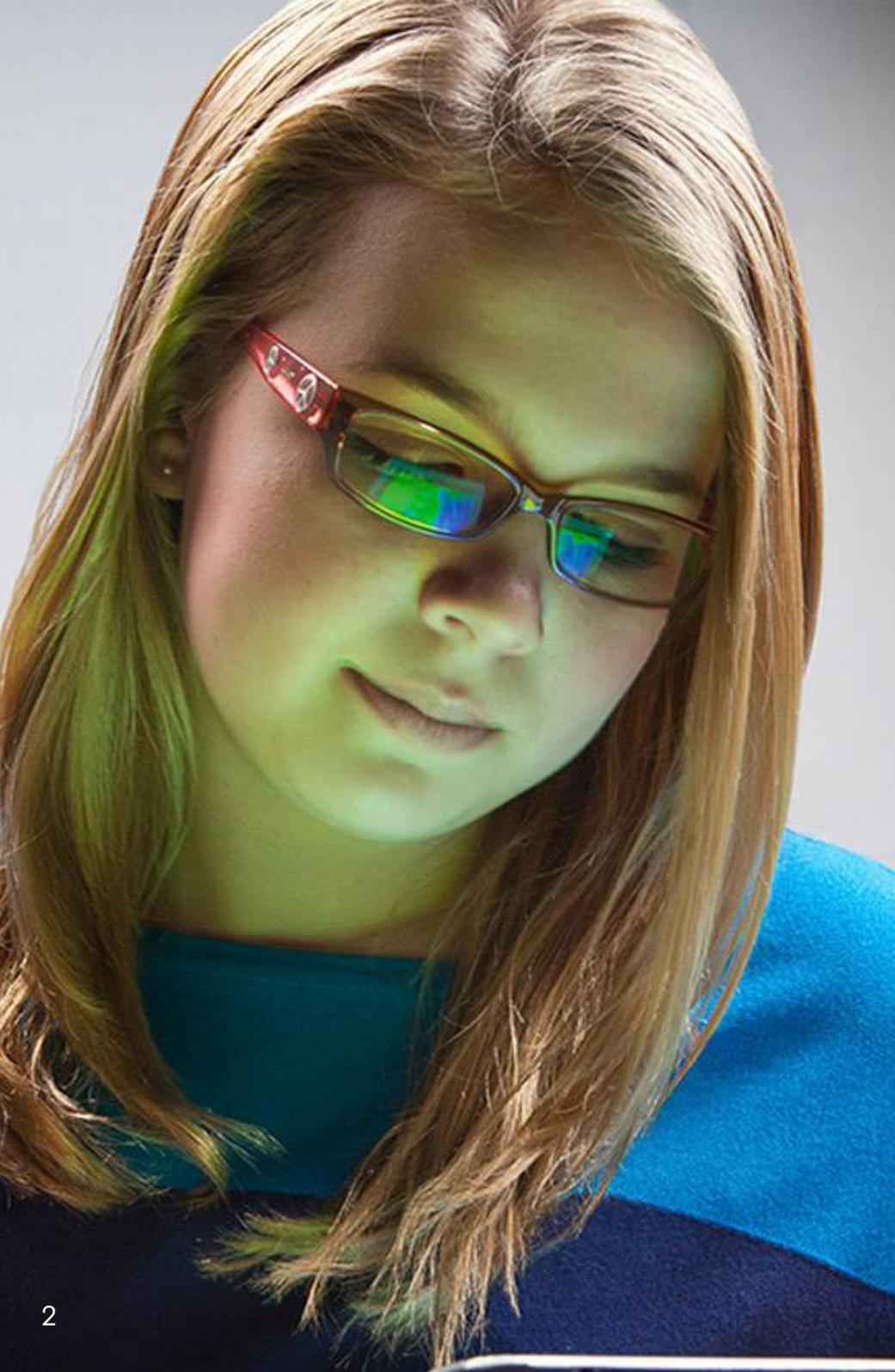




The Consumer's Guide to Choosing Blue Blocking Glasses

Provided as an educational service by:

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Not using Blue Blocking Lenses yet? Make sure you get the best possible protection for you and your family!

Blue blocking glasses are a great way to reduce eye strain, protect your eyes from long-term degenerative disease, reduce headaches and migraines, improve sleep quality, increase cognitive performance, and mitigate the risk of long-term disease (seriously! blue light exposure is now associated with increased risk of cardiovascular disease, stroke, diabetes, obesity, and cancer!).

Read this guide and you'll discover:

- o **The Dangers of Blue Light: 3 Ways Your Phone and Computer are Ruining Your Sleep and Your Health**
- o **3 Vital Strategies to Reduce Blue Light Toxicity**
- o **6 Dangerous Misconceptions About Blue Light Blocking Glasses**
- o **5 Mistakes to Avoid when Purchasing Blue-Blocking Glasses**
- o **The 4 Biggest Fears that Prevent Most People from Getting Blue-Blocking Glasses (and How to Overcome Them)**
- o **The 4 Steps To Choose the Best Blue Light Blockers for You and Your Family**

The Dangers of Blue Light: 3 Ways Your Phone and Computer are Ruining Your Sleep and Your Health

This may sound like an exaggeration for first-time readers, but let us assure you that every home, office, and car in modern society is bombarding its occupants with blue light at virtually all hours of the day, and that blue light is NOT innocuous and harmless to humans – in fact, more scientific evidence than ever before is accumulating to show that blue light exposure contributes to genetic mutations in mtDNA (mitochondrial DNA), cellular dysfunction, energy slow-down, and chronic disease.

