

CIRCADIAN RHYTHMS & THEIR PURPOSE

UNDERSTANDING FOUNDATIONAL HEALTH AND LIGHT'S ROLE IN SUPPORTING IT

Our bodies' circadian rhythms are the foundation for which all our pillars of health stand on: sleep, heart, gut and physical health. They govern how each system works together based on a day to night schedule, and maintaining that schedule is critical to their function and our overall well-being. These rhythms are biologically linked to the wavelengths of daylight. Through conscious movement between natural and electric light sources, the daily methods used to balance all the pillars are simplified and produce faster, longer-lasting results.



SLEEP

Regulates sleep/wake pattern, increases alertness, increases productivity, supports mental performance



HEART

Regulates heart rhythms, regulates stress hormones, regulates dopamine and other vital neurotransmitters



GUT

Regulates hunger hormones, regulates blood sugar levels, regulates digestive enzymes, regulates metabolism rate



PHYSICAL

Supports physical performance, balance, coordination, pain sensitivity, wound repair, muscle repair and immune system strength

applying light wellness

Understanding the nuances between an environment's light spectrum and intensity (brightness) values helps you better understand which light wellness profiles exist in your day to day life. Depending on your lifestyle needs, those profiles can be adjusted to suit your circadian health and Light Wellness Lifestyle. Take a look below to help you identify some basic light and health profiles.



1: DAYTIME/WAKEFUL CIRCADIAN APPLICATION

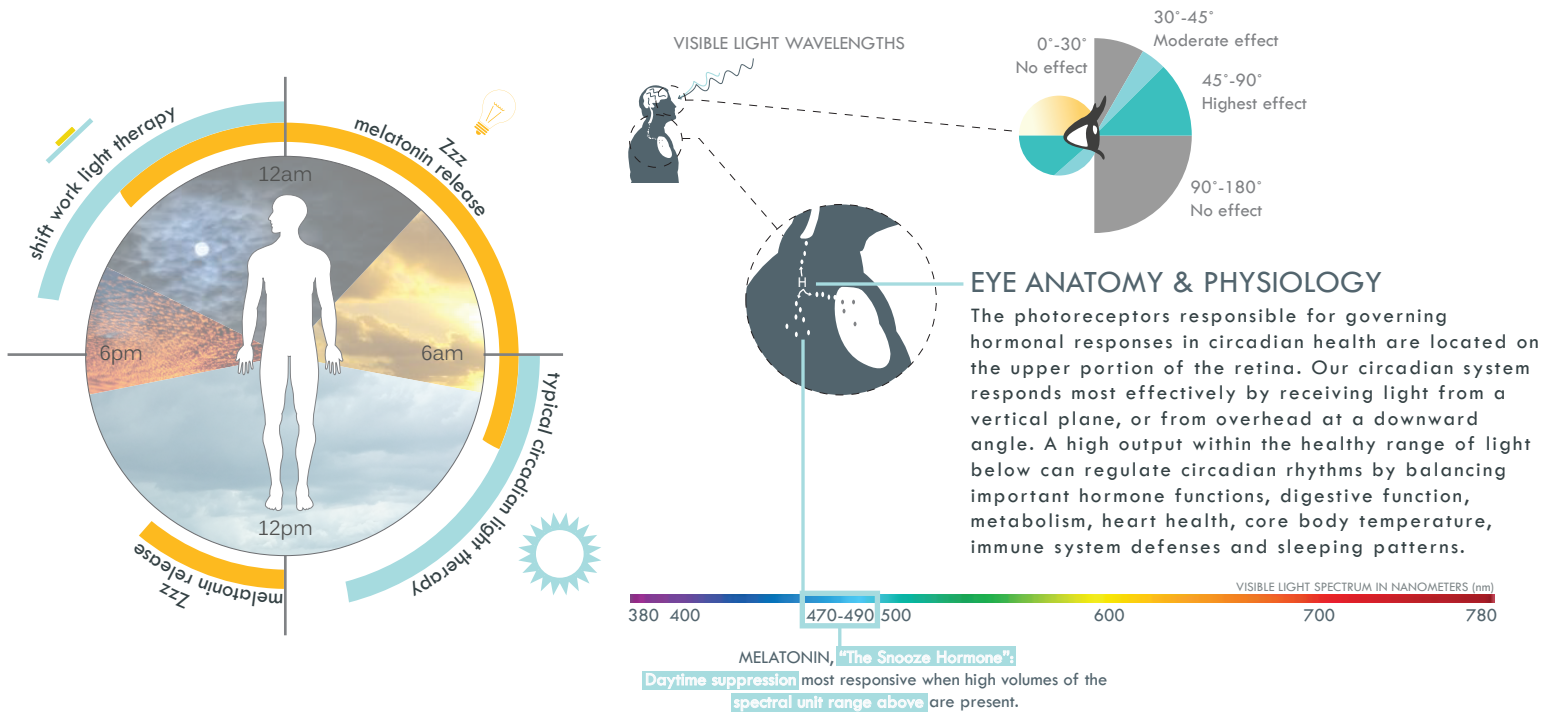
Higher brightness of white, electric light or natural light with peak in blue-green spectrum from overhead (like the sun), or vertically at the eye level, natural daylight abundance when you awaken or need an afternoon pick me up.

