Current exercise countermeasures on the International Space Station

Challenges for the next generation of exercise countermeasures

Introducing HIFIm

From space to Earth
Deconditioning in Space

Losses in:

• Bone mineral density
• Aerobic capacity
• Muscle mass
• Muscle strength
• And so on…
Current CM Exercise on ISS

“From Space to Earth: Innovations enabling accessibility on Earth”
Current CM Exercise on ISS
Challenges for the next generation of countermeasures

- Small volume
- multi-exercise
- quick to set up
- quick to de-rig
- condense training programmes
- Vibration isolation
HIFIIm
High Frequency Impulse for Microgravity

“From Space to Earth: Innovations enabling accessibility on Earth”
HIFIm
High Frequency Impulse for Microgravity

“From Space to Earth: Innovations enabling accessibility on Earth”
HIFIm
High Frequency Impulse for Microgravity

“From Space to Earth: Innovations enabling accessibility on Earth”
HIFIm space to Earth

Working with Amputees

"From Space to Earth: Innovations enabling accessibility on Earth"
HIFIm space to Earth

Working with Amputees

- Improve bone mineral density (localised)
- Build muscle mass
- Condition stump/prosthetic junction
HIFIm space to Earth

Working with Amputees
HIFIm space to Earth

Osteoporosis and muscle mass

- Administer a dosage of exercise safely
- Build bone mineral density
- Increase muscle mass
- Reduce fall risk
- Reduce hospital admissions
HIFIm space to Earth

Osteoporosis and muscle mass

- Improve quality of life
- Stay active longer
Physical Mind
London
High Frequency Impulse for Microgravity

Thank you!

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