

# Executive Brain Health

## 5 Brain Fitness Rules

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### Sleep Health

- Sleep for ~8 hours per 24 hours, tightly controlled by circadian circuitry and adenosine
- Sleep nurses our body (weight), brain (cognition) and emotional health (dreams)
- Sleep promotes memory formation and triggers synaptic pruning to allow efficient integration of new information and delete obsolete data
- Boosts the immune system, regulates metabolism, mitigating weight gain
- Sleep cycles flush out metabolic waste

### Physical Exercise

- We are “born to run” and wired to run”
- Physical exercise (PE) is the 5<sup>th</sup> vital sign
- Include 5 components; aerobic (endurance), anaerobic (sprinting), isometric (strength), flexibility (yoga) and balance (axial musculature)
- Aim for ≥ 2.5 hours of PE per week
- Do aerobic exercise at ≥ 70% maximum heart rate (MHR): 220-age

### Brain Foods

- Eat whole foods, nothing processed, following a very low carbohydrate, ketogenic type, high fat diet
- Private food consumptions become publicly obvious and you cannot “run away” from a bad diet
- Eat your food as medicine, otherwise you will eat your medicine as food
- Eat to avoid the ‘fire within’ with an anti-inflammatory diet, avoiding >25 g sugar per day
- Practice intermittent fasting (intermittent metabolic switching) weekly for 12-16 hours

### Cognitive Exercise

- Practice neurobics; play, paint and sing for “brain padding” or cognitive reserve
- Gaming promotes speed of information processing
- Meditation, Tai Chi and Yoga ‘brain builds’, especially the prefrontal cortex
- Sun exposure (heliotherapy) 30-60 min/day benefits sleep, immune system, mood, cognition and pain syndromes
- Nature therapy (biophilia) benefits the prefrontal cortex and animal interaction stimulates oxytocin

### Socialization

- We are wired to care and wired to chatter
- Promotes cardiovascular, immune health and improves brain network integrity
- Multilingualism induces beneficial psychological, social and general health benefits
- Interaction with people and pets, induces oxytocin, endorphin and vasopressin secretion
- These have neuro-protective, anti-inflammatory, anti-anxiety and antidepressant effects

