Sleep and Rhythms Across the Lifespan: Aging, Co-morbidities, Something More Complex?

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Meet the Experts
University of Pittsburgh
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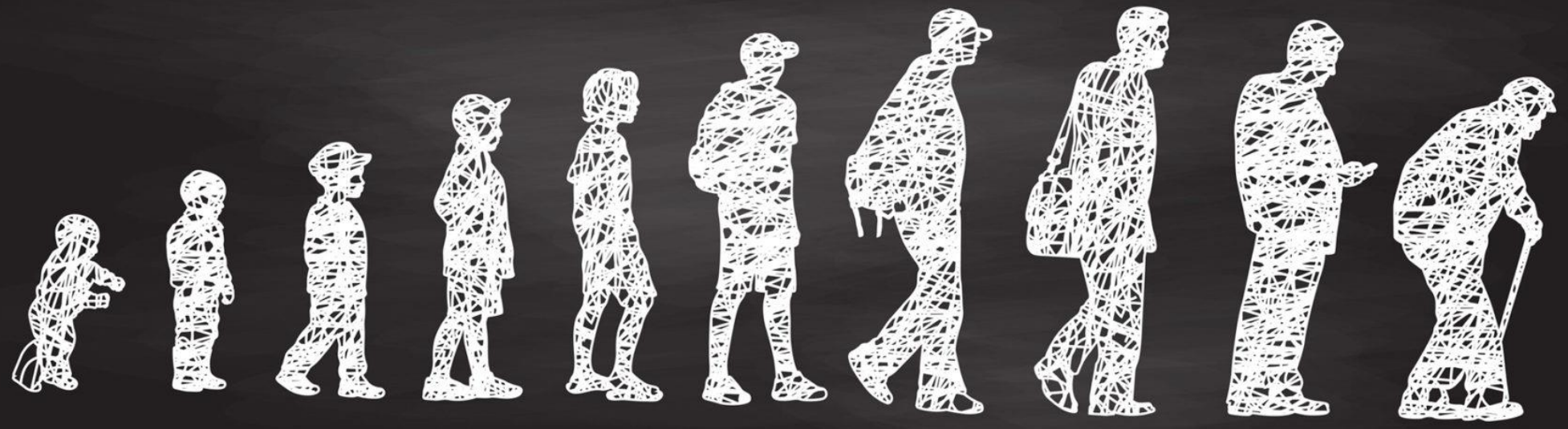
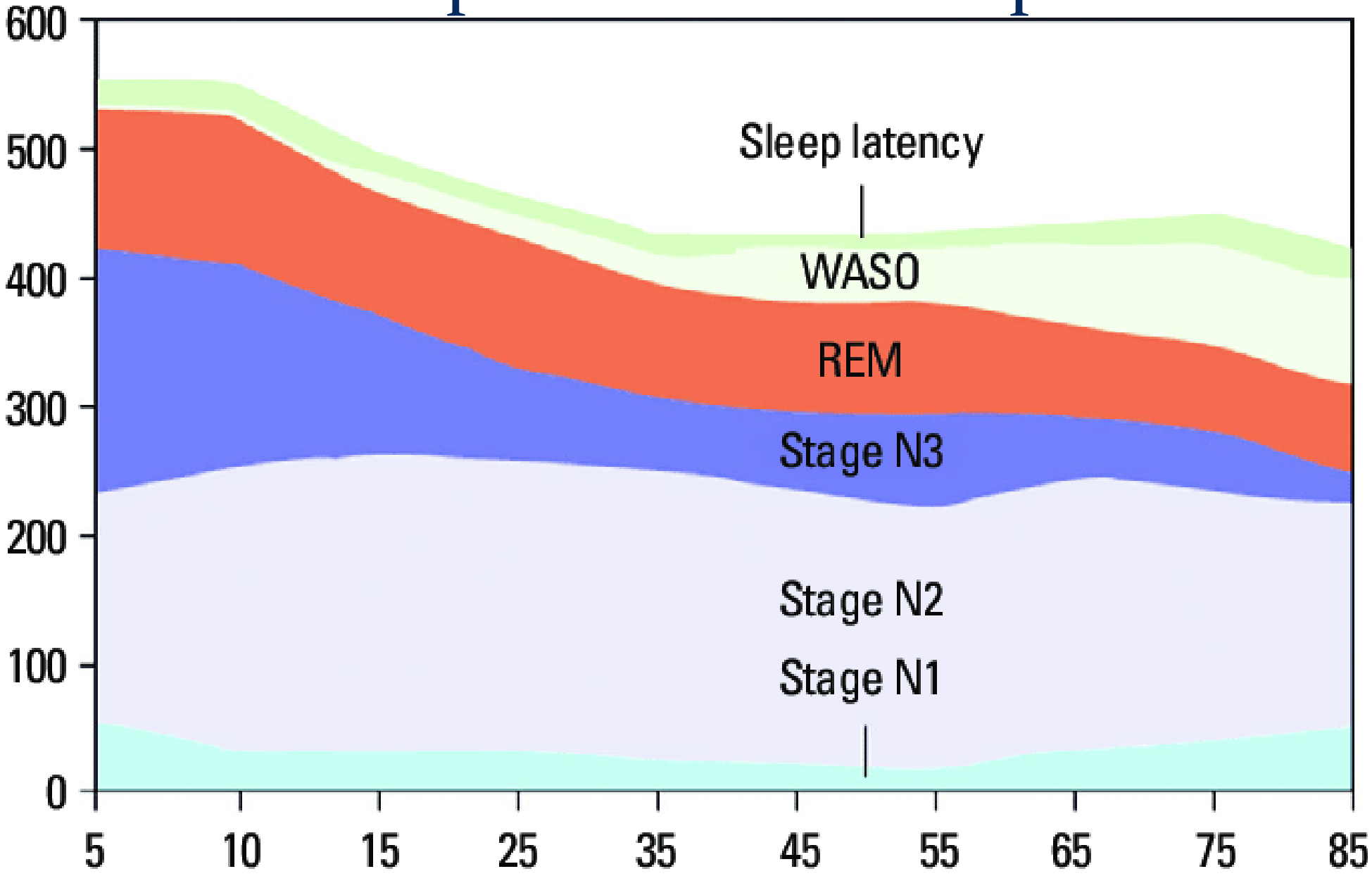
Center for Sleep and Circadian Science

