

# Perioperative Safe Patient Handling and Mobility Innovation

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## Problem

- AORN Ergonomic Tools (2011) noted that the practicality of mechanical devices for many hazardous tasks had not yet been tested.
- VHA's Safe Patient Handling and Mobility (SPHM) program had reduced staff injuries related to patient handling by >50%, but solutions did not fully address perioperative needs.

## Perioperative SPHM Gap Analysis (2017-2018)

- Evaluated high-risk ergonomic tasks
- Reviewed technology to mitigate risks

### Results:

- High rates of manual patient handling nationwide throughout VA
- High risk patient positions: prone and extreme Trendelenburg
- Outdated and unapproved positioning devices caused risks including:
  - Patient skin injury
  - Staff injury

## Participants

Veterans Health Administration (VHA)'s national Perioperative SPHM Innovation Technical Advisory Group (TAG) formed in 2017.

- Nursing leadership for interventional and perioperative specialties
- SPHM specialists
- Architects
- Surgeons
- Physician assistants
- Nurse educators
- Nurses
- Surgical techs

## There are 138 VA surgical programs enterprise-wide:

- 110 inpatient surgery programs
- 28 ambulatory procedure centers

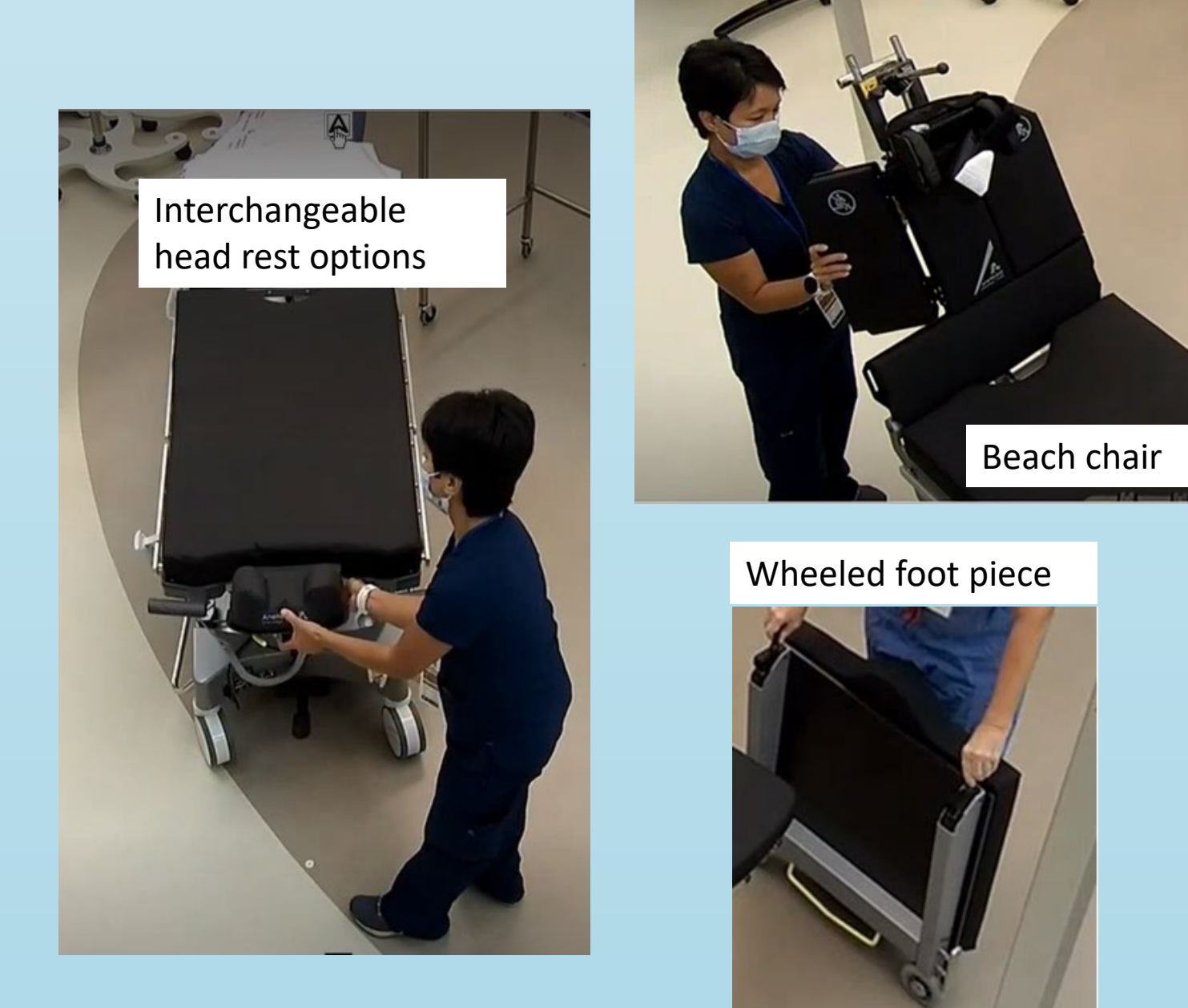
### Overhead Lift Transfer with Anti-Skid Surface



