# The Circadian Rx → *Circadian Rhythm Rx*

***Light affects every cell in the body, and through modern living, technology, and luxuries, we have created an environment that is detrimental to our biology… This is a guide on how to correct our environment through light. The most important clock in your life is the one connected between your eyes and brain.***

**Who should read this:**

- ☐ Anyone who wants to learn more about how light affects your health

**This could help you if you're experiencing any of the following:**

- ☐ Sleep (especially falling asleep or "Insomnia") & Recovery
- ☐ Energy during the day, Fatigue during the day/2PM "crashes"
- ☐ Headaches, Migraines, and Eye Strain from artificially lit-devices
- ☐ Skin (bags under the eyes, etc.) & Eye/Vision issues
- ☐ Digestion & GI issues
- ☐ Immune System issues
- ☐ Blood Pressure issues
- ☐ Males → Low Testosterone
- ☐ Hormones, Thyroid Health, Vitamin D Deficiency
- ☐ Mental Health (Anxiety, Depression, Mood Swings, etc.)
- ☐ Body composition (lower muscle tone/higher body fat)
- ☐ Tech addiction, or the parent of a child struggling with overuse of screens

**This could be caused by:**

- ☐ "Circadian mismatch", or not enough daytime natural light and too much artificial light at night ("ALAN")

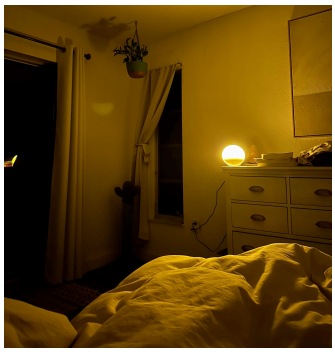
**Recommendation action steps are to:** (*this document is broken up into sections based on these categories)*

- ☐ 🐓**#1 Morning Sun → "Bright Mornings" Wake up with light & Spend 10+ min in morning sun within the first hour of its rising** (30+ minutes if overcast) without glasses/sunglasses, getting as much of your skin as possible in the direct light as (legally) possible (AM sunlight sets "circadian clock" & daily rhythm). **Every cell in your body is influenced by light and this "sets" your 24-hour daily circadian rhythm or circadian "clock".**
- ☐ 🌞**#2 Midday Sun → "Brighter Days" Get 10-60+ minutes of daily midday sun** (depending on latitude and time of year) without glasses/sunglasses, getting as much of your skin as (legally) possible in the direct light. This varies based on your "Fitzpatrick Skin Type"… download D Minder Pro on the App Store for safe guidelines tailored to you). Mid-day sun also releases beta-endorphins which make you feel better. Everyone wants to feel better, right?
- ☐ 🌅**#3 Dinner & Sunset → Eat your final meal before sun goes down and watch sunset,** as the brain will release melatonin naturally in the absence of light to allow for restorative sleep and a natural relaxation of the parasympathetic nervous system ("brake pedal"). Note that this changes throughout the year, as you're on the sun's timing and not simply on your work/school's timing. Also, eat food that grows locally in the current season.
- ☐ 🦉**#4 Stop "ALAN" (Artificial Light at Night) after sunset → "Darker Nights". ALAN disrupts your circadian rhythm and signals to your brain that it is time to wake up** and mobilize energy for the sympathetic nervous system ("gas pedal"), which is supposed to be active during the daytime when sunlight is present.
- ☐ 📵**#5 "Block Blue Light" → Use filters or "blue-blocking glasses" at night if watching TV/using screens and use "soft" non-stimulating lighting indoors at night.** Become more aware of your lighting environment, as bright lights stimulate the nervous system via the eyes & skin to release the stress hormone cortisol and to inhibit the repair hormone of melatonin.
- ☐ **Signs that you're on the right track:** Waking up easier at first light in the morning; Better energy levels during the day; Tired when sun goes down; Overall better mood; Tanner skin; Eyes feeling less strained; Falling asleep and staying asleep with ease; Any and all of the issues in above list improving/resolving.

# #1 Morning Light 🐓"Bright Mornings"

## Waking up naturally with sunlight

***Light affects every cell in the body!*** In the morning, we should rise with light (not to the sound of an alarm clock). This happens naturally when our eyes or skin "sense" light and cue the start of our day. When our eyes and skin are in full-spectrum near infrared light/NIL *without filters/sunglasses/windows* within the first 30 minutes of the sun rising above the horizon, we get very beneficial rays of sunlight and UVa rays. This sets up our circadian rhythm for the day, or a 24-hour sleep/wake cycle which honors our design and is how we are meant to live - outdoors in natural lighting.

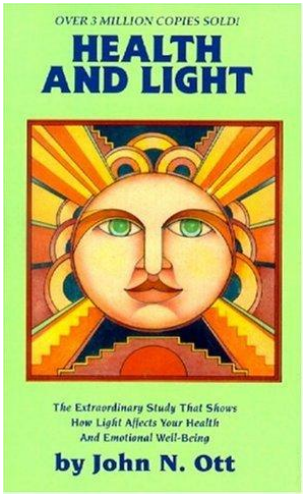


A healthy practice in the morning is to go outside, get in the sun, and give thanks for the gift of another day. Walk, think, journal, or whatever works for you... just don't wear glasses or sunglasses to filter out the light.

To the right is a picture of my alarm clock... I set it to turn on a light that gets brighter every minute for 10 minutes prior to any sound playing (birds chirping). I have a backup alarm set on my phone, in addition to cats. I also change the wakeup time throughout the year with the seasons (and adjust my daily schedule accordingly).

## Early morning sunlight "primes" the eyes/skin for midday sun

This early morning light also primes us for midday sun, which decreases our chances of sunburns through building something called a "solar callus" [See: "What is a solar callus?" YouTube video]. This is also great for people with fairer skin who plan to increase their amount of midday sun and need to first build up a tolerance.




