

Optics vs. Cosmetics

1 hour

Brent McCardle, ABOM

Email: brent.mccardle@zeiss.com

Description:

Often time we want to create the best looking pair for a patient, but we also want to create the best optical experience.

Sometimes the optics world will clash with the cosmetic world.

Learning Objectives:

- Learn the properties of each material
- Understand how different materials produce different results
- Learn how each materials produces chromatic aberration

Outline

- I. Material Properties (00:00-00:05)
 - A. Abbe' value
 - B. Specific gravity
 - C. Index

- IV. AR coating makeup (00:00 - 00:10)
 - A. Does AR coating help with chromatic aberration?

- III. Impact resistance (00:10 - 00:15)
 - A. Which materials have the best impact resistance with the best abbe value?
 - B. How to balance weight, impact resistance and abbe value

- III. Breaking up of light through a lens (00:15 - 00:20)
 - A. Transverse chromatic aberration
 - B. Longitudinal chromatic aberration

- V. Chromatic aberration cut-off (00:20 - 00:25)
 - A. When would a patient complain about chromatic aberration

- VI. How do frame sizes impact chromatic aberration (00:25 - 00:30)
 - A. Calculate transverse chromatic aberration

- VII. The impact of birefringence (00:30 - 00:35)
 - A. Understand how each material is impacted by birefringence

VIII. Do blue filters help to reduce chromatic aberration? (00:35 - 00:40)

IX. The tradeoff (00:40 - 00:50)

A. Features and benefits of each material

X. Q&A / Discussion (00:50 – 00:60)