CDMI

CENTER FOR DISRUPTIVE
MUSCULOSKELETAL INNOVATIONS

Transporter Table System

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Background

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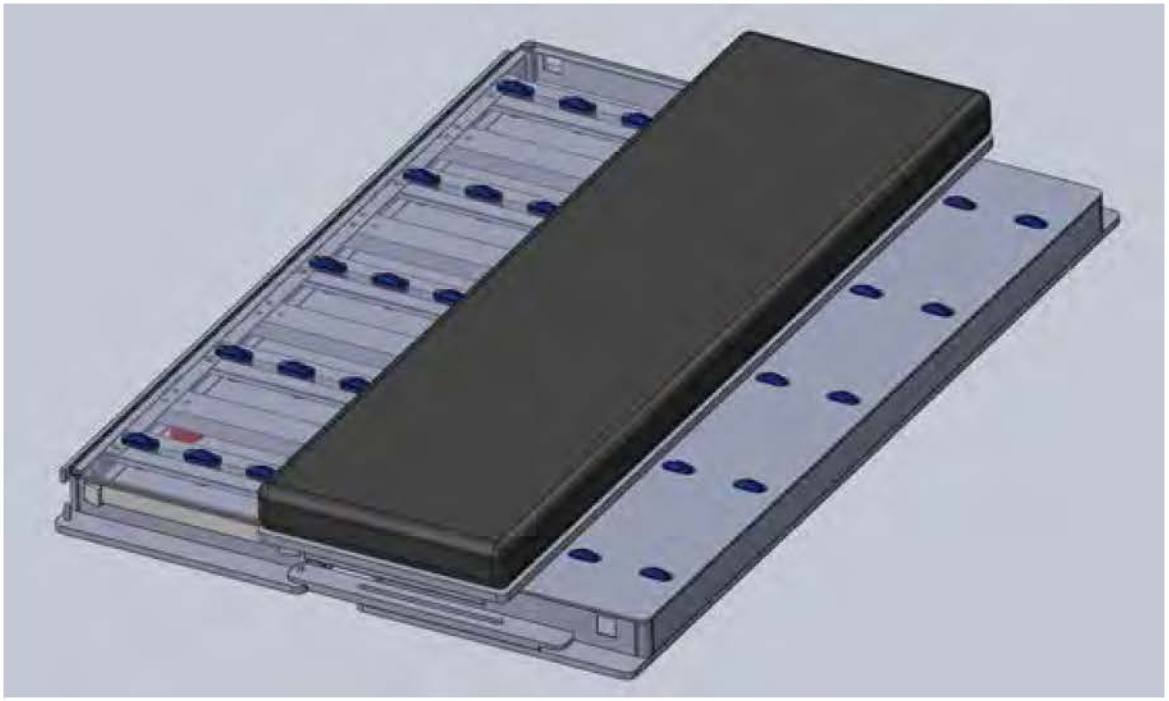
This project aims to build a system for moving a patient between a gurney and operating room table without lifting.

- Protecting patients from handling injuries
- Protecting staff from Musculoskeletal Disorders (MSDs)
- Based on US Patent #9,463,127 has been granted to Leon Hochman, MD, Nancy Valvona, and Stephen Nicolato, West Bloomfield, MI.

[1]https://www.bls.gov/news.release/osh2.nr0.htm

Progress – Computer Modelling



A solid model of one implementation has been made.

- This design consists of units made to mount on existing gurneys and beds
- Roller wheels extend and retract using air pressure
- Provision is made to lock the units together during the transfer

Progress – Prototype

The prototype has the following characteristics:

- Capable being mounted on an existing OR table and gurney
- Retractable wheel sets on the gurney and table
- A pallet to carry the patient between the tables
- Locks to prevent the pallet from moving when not in use
- A system to lock the gurney and table together during the transfer
- Means to direct the movement of the pallet to prevent skewing
- Continued access to existing gurney and table features such as accessory and guard rails.