Points for Discussion



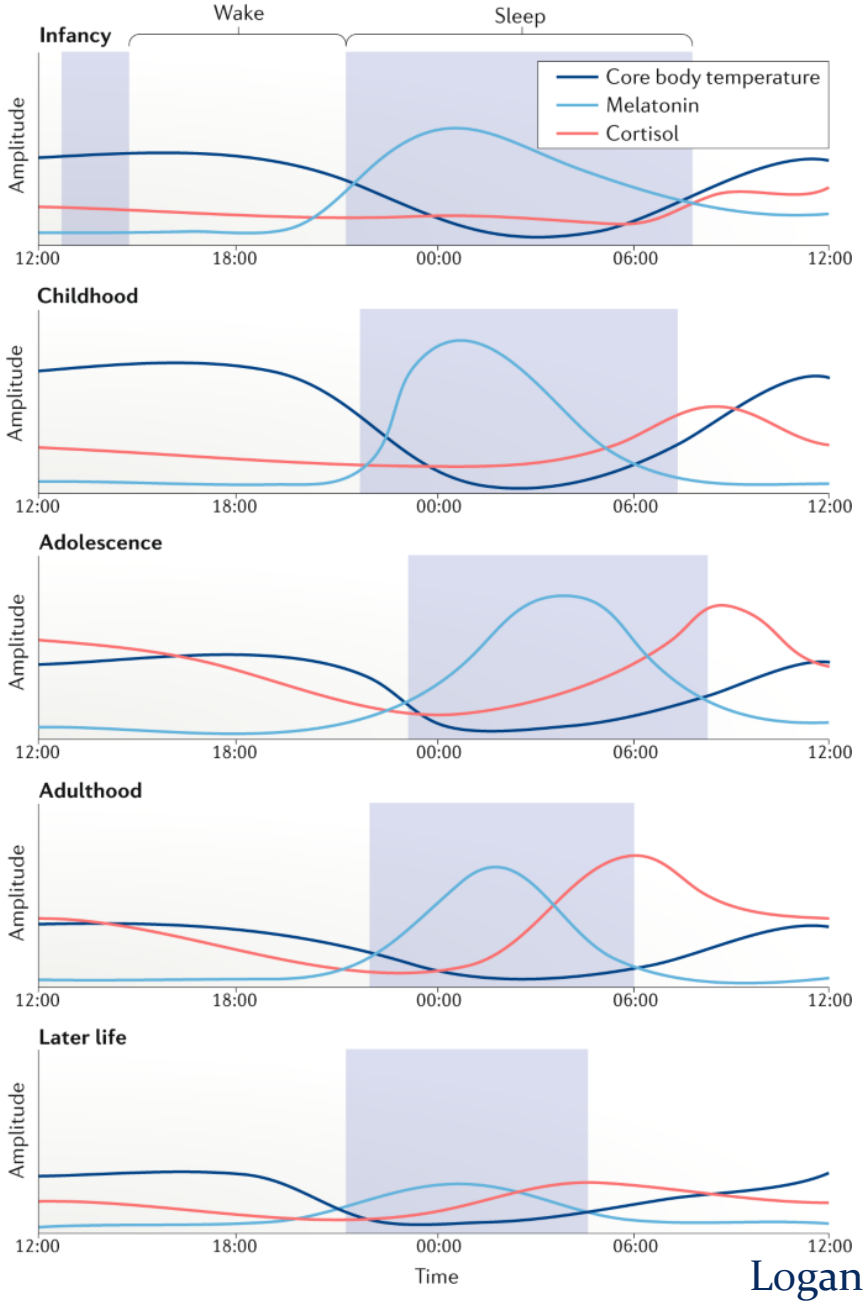
- Sleep & rhythms: What do they look like across the lifespan?
- What about sleep and rhythm disturbances & disorders?
- What explains changes in sleep across the lifespan?
- Sleep & rhythms with age: Unidirectional or Bi-directional?