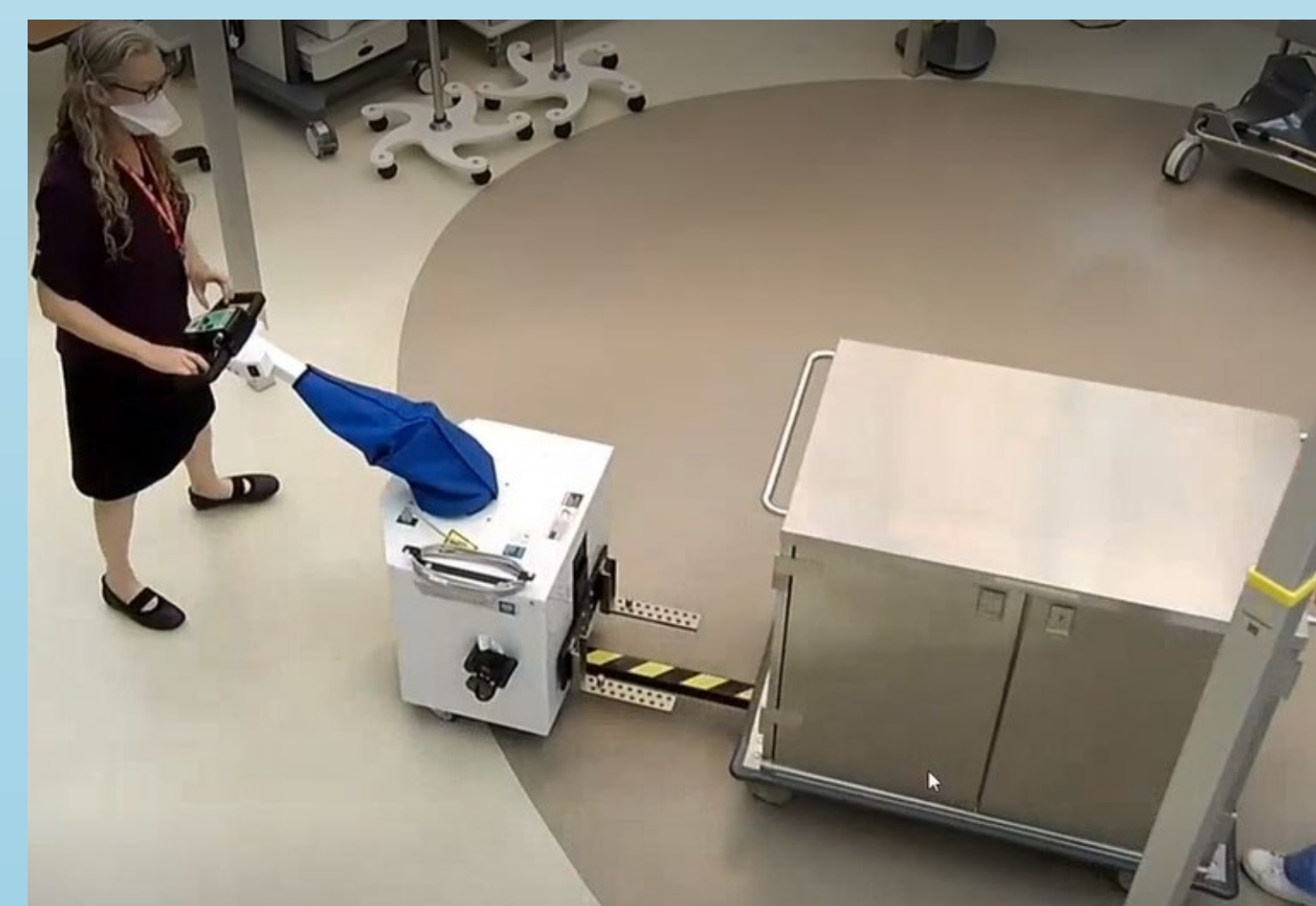
### Air-Assisted Lateral Transfer with Anti-Skid Surface