## Who started to figure this all out?

This was initially observed in modern times by John Ott, a photobiologist from Sarasota who published his work in his book Health and Light (right) where he worked with hospitals, schools with hyperactive students, and anyone who would listen on how to use the sun and natural lighting to improve the health of your plants and yourself. If you've ever noticed the red and orange lighting at Lido Key and Siesta Key, this is because of Ott's work and how artificial  was observed to affect nesting turtles and birds' migration patterns.

## Cortisol & Melatonin, the "stress & repair hormones" are created in response to inputs from light: Light → Eyes/Skin → Brain → Hormones...

This is the breakdown of how light affects our stress & repair hormones and our sex hormones. When real or artificial light is sensed by our eyes and skin, it sends signals to our brain to release the "stress" hormone cortisol. In the absence of light, the "repair" hormone melatonin is released. A normal lighting environment - in rhythm with the sun - leads to a natural balance of these stress/repair hormones. When we have artificial lights and screen time at any hour of the day/night, this is highly unnatural to our brains, and throws off our stress/repair hormones, which makes normal hormones and health much more challenging. (Much more on this later).

Also important to note in regards to synthetic hormones. A good rule of thumb is that if the body makes it, don't take it. This especially applies to melatonin which is commonly used for sleep, which can lead to many long-term undesirable effects in many parts of the body. A better option would be to correct your lighting first.

## #2: Midday Sun ☀️"Brighter Days"

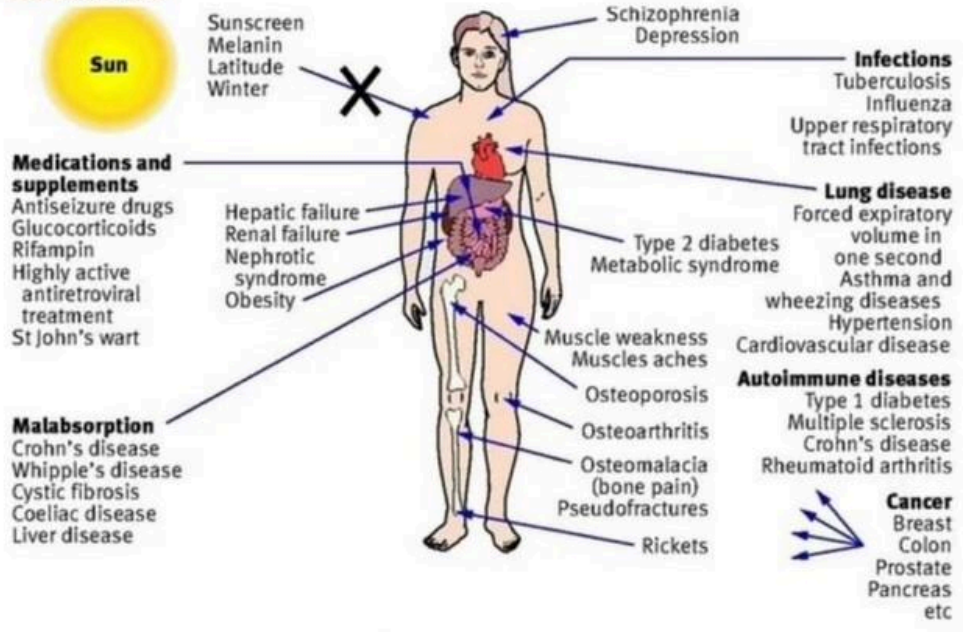
Review > Int J Environ Res Public Health. 2020 Jul 13;17(14):5014.
doi: 10.3390/ijerph17145014.

### Insufficient Sun Exposure Has Become a Real Public Health Problem

Lars Alfredsson [1], Bruce K Armstrong [2], D Allan Butterfield [3], Rajiv Chowdhury [4], Frank R de Gruijl [5], Martin Feelisch [6], Cedric F Garland [7], Prue H Hart [8], David G Hoel [9], Ramune Jacobsen [10], Pelle G Lindqvist [11], David J Llewellyn [12], Henning Tiemeier [13], Richard B Weller [14], Antony R Young [15]

Affiliations + expand

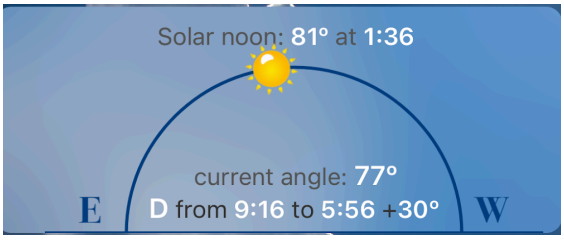
PMID: 32668607 PMCID: PMC7400257 DOI: 10.3390/ijerph17145014
Free PMC article




**Building a healthy tan**

"Melanin absorbs UV light and stores its photonic power created in daylight to be transferred to other semiconductive proteins in dark." In other words, charge up with sunlight during the day.

Important: do not use sunscreen or sunglasses. This creates a mismatch between eyes and skin. More on this later.



