



### Top Takeaways: #277 The Dark Side of Blue Light with Andy Mant

1. After not getting the health results he wanted using diet, Andy Mant began research how light affects the body.
2. Blue light is a very high-energy short wavelength light that can be quite damaging to our bodies, eyes, and skin.
3. Blue light releases cortisol, which causes many people to have a tougher time switching off after sunset if they look at a cell phone, computer, or TV screen.
4. Blue light also suppresses melatonin, which is why Andy and his team at BLUblox created Sleep+ glasses that block 100% of blue light.
5. Melatonin is essential for REM sleep and deep sleep, so if no blue light protection is used you may not experience full sleep cycles, which can lead to many health issues.
6. Fixing your light environment and light schedule can be better than dieting.
7. A few seconds of blue light exposure during your sleep can raise insulin resistance by 60%
8. In nature blue light is balanced by red light, but without that balance blue light can begin to affect mitochondrial health, reducing your overall energy.
9. Andy and his team at BLUblox, through extensive research, designed their blue blocking glasses to be as optimal as possible.
10. The Australian Nation Soccer Team used BLUblox glasses to reduce jet lag very effectively, overcoming jet lag in just 24 hours.
11. Along with the red tinted Sleep+ glasses that block 100% of blue light, BLUblox also sells yellow tinted glasses to overcome low mood, anxiety, and depression.
12. For work needing non-tinted vision, BLUblox also sells clear glasses that filter 30% of blue light across the spectrum.
13. You can learn more about BLUblox glasses and purchase a pair at [BLUblox.com](https://www.blublox.com)

#### Wendy Myers:

Hello everyone. My name is Wendy Myers of The Meyers DetoxPodcast. You can find me at [myersdetox.com](https://www.myersdetox.com) and learn all about, and what this podcast is about also. All about heavy metal detoxification and optimizing detoxification and the best diet for detoxification. The best protocols for detoxification. One of the key aspects of improving detox is getting your sleep down. Sleeping, getting

restful sleep. Part of the key to that is Blue Blocking glasses, like I'm wearing right now, if you're watching the video.

Wendy Myers: So that is so key, because if you are staring at computers, staring at your phone, turning on your bathroom light, if you wake up in the middle of the night to go to the bathroom. Or looking at your phone if you wake up, or watching television before you go to bed at night. You are suppressing melatonin production and therefore impacting your ability to sleep or impeding your ability to get really, truly restorative deep sleep.

Wendy Myers: And so this is a very important podcast where we're talking about the difference in quality of different brands of blue blocking glasses out there. Because a lot of them are not really doing what they claim. And also giving you an education about the importance of timing your light exposure. What kind of light you need to be exposed to and when, and giving you a lot of different tips in that regard. Because it's not as simple as just putting on a pair of blue blocking glasses when the sun goes down. There's more to it that we're going to explore today in the show.

Wendy Myers: So many of you listening to this podcast are interested in detoxification and heavy metals or how these are impacting your health. Well if you have not been tested for heavy metals yet and you want to find out if you may have heavy metal exposure or heavy metal in your body. I have designed a quiz that's going to assess your exposure, lifestyle habits and whatnot and find out what your potential levels of heavy metals are in your body. Go to [metalsquiz.com](https://metalsquiz.com), take the two minute quiz so you can find out if you've been exposed and what you can do about it.

Wendy Myers: Our guest today is Andy Mant. He is the founder and CEO of [BLUblox.com](https://BLUblox.com) and Andy has a broad scientific background and is utilizing light to promote and improve health and wellness. In 2016, Andy founded [blublox.com](https://blublox.com) an evidence based blue light blocking technology for managing light at specific times of the day. BLUblox is now the market leader in advanced light filtering eyewear. You can learn more about him and his glasses at [blublox.com](https://blublox.com).

Wendy Myers: Andy, thank you so much for coming on the show.

Andy Mant: Thanks for having me, Wendy. It's an absolute pleasure.

Wendy Myers: So why don't you tell us a little bit about yourself and how you got into the health industry?

Andy Mant: Yeah, absolutely. That's a great question. I started on my health and fitness journey probably about six years ago actually. And I went into this sort of ketogenic diet, sort of route and lost a lot of weight. I was 30 pounds over weight and had some great results with that, but I found that the diet alone wasn't enough, in terms of my own wellness. So I stumbled across a few

academic papers that talked about light and light's effect on the human biological system.

Andy Mant:

So I started to delve a little bit deeper into that, found a few doctors within that sphere that I could talk to and understand it a little bit more. And then, once you go down that rabbit hole as I'm sure you'll be aware and a lot of your guests have been on, it gets more and more interesting the further down you go. The more you find out, the more you actually realize that light is a really important factor in overall health and wellness.

Andy Mant:

So I moved to Australia like eight years ago, and I'm moved, and this is all subconscious, I moved because of the weather in the U.K. as you can tell from my accent. It rains all the time, it's cloudy, you never really get much sun, and I just felt down all the time, and I anecdotally thought going somewhere where it's nice and warm, I will feel happy and better. I sort of attributed that to when I used to go on holiday to Spain and Greece when I was living in the U.K.

Andy Mant:

I used to feel brilliant for that week that I was outside. That's really what sort of helped me when I moved over to Australia, getting more sunlight and managing light and ultimately reading these papers, which led me into looking more into artificial light as well. So that's probably a very brief synopsis of where I find myself today.