Here are the 3 ways your phone and computer are ruining your sleep and your health:

Danger #1) Diminished Sleep Quantity – Exposure to blue light, especially after dark or in large quantities throughout the day, has been shown to inhibit the release of melatonin (one of your primary sleep hormones). Essentially what happens is the light from your devices trick your brain into thinking that it's still daytime, and the hormones and chemical release protocols that should be triggered to initiate sleep behavior aren't. One night of blue light exposure has been shown to cause alterations in circadian rhythms and sleep deprivation. And in other studies of humans and animals, one night of sleep deprivation can increase the formation of beta-amyloid plaques associated with Alzheimer's disease. When melatonin is suppressed, you stay awake later, may often feel like it's difficult to go to sleep, and continue to wake up feeling groggy and tired. Moreover, exposure to blue light can lead to waking up through the night, which further decreases sleep quantity.

A study of over 4000 adolescents between the ages of 11-17 found that sleep deprivation is associated with major depression. And a separate review of 34 different studies concluded that sleep deprivation leads to heightened anxiety levels.



Danger #2) Reduced Sleep Quality – Sleep quality is a measure of the sleep cycles your body goes through at night. These cycles include light sleep, deep sleep, and REM sleep (when dreaming occurs). While deep sleep is crucial for your body to repair itself, REM sleep is the time when your brain consolidates memories and prepares for the coming day.

Even if you sleep a full eight hours, poor sleep quality from artificial light (either before bedtime, or because of exposure while sleeping) is detrimental to your health and performance. The International Agency for Research on Cancer has classified this form of sleep disruption as a “probable carcinogen to humans”.

The problem is that artificial blue light at night keeps your mitochondria working in overdrive when they should be resting and recuperating. So even if you manage to sleep 8 hours or more, they probably aren’t quality.

Many people in an energy-depleted state even say that they sleep LONGER than ever before and feel LESS rested.

Symptoms of reduced sleep quality (which can be caused by blue light exposure at night, or overexposure during the day) also include:

- **Poor Sleep**
- **Daytime Fatigue**
- **Insomnia**
- **Seasonal Affective Disorder (SAD)**
- **Poor Mood**
- **Depression**
- **Anxiety**
- **Digital Eye Strain**
- **Sore and Tired Eyes**
- **Headaches & Migraines**
- **Weight Gain**
- **Hormone Suppression**
- **Immune System Depression**
- **Low Energy**
- **Poor Training & Exercise Recovery**

Danger #3) Long-Term Effects of Disrupted Sleep – We’ve all heard that it’s important to sleep at least 7-8 hours per night, and that sleep quality is important... but what do those have to do with devices and long-term sleep disruption? Melatonin suppression is not only an issue for day-to-day sleep quality. It has also been shown to increase the risk of cancer, decrease immune function, and increase rates of cardio and metabolic disease in test subjects, such as type 2 diabetes, metabolic syndrome, obesity, and cardiovascular disease.

Insufficient or poor-quality sleep leads to inflammation in your body and disrupts your mood, performance, and focus. Even one night of sleep deprivation causes irritability, daytime sleepiness, and an inability to concentrate. Sustained poor-quality sleep is associated with premature death and aging, as well as an increased risk of chronic diseases like heart disease, high blood pressure, diabetes, obesity, and cancer, as mentioned above.

Just as problematic, but often overlooked, is the fact that normal room lighting can also suppress melatonin at night – keeping it as low as it is during daytime – even without the use of electronic devices. So while sending a few emails, or checking your text messages before bed may seem like no big deal, the sudden spike of blue light from your device can immediately begin to disturb the hormones that should be signaling your brain and body that it’s time to sleep and repair the body’s tissues.

So how can you overcome this blue light barrage in your own home without going lights-out at dusk? We recommend using a high quality pair of blue light blocking glasses.

3 Vital Strategies to Reduce Blue Light Toxicity

If you're like most people, it's not going to be a viable option to stop using those devices that keep you connected to family, friends, work, or your hobbies. Total electronics blackout probably isn't going to happen. Instead, it will pay HUGE dividends to your health, and that of your family, to act on these 3 suggestions to reduce blue light toxicity:

Strategy #1) Don't Use Digital Devices for 2-3 Hours Before Bed –

At first this seems like a huge stretch for most people, but here are some ways to work toward the goal and then put it into practice:

- Don't use digital devices in a darkened room. Make sure there is a lamp or other warm colored, low-light source turned on that will help offset some of the stark contrast between the blue light and the darkness of the room.
- Consider using blue light filtering apps for your devices. Apps like f.lux, Iris, Twilight, and Night Shift can help reduce some of the blue light emitted by your devices. They are not a perfect solution, and aren't sufficient alone because some blue light still gets through the filters, but they are a good start.
- Begin by stopping use of your devices 60 minutes before bed, and then move to 90 minutes, and eventually to 120-180 minutes before sleep. There are lots of activities that can be done in this time that are also great for your health: reading a book (yes, those paper things), writing in a journal, meditating, talking with family & friends who are present, and starting your evening bedtime routine.



