Podcast: How blind people time sleep and eating without the light-driven circadian clock

MARY LOUISE KELLY: We mark our days by sunlight. Humans naturally wake up in the morning and fall asleep at night because our eyes use light to help tune our bodies and our clocks. Next in our science series Finding Time, Ari Daniel talks to a man who stays in sync with the sun even though he has been blind for years.

ARI DANIEL: Crittenden has retinitis pigmentosa, an inherited condition that led to the deterioration of his retinas. He lost all his rods – the cells that help us see in dim light – and all his cones – the cells that let us see color in brighter light. Within a single year, 1985, Crittenden says he went from perfect vision to total blindness.

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DANIEL: So that’s our mystery solved. Fred Crittenden, our guy near Toronto, has no functioning rods or cones, but he does have melanopsin cells, which allow his brain to use light subconsciously to help synchronize his circadian rhythms, telling his body to start a new day every morning to make sure he’s awake when Sarah, his daughter, who’s 42 now, gives him a call.

https://geneticliteracyproject.org/wp-content/uploads/2023/01/20230102_atc_encore_perceiving_without_seeing_how_light_resets_your_internal_

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