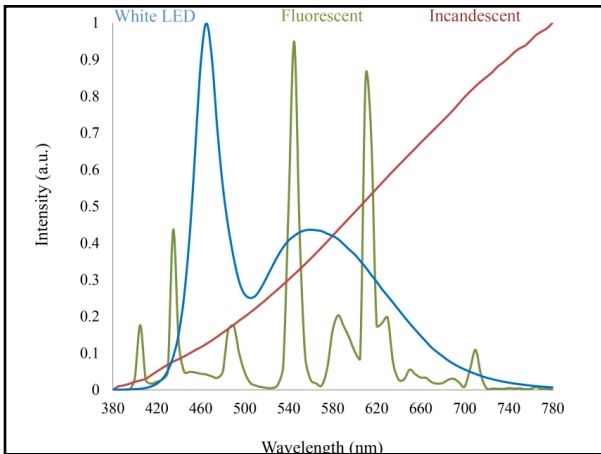
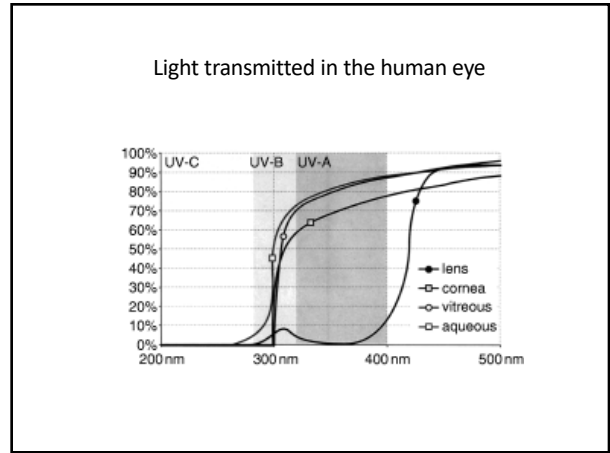
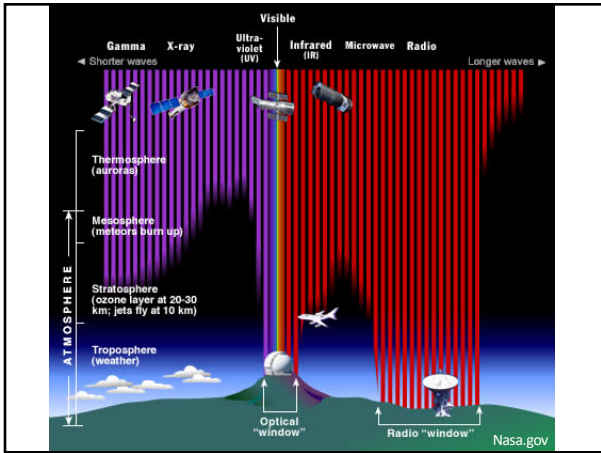
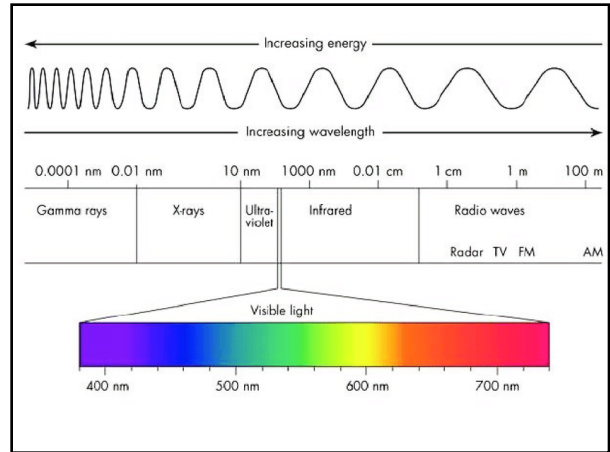


