

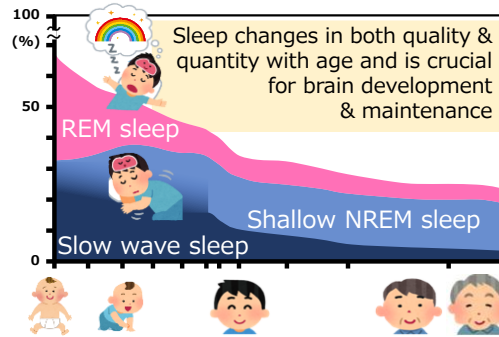


FS 「 Life course approaches through sleep to protect, nurture, and activate the brain 」

HAYASHI Yu PM
(Professor, The University of Tokyo)

Outline of R&D Project

In dementia, sleep disorders often appear earlier than cognitive decline & are the most frequent peripheral symptoms, often being the primary reason for patients requiring institutional care. We aim to unravel the mechanisms by which sleep protects, nurtures, & activates the brain, focusing on the regulation of cognitive functions. By harnessing the power of sleep, which everyone experiences daily, we strive to create a society where dementia can be prevented and overcome.



Dementia and sleep

- Developmental & psychiatric disorders accompanied by sleep disturbances pose a risk for dementia
- Sleep disturbances appear from the preclinical stage of dementia
- Sleep disturbances are the most frequent peripheral symptoms of dementia & a major factor leading to caregiver breakdown

- Elucidation of sleep abnormalities associated with dementia & the mechanisms by which sleep restores brain function
- Controlling cognitive function through development of devices that easily & accurately measure sleep quality and methods for optimizing sleep induction



By "sleep manipulation therapy" & "sleep substitution therapy," we aim to enable individuals & caregivers to naturally prevent or treat dementia in their daily lives without feeling burdened.



Expected Breakthroughs by 2040

- Preventing and overcoming dementia through the improvement of sleep
- Preventing and overcoming dementia by complementing the natural role of sleep
- Realizing personalized sleep medicine that enables anyone to easily measure sleep quality, facilitating early detection of risks based on sleep patterns and providing appropriate intervention guidance