Strategy #2) Reduce Artificial Blue Light Sources in Your Home –

Many people don't even realize the number of blue light sources they are exposed to each day. Smartphones and tablets, laptops, and computers are the obvious ones, but modern indoor lighting from fluorescent, LED, and CFL (compact fluorescent) bulbs, as well as our televisions, blue or green LEDs on all electronic devices, and even street lights and automobile headlamps all emit visible blue light.

Some of the easiest things to change to reduce blue light are:

- Change the light bulbs in your home to incandescent bulbs if they are available for purchase in your area, or to bulbs that have a warmer color of light.
- Unplug or completely power off any devices in your bedroom or sleeping area that emit blue or green LED light (even the smallest LEDs can be problematic).
- Use heavy curtains or window coverings to darken your room before bed, allowing deeper, uninterrupted sleep.
- Install color-changing smartbulbs or an LED strip that can be set to emit pure Red light, so that you can use it during the 60 minutes before bed, rather than your overhead lights or lamps.
- If possible, avoid driving after dark within 1-2 hours before bed, since automobile headlamps emit high intensity blue light.

Strategy #3) Wear Blue-Blocking Glasses – As people wake up to the detrimental effects of artificial light at night, the popularity of blue-blocking glasses is on the rise.

Studies show that wearing these specialized blue blockers at night allows you to maintain an earlier bedtime, achieve deeper sleep, and feel more awake during the day. They also prevent damage to your retina that can lead to macular degeneration and early vision loss. Balancing your light exposure can also improve your mood, cognition, and performance at work.

Unlike blue light filtering apps, quality blue blockers block virtually 100% of the visible blue light rays that disrupt your sleep and damage your mitochondria. Another advantage of blue-blocking glasses is that they also filter harmful light sources like LED and fluorescent lights.





6 Dangerous Misconceptions About Blue Blocking Glasses

As soon as you start looking at the marketplace for Blue Blockers, it becomes extremely difficult and confusing to figure out what information is accurate, true, and backed by science. That's why we've created this guide. Be careful of these dangerous misconceptions that you'll see out there on the internet, or hear from people who may have tried some computer glasses in the past:

Misconception #1) All Light is Equal, and Won't Hurt My Eyes –

You probably know quite well that this isn't true. You're aware of the difference in visible light and UV light from the sun (those rays that can cause sunburn or permanent eye damage with too much exposure), so you should already understand that all light isn't equal.

Many people believe that only UV light is damaging to humans, but that's also not true. Visible light has been shown to damage the human eye with long-term exposure, suppress melatonin production, increase insulin and blood sugar levels, and affect cortisol, growth hormone, and testosterone.

Light is made up of particles that travel as waves of energy. Within the visible spectrum of light, each color has a different wavelength (with the red end of the spectrum being longer, and the blue end shorter) that vary in strength (shorter wavelengths like blue are higher strength, while longer wavelengths like red are weaker), and all of the colors are absorbed or dispersed in the environment differently based on their energy levels and wavelengths. This is why the sky is blue during midday; all of the blue rays, with their shorter wavelength, are bouncing around being dispersed through the atmosphere so they are easier to see. At sunset, when the light has to travel farther through the earth's atmosphere due to the angle of the sun, the red and orange light with their longer wavelengths become most visible.

Furthermore, the melatonin that is released in the body to signal sleep at biological night (darkness) is actually created during the day, and that

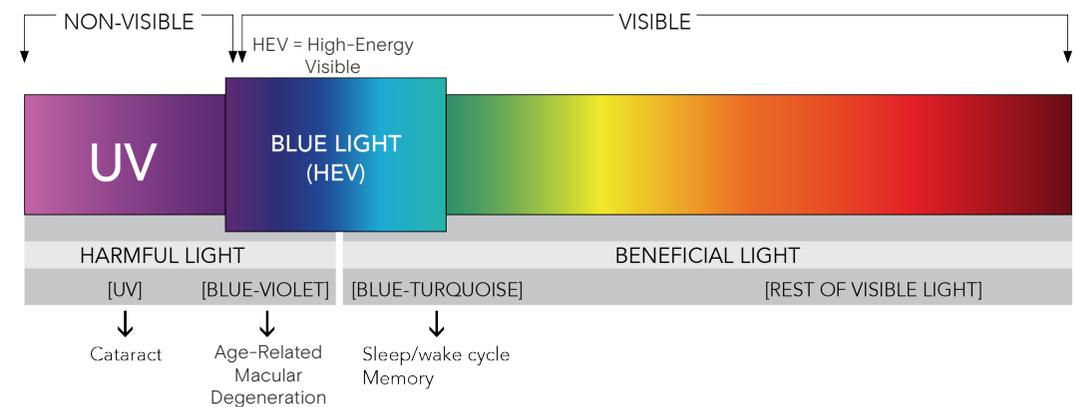
creation process is initiated by exposure to red light in the morning (think, sunrise). When we have overexposure to blue light, not only is melatonin not released appropriately at night to encourage sleep, but it also isn't created in high enough quantities to begin with during the day. While some people have tried melatonin supplementation to help them sleep better, studies have shown that synthetic melatonin is actually carcinogenic in humans.