Why am I so Blue?
 The dark side of blue light?
 Joe Simonett, MD



Potential effects of Blue light

1. Circadian rhythm
2. Direct damage to the retina

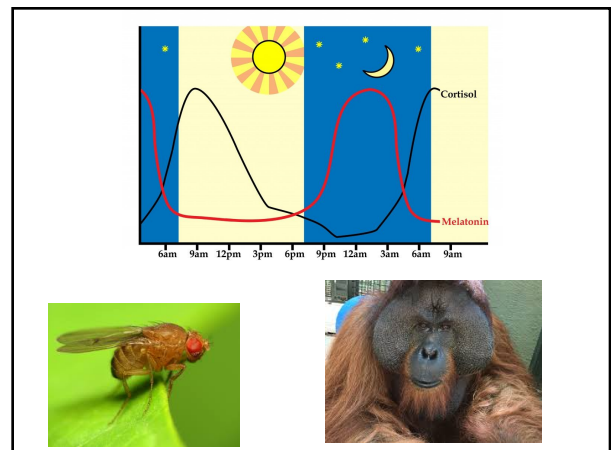
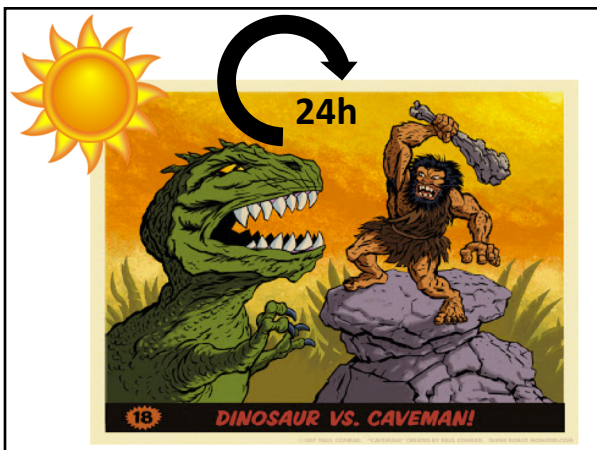
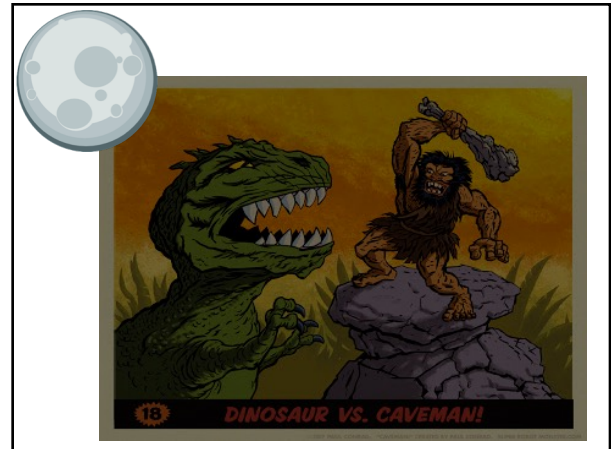
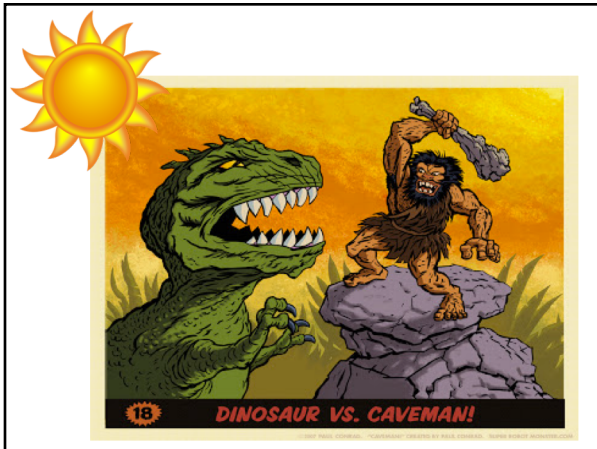
What is Circadian Rhythm? And why do we have it?