Wendy Myers:

Yes, and so you created the BLUbox glasses. They are meant to block out blue light. I'm wearing them right now. I love them, because I've seen a lot of these types of glasses, but you have such a large array of really stylish ones. A lot of them are really kind of cheap garbage and they're not made very well, but these are really, really nice. They look really cool too.

Wendy Myers:

You have lots of other styles besides just these aviator styles and you have different kinds too. So we'll get into those in a second, but first, let's talk about what this style of the glasses do, with the orange lens. So they block blue light. What are some of the dangers of blue light and why do we want to block that out?

Andy Mant:

Great question. Yeah, I'll start with what blue light is. So basically, light comes in all different colors as we know. When you see a rainbow, that's the spectrum of light, as invisible and visible, but we'll just focus on the visible spectrum for this show otherwise we'll be talking for hours.

Andy Mant:

So blue light is the lower part of the spectrum, and the spectrum runs in nanometers. So from the visible spectrum runs from 380 to 800 nanometers and blue light is found between 400 and 495 nanometers. So it's at the lower end of the spectrum, which means it's a very high energy, short wavelength light. So it's basically quite damaging to the eyes, the skin, and the body, and the cells within us. And this doesn't matter if it's from natural lights or from artificial light, blue light still damages your eyes and skin.

Andy Mant:

Now in nature, just as a quick sort of Segway, red light is very well entrenched within the spectrum, and the red light actually has been shown in the literature to repair any damage that blue light does. Now, the problem we find ourselves in today, is we're living under artificial sun. So LED lights, the computer we're using now to Skype, maybe our smartphones, tablets, TV's, things like that. When I say that I like artificial sun, it's because they don't omit the full spectrum of light, so it's not a balanced spectrum. Okay?

Andy Mant:

So there's a very high amount of blue light within all of our digital devices and LED lights and there's very little red light. So whether it's during the day or whether it's at night, that light is actually very high in blue. So it's damaging your eyes and there's no red to repair it. So people are getting macular degeneration during the day, or they're getting those dry eyes. They're getting a lot of microconidia damage, because you're really effecting the DHA that's found in the eye, and the DC electric current from sunlight isn't charging enough. So you're not going to be your optimal self, you're not going to perform as well.

Andy Mant:

Now the second side of blue light as well is that, in the morning when the sun rises, there's a good amount of blue light within the sun. So what that does, is that makes us feel alert, it tells our body clock that it's daytime, and it releases cortisol, starts producing dopamine, other hormones that make us tell our body basically, it's morning, you need to be active, you're a diurnal creature. Get outside and go about your day.

Andy Mant:

Now when we expose ourselves to artificial light after the sun sets, that is sending the same message to the brain. Keep cortisol levels high, it's the daytime, you don't need to go to sleep. So a lot of people find that when they're exposed to blue light after sunset, from any sort of digital device, TV, lights, et cetera, that it's harder to switch off. We're in a day and age now where there is so much chronic sleep problems. I think it's, you know, there's 22 million Australians here, and I think it's something like eight to nine million of them have like really, really bad sleep problems.

Andy Mant:

So when you look through the literature about what suppresses melatonin, and melatonin is the sleep hormone, it's says that it's blue light okay. So when you actually look through the literature even further, it gives you the specific frequency. They tested all the different frequencies and specifically between 400, which is the start of the blue spectrum as we mentioned, all the way up to actually 550 nanometers, which is half of the green spectrum, actually suppresses that melatonin.

Andy Mant:

So what we found was that when we tested all the other brands of blue light blocker glasses in our lab with a spectrograph,. They were only actually blocking up to about 500 nanometers, which wasn't all the way up to 550, and it wasn't even 100% within that banding as well. So we wanted to create BLUblox Sleep Plus Lens, which is what you're wearing now. To block 100% of all the academic studies said, which was from 400 to 550 nanometers. So blue and green light.

Andy Mant:

So not only did we make stylish frames, as you're wearing now, and we have quite a lot of choice. We wanted to make the lens the most optimal, and we wanted it to be backed by science as well. What we found was a lot of these companies out there that are selling \$20 to \$50 blue light blocking glasses, they just get them from China. And it's just this orange tint on your lens with no sort of quality control, which just ... We even bought four or five pairs from the same brand, tested them, and they all blocked different amounts. So there's no consistency in the product.

Andy Mant:

When we created BLUblox, we wanted that science behind us. We wanted to give everyone the most optimal solution, because on a scale of zero to optimal, there's no in between. We want to be our best selves, and we want to have the best products to be able to mitigate these effects. So by wearing the glasses you're wearing, after sunset, you'll start to produce melatonin naturally. Your cortisol will actually switch off the production. So you're not going to feel really alert and awake and stressed. You'll feel very calm, very relaxed, and you'll actually going to have better sleep.

Andy Mant:

A lot of stress and anxiety and depression in our populations today. And a lot of it can be attributed to light. Because if you think about it, cortisol shouldn't be feared when it's released at the right times of the day. So in the morning for instance and at various points during the day, but we live in a world where there's always light. And when there's always light, there's always cortisol. So you can see there where I'm going with this. You know, when there's constant cortisol being produced, you're going to have like major, major stress, major anxiety issues. And you can see that today in even teenagers like getting anxiety and depression. It's really sad to see, and it all comes back to light.