One more thing to know about blue light: scientists have discovered that daytime overexposure to artificial blue light from screens and fluorescent lights can contribute to eye strain, dry eyes, irritation, and even the development of macular degeneration, which causes permanent eye damage. The reason? These man-made electronic devices have a major energy spike at 455nm wavelength blue light (even when the light doesn't appear blue), unlike the sun, which provides ALL wavelengths of light in high intensities during the daytime. This particular wavelength of light can't be filtered by the human eye, and those rays of light will go directly through the lens of the eye and into the retina, where their high energy can cause damage with long-term exposure. Too much artificial blue light is, in fact, dangerous to humans, to melatonin production, and to your eyes directly.

Misconception #2) All Blue Light is Bad For You – In many circles, blue light has gotten a bad reputation... and with good reason. But not ALL blue light is bad. As humans, we actually need blue light and UV light to function at our highest levels, and have our greatest levels of health. But we need them at the right time, and in the right amount.

Scientists have known for some time now that large doses of visible blue light, or blue-enriched light, can be beneficial for individuals with Seasonal Affective Disorder (SAD), which is a type of seasonal depression. It turns out that your brains and hormones need exposure to daylight (which has a high concentration of blue light) to balance emotions and moods, and to regulate our circadian rhythm, as discussed above.

You may think you need to protect yourself from UV light as well, as it is associated with sunburn and eye damage, but it serves the very important purpose of helping your body create Vitamin D and other hormones. Yes! Your skin synthesizes, activates, and inactivates numerous hormones when exposed to sunlight and UV light. Scientists have shown that individuals with higher levels of Vitamin D have lower risk of disease, and believe that Vitamin D treatments may be helpful in treating or preventing autism, autoimmune disease, cancer, depression, diabetes, cardiovascular disease, and osteoporosis. It is essential for creating strong bones because it helps the body absorb calcium from food.



Misconception #3) I Work At A Computer All The Time, So Eye Strain and Blue Light are Unavoidable – Not true, and we are so happy that is the case! There are several ways that blue light can be reduced, even during daytime usage of digital devices. If it's a computer, tablet, or smartphone that you're working at, a blue-light reducing app is useful (such as those discussed above: f.lux, Iris, Twilight, or Night Shift). If you work indoors under fluorescent lighting, then daytime blue blocking glasses are advised because they specifically target the blue light that comes from these bulbs (that is, 450-455nm wavelength blue light), while allowing all other visible light to remain.

The best option to reduce eye strain and blue light during the day is to get outside in the sun whenever possible. This gives your eyes the blue

light and UV light that they need during the daytime, and helps to keep your circadian rhythm synchronized with the sunrise and sunset.

Misconception #4) If I Purchase Blue Blockers, I Have to Wear Them All the Time – This is actually a bad idea. Here’s why: At best, regularly wearing daylight blue blockers outside in the sun would destabilize your circadian rhythm because the eyes and brain wouldn’t receive those bright blue rays of light that indicate it’s daytime. At worst, it would be detrimental to your health, contributing to disease and mood disorders.

Wearing nighttime glasses during the day would be even worse. With 100% of blue and green light blocked, your outdoor vision would be impaired, and you wouldn’t receive any of the blue light or UV that are needed for optimal health. Blue light blockers aren’t necessary if you are working, walking, or driving outdoors during the daytime.

Misconception #5) I’ve Read Other Articles That Say Blue Light Blockers Aren’t Effective – In order to address this misconception, we would have to be very clear about what kind of blue blockers were tested for these articles, and what effect they were hoping to achieve. Daytime blue blockers (whether clear or yellow) that are used at night to help melatonin release and sleep quality would not be very effective because they still allow wavelengths of light in the visible blue and green families that are melatonin-suppressive to pass through to the eye. Yet several years ago, these were the only glasses readily available to consumers or researchers. It was common for older studies to use glasses that were marketed as blue-light blockers or computer eye-strain reduction glasses, but were designed for daytime use.

Additionally, effectiveness in any study (even if the correct color lenses were used) would greatly depend on how long the glasses were worn, the level of consistency that a subject wore them with, and the amount of blue light exposure whilst wearing them.

Finally, while there are many experts that argue that blue-light blockers aren’t effective at preventing eye strain from computer use, there are many factors that influence eye strain other than blue light: reduced blinking rates, dry indoor environments (due to air conditioning), and long periods in front of a screen without a break are some of these. Just as many of those same experts are saying that blue blockers ARE useful when worn to prevent melatonin-suppression and help sleep effectiveness.

