Dale: “From the Johns Hopkins University Brain Science Institute…

Dr. Hattar: “Since the shorter day length, the light portion become in the middle of the day. If you take brighter sunlight when you wake up and you are trying to drink coffee or have your breakfast, if you have it in a brightly lit room. That will go a lot of steps towards helping your seasonal affective disorder.

Dale: “Dr. Samer Hattar (SAHM-er Hah-tah) is an associate professor of biology and neuroscience at Johns Hopkins University who specializes in the affects of light on behavior.

Today on Brain Talk: why many of us suffer seasonal affective disorder when the days become darker.

Dr. Hattar: “People think because rodents are nocturnal animals they hate the light, but actually if you put a rodent in constant darkness they have a major problem with anxiety, they don’t feel well. So, even animals that are nocturnal, scientists are finding that they go out of their burrows in the day and get some sunlight.”

Dale: “Scientists know that light plays an important role as our internal timekeeper or as “circadian clock.” Throughout evolution, it’s helped animals and humans know when to sleep, and when it’s safe to find food. As Dr. Hattar explains, this nucleus in the brain reads light to know what time it is.

Dr. Hattar: “The problem with this clock it is not accurate, it usually runs even a little bit faster or a little bit slower than the day. That is why this nucleus learns to get light information so it can adjust its inaccurate clock to exactly 24 hour clock.

But now I think I’m starting to believe that light has a much bigger role even than that. So, in addition to adjusting this very important master circadian clock it may have direct effect on other functions that we are still discovering. That somehow the brain needs to know and needs to receive this light information to be at optimum physiology.”

Dale: “Dr. Hattar has discovered that exposure to light at the wrong times of day can throw our internal systems out of whack and lead to serious health consequences, ranging from sleep disorders to cognitive problems. He says the body has a biological need to know when it’s day and when it’s night. And in our modern era, we need to respect this.

Dr. Hattar: “Try to avoid bright lights at night, when you’re ready to go to sleep, when you are ready to settle down, you want the limbic system not to be activated by light, which has a very strong alerting effect. You want to avoid bright light at night so your biological clock knows it’s night, and your body knows it’s night, and your melatonin level goes up and you can sleep. So what I tell people is you use the minimal amount of light that allows you to see very well at home and not go beyond that.”
Dale: “And this means of course, powering down your computers, TVs and phones early in the evening. These devices emit a blue-shifted white light, as opposed to the red-shifted white light of the sun, candle or light bulb.

Dr. Hattar: “We are really extending the night, but at the same time when it’s the day we either sit in a very dim lit room, we sit in our offices, and so we’re really shifting our light activation and actually working opposite to it.”

Dale: “If you suffer from depression when the days get shorter and darker, Dr. Hattar also recommends getting as much light as possible during the day.

Dr. Hattar: “Use the sunlight as much as you can. When it is out, even though day is shorter, even if you go out at noon when the sun is out, or if you can go in the morning when the sun gets brighter. The more you can use the sun during the day the better and you avoid bright light at night.”

Dale: “Dr. Hattar says learning more about how our bodies process light will help us understand how to use it in the healthiest possible way. To learn more about light and the brain, log on to brainscienceinstitute.org. I’m Dale Connelly, and from Johns Hopkins University… this is Brain Talk.

Learn more about Seasonal Affective Disorder | Johns Hopkins Health Library
Read "Clock Wise" | A Johns Hopkins Magazine article
New research is shedding light on the master timekeeper inside our brains.

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