Wendy Myers:

Yeah, because they're just glued to their phone. They are ... Even my daughter, she likes to watch the iPad or look at her phone and watch videos. There's a massive addiction of that dopamine hit people get from their iPads and phones. And then that blue light that they're omitting is dramatically affecting their sleep.

Wendy Myers:

So let's talk about sleep and exactly how the blue light impacts people's ability to sleep. So it suppresses melatonin production and melatonin is released throughout ... It starts in the afternoon, released slowly and then increases towards into the evening. So let's talk a little bit about that and why we need to be blocking blue light for that reason?

Andy Mant:

Yeah absolutely. So the way it all sort of starts is actually when you ... And I'm always a firm believer in watching the sun rise every morning and whether there're clouds or not, I'll be outside in the morning. The reason that I'm outside in the morning is because, you can start producing a neurotransmitter called serotonin. Serotonin is the precursor to the production of melatonin in the pineal glands. So by getting outside in that morning, even if it's ranging from two minutes to three hours, like it doesn't matter. Just get out there, look at the

sun, not directly at it, just to an angle of the sun. Or just being outside, you're going start raising that serotonin, which is what you need to produce melatonin.

Andy Mant:

Melatonin can actually only be produced optimally in the actual blue and green lights okay? So hence, when the sun goes down. And again, I'm always a firm believer in watching the sun set as well, because I believe that the light signals at that specific time of the day as well. Is that signal to the brain to actually, Oh, this ... You know, the body clock, this is the time that the sun is setting. This is the time now to start releasing, secreting melatonin from you pineal gland.

Andy Mant:

Now ancestrally speaking what would have happened was, we would have been outside all day, we would have seen the sun rise, we would have had the serotonin. We would have gotten to sunset, we would have seen that sunset, and then we would have been in maybe the presence of a campfire, which is red and orange light. It doesn't suppress melatonin to the same degree as blue and green light.

Andy Mant:

But what we do now is, we might see that sunrise, you might see that sunset. But then we're going to go in and switch lights on in our house or start watching TV or scroll through our smartphone. And that blue light is actually saying ... It's scrambling the brain. It's basically saying, well I've seen the signal to say stop producing melatonin, but I can't produce melatonin because now it's the morning again.

Andy Mant:

So you kind of skip back that process of actually optimally producing melatonin. There was a good study out by a guy called Phelps in 2001, and he coined the term physiological darkness. So you don't have to be sat in complete darkness to secrete melatonin. You just need to block the blue and the green light that is really suppressing that melatonin. So if you're having high frequency, high energy, low spectrum blue lights and green lights penetrating your eyes and your skin after dark. You're going to have a hard time optimally producing melatonin and melatonin is needed to actually have proper three stage sleep from your lights deep sleep and REM sleep.

Andy Mant:

So without actually blocking that light, you're not going to have full sleep cycles, you're not going to have the autophagy and apoptosis you need to grow and repair those cells. And you're going to have mitochondrial disease as you age as well.

Wendy Myers:

Yeah, I mean that's why even fixing your light environment really can be more important before even addressing diet.

Andy Mant:

Yeah. 100% yeah. I completely agree, and you know there was some interesting studies that have come out recently as well. That showed that even a few seconds of blue light exposure whilst you sleep is enough to raise instance resistance by 60% or 70% I believe. So that would that impair the body's ability

to handle glucose if we're eating some carbohydrate, which I'm completely not against if it's seasonal.

Andy Mant:

So you know, this all comes back to people might choose a specific diet and it might work for some and it might not work for others. You know, you've got to look at the light environment that people are actually feeding in as well. For instance, we have a master clock okay, which governs the main time systems within the body. But you also have somethings called peripheral oscillators so more like sort of side body clocks. And they're found in every cell in the body and they're not all entrained and synced with the master clock. So a lot of people think that the master clock is synced correctly, it will entrain all your other clocks and that's an incorrect assumption.

Andy Mant:

So there's other sort of [inaudible 00:16:49] that are out there and environmental cues that actually entrain your specific organ and skeletal muscle clock. So for instance, skeletal muscle clock is entrained through exercise timing. The liver clock, it's well documented, is entrained by meal timing. So it's not about what you eat, it's about when you eat a lot of the time as well.

Andy Mant:

The theory we talk about in our community is that if you're entraining your master clock at sunrise, which is when your body's clock starts ticking and gets you to the point where you're going to sleep in the evening. You want to be entraining your exercise, your skeletal muscle clocks, having your exercise in the morning. You want to be entraining your liver clock to sync with the master clock as well, so that's eating your largest meal first thing in the day as well.

Andy Mant:

And there's a lot of studies out there as well, that show that eating under artificial light actually impaired the body's pancreatic system as well with insulin release. So typically, society has developed to have their largest meal after dark, in the evening for dinner. You know, it's a family time. It's great to sit around the table and eat. But there are studies coming out now that have shown that, that actually could be fattening, depending on what you're eating and depending on the time of the day and the lights you're actually eating under as well.

