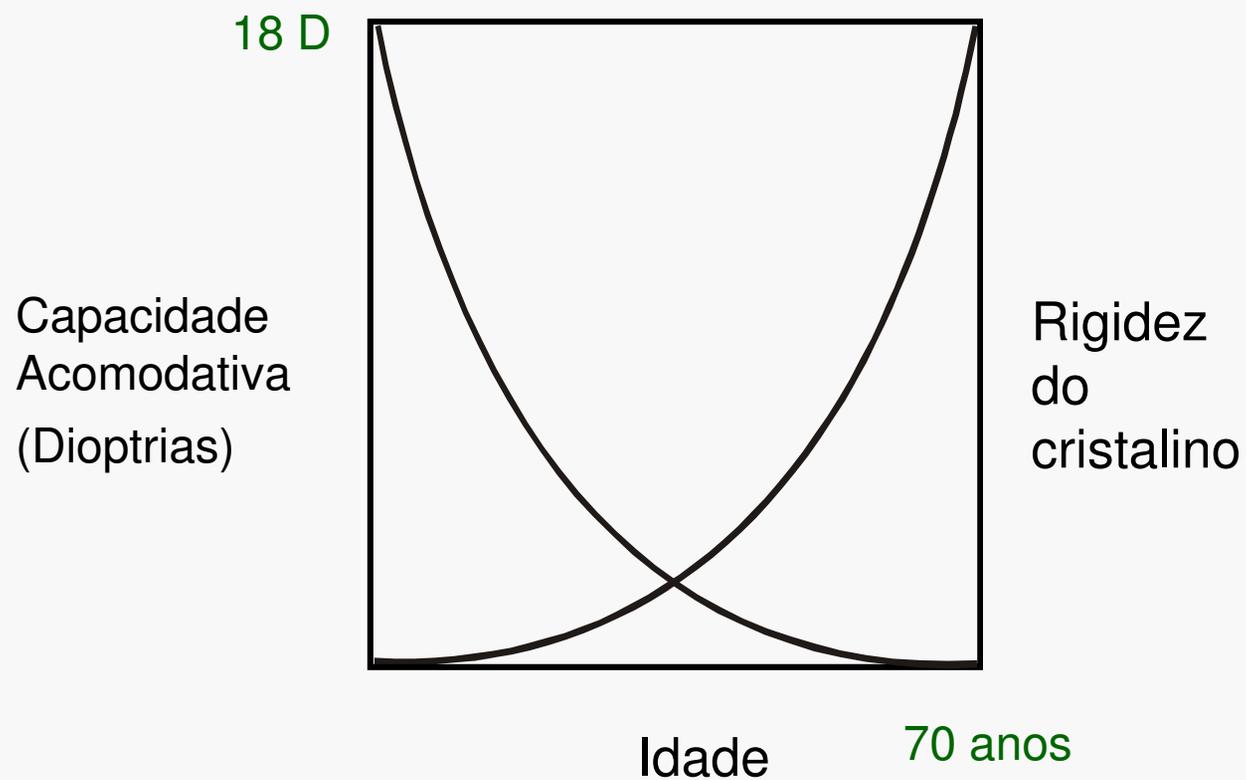
Rigidez do cristalino e idade



Rigidez
do
cristalino

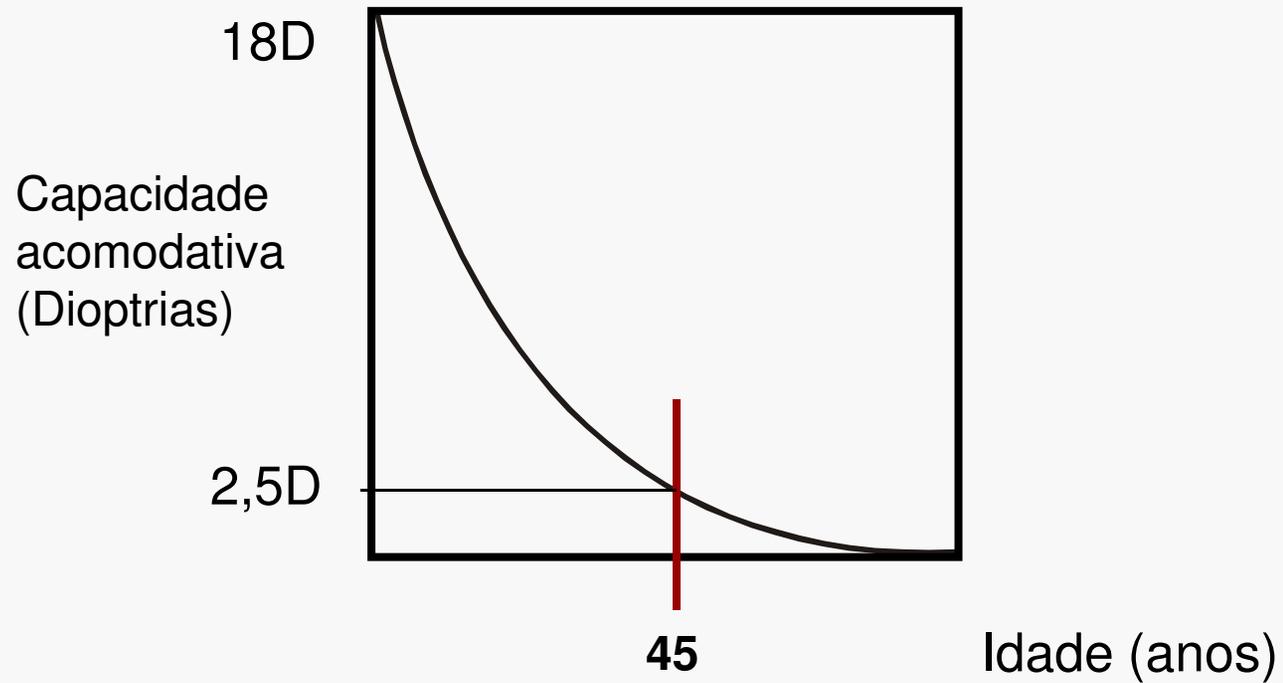
Idade (anos)

Perda da acomodação e rigidez do cristalino



... in infancy, the same force of
distance for that aperture. I
e scales on a lens barrel
per focal distance opposit
u are using. If you the
the depth of field will
ce to infinity. For