Sleep Across the Lifespan



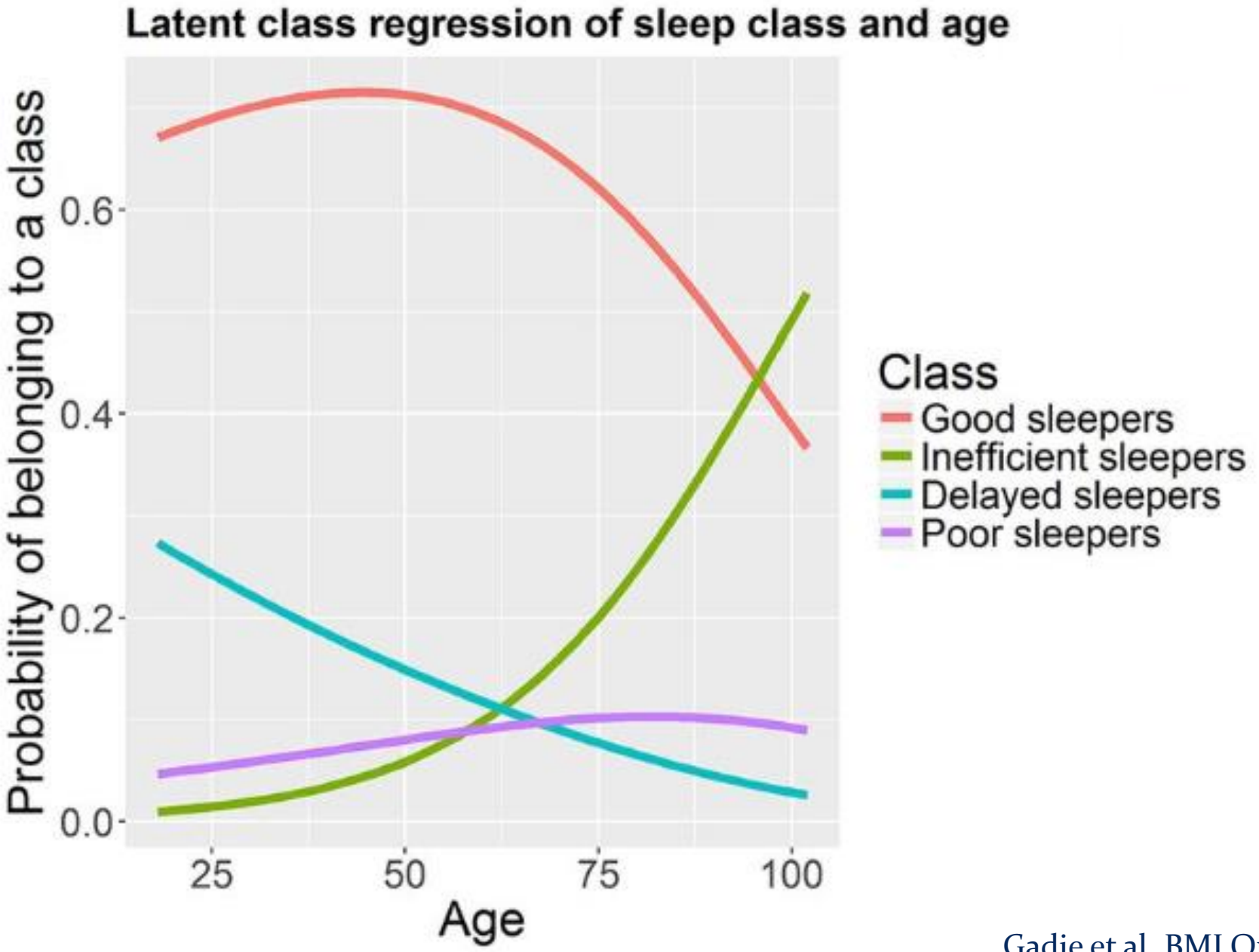
Ohayon et al. Sleep. 2004;27:1255.

