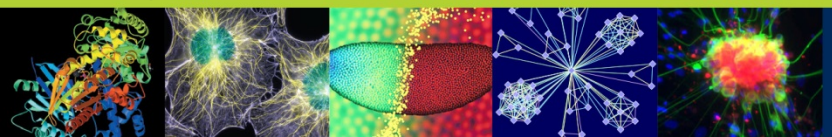
Personalized Pressure Ulcer Prevention for Spinal Cord-Injured Wheelchair Users

Background

- Pressure ulcers (Pus) impose a significant threat to the quality of life for people with spinal cord injury (SCI), a condition that can lead to structural and functional changes below the injury level that may predispose individuals to tissue breakdown.
- Due to the blockade of the sensory pathway to the brain, people may lose the protective mechanism for avoiding prolonged ischemic insults to the compressed tissues.
- Loss of autonomic nervous system control over the cardiovascular system weakens the vasodilatory response to loading pressure. All these factors are directly responsible for the high occurrence rate of PUs in individuals with SCI.

Advance

- The clinical evidence shows that the requirements of individuals with SCI vary greatly.
- The research provides personalized guidance on wheelchair tilt and recline usage to prevent pressure ulcers based on a wheelchair user's own personal information.
- Intelligent models that could classify whether a given wheelchair tilt and recline setting would be favorable for an individual to reduce pressure ulcer risk were established.



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