2: EVENING/SLUMBER CIRCADIAN APPLICATION

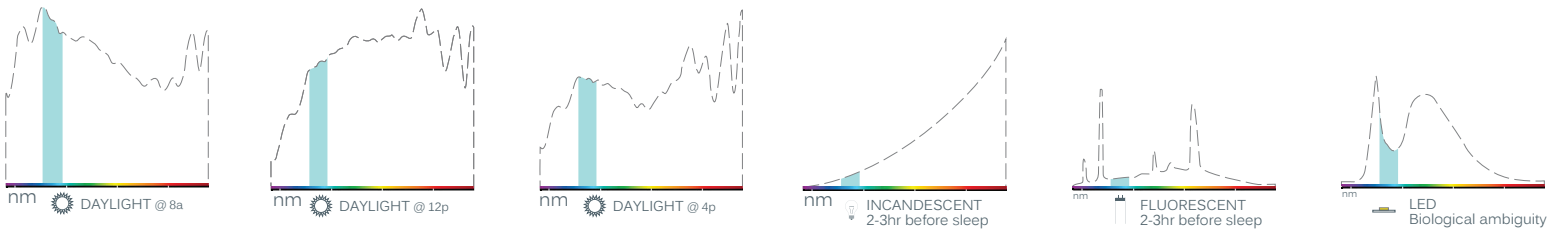
Dimmed, warm, electric or natural light from below eye level (like firelight), shade natural daylight and electric light at or below eye level up to 2-3 hours before falling asleep.

UNDERSTANDING LIGHT

AND ITS INTERACTION WITH OUR BODY TO SUPPORT WELLBEING



SEE BELOW TO BETTER UNDERSTAND HOW LIGHT OUTPUT IS TRANSLATED AS SPECTRUM FOR WELLNESS STRATEGIES



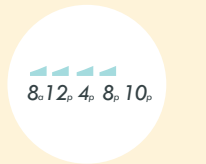
WHAT WE NEED ☀️

Our circadian rhythms have aligned to the varying, spectral wavelengths received through natural daylight. These outputs shift in both color and brightness throughout the day. High spectral output in the blue-green range (see above) and brightness stops melatonin from being released to wake us up and keep us alert. As the sun moves, those levels scale into less output and brightness from day to evening to help us fall asleep. As we lose blue-green spectral content, the light warms from cool to amber hues, letting melatonin re-filter into our body, so sleep can do its handiwork!



