

HEALTH BENEFITS OF ADEQUATE SUN EXPOSURE

- circadian rhythm regulation
- cardiovascular health— lower blood pressure, increased nitric oxide production
- eye health— dopamine and serotonin
- increased melanin production— protects skin against UV damage, protects against excessive ROS, can prevent some pathogenic infections, increases energy production in our body
- reduced respiratory rate
- metabolic health— melanocortin pathway activation
- melatonin production regulation— better sleep and antioxidant activity in the body
- vitamin D production—
- gut health— improved intestinal barrier function, gastrointestinal functions
- improved mood— neurotransmitter production (serotonin, dopamine, endorphins)
- reduced cancer risk beyond vitamin D production
- anti-inflammatory— cytokine, histamine, and vitamin D production
- calcium metabolism
- creates structured water within our cells and mitochondria
- increased ATP production
- sex hormone production

HEALTH PROBLEMS ASSOCIATED WITH INADEQUATE SUN EXPOSURE

- circadian rhythm dysregulation
- eye problems— macular degeneration, myopia, retinal damage
- worse sleep— inadequate melatonin production at night
- infertility or hormonal imbalances— inadequate sex hormone production
- increased overall cancer risk including melanoma!
- vitamin D risk
- metabolic disorders— melanocortin pathway not activated
- gastrointestinal problems such as insufficient digestive enzyme production, poor motility, and intestinal barrier dysfunction
- less ATP production
- less melanin production— more ROS, less energy capturing from the sun, less skin protection from excessive sun exposure
- immune issues— less vitamin D production, increased histamine production (allergies)
- mood disorders— neurotransmitter production
- no structured water production