### Zero Transfer Single Platform OR table/stretcher



### Powered Transportation



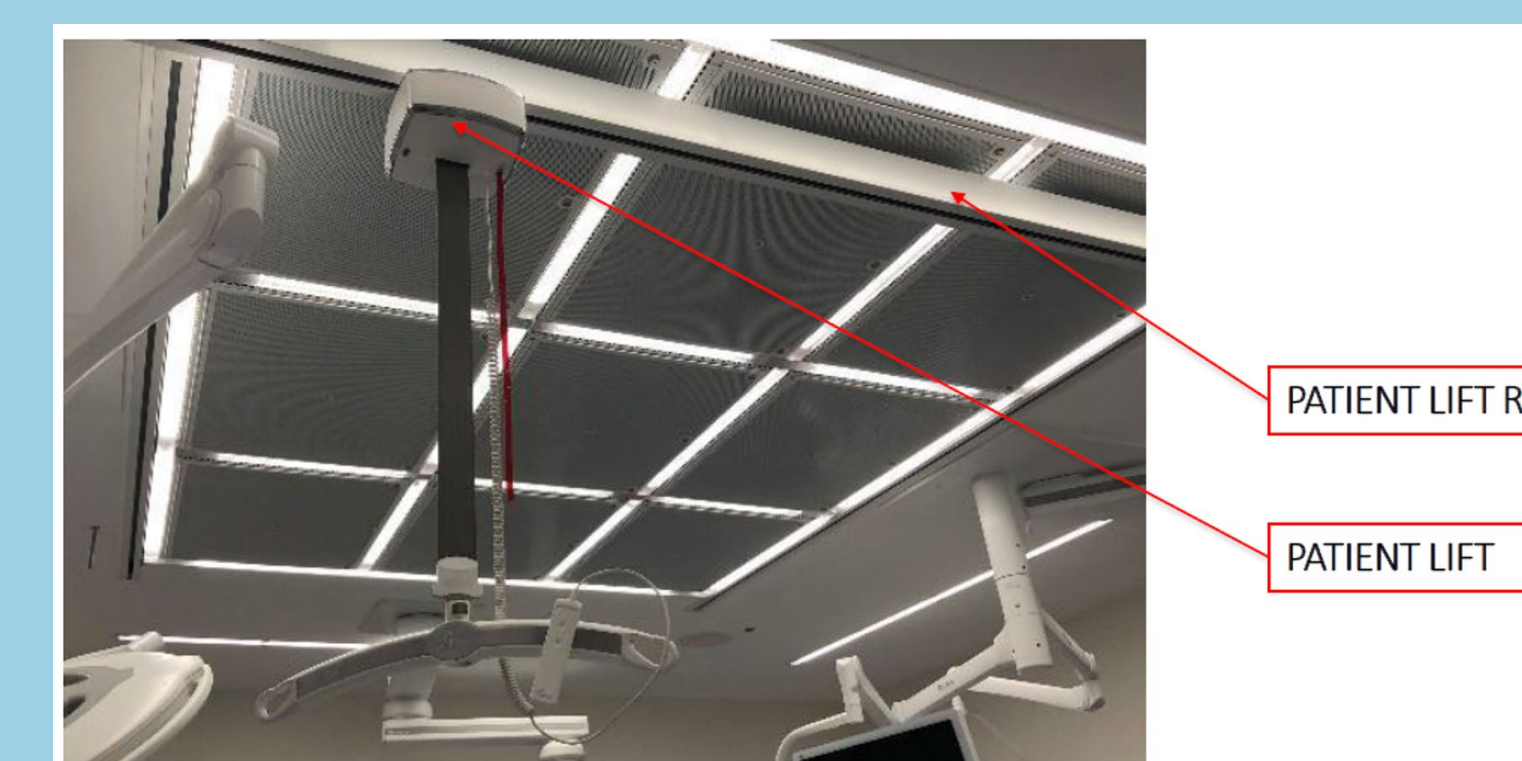
### Overhead Lift Designs



### Ceiling Lift Positioning



### Robotic Overhead Lift



## Interventions:

- 2019: Conference simulated high-risk tasks with surgical team, SPHM specialists, architect, and industry partners. Industry partners and architect listened to needs.
- 2020: One VA installed boom-mounted ceiling lifts in a new OR.
- 2021: Virtual innovation conference.
- 2022: Tested newly developed devices in live demonstration to virtual audience.
- Industry partners developed devices to keep patients safe in extreme positions and decrease manual handling by staff.
- Overhead lift and sling designs re-engineered for specific needs in perioperative environments.
- VA Design Guide for Surgical and Endovascular Services requires OR renovation/construction to accommodate overhead lifts as of 2022.
- Zero transfer single platform OR bed/stretchers were redesigned for easier movement and lighter components installable by fewer staff.
- Case cart moving innovations.

## Outcomes

- Staff increased knowledge of gaps and innovations in handling patients
  - Repeat gap analysis in 2021 showed 21% increased use of air-assisted lateral transfer devices – now 89%
  - Updated SPHM design requirements for new and renovated ORs
  - Continuing work with emphasis on procedural areas (GI, IR, CCL)
  - Developed an Operating Room Tool to Prioritize High Risk Handling Tasks
- Contact [VHASPHM@va.gov](mailto:VHASPHM@va.gov) for more information.