Misconception #6) All Blue Light Blocking Glasses Are The Same

– There are several different kinds of blue blockers on the market now, and each serve a different purpose:



Clear lenses with a blue/UV coating: These glasses tend to be marketed as “computer glasses” or “eye-strain relief” glasses. Quality varies, and most will reduce the blue light emitted from devices by amounts from 0-5%, but do block 100% of UV light. Their additional benefits are to eliminate glare on the computer screen, and some lenses will include a slight magnification to help make the viewed device clearer. But they don’t block all of the visible blue light by any means, and aren’t strong enough to be used after dark or before bed.



Light yellow or yellow-grey lenses with a blue/UV coating: These glasses are also marketed as “computer glasses” or “eye-strain relief” glasses. They typically block 5-10% of visible blue light and 100% of UV light. They also improve contrast and decrease glare from computer and device screens. However, like the clear lenses above, they are not strong enough to create long-term health improvement or mitigate the dangers of blue light exposure.

*Fun Fact: Virtually all bloggers and online reviewers who have “tested” blue blocking lenses and concluded that they don’t relieve eye strain or make computer usage easier have used these two types of lenses.



Yellow lenses with UV coating: Yellow lenses are more powerful than yellow-grey or clear lenses in that they usually block 30-50% of visible blue light and 100% of UV light. They seek to provide more protection to users, but trade off some color distortion in order to protect against the fluorescent lights that are used in many office environments AND the visible blue light of computer screens or devices. They can also include magnification and glare reduction when using computers and devices. Unfortunately, the color distortion that they create is enough to detect with the human eye, and will slightly effect color perception at a computer throughout the day. That said, these are the best option for daytime use.



Amber lenses with UV coating: These dark, orange glasses will usually block 95-99% of visible blue light and 30-50% of green wavelengths, focusing their strongest filtering around 450-455nm wavelength (the most damaging blue light wavelength for the human eye). These glasses do create some color distortion, but the human eye (and brain) will typically adapt to this color change in a few minutes, and then be able to detect almost all of the normal color range (Keep in mind there is a difference between seeing a given color normally versus the ability to detect it).

These are good for full blue-light blocking, and are most useful at night before bed because they help increase melatonin production. However, most manufacturers and companies are selling amber lenses that are actually clear plastic lenses that have been dipped in an amber tinted coating. This means that when the lenses inevitably get scratched, or rubbed through cleaning, they will lose their tint and their effectiveness at blocking blue light. When purchasing amber lenses, look for lenses that are infused or fiber-woven with the tint color, rather than dipped in a tint coating.





5 Mistakes to Avoid when Purchasing Blue-Blocking Glasses

When it's time to purchase blue light blockers, make sure you watch out for these 4 big mistakes - especially if you're investing for the long-term:

Mistake #1) Buying lenses that are coated, rather than infused with pigment - Coated lenses won't last as long, are more prone to scratching, and will eventually rub off, causing image distortion and poor efficacy. Many cheap blue-blockers are coated in this way, and even some of the expensive, prescription manufacturers of blue light blockers are using tint coating as well. Why pay for coated prescription lenses that will just scratch or fade? Make sure to invest in lenses that use infused pigment that won't fail after just a few weeks or months.

Mistake #2) Not ensuring that the lenses have been tested - This is very important if you want a quality lens that will block the wavelengths of light that it advertises, and won't cause visual distortion, headaches, or even migraines during use. Reputable, high-quality, blue light blockers will have been tested by an independent research facility or scientist to ensure that they block the correct wavelength and the correct amount of light in order to protect the eyes. These specifications and test results should be published by the manufacturer and readily available to you.

Mistake #3) Purchasing lenses that do not block enough blue light - This would be like buying sunscreen with SPF 5, when what you actually needed was SPF 50. It will do what it's advertised to do, but it won't be enough to be helpful. Daytime lenses should block about 50% of artificial blue light to be effective indoors and in front of your devices. But some blue light during the day is beneficial, so they should not block 100% like your nighttime glasses - blue light in the daytime keeps us alert by suppressing melatonin. Nighttime lenses should block virtually 100% of visible blue light, and a good portion of green as well, so melatonin is not suppressed. At night, suppression of melatonin disrupts sleep.