Andy Mant:

So it's not as simple as saying, I'm going to follow this type of diet and I'm just going to eat whenever I want. This is where it is kind of like I kind of want to grab the intimate fasting community and say, "You guys are so close to getting this right. Like you do your 16 and eight diet and brilliant you've got it right. You've got your autophagy you understand that you shouldn't be eating all the time, but they typically like don't eat in the morning. They start eating at 3:00 to 8:00 at night. So just flip that round and you are optimal.

Wendy Myers:

Yes. Yes, yes, yes. Yeah, that's a good tip, that's a very good tip. I love that you're talking about liver function as well on that also. That you want to eat your biggest meal in the morning to optimize liver function is so important for detoxification. So back to blue light, so blue light is really interesting. I do a bioenergetics scan with clients, that will actually show if people have sensitively to blue light because people have varying sensitivities to blue light.

Wendy Myers:

Of course, we all should be taking steps to reduce exposure to blue light and protect ourselves with these physiological blockers. But some people are more impacted by it than other people and we can see this in this biofeedback scan that we do here at Myers Detox. My blue light constantly comes up in my scans. I'm very, very sensitive to it. That's why I love these glasses so much. I've had other brands, people send me stuff and I just didn't really like them as much as I like these. These are, like I said, so stylish. I think they do a much better job than most of the brands out there. Why don't we talk a little bit about, not only how our eyes are impacted by blue light, but also how skin is impacted by light as well.

Andy Mant:

Absolutely. That's a great question and it's one that's come to the forefront quite recently in the light community. You know, a lot of people feel that or used to think that wearing blue light blocking glasses was probably the only thing you needed to do to help out mitigate the effects of blue light. I was digging around in the literature. There was a study many years ago actually, that they took two groups of people. I'm really over simplifying this by the way. They took two groups of people. One controlled that slept in a room of complete darkness and they also had another group that slept in a room of complete darkness. But the second group, they would shine a blue light on the back of their knee at a point when they should be starting to secrete the maximum amount of melatonin.

Andy Mant:

And what they found was, that when they shown the light on the back of the knee, it actually disrupted the secretion of melatonin during the sleep cycle. So you know, that sort of sets the ... Something called melanopsin is present in the skin. Melanopsin is like a photo transmitter that basically takes light in the blue range and actually relays messages to the rest of the body. Again, I'm really simplifying this for people. Melanopsin was originally only thought to be in the eyes, and it seems to be at its highest quantity in the eyes anyway. So it takes in the light, it translates the ... You know, it's just like any other opsin in the eye. You know, the rod opsin and a few others, but the melanopsin actually is sensitive in the blue range.

Andy Mant:

In December 2017, a really cool study was released that actually proves that melanopsin was present in the brain and also in the fat cells. So we actually haven't specifically seen any studies to date, that actually really confirms that melanopsin is present in the skin But looking at the evidence that we've seen in some of the studies, we can make a very sort of you know, 90%, 95% assumption that it is. So what that means is that even if you shield your eyes from blue light after dark, but you have a lot of your skin exposed, you're still going to somewhat disrupt the secretion of melatonin.

Andy Mant:

A lot of people in the community as well are also suggesting that a lot of diseases that we're seeing now, that are mitochondrial in origin, can actually stem back to something call melanopsin dysfunction. So that is basically the impaired translation system of blue light into the body. I guess, to put it in a sort of really simple analogy type situation. Like the carbohydrate hypothesis of



insulin resistance, is that we eat a lot of carbohydrates, continually eat more, the insulin is produced by the pancreas. There's a lot more insulin produced, the more sugar and refined carbs we eat, until it gets to a point where we can't the blood out of the ... Sorry the sugar out of the blood and into the cells and then you become insulin resistant. It doesn't matter if you produce a lot, a lot, a lot of insulin, but you can't deal with the blood sugar.

Andy Mant:

The similar is true for melanopsin, because we have the blue light in nature, but balanced but the red light. That doesn't cause a problem because any damage we cause, we're actually out in the sun, we're getting the red lights and it's actually not damaging that system. But when we're actually under blue light constantly. It's just literally overloading that opsin system and actually damaging it. So when it becomes impaired, we're no longer able to signal the correct messages from light to our body. So that's not getting to the cells, it's damaging the mitochondria and it's causing a lot of problems for us. Not just melatonin and sleep-wise, but also from a mitochondrial health perspective as well.

Wendy Myers:

Yes. It's so important because we talk a lot here about mitochondrial health and toxic metals that impair mitochondrial functioning. But mitochondrial also worked with bio photons. They take the light from the sun and convert it into energy. So really important to optimize that light conversion to energy and the BLUblox can help do that. So why is BLUblox technology the most advanced, like compared to other blue blocking glasses?

Andy Mant:

Yeah, another great question, because our glasses are at a premium range, and they are somewhat more expensive than some of the other ones. You know, what led us to create BLUblox was we tested literally all the leading brands out there. I'm not going to mention them on here, because it's not fair, but I actually documented it on a blog on our website. Where I took all the leading brands of glasses, and our lab tested them with a spectrometer, and we compared it against the claims they were making basically on their websites.

Andy Mant:

There was only one of them that actually did what they said that they were going ... Excuse me, that they were going to do. And even that wasn't in line with the literature. So as we alluded to earlier, if you're not blocking ... It doesn't matter if you're blocking 98%, it's got to be 100% blockage within 400 to 550 nanometers. Anymore than that, then you are literally not going to see anything. It's going to be ... You might as well just switch the lights off. Any less than that.