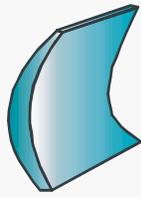
Presbiopia



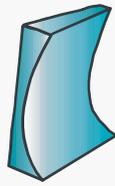
Tommaso da Modena 1352



Hugh of Provence



Positivo

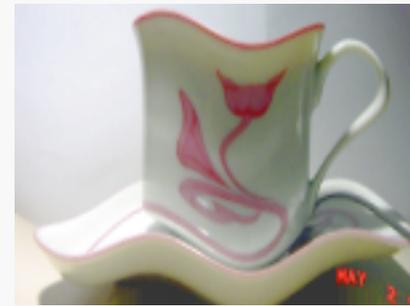


Negativo

Lentes Cilíndricas: 1825

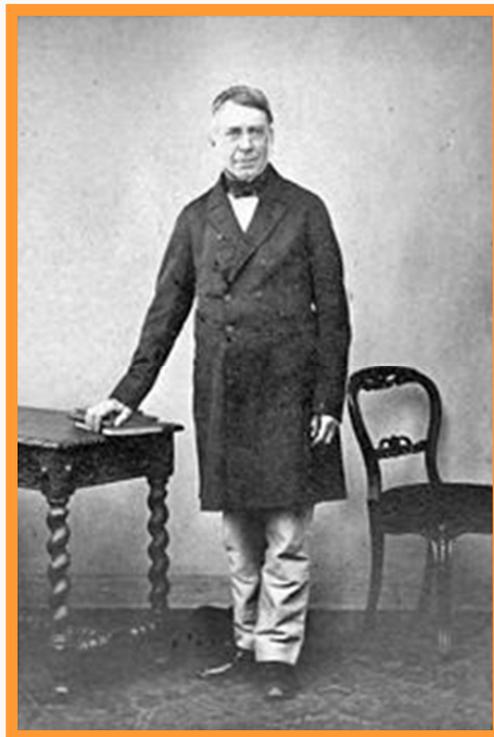


Visão borrada



Visão nítida distorcida

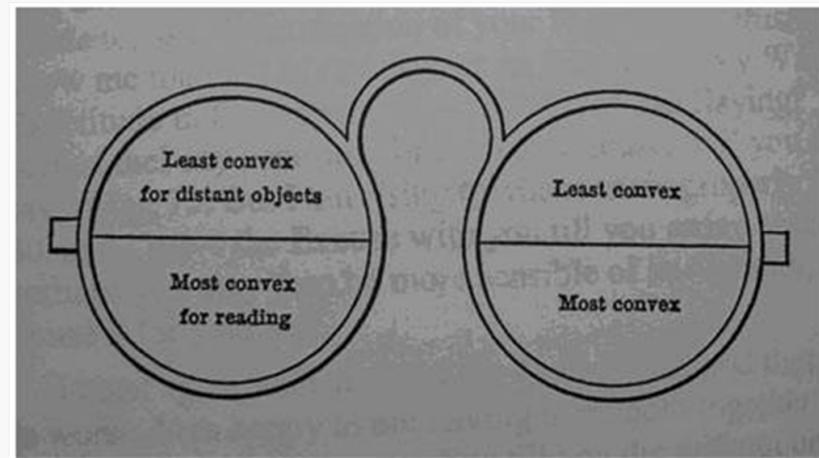
Sir George Biddell Airy



Bifocal 1874

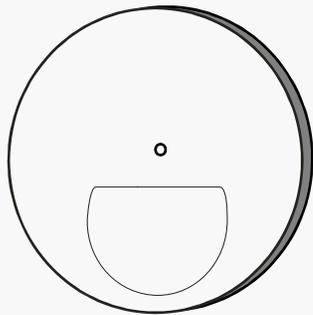


Benj. Franklin