Rhythms Across the Lifespan



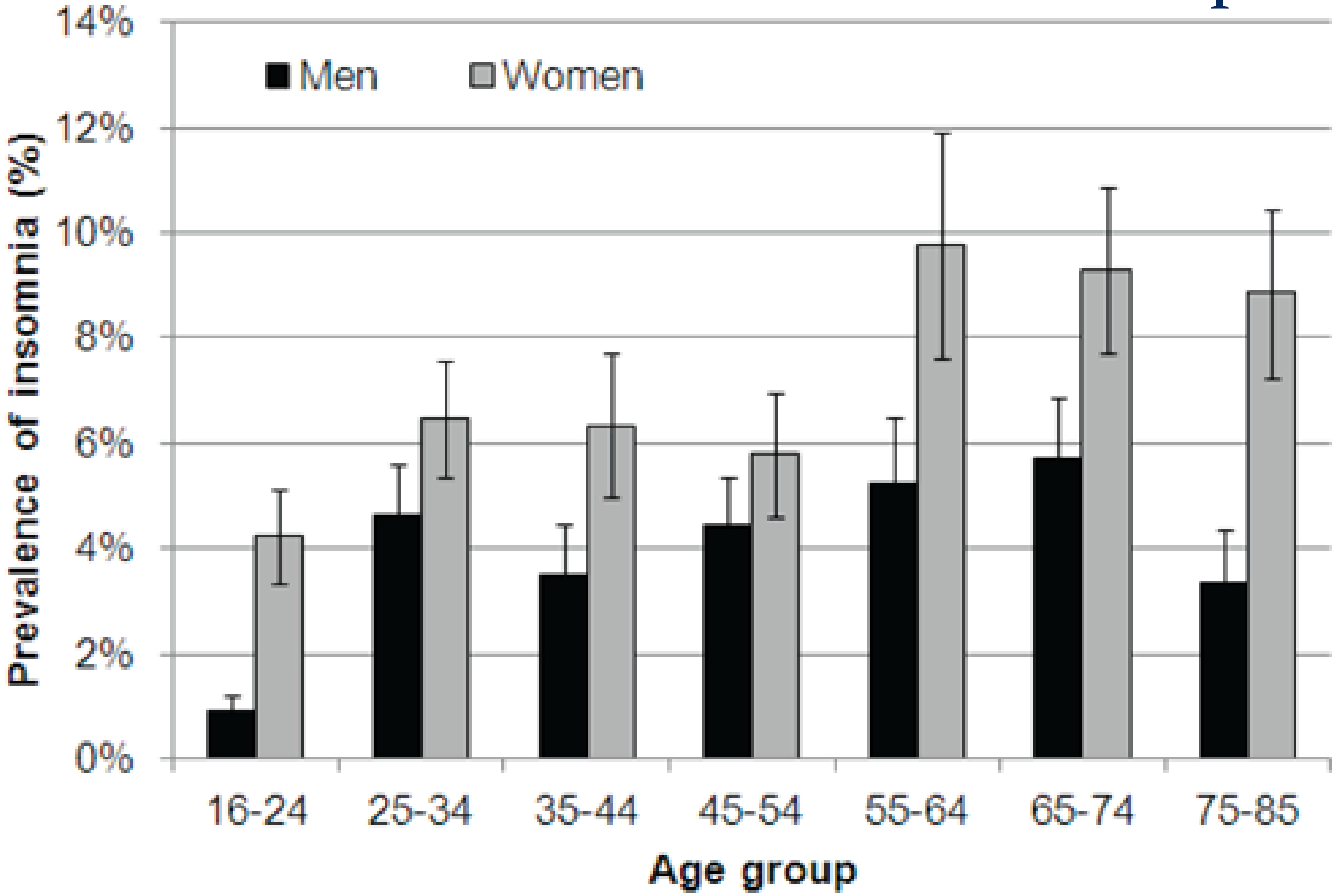
Logan & McClung. Nature Reviews Neuro. 2019;20:49.