Wendy Myers:

Yeah, I was going to say that, because actually a friend of mine sent me a pair of green and blue blocking glasses from Amazon. I put them on, it's like, Yeah, I'm so excited. Yeah, I'm going to block everything. I put them on, I couldn't see anything. So like this is, yeah, it's working. They're blocking, but I can't see anything.

Andy Mant:

That's it and sometimes more isn't always better, Wendy. We wanted to create something that was evidence based okay? There's no evidence that suggests

that anything post 550 nanometers, the rest of the last 20% of the green. So the last 20 nanometers of the green spectrum is going to have any real impact on melatonin. So you know, it's finding that optimal balance. So people can actually ... There's a lot of people out there that say like ... Well actually, there's not a lot, there's a few out there that say like, "No, I want complete darkness. I want this." And it's like, well okay. Go and live in a field in the middle of nowhere and disconnect from society.

Andy Mant:

But ultimately, we all are in a society, technology is great. I love TV, I watch my shows. I love the fact that we can speak over Skype. I'm not dissing that at all, but we've got find a way to hack that environment. And that's what we're into. We're into hacking so we're not going to switch off. We're not going to take out our LED lights sometimes. We're just going to find hacks to actually live in the modern world, but live healthily in that modern world. Or as healthy as we can.

Andy Mant:

What annoys me is with a lot of these other brands, it's like we were saying, they get their technology from China or it's just literally a random coat of orange tint on your glasses. And there's been no real in depth knowledge of what light and what frequencies of light actually do the damage. What a lot of people like about BLUblox is the fact that myself and my team spend all our time researching this stuff. We aren't just going, "Oh yeah, there's a trend. Everyone wants to get on blue light blocking glasses. Let's just get them cheap as possible, sell them for as much as we can and make a lot of money." We want to create a product that is going to be the most optimal product and that's what we've done with these red lenses.

Andy Mant:

You cannot get anything near them and just the fact that we've had the Australian National Football Team wear them. The captain of Liverpool Football Club wears our glasses, UFC fighters, wrestlers. People that are at the top of their athletic game are wearing our glasses, and we haven't approached them, they've approached us. So we want to make sure that it's not just going to be for these athletes to wear them. Everyone deserves to optimal, whether it's someone that does a little bit of exercise and sits on their couch watching telly in the evening. They can still be optimal with your light environment by wearing the most optimal product, which is BLUblox.

Wendy Myers:

Yeah, and so the BLUblox like you said, they assisted the Australian National Soccer Team in qualifying for the World Cup by helping them to beat jet lag. So how did the BLUblox glasses do this?

Andy Mant:

Yeah, that's a really good question as well. We were approached by their chief sports scientist. A guy called Nick Jones, back in 2017. Round about sort of October time. It was funny, because we've only just launched a few months before and they got wind of this technology and they were like, "Well, we have actually been drawn against a country called Honduras, who are located in Central America." So similar to where you guys are at now. So near Mexico. Being from Australia, they actually it was the longest journey that any football team had to make to actually have a qualifying game. They were really worried

about the impact of flying for literally two days, landing in Honduras, and then realigning their body clocks, the player's body clocks, to actually perform.

Andy Mant:

Nick said to me, he goes, "Look, we understand this stuff. Can you write a paper for us that will basically show us how to mitigate jet lag and optimize recovery?" So we looked into the literature and we saw that literally any kind of sleep deprivation or dysfunctional body clock reduced athletic performance in elite athletes by I think by between 10% and 13% the next day. Whether it be marathon runners or sprinters. I think it was a combination of the two. They run 15 to 18 kilometers again, but they also have short sprinting speeds as well.

Andy Mant:

So the first part of the equation was managing the jet lag. Now they were flying towards the East and not the West, so that's a massive problem when it comes to jet lag. So what they had to do was they had to stay awake for the first leg of that flight. Okay? So they had to cut all the blue lights on, the cabin lights, everything, stay awake. If they wanted a coffee, have a coffee, just stay awake, do not sleep. They flew to Hawaii, Honolulu. So they stayed awake for that leg of the journey. And the second leg of the journey, they needed to actually block blue and green light and then go to sleep.

Andy Mant:

So we prescribed our glasses, the ones that you're wearing now, to the 23 squad players. They put their glasses on as soon as they landed in Honolulu. Within two to three hours, they were shattered and they needed to go to sleep. So the cabin actually turned off all the lights for them so they had pretty much complete darkness. They had sleep masks on and then they woke up in Honduras and then they played their game. They actually got a nillnilldraw, which is really good because Honduras is a good team, Australia, not so good.

Andy Mant:

And then on the way back, because three days later, they had to play the second game in Sydney. So they flew back West, they did the opposite, they wore the blue blockers until Honolulu, then they stayed awake back to Sydney. But then they utilized the BLUblox Red Sleep Plus Lenses for the two days they were back, in the evenings to entrain their body clocks again.

Andy Mant:

We also said to the sports' scientist, "They need to get out and they need to train with the sunrise." So they were up training with the sunrise, they were wearing our glasses in the evening. And it only actually took them 24 hours to actually feel fresh and optimal again. It was bizarre and they went onto win one there in Sydney and qualify for the World Cup.