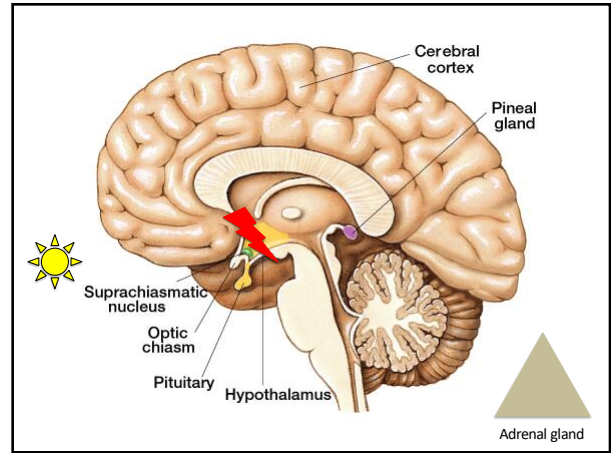
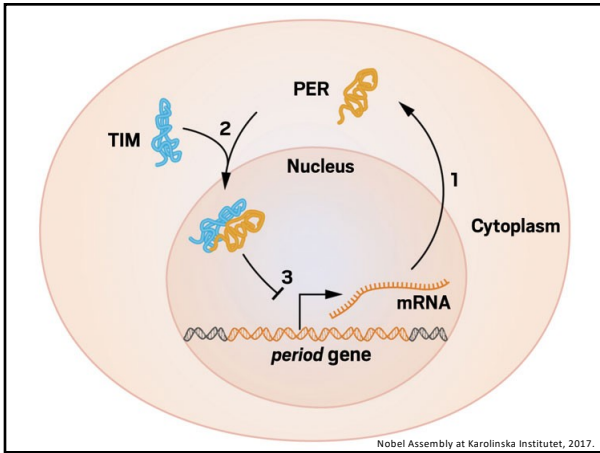
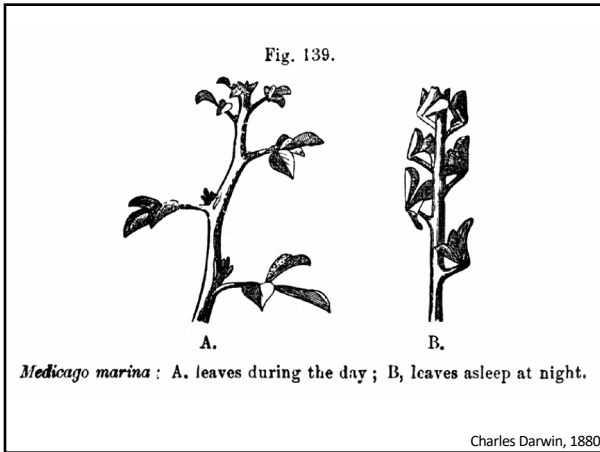
“Circadian” (*circa* – about; *diem* – day)