Sleep Quality Across the Lifespan

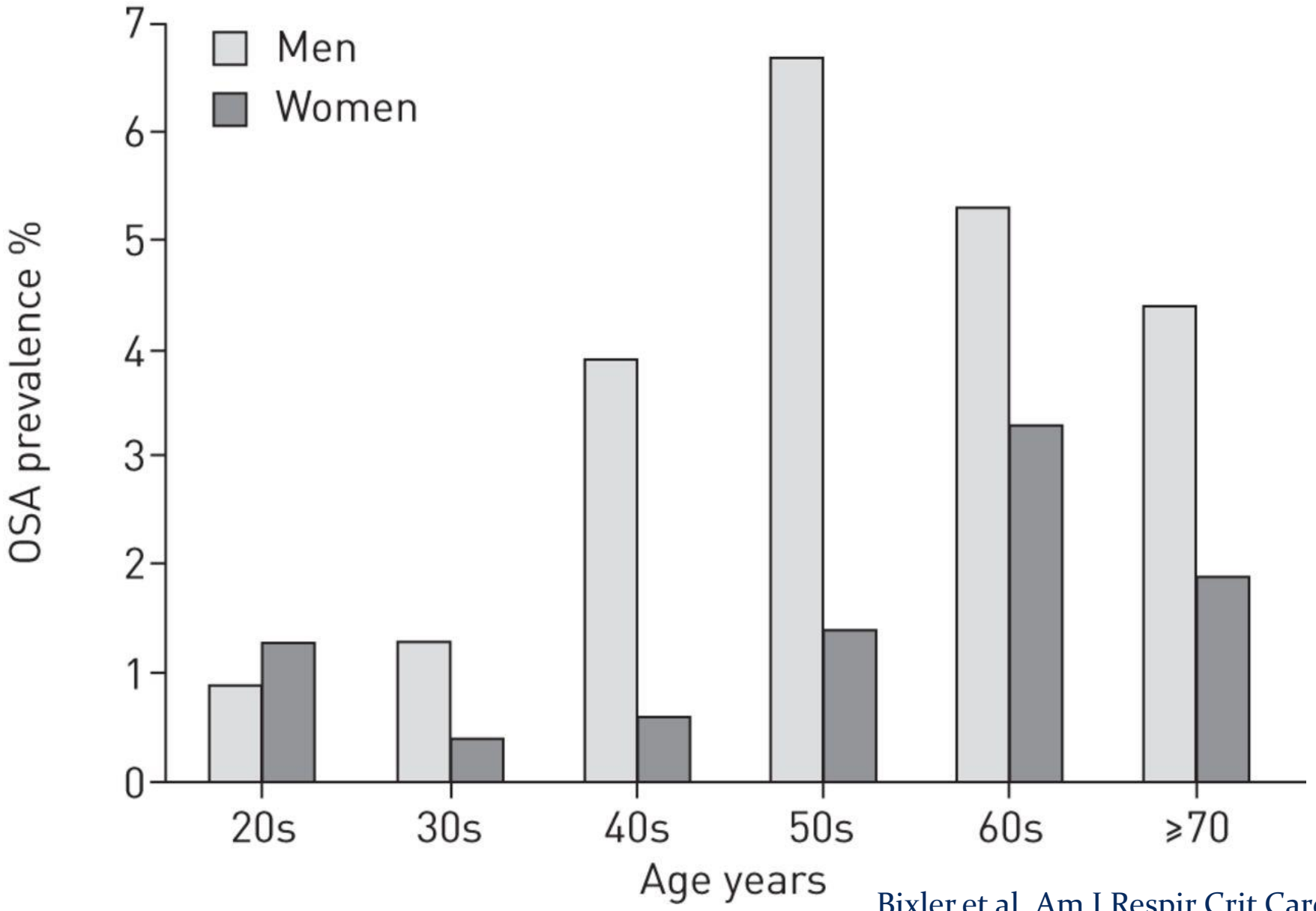


Gadie et al. BMJ Open. 2017;27:e014920.