Mistake #4) Buying lenses that are poor quality or cheaply made

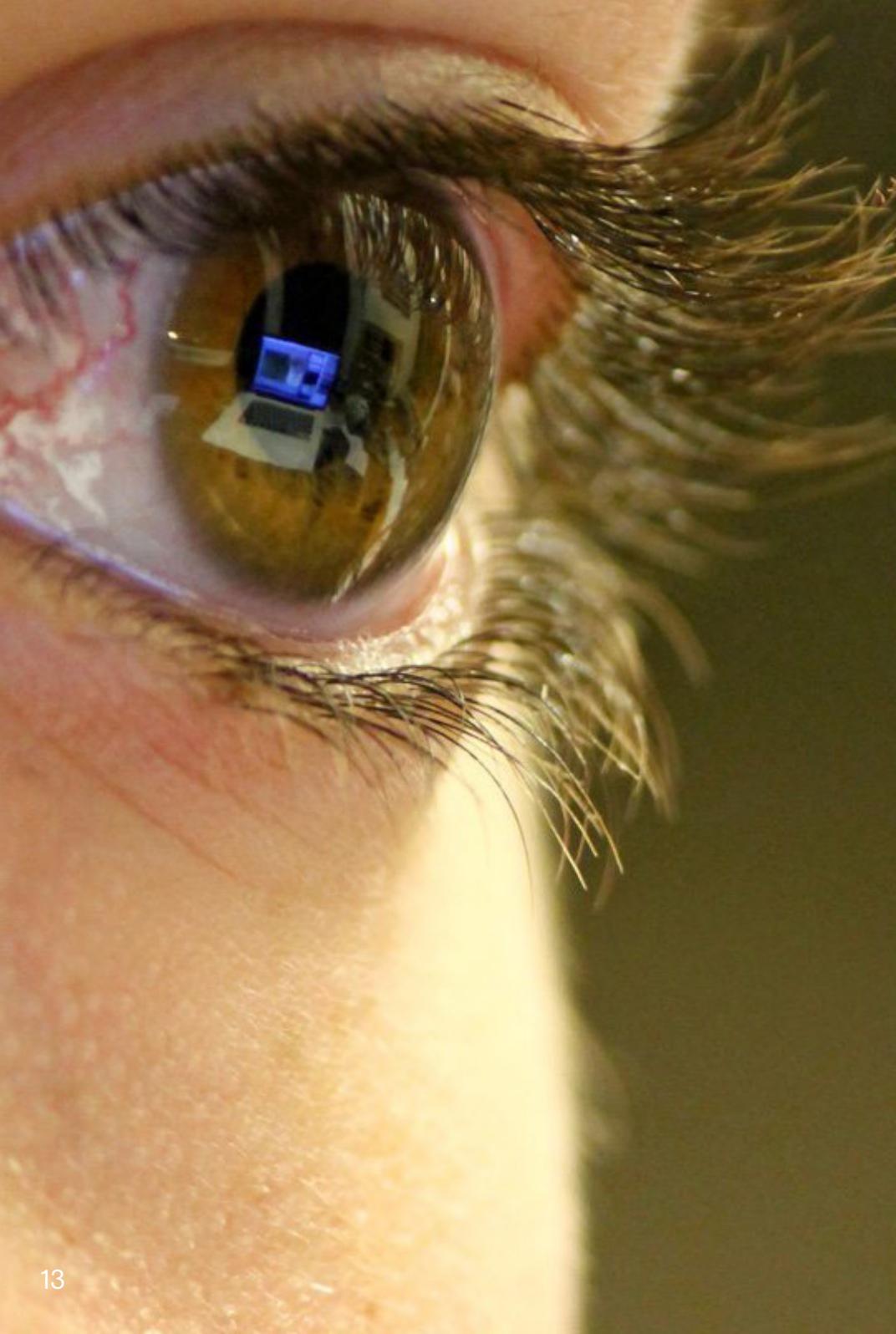
– Materials and durability matter. Lightweight, flexible materials are best, such as cellulose acetate (high-quality plastic). It's also best to avoid buying frames that include conductive metal parts or screws, as these will act as antennae for non-native EMFs (electromagnetic frequencies). Non-EMFs are damaging for mitochondrial function, similar to blue light.

However, if you are just buying blue blocking glasses for the first time, you may want to spend less money on two or three different color lenses and styles of glasses in order to learn what you prefer. Then invest in a high-quality pair or two for everyone in your family for the long-term.

Mistake #5) Buying lenses that don't fit you or your family

comfortably – Comfort also matters. You won't wear clothing that doesn't fit you, nor shoes, so why would you ever wear glasses that don't fit? If you have children, you know the struggle to find well-fitting clothing and accessories is real for them too. As humans, we prefer to be comfortable so that we can engage in healthy behaviors without being annoyed by them every moment of the day. Make sure you test the glasses before you decide to keep them and ensure their comfort. Otherwise, you're far less likely to wear them each day and night.





The 4 Biggest Fears that Prevent Most People from Getting Blue-Blocking Glasses (and How to Overcome Them)

Even when you know something is good for you, it isn't always easy to take action and change your behavior or make a good purchase. Here are the best ways to overcome the most common fears that people have around improving their health:

Fear #1) I'm Wasting My Money – A good friend and mentor once said, “There are things that are valuable, and there are things that are expensive, but there are NEVER things that are both.” You could buy a new cutting-edge electronic gizmo for thousands of dollars, but never use it, and it would become an expensive paperweight or room decoration in your home. Or you could spend thousands of dollars on a once-in-a-lifetime family vacation that creates memories that last a lifetime, and you wouldn't think twice about spending that money... because it was valuable for you and your family.

Taking action to protect yourself or your family from these dangerous wavelengths is one of the most valuable things you will ever invest in.

Fear #2) They Won't Help Anyway Because I Spend So Much Time At a Computer – We addressed this in two of the misconceptions above, but let's put the pieces together. Computers, televisions, and handheld devices (as well as most modern indoor lights) create artificial blue light that is harmful to the human body and brain. During the day, overexposure to artificial blue light from screens and fluorescent lights can cause eye strain, dry eyes, irritation, headaches, migraines and contribute to macular degeneration. At night, exposure to blue light can suppress melatonin release and cause a phase-shift in the circadian rhythm making it harder to sleep, reducing sleep quality, and leading to many kinds of chronic lifestyle diseases. These health issues build over time, but are also immediately observable in people who have even one night of blue light exposure, or one day of extended exposure to artificial blue light.