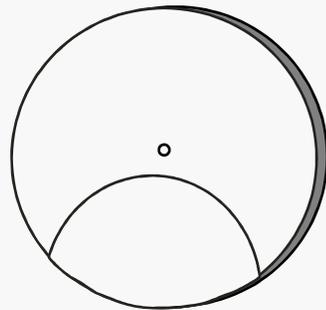


Auxílios longe-perto

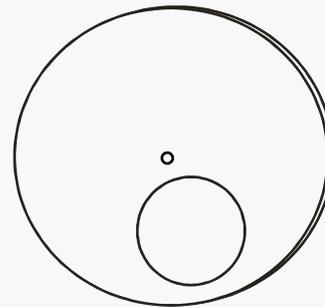
Flat top



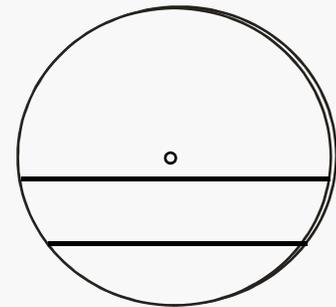
Ultex ou Ballux



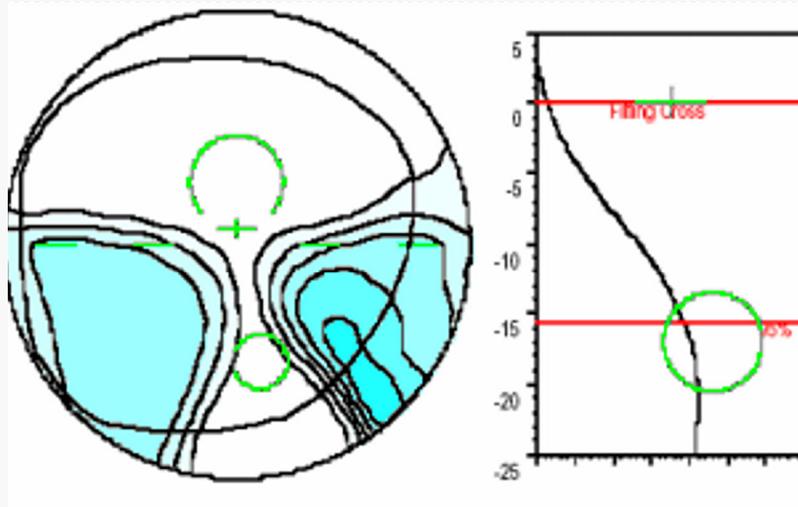
Kriptok



Trifocal



Multifocal 1958





1667

Evoluções recentes

- Espessura
- Peso
- Resistência a quebra
- Resistência ao risco
- Proteção UV

Qualidade óptica ????



1352 esféricas



1825 tóricas



1874 bifocais



2009 multifocais



Obrigado