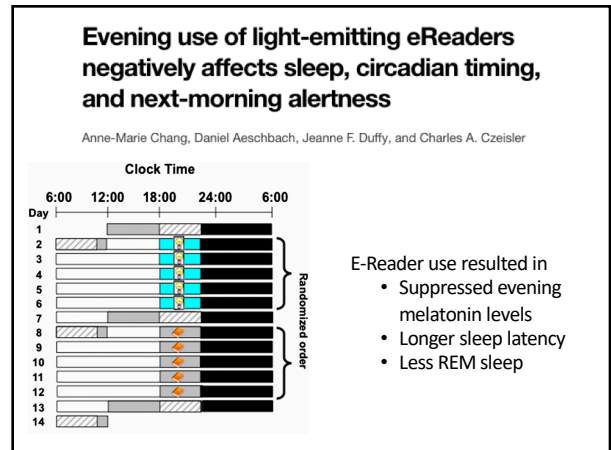
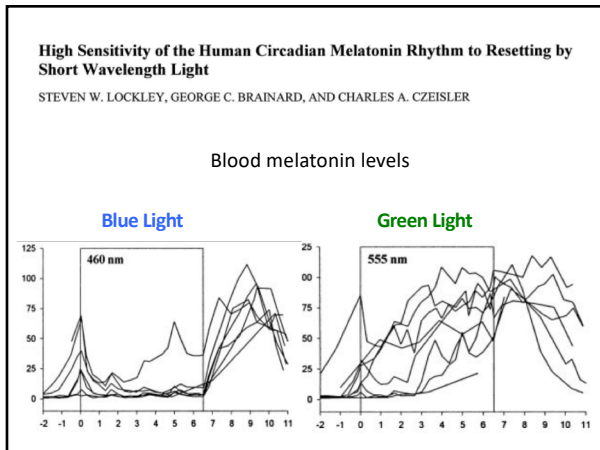
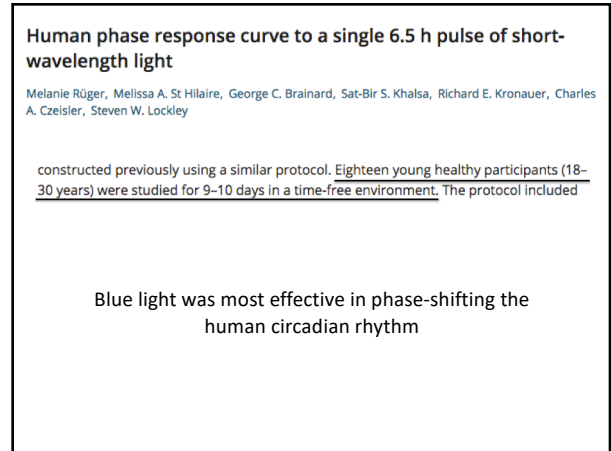
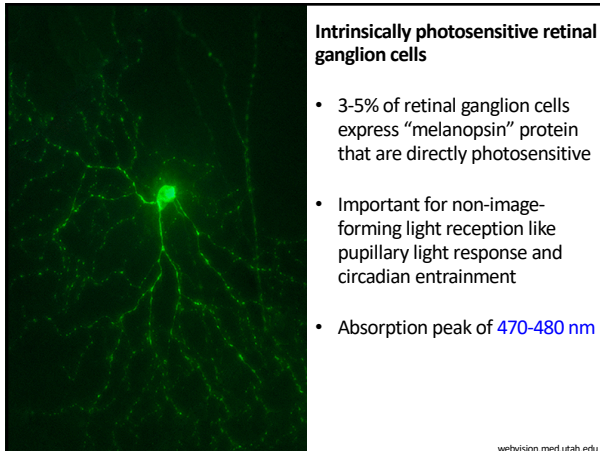
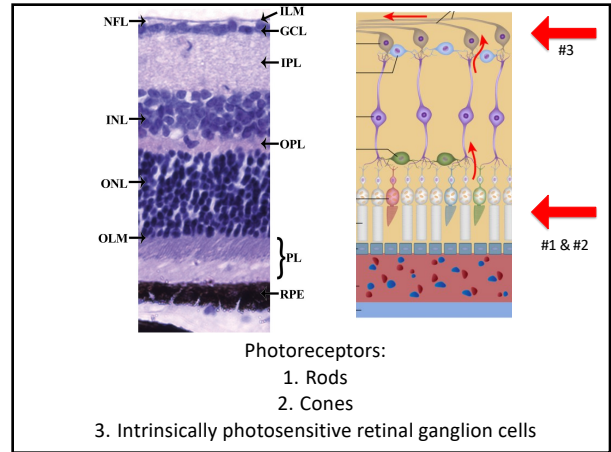
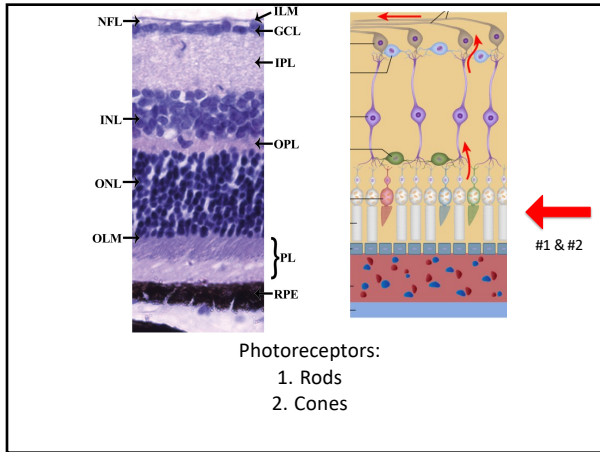
Coined in 1959 by Franz Halberg to describe physiologic processes that follow a 24-hour rhythm

Two major criteria

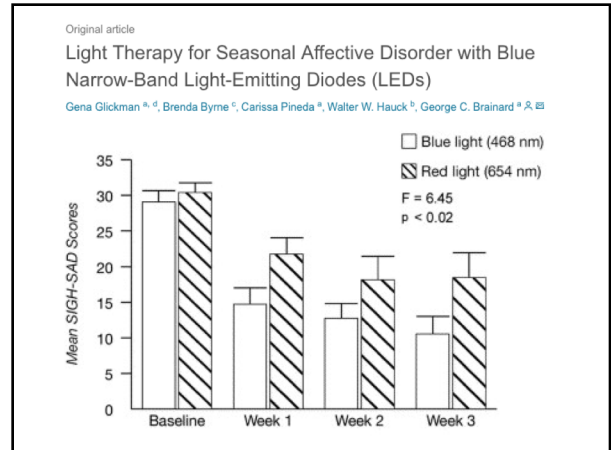
- 1. Endogenous:** Internally driven rhythm with a period of ~24 hours (persists even in 24 hours of darkness)
- 2. Entrainable:** The rhythm can be reset by external stimuli (e.g. light or heat)







Is blue light all bad?



