

THE OCCURENCE OF OVERLOADS AND THEIR EFFECT ON HUMAN'S BODY

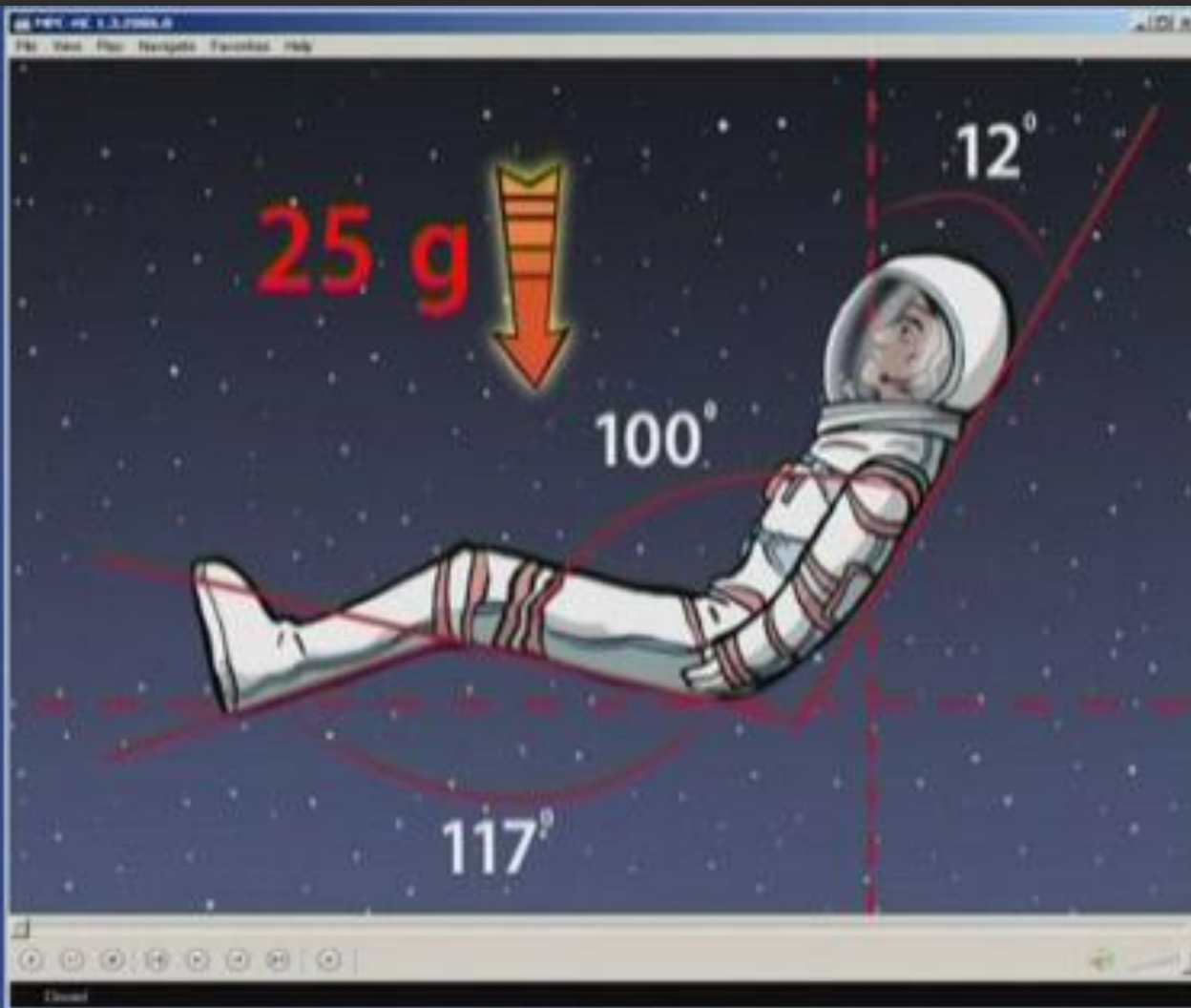
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THE CONCEPT OF OVERLOAD

- According to Newton's second law:

It the support moves upward with acceleration, body's weight grows - it is *overload*





OVERLOADS IN SPACE AND THEIR INFLUENCE ON HUMAN'S BODY

- During this time in the body appears:
 - 1) the load on the skeleton and bones
 - 2) lack of strength to pump blood, its removal to lowerlimbs
 - 3) also organs try to stay in their previous condition (uniform motion or quiscence)
 - 4) pressure on body, breastbone, face appears



GETTING INTO SPACE (100KM FROM THE EARTH)

- Removal of overloads because of minimal gravity

The Moon ($1/5$ g of Earth)

- 1) the spine becomes longer on 5-8 cm
- 2) organs do not go down, but swim
- 3) body's liquids go from legs to upper parts - in causes swellings of face, brain etc.
- 4) increased blood flow expands heart

MALE ASTRONAUT



Men suffer more from hearing loss with advancing age, and display a bias towards loss of hearing in the left ear



Some male astronauts exhibit clinically significant visual impairment



Men demonstrate a slight bias towards speed versus accuracy in response to an alertness test



Male astronauts less susceptible to orthostatic intolerance



Urinary tract infections less common in male astronauts



Men mount less potent immune responses



Calcium oxalate kidney stones more common in men



Large individual variability to muscle and bone loss in men



Health effect observed in space

BEING INTO SPACE

- 1) the violation of main love processes (eating)
- 2) "space" illness:
Different information about coordination when turning the head
- 3) because of accumulation of liquid, the body needs frequent deliverance from it



THE END