Insomnia Disorder Across the Lifespan

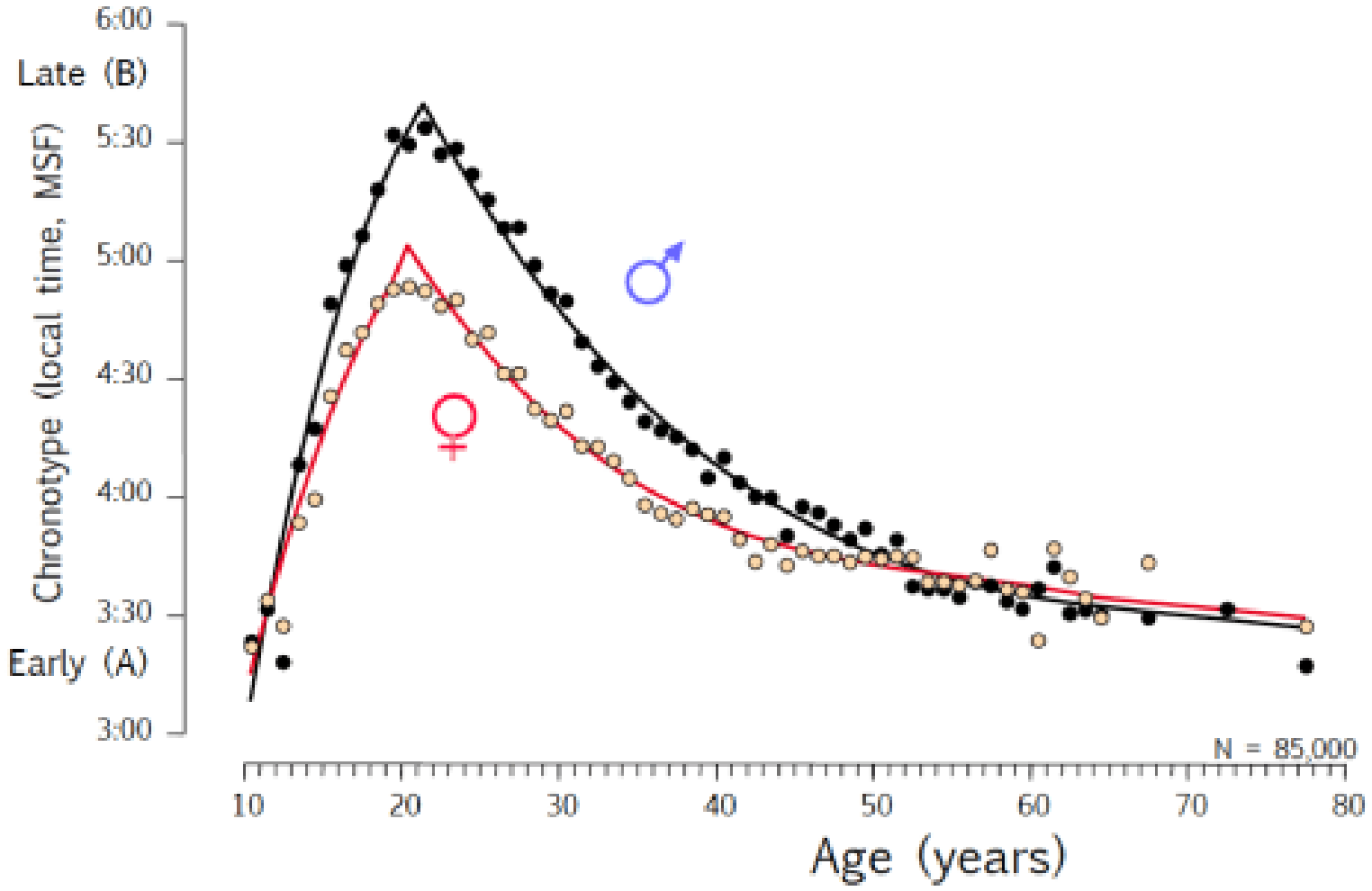


Sleep Apnea Across the Lifespan



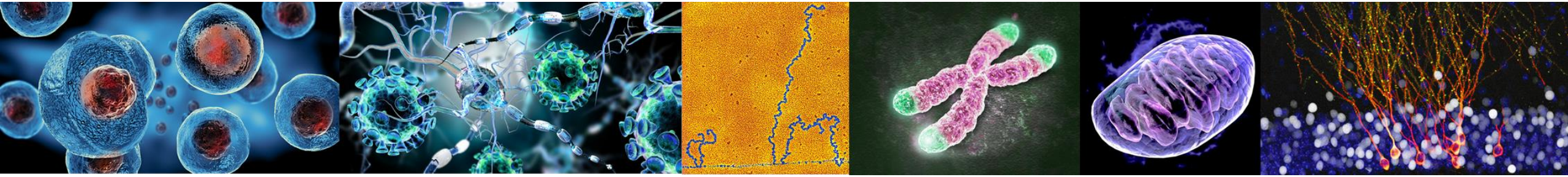
Bixler et al. Am J Respir Crit Care Med. 1998;157:144 and 2001;163:608.

Chronotype Across the Lifespan

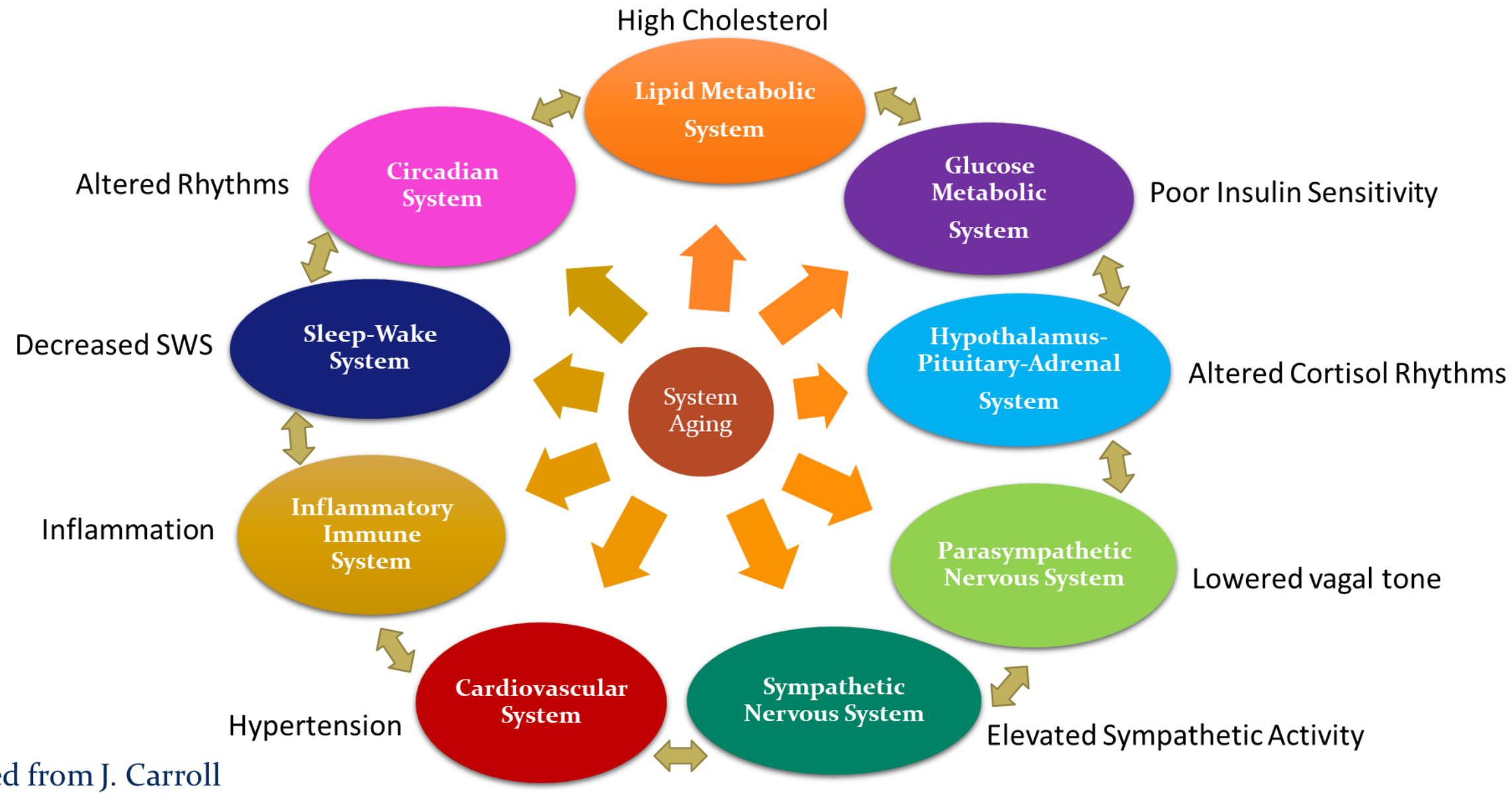


Ronnenberg et al. Current Biol. 2004;14:PR1038.

