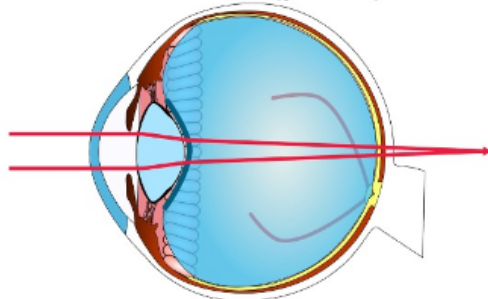


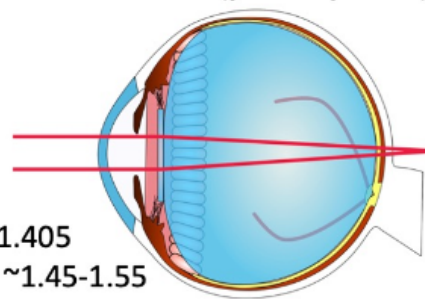
Refractive Changes of Retina Surgery

Silicone Oil (phakic)



- Oil acts as **concave (diverging)** lens
- **HYPEROPIC** shift

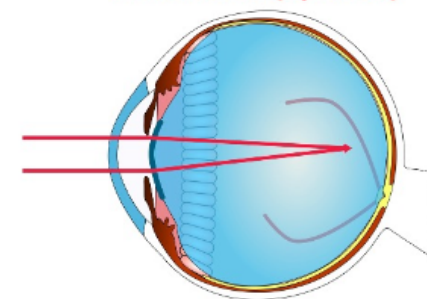
Silicone Oil (pseudophakic)



$n_{SO} = 1.405$
 $n_{IOL} \approx 1.45-1.55$

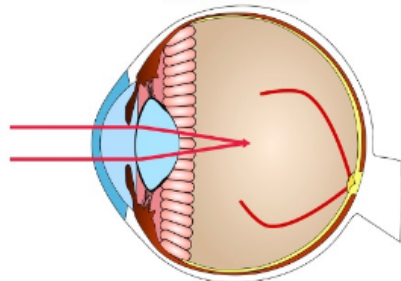
- Oil has a similar n to the IOL
- IOL effect is reduced (Snell's Law)
- **HYPEROPIC** shift

Silicone Oil (aphakic)



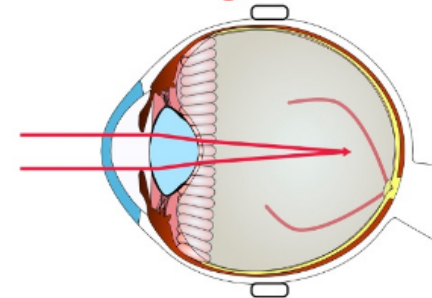
- Oil forms a **convex (converging)** lens
- **MYOPIC** shift

Air Bubble



- The n of air is much less than vitreous
- Lens effect is increased (Snell's Law)
- **MYOPIC** shift

Encircling Scleral Buckle



- The buckle squeezes the eye and increases axial length
- **MYOPIC** shift



@EyeFlyMD