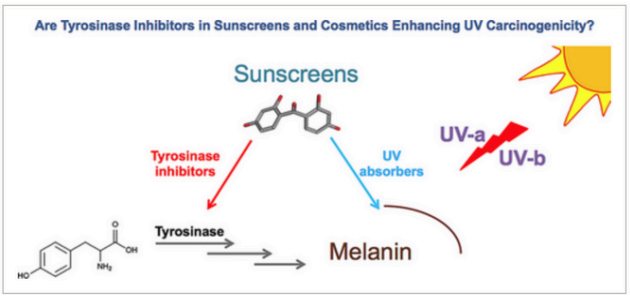

**Build healthy levels of Vitamin D3**

**Vitamin D3 supplementation vs. natural exposure to sun**

Vitamin D3 is a hormone that's synthesized naturally within the body by using cholesterol when the sun is at an angle of elevation greater than 35°. This is when UVb rays of sunlight are present (around midday). See the picture to the right for example of mid-day in Sarasota in July... Note that this will not be the same everywhere. This means that Vitamin D3 is not available all day or year-round in places farther north than Florida (good for us!). Cholesterol is also the precursor to the sex hormones testosterone & estrogen.

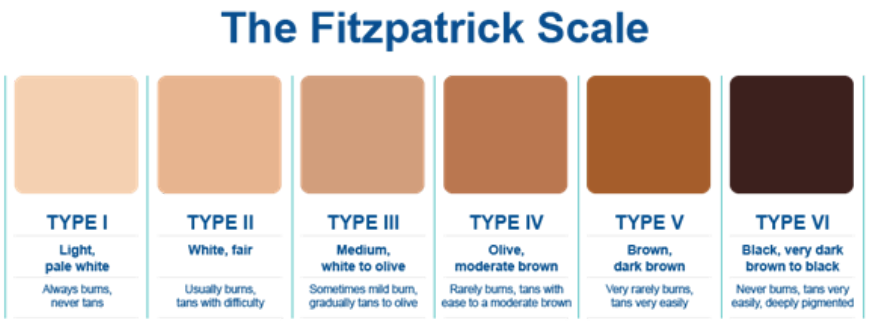
**So wait, why no sunscreen in the mid-day sun? Or ever?**

"The tyrosinase inhibitors (in sunscreen) block melanin production everywhere in your body and this atrophies the skin (chronically pale), gut (blocked VDR), eyes (RPE) hearing (cochlea/hearing loss/tinnitus), brain/basal ganglia (dopaminergic neurons/PD/depression /suicide/poor executive functioning/ poor thinking). Without melanin in your skin you burn faster BECAUSE your skin cannot make POMC, melanin, and can't make Vitamin D3 from cholesterol esters." - Dr. Jack Kruse



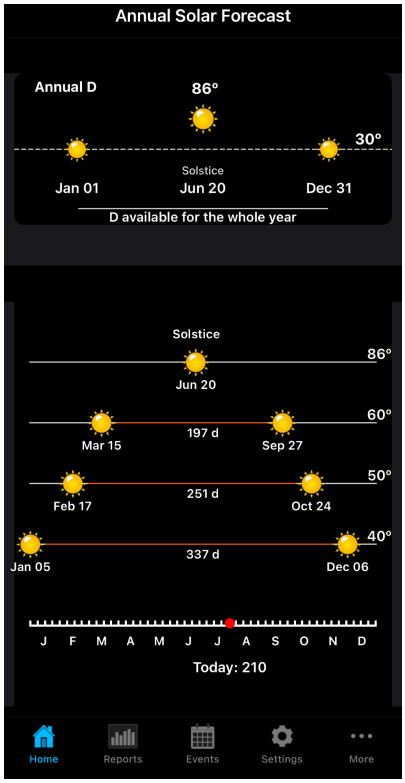

**How to not sunburn**

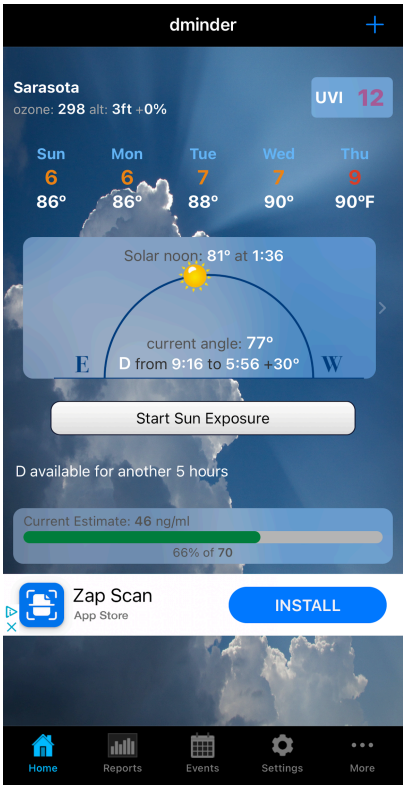
When you've had "enough" sun, simply put on a hat, long sleeves, and cover up (rather than applying sunscreen which, in addition to what is written above, will disrupt many hormone cycles and create a mismatch between sun and skin/eyes... again, much more on this later).




**Resource: D Minder Pro on the App Store →**

This app helps you track all of that based on your latitude and your Fitzpatrick Skin Type. Picture on the left shows what angles of elevation the sun will get to at certain times of year and how many days to get "D", while the picture on the right shows UV Index (or "strength of the sun") at different times of the day based on your location. The UV will be above 3 when the sun is above 35° (this is when you can tan). UV is strongest at mid-day, and varies all year (it's the strongest all year at high noon on the summer solstice). If you live above 35° latitude, you won't be able to get Vitamin D in some of the winter months as the sun won't get high enough for UVb rays to be present.




## How does sunlight lower blood pressure?

"One amazing way to lower your pressure is with SUNLIGHT via multiple mechanisms. The first way is via the release of nitric oxide (NO) in the skin which allows for the blood to get irradiated by the sun via dermal pooling as NO dilates the blood vessels under your skin. This lowers resistance to lower pressure.

These are the capillaries in your skin that come to surface to collect sunlight photons when nitric oxide is released in response to UV & IR sunlight shining on melanopsin in your skin and SQ fat. This increases blood flow and decreases your blood pressure. The sunlight signal is carried to every mitochondria in your body on electrons to provide energy and information about the time of day and season = circadian rhythms. When you never go into the sun you miss out on these effects.