Andy Mant:

So it was a really good story that we like to share. That all that travel and they still managed not to even concede a goal and they overcame jet lag within 24 hours. It's something I use as well. It's a similar form as to what I do. As soon as I get off my flight, if I'm going to Europe or somewhere. I like to immerse in cold water, I like to ground to the earth and also utilize my blue blockers as well to re-entrain my body clock to that destination, I guess region.

Wendy Myers:

Yeah, that's amazing because I actually spent ... Many years ago, I spent about three months in Australia and coming back to the United States, it took me three weeks to adjust my sleeping clock back. So I can attest that that is not an easy thing to do, and I suffered from jet lag for quite sometime. So two days is phenomenal or just like that 24 hours to 48 hours. That's phenomenal.

Andy Mant:

It is, it is. And you know, we've actually blogged about it as well, on our website. So depending on what direction you're traveling and how many timezones you're going through, there're different hacks. What I found was from reading all the jet lag related blogs, they just said, "Oh, this is the one fix-all for jet lag." A bit like people do for blue blocking glasses, this is the one size fits all. And it's never the case.

Andy Mant:

So we took the science and the theory and we actually broke it down into, well, if you're going East, if you're going West. What time of the day you're traveling, what timezones you're going through, and really broke it down for people. That's a good resource as well. People who are traveling, you can just go right, I am traveling from I don't know, Houston to Paris, and this is what I need to do.

Andy Mant:

You can actually use it as a tool to calculate when to actually implement the hacks and what hacks to implement. So it's taking it a little bit further and providing sort of useful information rather than the really bad blanket, which might help or might not.

Wendy Myers:

Yeah. Yeah, so what is your optimal light management protocol look like day to day? What are your hacks to help us optimize melatonin production and sleep and block out unnecessary light?

Andy Mant:

Yeah, good question as well, because a lot of people just think you slap on your pair of blue blockers after dark and you're going to be fine, and it's only probably 20% of the equation. So I'll talk about what I do and a lot of my followers do as well. Is that it's all about natural light okay? So you want to be watching as many sunrises as you can in the morning. Whether that be just for a couple of minutes or for half an hour, it doesn't matter. It's whatever time you can actually commit to in the mornings.

Andy Mant:

I never used to be a morning person so this is like really coming from my heart. I used to lie in bed until 11:00am in the morning and not go to bed until like 1:00 in the morning. So the fact that if you start getting up to watch the sun rise, set your alarm. I guarantee you, within a week you won't need to set an alarm. And as soon as that sun starts to rise or just before, you will naturally wake up and you will feel so much energy to do so. So that's the most optimal way to do things and if you're not a morning person, it's very easy to become one. Trust me, I've been there and done it. I never thought I could. I used to laugh at people and being like, How do these people get up at that time? What's wrong with them? [crosstalk 00:34:49]

Andy Mant: What I like to do during the day, because I work in an office is, I wear blue light reducing glasses. Okay? So these don't block blue light, they just reduce the spike of blue light from your computer, from the LED or florescent lights that are above your head for instance.

Wendy Myers: Are those the yellow ones? Those are the yellow ones?

Andy Mant: Yes. But we also have clear as well, Wendy. So we understand that in some corporate environments you can't go in with tinted glasses on.

Wendy Myers: Like Bono? Like Bono going into his office, to his day job.

Andy Mant: Yes. Yeah. So we've got the yellow are more optimal than the clears, but the clears still do a good job. Okay? So we've impregnated a special material between the lenses that filter out about 30% of the blue light. Whereas the yellow ones actually filter out, across the whole spectrum, about 50%. So they're a little bit more optimal then the yellows.

Andy Mant: But if you're just starting out and maybe you're getting a few tension headaches or dry eyes. Start out with the clear ones and if you're feeling a bit sensitive to people commenting on the fact that you be wearing yellow glasses. You can just put on the clears and all it does is that it gives you a little blue or purple reflection off the lens.

Andy Mant: So it's not drawing attention to yourself and that's a good hack to do as well. It's what I do. I'm not wearing them now, because I'm sat outside talking to you and I also have a filter on my computer. So I've actually got no artificial light whatsoever around me, just natural light. But the majority of people will be sat indoors so you need to be reducing the blue light.

Andy Mant: Another hack during the day is, if you don't want to be stuck in that office all day, okay so during your lunch period, go out and have a walk. Go and walk round, as long as it's not raining. If it's raining, still get outside, but just get undercover. It was raining a little bit here just now, that's why I moved slightly the laptop across under this umbrella, because it was going to get wet.

Andy Mant: But you're still outside and light is still coming in. So it's really good for you and it's sending messages to that central pacemaker to say, okay well it's this time of the day now, it's that time of the day, this is what I need to do. And it's getting that hormone balance right by being outside.

Andy Mant: If you're stuck indoors all day, your hormones are going to be all over the place, it's not good. You can all sorts of issues with that also on that one basis. Now, I try and get out a lot more than just at lunchtime when I'm in the office. The excuse I've always used back when I was actually working in an office, was to my boss, "Well, I'm going outside for a couple of minutes just for a fresh air break." And they'd be like, "Oh, why are you doing that?" And I'm like, "Well what

difference is it to smokers in the office that get a smoke break. I want to go outside for two minutes and that's what I'm going to do." And hey were like, Yeah, fair point good way of putting it. The smokers get to go out, you can go out.