If you have a gamer in your family, you know that those sessions can sometimes last ALL DAY. More and more gamers are wearing blue blockers because they find that the lenses improve their gaming performance, and allow them to play longer with higher accuracy and less fatigue. If you are a parent, this means less worry about their screen-time and better health and sleep for your children.

Wearing your blue blocking glasses while indoors and in front of your device screen will help reduce eye strain, headaches, and lower your risk for long-term eye damage from artificial blue light. Wearing them at night will help you sleep, help your body recover and repair, increase your sleep quality, and reduce your chances of developing chronic lifestyle disease that is associated with sleep loss.

Fear #3) I'll Have To Change Everything About My Lifestyle to Avoid Blue Light – If you were going to totally avoid all artificial blue light, you would have to go live in a cave... or at the very least, a cabin in the woods (not a realistic lifestyle change for most people). Fortunately, you have the power and the ability to reduce most of the over-exposure and risk of artificial blue light without actually giving up your devices or your modern lifestyle.

Blue blocking glasses can help you take control of your lighting environment and work with your modern lifestyle. Most of the glasses on the market are lightweight, durable, made with high-quality materials and precision manufacture, and are fashionable and well fitting. There's nothing preventing you from making a small change to your device-usage habits that will create a HUGE change in your health.

Fear #4) I Don't Want to Be Associated with Fringe or Trendy Pseudoscience – The scientific evidence that artificial blue light causes harm to humans is no longer fringe, or arguable. Some scientists are still debating the best way to address the problems that blue light cause, but there is a great consensus that artificial blue light does cause these issues. This is no longer the tin-foil hat of yesteryear (aluminium-foil hat, for our Aussie friends).

Keep in mind, though, that it is always the leading edge of scientists and early-adopters that appear to be fringe, trendy, or sometimes even fanatical about their ideas. Take an example from the past: the automobile safety belt. In case you didn't realize, the seat belt wasn't invented along with the first automobiles. Cars and trucks were used for decades before someone had the idea that a safety device may be needed to protect the humans using the machine. In their infancy, cars didn't go as fast as the modern racecar or muscle car, so belts weren't an obvious necessity. But as more speed became possible and as automobiles became more widely used, the number of accidents increased, and safety became a major concern. And still, it wasn't a quick and easy adoption by the entire auto industry.

Our devices, technology, and lighting solutions have evolved and have raced ahead of our ability to judge our own safety while using them. At first, with little exposure and short-term usage, safety devices weren't deemed necessary. But now that our entire lives often revolve around technology and the devices we use, it has become far more apparent that safety is a major concern. Just like the car, our devices allow us to communicate, work, and live faster than ever. Blue blocking glasses are the safety belt for those devices, preventing harm and reducing the risk of long-term disease.

The 4 Steps To Choose the Best Blue Light Blockers for You and Your Family

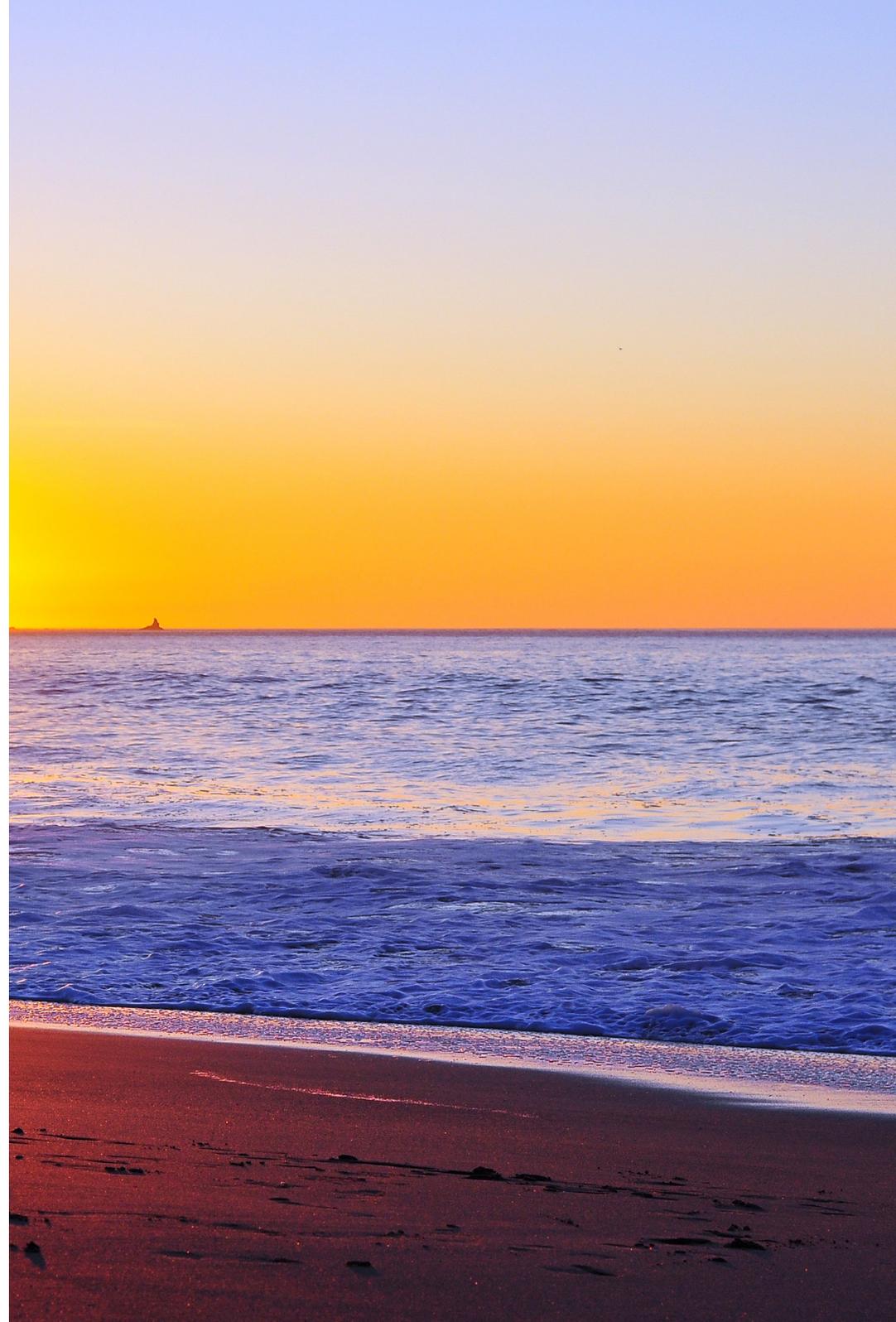
Step #1) Look for lenses that are of the highest quality materials, and made with infused pigments, not just coated lenses – Ensure that your investment is long-lasting and durable, so you and your family will be protected and benefiting from blue light blocking for years to come.