"Did you know 40-60% of your blood volume moves toward the sun with this effect assuming you have no clothes or sunblock on? The second way sunlight lowers BP is via the renin-angiotensin system in the kidney. Sunlight raises Vitamin D3 in the skin and blood plasma and this directly affects the inhibition of renin activity in the kidney to control blood pressure centrally in the brain. The vitamin D3 and sunlight axis work via calcium signaling and this gives the endocrine system a potentially bidirectional and stimulatory relationship between aldosterone and parathyroid hormone. Most modern humans have lost this bidirectional control because of clothing, sunblock, and an indoor existence and this is why high blood pressure is now a global epidemic." -Dr. Jack Kruse

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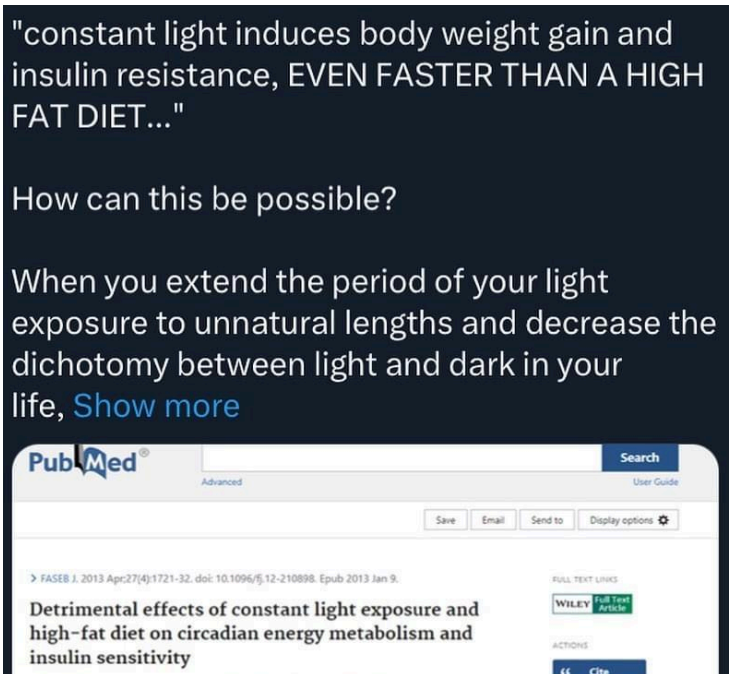
## #3: Dinner & Sunset 🌅

**Eat Final Meal Before the Sun Goes Down**

Watch the sunset, and finish your final meal should finish at least 2 hours prior to sleep and prior to sunset. No further explanation yet.

**Light > Food?**

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## #4: "Darker Nights" & Stop "ALAN" 🦉

A.L.A.N. = artificial lights at night (screens or artificial lighting after sunset)

**The modern day health-killing combo → Low daytime light & bright nighttime light...**

"Greater night light exposure was associated with greater odds of major depressive disorder (MDD), generalized anxiety disorder (GAD), bipolar disorder, post-traumatic stress disorder (PTSD), self-harm behavior and psychotic experiences. Conversely, greater daytime light exposure was associated with lower odds of MDD, PTSD, self-harm behavior and psychotic experiences." [Low daytime light and bright night-time light are associated with psychiatric disorders, Burns et al]


**Common "daytime" activities/areas with excessive artificial lighting**

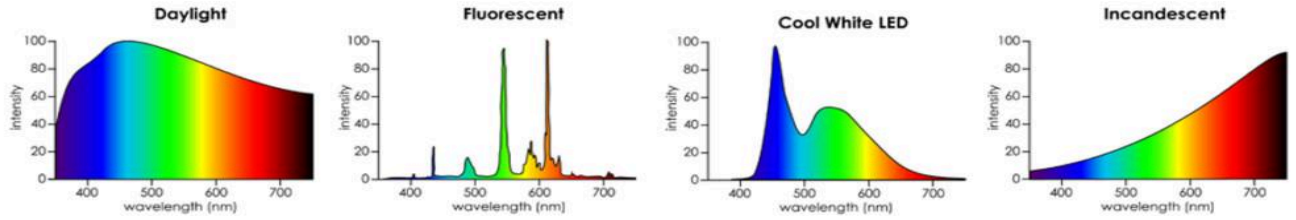
Indoor gyms; Hospitals; Schools; Workplaces; Many restaurants; Homes/Living Rooms/Bedrooms with Tech/Screens. In these settings, I recommend yellow-tinted glasses to block excessive stimulating blue light and filtered natural light coming through windows, as most windows filter out the "beneficial" full-spectrum of light (more on these later).

You don't have to necessarily avoid these areas, especially if they are a part of your truest expression of life,, but do as many of these activities as possible outdoors during the day rather than indoors, when possible.