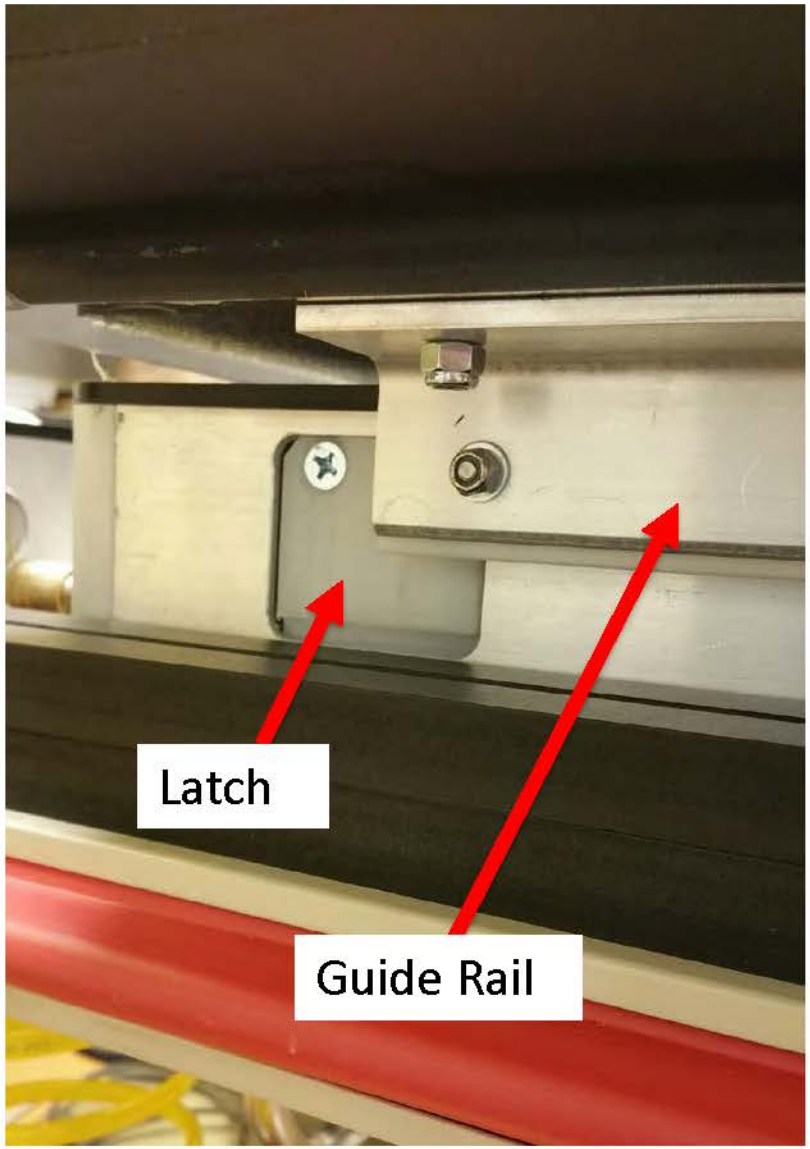
Progress – Prototype

The prototype system mounted on an OR table and gurney in the ECORE Bio-Skills Lab. Here the "patient" is on the gurney and the rollers are retracted on both units

Progress – Prototype

- Units latched together
- Air source connected
- Rollers extended

Progress – Prototype



Here the latch has been depressed, allowing the patient pallet to start moving towards the OR table

- The guide rails maintain the pallet alignment between the units.
- The latches engage the guide rails:
  - Prevent the pallet from overtravel
  - Secure the pallet during transport or surgery

Progress – Prototype

Transfer complete

Progress – Prototype

Next Steps

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Evaluate the prototype in terms of ease of use, safety, and aesthetics:

- Demonstrate patient transfers at a design weight
- Measure the effort required to effect transfers
- Seek feedback from experienced staff