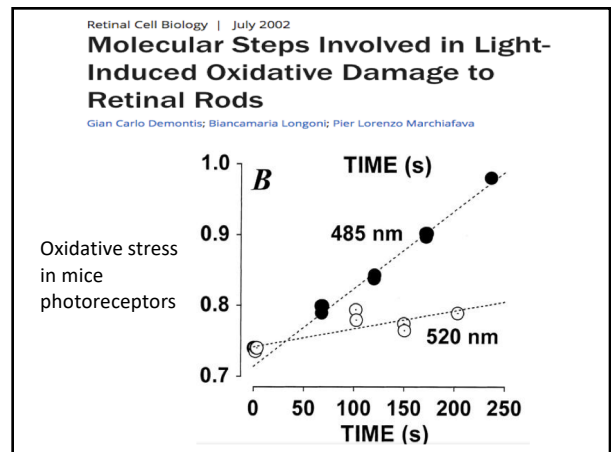
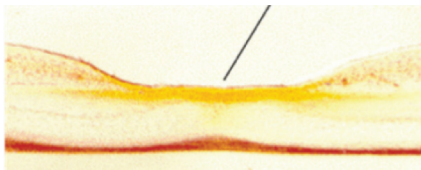
Blue light helpful for Jet Lag?



Direct damage to the retina



Macular pigment (Lutein and Zeaxanthine)
 Absorb free radicals and filter UV and Blue light



Strategies for decreasing blue light

- Should we do it?

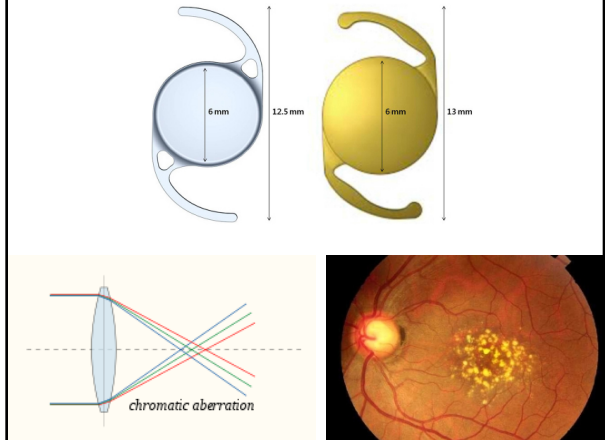
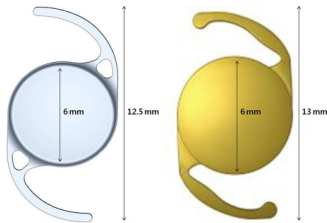
Strategies for decreasing blue light

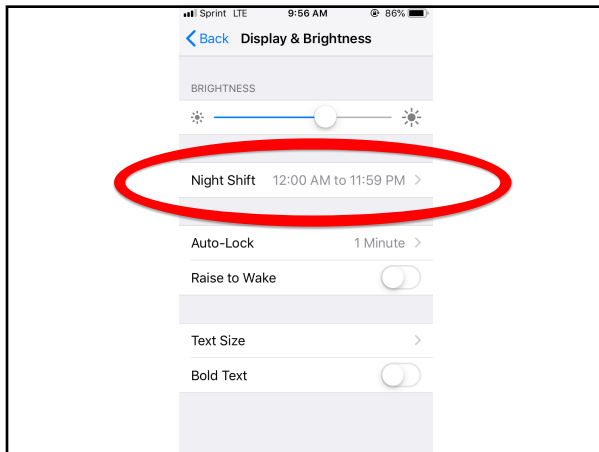
- Should we do it? – No perfect answer
 1. Block with glasses
 2. Block with IOL
 3. Decrease exposure for devices

Which one blocks blue light?



Which one blocks blue light?





Summary

- There is evidence (some from animal models, some from human studies) that blue light might have negative effects on circadian rhythm and retinal health, but no proven benefit to blocking blue light

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Summary

- There is evidence (some from animal models, some from human studies) that blue light might have negative effects on circadian rhythm and retinal health, but no proven benefit to blocking blue light
- "Absence of evidence is not evidence of absence"
- Multiple strategies to support motivated patients who want to reduce blue light exposure