**But why? "Nervous system manipulation by electromagnetic fields from monitors" →**

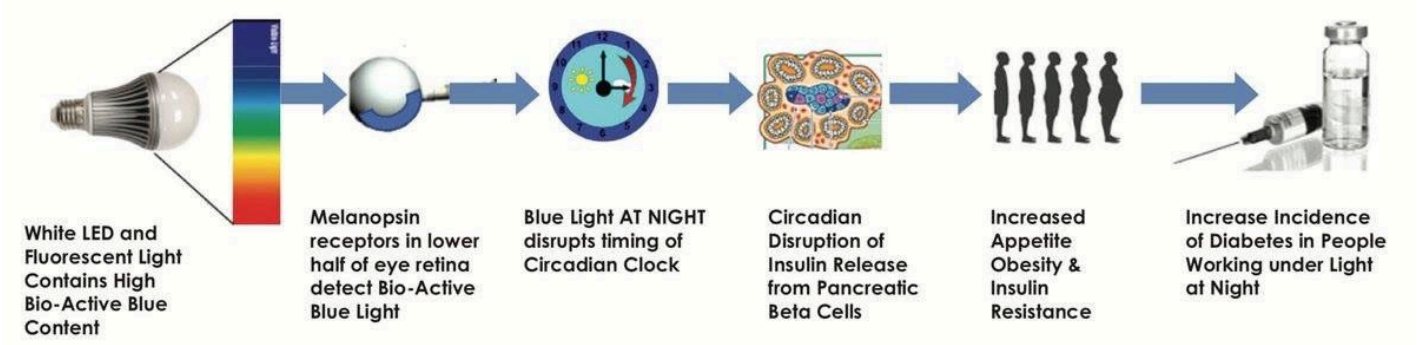
Google owns this patent... "Abstract: Physiological effects have been observed in a human subject in response to stimulation of the skin with weak electromagnetic fields that are pulsed with certain frequencies near ½ Hz or 2.4 Hz, such as to excite a sensory resonance. Many computer monitors and TV tubes, when displaying pulsed images, emit pulsed electromagnetic fields of sufficient amplitudes to cause such excitation. It is therefore possible to manipulate the nervous system of a subject by pulsing images displayed on a nearby computer monitor or TV set. For the latter, the image pulsing may be embedded in the program material, or it may be overlaid by modulating a video stream, either as an RF signal or as a video signal. The image displayed on a computer monitor may be pulsed effectively by a simple computer program. For certain monitors, pulsed electromagnetic fields capable of exciting sensory resonances in nearby subjects may be generated even as the displayed images are pulsed with subliminal intensity." Below is a chart showing light coming from different sources, showing the differences of the proportion of different colors/wavelengths depending on the source/type of light (LED, incandescent, etc.)

See examples of different wavelengths of lights on the next page. Note that daylight is "balanced", and incandescent (recently made illegal by the US government) is fairly balanced toward red. Fluorescent and LED both have highly unnatural spikes and are an "unbalanced" spectrum of light.



# #5: Block Blue Light 🚫

*This compliments #4 Darker Night & Stop "ALAN".*




**Blocking unbalanced wavelengths of light at different times of day:**

**Outdoors during the day** → None (use hat with brim if too bright from above)
**Indoors during the day** → Yellow (above-right)
**Driving** (unless car has a top-down) → Yellow
**Indoors at night** → Orange or Red (below-right)

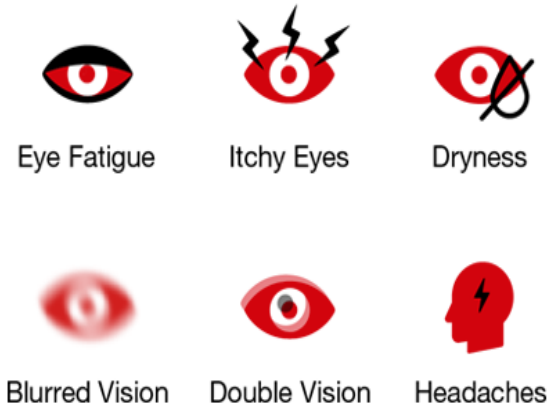
**Glasses →**

Midwest Red Light Therapy Store → Blue-blocking products & glasses (like the ones to the right), at home night-lights, and more products to protect your melatonin. (Code: DRALEXLEE for 10% off all products... shameless plug)

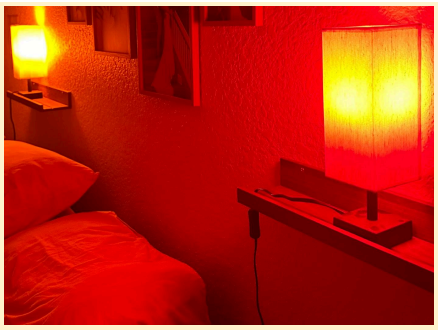
LowBlueLights Store → Similar products to Midwest Red Light Therapy, including screen protectors that block light at the source (from appliances, screens, tablets, display lights in the home, etc.)

**Filters →**

Iris app → Eliminates all blue light from monitors (www.iristech.co) → No more blue light from your laptops, as well as turning off pulse-width modulation (PWM), or what you may know as "flicker-rate", which is invisible to the naked eye but can cause extra eye strain, headaches, etc. Iris is a $15 one-time purchase and eliminates all harmful unbalanced light frequencies from your screen.

**Example of home lighting →**



**Orange & Red Bulbs.** Light on left - orange bulb. Light on right - red bulb. Both have no flicker LED's.

**Himalayan salt lamp**. Still emitting blue light but less harsh with a lower color temperature.

**SOLshine BioBulb** → Emits a "balanced" full-spectrum light that includes 'visible & invisible' light wavelengths akin to natural sunlight.

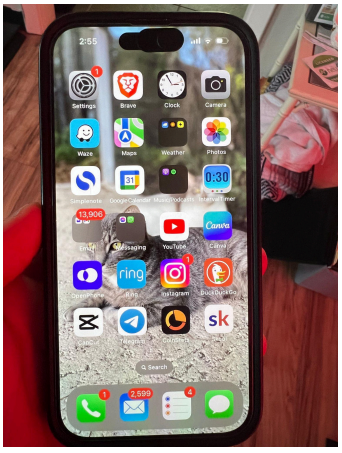
**Motion sensor night lights [link] →**
Night lights that won't disrupt circadian rhythm. I keep one in our bathroom in case we have to get up in the middle of the night.

