

# How to Time Light for Optimal Sleep & Wakefulness | Samer Hattar & Andrew Huberman

Assuming that most people wake up in the morning as opposed to night shift workers et cetera we could talk about later but they wake up in the morning So let's divide the day into quarters What is what is the proper way to interact with light in the first part of the day So I honestly think the easiest thing is waking up get as much light as you can into your eyes Yeah it's really nice Your system is primed If you're in trained it's primed to get light The sun should be out Most animals in the wild they actually seem to track the sun The sun has a huge influence on life on earth It's actually life on earth is because of sun So that's easy in the morning when you wake up you need light So what what is the behavioral practice that that you recommend Does it Let's say somebody is in a condition where there's a lot of cloud cover is it important to get outside So I have to tell you the cloudiest day is going to be much more brighter than your room You could ask any photographer a cloudy day unless it's really dark dark clouds usually cloudy days have much more bright outside than inside the room even when you have good lighting inside the room So I think in the outside is usually even when it's cloudy you're going to get enough intensity to help you adjust your cycle to the day night cycle So how how long do you these are general rules of thumb But how long do you recommend people go out if you do it daily you possibly need very if you do it daily because you remember this thing is going to happen on a daily matter So the clock is tracking it on a regular Absolutely It's it's photon counting it's tracking I would say 15 minutes If you don't do it daily you may want to increase it and we talk about when you travel what you could do But but yeah 15 minutes should be fun You do it more It doesn't hurt and through a window I was my understanding is that through a window it dramatically decreases the amount of light energy It depends of how you know how thick the windows are and how dark they are So it's but it's also nice to go outside and to feel the season sunglasses off I don't use sunglasses but you have the Jordanian photo pigment you know So yeah whereas my eyes are very sensitive right So but I personally you know if I'm in the shade or if it's not incredibly bright I try to especially in the morning but I'm also an early person So we have to differentiate between early and you wake up I wake up at 430 in the morning The sun isn't it's not out yet So what do you do You turn on artificial lights I usually don't turn on

artificial light because I know the sun is going to come up eventually But that's why I don't like the change in the timing that they do What do you do between 4:30 a.m. and seven AM I mean I just got my computer my phone so I get enough light But but in reality I mean as long as you let your body get the morning sunlight which I think is really to me and I there is no evidence But to me this is if you look at all animals plans this morning sunlight seems to be very important And I I you know we don't have experiments to show it but I have a gut feeling that it has a huge impact on humans Well Jamie Zitzer lab at the Stanford Sleep Lab has shown that these early morning light flashes can adjust the total amount of sleep that one will get makes it easier to get to sleep Absolutely OK So and and uh Ken Wright also did this beautiful camping experiments that should maybe you can describe those because those are beautiful experiments They are beautiful experiment He took these you know college student that had the late on set of sleep and late waking time And then he said let's go camping and just don't use any artificial light And you could go to sleep as as as late or as early as you want and wake up as late as early And he found a huge shift in their sleep pattern just by exposing them to the light dark cycle I mean so and it lasted and it lasted even after they came back two days of camping reset the circadian seven days but it lasted Yeah it's pretty amazing Yeah it's really incredible Ok So get bright light of some sort early in the day Ideally sunlight even on a cloudy day it's going to be brighter than indoor light That's easy Ok So then and and the other thing that I would like to mention to people if if you think it's very dim outside let's say it's very cloudy stay longer So remember intensity is only one component duration is also important because remember that the circadian system it's not like the image system in the image system you have to change every second because you're looking at different objects you have to change your perception But for the circadian system it's trying to figure out where am I in the day night cycle So the more you give them the information the better you are So if it's very bright you don't need a lot because it's clearly gonna make you fire like crazy But if it's not bright stay longer stay for one hour you know have your coffee outside or something like that it's just gonna help I think you said something extremely important which is that this circadian system is trying to figure out when you are in time Not where you are where you are in time I mean when you are Oh no no I wasn't correcting you I just meant that I think fundamentally that's the the the the incredible thing about the system that you have this clock this 24 hour clock in your brain But it it needs to be

synchronized to the outside So could we go a little deeper into this uh circadian setting behavior and come up with some general rules of thumb So let's say it's a very bright day extremely bright you know no clouds the sun's out You said 10 minutes 15 minutes and I'll tell you if you're sensitive don't you don't even have to go in the sun You could be in the shade There's going to be so many photons out there in the shade It's going to be perfect You don't even have to see the sun You don't have to have the sun You know it's great for vitamin D That's a different story You could do this for your skin and and you know protect your skin That's not my area of expertise but for for that effect on the circadian system as long as you're outside in the shade and a sunny day 10 to 15 minutes should be ample amount Ok And then let's let's say it's kind of overcast Um you know it's not particularly bright or there's you know solid cloud cover but you know obviously the sun is out but it's not as bright How long do you think it would take to set the clock 10 to 15 Should be sufficient Stay for half an hour stay for 45 minutes if it's very dark crowd Yeah Stay for longer