Sleep & Rhythms Change Across the Lifespan. Why?

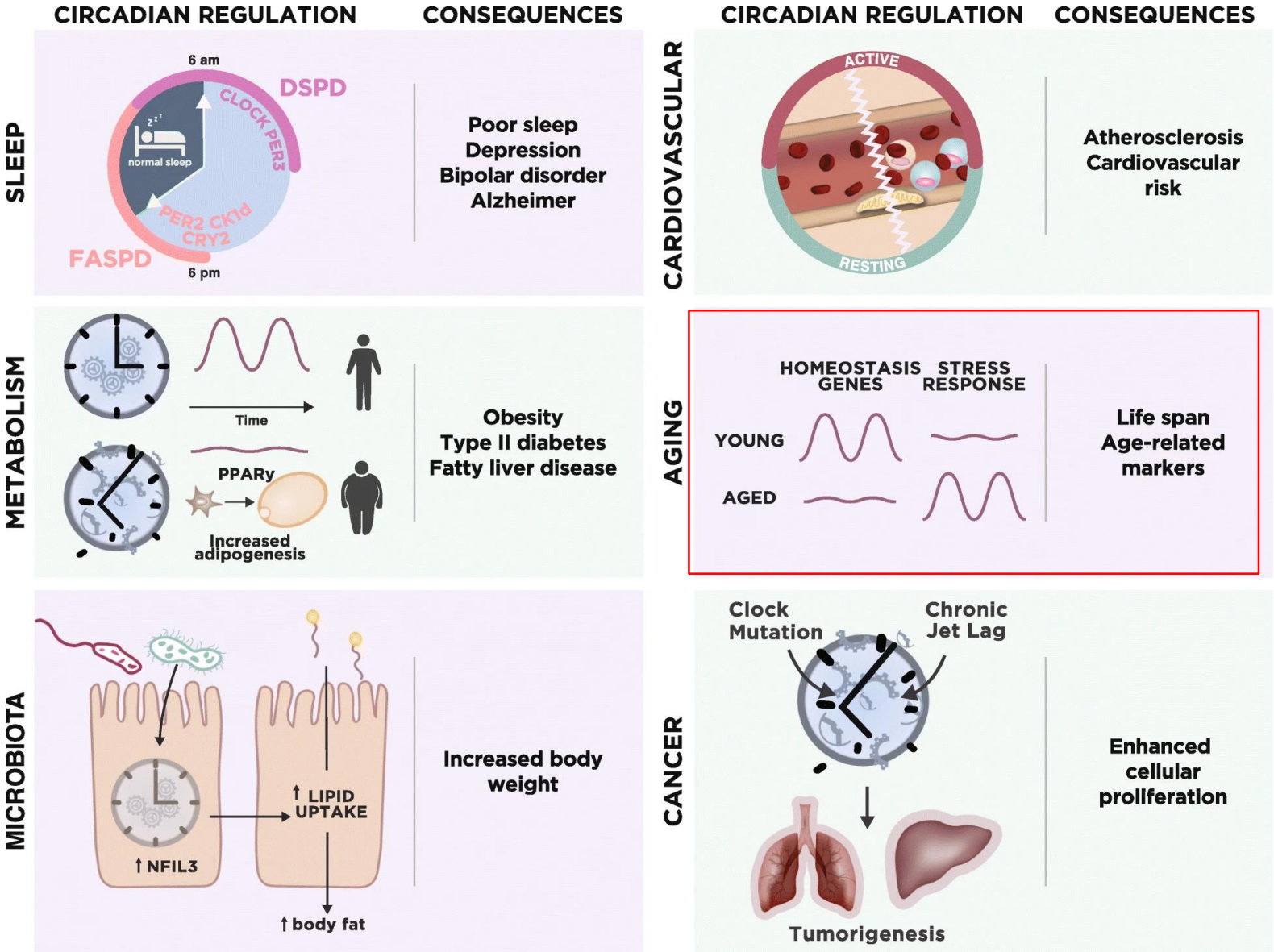


System Aging = Phenotypic Signs of Aging



Adapted from J. Carroll

Rewiring (not lost) of circadian rhythms in aged mice



Rijo-Ferreira et al., 2019