**Edit settings of your iPhone to eliminate all blue light →**

(note: some colors won't appear on your phone anymore, but you can turn this setting on and off as needed)

**Step 1:** Go to "settings"
**Step 2:** Search for and select "Color Filters"
**Step 3:** Toggle button to on; Select "Color TInt" (from the menu that starts with Grayscale, Red/Green Filter, etc...)
**Step 4:** Turn "Intensity" as high as possible
**Step 5:** Go to "Accessibility Shortcut"
**Step 6:** Add "Color Filters" to the option for quick toggle on & off

If you've done it properly, your screen will go from looking like this (left) to something like this (right):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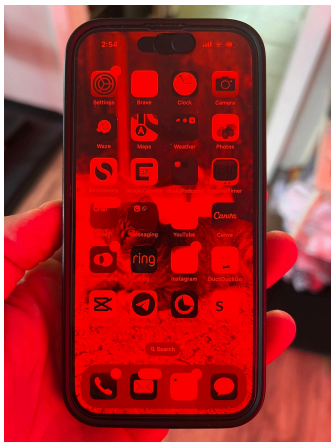


## So wait... what about skin cancer?

**Are "they" lying about the sun being dangerous and that you should always wear sunscreen?**

Yes, "they" are lying. Maybe not fully, because sunburns are bad (which is why you need to build up a tolerance, or a solar callus ("What is a solar callus?" YouTube video), or what some people call a "base"). But here are several important points about sunscreen and light in general (from Dr. Kruse)

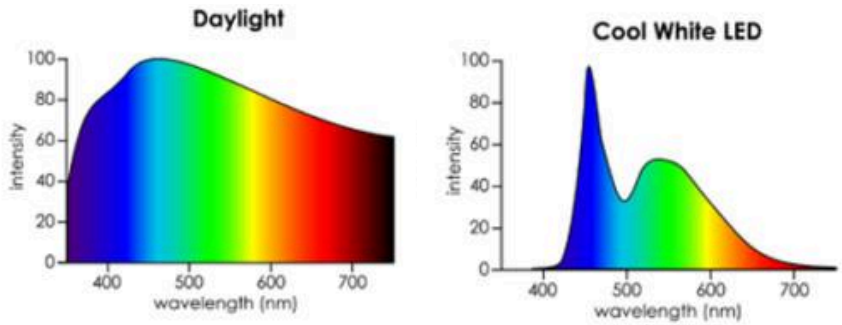
- "The tyrosinase inhibitors block melanin production everywhere in your body and this atrophies the skin (chronically pale), gut (blocked VDR), eyes (RPE) hearing (cochlea/hearing loss/tinnitus), brain/basal ganglia (dopaminergic neurons/PD/depression/suicide/poor executive functioning/poor thinking)
- Without melanin in your skin you burn faster BECAUSE your skin cannot make POMC, melanin, and can't make Vitamin D3 from cholesterol esters.
- Unlike most mammals, which have melanin-producing melanocytes predominantly in the hair follicle bulb, humans are uniquely equipped with melanocytes in the outermost layer of the skin, the epidermis. These neural crest-derived melanocytes are the only source of the photoprotective pigment melanin in human skin. Melanin absorbs UV light and stores its photonic power created in daylight to be transferred to other semiconductive proteins in dark.

- Blue light is highly stimulatory to melanocytes. Implications? Sunlight reduces the incidence of the diseases below. This means sunscreen will increase them. SUNSCREEN CAUSES MORE SKIN CANCERS OF ALL TYPES: HIGHER MELANOMA RISK = LOW MELATONIN, LOW DOPAMINE, LOW VIT D LEVELS = NO SUN = LOWERED mitochondrial REDOX.
- SUNSCREEN USE CAN DEPRESSES YOUR MOOD and cause depression. It lowers your mood. When you affect tyrosinase inhibitors you also block POMC.
- With sunscreen you are raising your risk of hypertension and stroke! Why? One amazing way to lower your pressure is with SUNLIGHT via multiple mechanisms. The first way is via the release of NO in the skin which allows for the blood to get irradiated by the sun via dermal pooling as NO dilates the blood vessels under your skin. This lowers resistance to lower pressure.
- If you use sunscreen or eyeglasses you might be more prone to addictions. Why? Addictions are associated with lowered dopamine states. Dopamine is created via melanin biology. Sunscreens block melanin production. If migraines are linked to artificial light via the hypothalamus via POMC, and POMC creates our natural opioid beta-endorphin, is it possible drug addiction is somehow related to modern man's abuse of man-made light day and night?
- Why can't young people sleep anymore? Well, their parents have put sunscreen on them all their lives and this has atrophied their skin and eyes. This means they cannot handle being out in the sun very long. When I hear people tell me they are photosensitive I know how this was caused. They are always in disbelief because of what they have been told by centralized nonsense. Sunscreen, sunglasses, and modern tech screens while living indoors for their entire life. They have no melanin. They are manufactured albinos. Blue light/nnEMF dehydrates cells because they stop H2O production from the mitochondrial TCA cycle.
- Bone/Joint failure is made worse by sunscreen and sunglasses. Now you know why orthopedic surgeons are so busy replacing knees and hips over the last 100 years. This includes osteoarthritis, autoimmune arthritis, osteopenia, and osteoporosis. Why? Because blue light ruins POMC in the musculoskeletal system too.