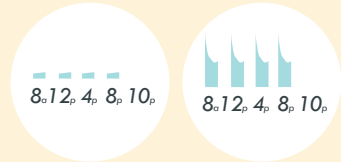
WHAT WE GET 💡

Incandescent light sources maintain a static, warm, color temperature whether used in the morning, afternoon or evening. Without the high spectral, blue-green content, our body is not able to suppress melatonin. This is why they are good sources for evening, slumber circadian profiles. When dimmed and used at or below the eye level, incandescent lamps support sleep better.



WHAT WE GET ➡️

Fluorescent and LED light sources can be engineered to deliver both warm and cool, static color temperatures. Even so, cooler color temperatures within these sources do not typically deliver enough spectral output within the range needed to regulate our daytime circadian rhythms effectively. Also, most LED sources are not able to support evening, slumber profiles.



LIGHT VITALITY GROUP

HOW TO USE LIGHT TYPES TO REGULATE CIRCADIAN RHYTHMS

NOTE: The following guidelines are for individuals who maintain sleep/wake cycles consistent with sunrise and sunset. Shift workers, or those requiring an adjusted sleep schedule which does not fall within the typical limits of sunrise and sunset, should contact Light Vitality Group or your therapist for custom Light Wellness guidelines.

1 MORNING SUN ::wake up::



Wake up by 10a and find a naturally well lit space:

1. Outside - Bright, sunny, clear to mildly cloudy skies: Minimum of 15min
2. Outside - Dimmer, overcast skies: Minimum of 30min
3. Inside - Big, bright, sunny window seat: Minimum of 1hr
4. Inside - Dimmer, overcast window seat: Minimum of 2hr

2 AFTERNOON SUN ::perk up::



If you feel tired midday, or know you will need extra energy for a specific task:

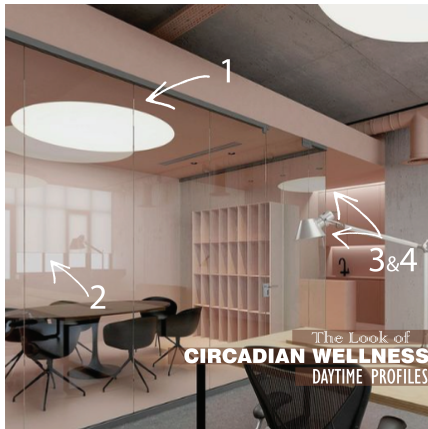
1. Step outside for at least another 15-30min (may be coupled with a caffeinated energy drink)
2. Take a nap in the dark that lasts under 30min. (Never opposed to bright, midday snoozes that last under 1hr.)

3 EVENING SUN ::wind down::



We need melatonin, our natural sleep hormone, to fall asleep. To support sleep onset:

1. Dim the lights after sundown approximately 2-3hr before the time you wish to sleep.
2. Keep them as dim as comfortably and as safely as possible.
3. Remove all overhead light using only low-level lighting like table lamps, undercabinet fixtures and nightlights. Shade from sun where able.



DAYTIME / WAKELFUL LIGHTING APPLICATIONS

Four strategies that can be used to achieve daytime, wakeful circadian light:

1. Direct and/or diffuse, downlight from overhead. Diffused light from a vertical plane at the eye level may also be used.
2. Windows and glass partitions to allow natural daylight to pass through from oversized windows. Shades can be drawn for glare control and comfort.
3. Accent lights from overhead to fill in volumes of space with less light access.
4. Task lights on desk areas to support visual performance, and may be used as a direct, proximal light source for wellness.



EVENING / SLUMBER LIGHTING APPLICATIONS

Four strategies that can be used to achieve evening, slumber circadian light:

1. Indirect, uplight from behind head space.
2. Bedside task light dimmed low rather than an overhead fixture.
3. Path light or tread light at ankle level.
4. 'Sun screen' to block spill light from the window without obstructing the look of sunset through the window.