Step #2) Make sure the manufacturer has tested the performance of their lenses – No skimping on quality or construction of lenses that will chip, scratch, or rub away with use.

Step #3) Choose lenses for daytime that block over 50% of blue light, and nighttime lenses that block 100% of blue and green visible light – Specifically, you should be concerned with the 455nm wavelength, high-energy visible light. Remember, this type of artificial blue light may not appear blue, but the large energy spike that occurs at this frequency when using devices or fluorescent and LED lighting is damaging for the human eye and cannot be filtered by the eye itself.

For nighttime lenses, full 100% blue and green blocking is recommended because both colors of light (which includes the entire visible light spectrum up to 550nm) have been shown to suppress melatonin production and release.

Step #4) Choose lenses that are comfortable, flexible, and lightweight so they are easy to wear – If they don't fit, you and your family just won't wear them. So make sure you are getting glasses that will be the best fit and the lightest weight because they are constructed with the highest quality materials and techniques.



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Presented by: Kathy Mauck & Matt Bush, KJM Consulting, LLC

The Short Version:

- Blue light blocking glasses are NECESSARY for reducing unhealthy exposure to artificial blue light, green light, and UV light.
- Blue and green light (440-550nm wavelengths) signals to our brain & body's circadian rhythm that it is daytime, which keeps us awake at night by suppressing melatonin production.
- Even during the daytime, energy from the artificial light of device screens and indoor lighting can cause bodily damage to human cells and mitochondria, and inhibit the circadian rhythm from working properly.
- Poor melatonin production, circadian disruption, and low sleep quality at night are associated with multiple lifestyle diseases and risk factors (cardiovascular disease, stroke, diabetes, obesity, cancer, autoimmune conditions, neurodegenerative diseases, alzheimers, etc.).
- Clear lenses with a blue light blocking "coating" are NOT enough to protect you from blue light, nor are "computer glasses" that are light-yellow/greyish in color. They primarily focus on UV light and a single frequency of blue light at ~450nm wavelength.
- Yellow lenses are needed for daytime work (in front of a screen and/or under fluorescent, LED, or CFL lighting) as they block 50% of harmful blue light exposure.
- Amber or orange lenses are needed for after dark (at least 2 hours before bed) to block virtually 100% of blue and green light. These darker lenses also protect melatonin producing mechanisms and reduce risk of long-term disease and health deficits associated with poor sleep and circadian disruption.

Recommendations for Blue Blocking Glasses:

- Lower-Cost options to test colors & styles of glasses:

Available at Amazon

Daytime Yellow: <https://www.amazon.com/dp/B0785JHP8T>

Nighttime Amber: <https://www.amazon.com/dp/B01GSFTX08>

Non-Amazon Vendor to Consider

EyeKeeper: <https://www.eyekeeper.com/>

- Options for long-term use & investment in your health:

Available at Amazon

TrueDark DayWalkers: <https://www.amazon.com/dp/B07262NGHN>

TrueDark Twilight: <https://www.amazon.com/dp/B07PVZ9BM6>

Non-Amazon Vendors to Consider

Swanwick, SafetyBlue, BluBlox, EMR-Tek, LowBlueLights, Ra Optics, MitoHQ (AU Only)