Andy Mant: Two minutes, I'd go outside, just bask in the sun a little bit and then come back in. And again, it's getting that natural light to send the messages to the brain to tell you what time of the day it is, to release the correct hormones. Then I watch the sunset in the evening. Again, if you live in the U.K. for instance, the sun sets at like 4:00 in some winter months so you just need to get outside at that point as well and watch it. And then you can put you blue blockers on whilst you're at work the remainder of the day.

Andy Mant: Now, what I do after dark is yes, I wear my BLUblox, blue light blocking glasses, which is the one on one of blocking the blue light, but I also hack my house. So I've taken out all the LED lights except for one, which is my wife's makeup room. Because if I took that LED white light out of there, she would probably kill me. Because, oh she would look ridiculous trying to put lipstick on under red lights. She probably wouldn't even see it.

Andy Mant: So that's the only exception we have, but every other light, I've taken out and we have red light in. So incandescent was or is pretty much is the best you can put in, but I actually have Halogen. And the reason I have Halogen in is number one, it's a low flicker right? So you're not going to have post PMF enter into the eye, which is damaging in itself really, no matter what color it is. But also incandescent bulbs, I was changing these bulbs every three days one day, and it was just costing me a fortune. So we got Halogen light in, which was about 10,000 to 20,000 hours in them and I'm only changing them once a year, if that, to be fair.

Andy Mant: So that's a big hack to do, because if you think about this way right? Say a lot of people go to sleep in the night and some people or even old people, it depends on the frequency basis, might need to get up and go to the bathroom in the night. And what they do, is they do all these amazing protocols to block blue light, get into bed, they start sleeping well. Then they wake up at say I don't know, at 2:00 in the morning, need to pop to the bathroom. And what do they do? The switch on the light and if it's not a red light, you're just going to send a message to your brain that it's solar noon.

Andy Mant: And really start messing up your hormones again. So when I get up in the night from time to time, to use the bathroom, I don't need to fumble around for my blue blocking glasses. I know my skin's not going to be an issue because I've got a red light in my bathroom. So I just switch that on, walk in, go to the bathroom, and then straight back to sleep literally within about two seconds.

Wendy Myers: Or a lot of people, they want to know what time it is. Like how many more hours do I have to sleep? And then they look at their phone and boom, you know, wake themselves up.

Andy Mant:

Yeah, and that's a fantastic point as well, because I always used to be one of those people. I used to be like, Oh, what's the time? I used to have a clock in my room that was blue LED light, back in the day, before I knew any of this. It's funny now, you can actually ween yourself off that. Because, when I was saying earlier about getting up for the sunrise, you will consistently wake up at sunrise every morning. So before you go to bed at night, if you look at the ... The iPhone's fine because it has like the weather app on it that you can load up and it tells you what time sunrise is.

Andy Mant:

So when you actually get that cue in the morning, that, ah, I'm starting to wake up now. You'll be like, Oh, it's 6:15 in the morning. I know it's roughly round about that time so you don't need to look at your phone. And you know, you shouldn't really have it in your bedroom anyway. But I haven't set an alarm now for probably the best part of 18 months and I'm always up and ready to get up probably about 10 minutes before sunrise every single morning.

Wendy Myers:

You know, I have the same thing. For eight years, I wake up every morning at 7:00am, including Sunday. I don't know if that's because I have a child and the child has trained me to wake up or it's because my light habits are so amazing. But every morning at 7:00.

Andy Mant:

Yeah, it's probably a combination of the two. I mean, your light hygiene is obviously very good. You understand it and you've put hacks in place to counteract the negative effects of it. And you know, it's always a good thing as well, not to try and catch up on sleep at weekends. There's a study that I posted in my group yesterday that showed that those that slept in at weekends were actually worse off health-wise than those that didn't.

Andy Mant:

Whether it be the weekend or mid-week, you've got to have that same pattern of going to bed and waking up. It's all seasonal as well Wendy. A lot of people think that that should ... You know, wake up at 7:00 every morning, go to bed at 9:00 should happen 365 days a year, but our species are actually programmed to sleep more in the winter. And that comes back to a lot of creatures that hibernate in the winter. So it's not an issue if you go to bed at night in the winter and maybe getting up at 7:00am rather than 6:00am.

Andy Mant:

You know, this is all fine as long as it's your body telling you that's what it wants to do. You've just got to listen to it and if your light hygiene is correct and on point, in terms of the circadian rhythm perspective. Your body will tell you whether it wants to go to bed at 8:00 or 10:00 or whether it wants to get up at 5:00am or 7:00am.

Andy Mant:

One thing that we are very, very fortunate for here in WA, which is Western Australia, is we don't have Daylight Savings. Which is another major issue for circadian entrainment, because you know, during the middle of the spring and the fall, you're suddenly losing an hour or gaining an hour and that's really, really bad in terms of circadian health. We're very lucky in Australia that we

don't have that so we get sunrises as early as 5:00am in the heights of the summer. And then winter, the latest is about 7:00, 7:30, something that like.

