

Course Title

What We Know and Don't Know About Blue Light

1 Hour ABO

Technical Level II

Intended for experienced opticians with a basic understanding of optics.

Course Description

Evidence-based guidelines for recommending blue light filtration for your patients. In recent years, high-energy visible (HEV) blue light has been one of the most talked-about topics in eye care. Much of this emphasis on blue light has grown from concerns about potential harmful ocular effects of extensive and sustained use of computers and other digital devices that have luminous LED displays. In this course we will address these concerns from three perspectives: What is it blue light and why are we talking about it? What science-based evidence is there to support claims? What claims are based on speculation and still under debate?

Course Objectives

- Define a new blue light message and discuss why it's needed
- Learn what blue light is and its ocular effects
- Review the sources of blue light
- Define who benefits the most from blue light reduction and the ways to limit blue light exposure.

Course Outline

- Introduction
 - Course Objectives
- Why is a blue light message so important?
- What is blue light
 - Discuss the electromagnetic spectrum
 - Define blue light
- Discuss the 3 different effects of blue light
 - Glare/Scatter/Haze
 - Chromatic aberration
 - Dispersion
 - Ocular Effects
 - Retinal cell damage
 - Long term effects
 - Circadian Rhythm
 - Biological clock
 - Disrupts sleep patterns
 - Suppresses melatonin, increases serotonin
- Define sources of blue light

- Describe indoor sources
 - Define the sun's blue light exposure
- Define who benefits most from reduced blue light exposure
 - Different ages experience different levels of blue light
- Provide examples of blue light filtering products (not brand specific)
 - Discuss their blue light filtration efficacy
- Closing Summary & Questions