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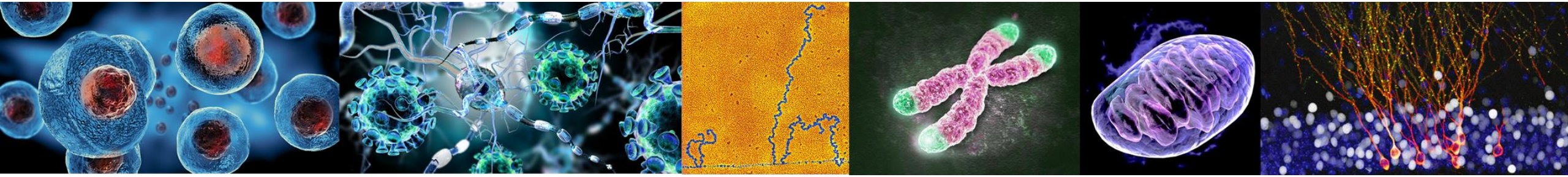

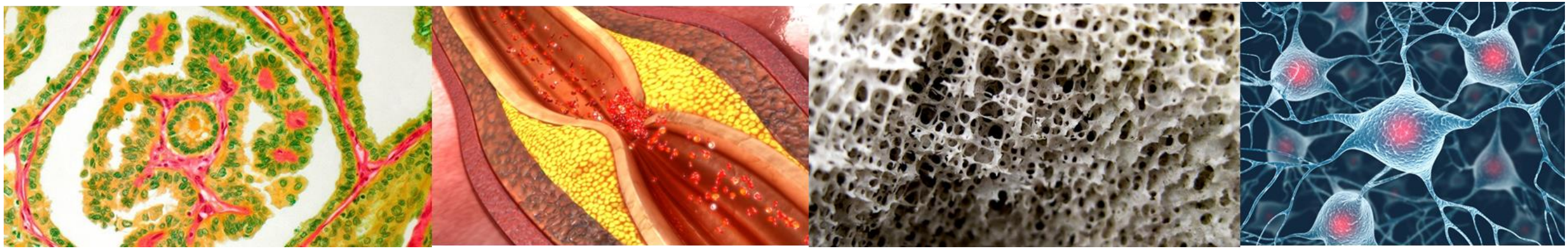
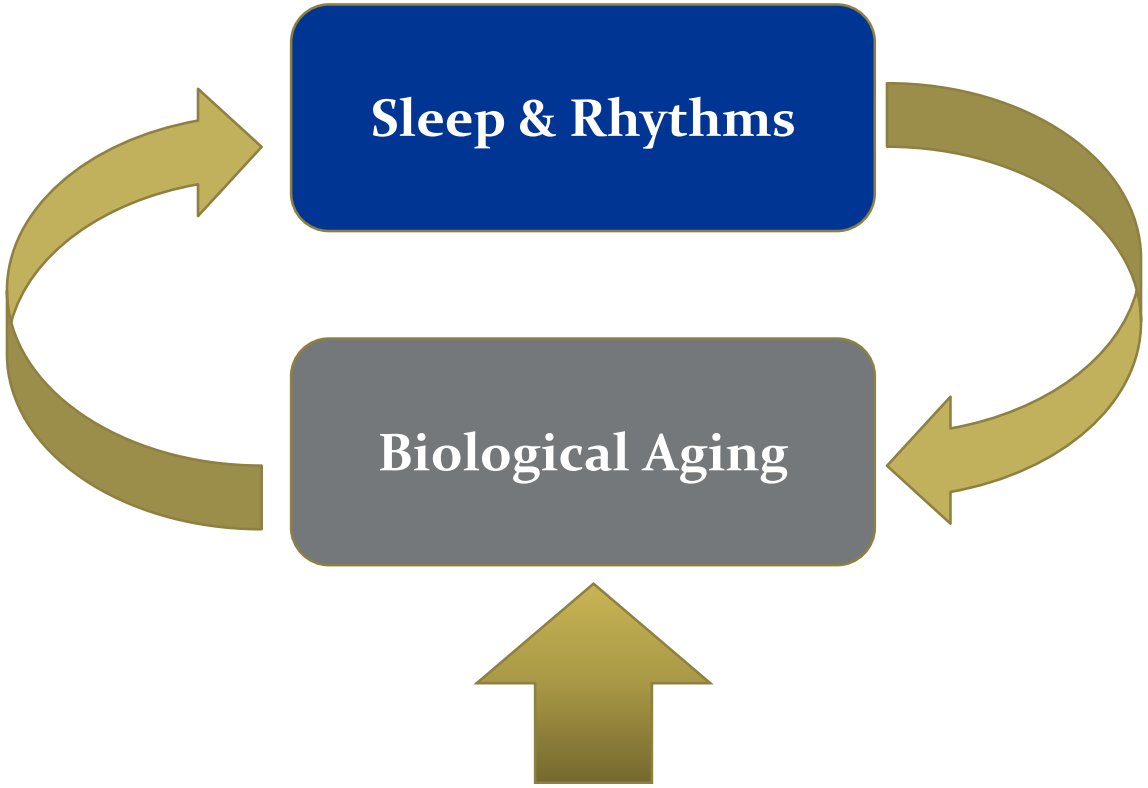
Sleep & Rhythms with Aging: Bi-directional Relationship