Andy Mant:

Whereas in some other countries like the U.S. or in the United Kingdom, sometimes it's 9:00am before the sun's even coming up. You're getting up in the dark, you're switching on a blue light in the mornings, in the middle of winter and it's telling your brain it's solar noon straight away. So you've got make sure you've got that red light in your environment as well, especially for the mornings. Don't ever be afraid to wear Sleep Plus BLUblox Lenses in the morning if the sun hasn't risen yet because you're body still thinks it's dark. So just refrain from switching on those LED artificial lights when and where you can really.

Wendy Myers:

That's such a good idea. I hadn't really thought about using them in the morning. Because here I was about to mention we have Daylight Savings Time where the clock is going to go an hour ahead on Sunday and I love it because the sun sets later.

Wendy Myers:

So you can do activities later, but in the height of summer, the sun goes down at 9:00pm and then you wake up in the morning in complete darkness. So it's just ... It's kind of like a catch 22. But I think that's such a great idea to wear these in the morning as well, if the sun hasn't come up yet.

Andy Mant:

Exactly, and it's all about trusting the sun. So look at when the sun's rising and when the sun's setting and then just make sure you're outside as much as you can during those periods, whether it's winter or summer. But before those periods or after those periods.

Andy Mant:

So like before sunrise and after sunset, just make sure you're wearing your BLUblox Sleep Plus Glasses and you'll be totally fine, just taking out that portion of the blue that shouldn't be in your light environment at those specific times of the day.

Wendy Myers:

Yeah, so where can we get these amazing glasses?

Andy Mant:

Yeah, so there's two places you can get them. The main place is our website. So [blublox.com](http://blublox.com), which I'm sure you'll link in the show. So it's just [blublox.com](http://blublox.com). We do free shipping all around the world so we ship free to the United States. We also have an express option which takes two days for them to come.

Andy Mant:

So go on there and you can see the different colors of lenses and it's got sort of big educational piece on there about what lenses do I need? So you can jump on there and have a read about well which ones do I need? I always say you need a day pair and a night pair, but whether that's a clear or a yellow pair during the day.



Andy Mant: Or basically, do you suffer from this do you feel like this? We have this question and answer thing will tell you which one you would be better to purchase. But everyone needs these red ones like 100% of the time. We also have a small quantity of ... It's actually the Wayfarer Sleep Style and the Tortoise Shell Sleep Style. So not the ones you're wearing, actually where they stock it in the United States. They actually house them in the Amazon warehouse now.

Wendy Myers: Oh great.

Andy Mant: [crosstalk 00:46:06] Amazon account and you actually feel more comfortable ordering from Amazon and you like the Wayfarer and Tortoise Shell, which is our two most popular by the way. We have them with a supplier there. So you can just go on Amazon and type in the search BLUblox and you'll be able to see them on there.

Andy Mant: I think they might even be just a few dollars cheaper as well, on that method. So either way is totally fine. They'll arrive probably quicker if you order from the states, but if you want the styles ... Because we have up to 10 styles to choose from, we've only got two at Amazon in the United States at the moment. So jump on the website and shipping doesn't take long. You know, it can't between two to eight days, depending upon what shipping method you go for. So that's the best place to go and there's a lot of good blogs on there as well.

Andy Mant: If you're listening to this and this is the first time you're hearing of this. Or maybe you've only heard little bits on it, our blog is honestly ... We write everything very, very basic. So you know, we take all this really intense academic literature and we write it in such an easy, understandable way. So jump on there and have a read of those as well.

Wendy Myers: Fabulous. Well thank you so much for coming on the show and educating us. This is such a wealth of information, educating oneself about light. Because a lot of people aren't really paying attention to this, they may have like a modern understanding that they need to block blue light at night. But this is just really educating us much beyond that, and I love that you have so many different types of blue blocking glasses and so many different styles as well. To meet every single need. So I highly, highly recommend them and go grab yourself a pair like mine.

Wendy Myers: So thanks very much for coming on the show, and you find your website at ...

Andy Mant: At [blublox.com](http://blublox.com). So B-L-U-B-L-O-X.com or just Google BLUblox. We'll be number one in the rankings on that so there's not many BLUblox's around.

Wendy Myers: Yeah.

Andy Mant: Yeah, jump on and come and join our tribe and join our family. We have amazing aftercare services as well. And we also have a great Facebook group

called Light Help. We've got about 6,000 people in it that we just talk and discuss the new literature that's coming out and explain in layman's terms about what these studies mean. So come and learn with us.

Andy Mant:

It's not about just buying a pair of BLUblox and us being like, "Brilliant, see you later." Like you're in our family then. You're in our tribe and we look after you and we answer all your questions and we ... Get on our mailing list, we send out all the latest studies as well. We also have a YouTube channel. So just type Blublox in and start following us on there.

Andy Mant:

I'm series one, episode two into bio-hacking for beginners. Where we're talking about light for just five to 10 minutes per show. Just about why you should watch the sunrise, why you should watch the sun set, why you should block blue light. So if you want some more information or you want it dumbed down a little bit more, then jump on there as well. So there's lots of resources when you follow us. We're not just a company providing blue blocking products. We are telling you how to be your most optimal self.

Wendy Myers:

Well fantastic Andy. Thank you so much for coming on the show and educating us. And everyone, thanks for tuning into the Myers DetoxPodcast. Where we talk about everything related to heavy metal detoxification, and you have to optimize sleep in order to detox effectively. And so that's where these come in handy for that. So thanks for tuning in, and we will speak to you next week.