- Sunscreen creates huge profits for functional medicine practitioners who are ignorant about light. How? Sunscreen ruins H+ movements (light hydrogen) and when H+ movements are disrupted SNP's/SAPs do not operate the way they should? Why? They both operate using proton tunneling. In fact, all enzymes use proton tunneling to work. If you block sunlight with sunscreens and sunglasses you are affecting enzyme kinetics.
- Taking exogenous melatonin orally is equivalent to using sunscreen. Why? Taking melatonin orally chronically without blocking blue light can lead to serious eye damage.
- Using sunscreen will reduce your mood and if you do it long enough, you will get various mental diseases. Seasonal changes in sun time were found to best account for relationships between weather variables and variability in mental health distress. Increased mental health distress was found during periods of reduced sun time hours. We've known this for a long time in medicine, but you'd never know it from the advice given in the Dermatology and Ophthalmology clinics in the USA."

**Blocking Blue from Screens and the full Color Spectrum →**

Daylight is the only light that our eyes, brains, and nervous systems know how to interpret properly. Daylight (at all times) is always "balanced". Artificial lighting (like LED's) have unbalanced amount of certain wavelengths (compared daylight to LED's below). All colors have an effect on cells, on the eyes, the brain and the nervous system - blue is not necessarily "bad" but unbalanced amounts can lead to undesirable health outcomes and are more or less everywhere indoors 24/7 and outdoors at night in cities. Note: windows filter out much of the full-spectrum of UV light, as well.

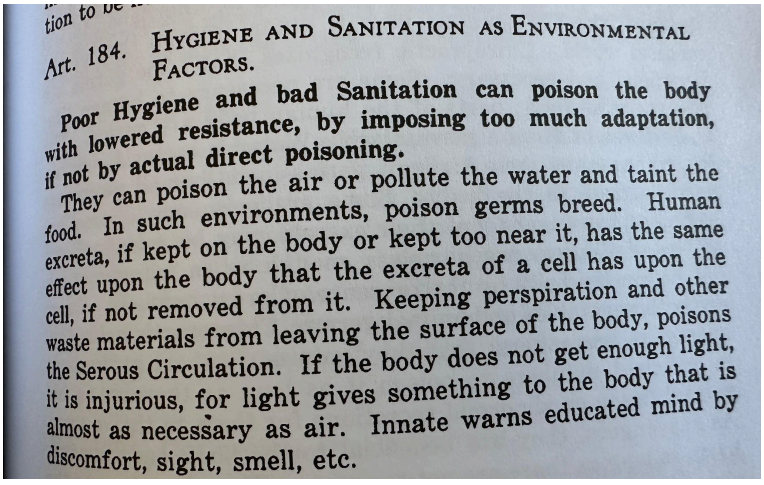



**So wait, what about being inside near windows? Is that good enough? →**

Almost all windows filter out the beneficial full spectrum of light that we should get from natural sunlight, meaning most light indoors *even if coming through windows* is unbalanced to have higher amounts of the blue light wavelengths. Consider wearing blue blocking glasses whenever in environments like this.

**What does Chiropractic philosophy "say" about light? →**

from "Chiropractic Text Book" by R.W. Stephenson [written 1927]. "If the body does not get enough light, it is injurious, for light gives something to the body that is almost as necessary as air". Much more in this section of the book, but this was known (for obvious reasons) and well-understood in healing over 100 years ago. Chiropractors would adjust patients and then have them rest and/or exercise in open air and sunlight.



Art. 184. HYGIENE AND SANITATION AS ENVIRONMENTAL FACTORS.

Poor Hygiene and bad Sanitation can poison the body with lowered resistance, by imposing too much adaptation, if not by actual direct poisoning.

They can poison the air or pollute the water and taint the food. In such environments, poison germs breed. Human excreta, if kept on the body or kept too near it, has the same effect upon the body that the excreta of a cell has upon the cell, if not removed from it. Keeping perspiration and other waste materials from leaving the surface of the body, poisons the Serous Circulation. If the body does not get enough light, it is injurious, for light gives something to the body that is almost as necessary as air. Innate warns educated mind by discomfort, sight, smell, etc.

## More Resources:

**Dr. Jack Kruse** → Look him up on Instagram, join his Patreon blog… helps many (including some of our own at Circadian Chiropractic & Sport) through some very complex "neolithic" disease processes, or diseases that have exploded in incidence in the past 30+ years due to living in unnatural ways, in many instances through light and non-native EMF exposure (commonly missed or not acknowledged by western medicine)

**Timeless Principles of Healthy Diets (Weston A Price Foundation)** → Dietary Guideline #19: Get plenty of light, exercise, and natural light

**The Chiropractic Textbook** → Sophomore text (2nd section of the book) talks about cycles of the body when something in the environment is sensed by tissues of the body, which sends a signal to the brain before the brain responds with a signal back to the cell. This part of the book lays out very specifically what happens and how… and it was written in 1927 before all of the modern day "science" came to many of the same conclusions.

**Books (which I may have referenced but not given credit to… some are tough to find):**

- ☐ Health and Light by John Ott
- ☐ Epi-Paleo RX by Jack Kruse
- ☐ Light: Medicine of the Future by Jacob Liberman
- ☐ Light in shaping life: Biophotons in biology and medicine by Roeland van Wijk
- ☐ The Invisible Rainbow by Arthur Firstenberg
- ☐ Circadian Code by Satchin Panda
- ☐ The Body Electric by Robert Becker
- ☐ Earthing by Clint Ober

**"KISS" (keep it simple, stupid):**

- ☐ Wake up with sunlight & see sunrise
- ☐ Get unfiltered mid-day sun based on your tolerance
- ☐ Eat dinner before sunset and cut out ALAN
- ☐ Block blue light after sunset
  - ☐ ** and during the day if in an unnaturally lit environment and/or high screen time

**Compliments to this document:**

- ☐ The Long-Term Athletic Performance Rx (Part 2 of Dr. Alex's Book → Movement & Training)
- ☐ Circadian rhythm for athletes: Quantum Biology Science Used by Kyle Dake w/ Dr. Jack Kruse

Optimizing mitochondrial function: "When you optimize mitochondrial function, you need to take that energy and power and then make it for physiologic use that [an] athlete effectively needs. The first issue is that you [figure out] the environment… the reason why is that all the energy that your mitochondria transforms comes from the environment.

I think most wrestlers [athletes, in our case] understand that diet's important, but they don't understand the reason diet's important… it turns out it's not as important as all of you think because the analogy I would give you is I want you to think about a Ferrari. A Ferrari comes off the line and it does 225 MPH, and everybody knows that you can put gas in it and it still goes that way. But, if you keep running sh*tty gas through it, it's going to be in the mechanic quicker to clean all the gunk out but it's still running 225 MPH. The same thing is true with the human body… we have engines in us called mitochondria that we're designed to replace through a process called autophagy (break down & destroy old cells) and apoptosis (normal & controlled death of cells)… that mechanic is built inside of you.

Guess what controls that that program? A hormone that you've probably heard of called melatonin. Most people think that melatonin is the hormone of darkness... You'd be shocked to know that it's made out of aromatic amino acids so guess what it's from? The sun. So you need to have optimal solar exposure to make sure the mechanic in you can take out the bad engines so you can run 225 MPH because it turns out the fuels aren't as important as the engines and I think that's the interesting thing that your wrestler guy from from the Olympics has actually fallen into... he's like “wait a minute, yes I'm actually improving my engines and all my competitors are focused in on the wrong things [gas]”.

- [ ] If you live in a high latitude: #58: Dr Jack Kruse - High Latitude Living, Cold Exposure, Sunlight & Longev...

**Future additions to this document:**

- [ ] Blue light on tissue (muscle, tendon, ligament, fascia)
- [ ] Blue light on myopia (nearsighted or near vision) & reversing it through sunlight
- [ ] Sungazing (looking directly at sun at sunrise or sunset)

# Appendix

## Circadian Self-Evaluation:

Please answer the following questions. Following reading this entire resource, you should have a greater understanding and awareness of the following:

Rate your average daily energy level: 1 2 3 4 5 6 7 8 9 10
At what time do you normally wake up at this time of year?
At what time do you normally go to sleep at this time of year?
Does your wake-up/go to bed times vary throughout the year?
How many sunrises do you see each month?
How many hours do you spend outside each day?
How many hours do you spend outside *in direct sunlight* each day?
How many hours do you spend outside each day barefoot connected to the ground?
At what time(s) of the day do you have the most energy?
At what time(s) of the day do you have the least energy?
What is your Fitzpatrick Skin Type? I II III IV V VI
Do you wear sunglasses regularly?
Do you use sunscreen regularly?
How many hours do you spend on screens per day? (Your phone may give you a report)
How many hours do you spend under artificial light at night?
Are you aware of the non-native EMF (nnEMF) in your house/environment?
Do you do anything to mitigate/offset the effect of nnEMF in your house/environments?

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## Quiz From: Circadian Code by Satchin Panda, MD

Instructions: Answer all as yes or no, then tally the yes at the end

PHYSICAL HEALTH
Has your doctor told you that you are overweight?
Have you been diagnosed with either prediabetes or diabetes?
Are you taking prescription medication for a chronic disease, such as heart disease, blood pressure, cholesterol, asthma, acid reflux, joint pain, or insomnia?
Are you taking over-the-counter remedies for acid reflux, pain, allergies, or insomnia?
Do you have an irregular menstrual cycle?
Do you have hot flashes or disrupted sleep related to menopause?
Do you have a decreased libido?
Have you been diagnosed with a disease linked to chronic inflammation, such as multiple sclerosis or inflammatory bowel disease?
Do you have frequent lower back pain?
Have you been diagnosed with sleep apnea?
Do you snore?

Do you wake up feeling congested or with a stuffy nose?
Do you have frequent abdominal pain, heartburn, or indigestion?
Do you have frequent headaches or migraines?
Do your eyes feel tired at the end of the day?

MENTAL HEALTH
Do you feel anxious?
Do you feel low or have frequent blue moods?
Do you struggle with attention and focus?
Do you experience brain fog or poor concentration?
Do you frequently lose items, like your glasses, a charging cable, or keys?
Are you forgetful of names and faces?
Do you rely on a calendar or to-do lists?
Do you get tired in the afternoon?
Do you wake feeling tired?
Have you been diagnosed with post-traumatic stress disorder (PTSD)?
Have you been diagnosed with attention deficit hyperactivity disorder (ADHD), autism spectrum disorder (ASD), or bipolar disorder?
Do you have food cravings?
Do you feel like you have a lack of willpower over food?
Have you been told that you are irritable?
Do you have trouble making decisions?

BEHAVIORAL HABITS
Do you take less than 5,000 steps a day?
Do you spend less than an hour outdoors under daylight each day?
Do you exercise after 9:00 p.m.?
Do you spend more than an hour on the computer, your phone, or watching TV before bedtime?
Do you have one or more alcoholic drinks (cocktails, wine, or beer) after dinner?
Do you forget to drink water throughout the day?
Do you drink coffee, tea, or caffeinated soda in the afternoon or evening?
Do you consume chocolates, high-carb foods (doughnuts, pizza, or energy drinks to improve your energy level?
Do you binge on foods late in the day regardless of hunger?
Do you drink or eat anything (other than water) after 7:00 p.m.?
Do you sleep with a light on?
Do you set aside less than 7 hours for sleep and rest every day?
Do you need an alarm clock to wake up in the morning?
Do you typically catch up on sleep on the weekends?
Do you eat whenever food is presented to you, even if you are not hungry?

INTERPRETATION
Answering “yes” to more than 5 of the previous questions can show significant disruption to normal circadian rhythms.