Safe Patient Handling and Falls Management for Ambulatory Care

Patti Wawzyniecki, MS, CSPHP
Safety Programs Manager
Hovertech International
Objectives

Patient Handling and Fall Hazards

*Recognition ~ Evaluation ~ Control*

I. Recognize the range of Out-patient services in U.S. today

II. Understand the resulting safety risks for patients and staff

III. Examine some unique ambulatory setting conditions & characteristics affecting safety

IV. Understand some regulatory influences on out-patient staff safety

V. Identify engineering solutions for risk reduction

VI. Research to reduce risks & support changes
1) Patient Incident

Twenty something...Out-pt. minor surgical procedure; near fall from table after procedure after instructed it was OK to get up and get dressed.
Case Studies

2) Staff Injury

Staff steadied patient who lost balance stepping onto scale.
I. Ambulatory Services

Range of Healthcare Services

**Standard**
- Family Medicine
- GI
- Internal Medicine
- Orthopaedics
- Pediatrics
- Same Day Surgery
- Urgent Care
- Women’s Health
- Rehab
- Laboratory Services

**Specialty**
- Cancer Center
- Cardiology
- Behavioral Health
- Geriatrics
- Dialysis
- Infertility
- Dermatology
- Ophthalmology
- Nuclear Medicine
- Weight-Loss
I. Ambulatory Services

Range of Settings - Varied

**Buildings**
- Multi-story facilities
- Inside hospitals
- Converted homes
- Inside retail establishments
I. Ambulatory Services

Range of Settings - Varied

Parking
Curbside / Valet
Directly-adjacent lot
Distant garage
I. Ambulatory Services

Range of Patient Transport

- All modes of arrival
  - Ambulate (with & without assistive device)
  - Wheelchair (electric or manual)
  - Stretcher
  - Private car
  - Ambulance or van service

**NOTE:** Some patients require/demand help exiting private car
II. Risk Factors

Recognition ~ Evaluation ~ Control

Risk Factors

- Rates of injury in healthcare
- Ergonomic risk factors
- Healthcare risk factors: Patient dependency, fall risk & tasks
- Changes in dependency during & after visit
- Additional patient factors: patient weight, cognition, condition
- Influence of environment & equipment
II. Risk Factors

A sobering statistic....

“Six of the top 10 professions at greatest risk for back injury are: registered nurses, nurses’ aides, health aides, licensed practical nurses, radiology technicians and physical therapists.”

USA DOL, 2000
II. Risk Factors

Hospital Worker Injuries Resulting in Days Away from Work

- Sprains and strains: 54%
- Bruises: 11%
- Soreness/pain: 10%
- Fractures: 5%
- Multiple trauma: 3%
- Cuts and punctures: 3%
- All other injuries: 14%

II. Risk Factors

Six-year Review of Musculoskeletal Injuries at Large Tertiary Medical Center

- 33% of all MSI due to patient handling
- 83% experienced by RN’s, Aides, Radiology personnel

Overexertion: most expensive nonfatal work injury

- $12.75 billion in Workers’ Comp Costs for all overexertion injuries, in 2009

Avg. cost of lower back injury claim

- $37,000

2) 2011 Liberty Mutual Workplace Safety Index, LMRIS website
3) Injury Facts 2011 Edition. NSC Website
II. Risk Factors

Seventy-seven percent of practice administrators indicated that their employees were trained to lift a patient. Only 4.8% of practices have a mechanical lift available.

Lagu, Hannon, Rothberg, Wells, Green, Windom, Dempsey, Pekow, Avrunin, Chen, 2013
## II. Risk Factors

### Ergonomic Risk Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Force</td>
<td>Exerting physical effort to accomplish work task</td>
</tr>
<tr>
<td>Repetition</td>
<td>Moving all or part(s) of the body in the identical way, over and over</td>
</tr>
<tr>
<td>Posture</td>
<td><strong>Awkward</strong>: non-neutral positioning of the body</td>
</tr>
<tr>
<td></td>
<td><strong>Static</strong>: maintaining one position for long period of time</td>
</tr>
</tbody>
</table>

**Higher Risk → Increased Pain & Injury**
II. Risk Factors

Ergonomic Risk Factors

ERGONOMIC RISK IN HEALTHCARE = DEPENDENCY + TASKS

Patient Dependency is increasing in all healthcare settings:

- Increasing severity of clinical status & conditions
- Increasing longevity
- Increasing weight
- Changes during visit: Increase in dependency level following exam or treatment
II. Risk Factors

Patient Dependency & Risk of Falling

- Any level of fall risk or dependency may be present in out-patient setting

Range of Dependency & Conditions

- Independent: healthy adults & children with no mobility impairment
- Frail elderly
- Infants & young children
- Partially dependent: disabled, obese, walk with device, mental health condition
- Totally dependent
II. Risk Factors

Changes in Dependency at Visit Due to Procedure or Wait Times

- No Change
- Mild, Short-Term Change
- Significant, Longer-Duration Change

ANTICIPATE & PLAN ~ PREVENTABLE EVENTS
II. Risk Factors

Additional Patient Risk Factors

- Increasing age and dependency of population
  - Population 85+ yrs. of age projected to increase from 1% in 2000 to 4.3% in 2050
  - Cognitive Impairment: increase in attentional deficits, disorientation in unfamiliar surroundings, poor judgement
  - Mobility Limitations: gait, imbalance, strength, endurance

Data: US Admin. On Aging
II. Risk Factors

Additional Patient Risk Factors

- Increased weight & size of patients
  - In the US, by 2025, 1 in 5 Americans will be obese

- Implications for ambulatory care....
  - Increasing numbers of patients of-size, due to chronic diseases associated with obesity
  - Environment of Care: size of rooms, restrooms, doorways need to be wider and larger
  - Equipment capacity: patient handling and clinical to accommodate higher weights.

http://www.cnn.com/2016/04/01/health/global-obesity-study/
II. Risk Factors

Additional Patient Risk Factors

- Impaired mental status
  - Patients with dementia & Alzheimer’s, intellectually disabled
  - Public institutions may provide care for higher percentage of this population

- Other
  - Unpredictable / Uncooperative patients & family may object to use of lifting equipment
II. Risk Factors

Patient Handling Tasks

- Moving or Transferring . . .
  - On/Off scale
  - On/Off exam table - from a chair or WC or stretcher
  - In/Out of exam chair
  - To/From a standing posture - from seated position
  - Positioning on table
  - Holding limbs
  - Wheelchair transport

- Other Activities
  - In/Out of vehicle
  - Assistance with dressing
  - Assistance in Restroom
II. Risk Factors

Environmental Factors

- Space to safely work & assist: Size of rooms, halls, door-widths
  - Narrow doorways and travel paths may impede or prevent the use of a portable lift; too narrow for a lift to pass
  - Walking alongside a patient may not be possible
  - Insufficient clearance around the exam table poses challenge to the use of portable SPH equipment
  - Access for bariatric patients requires more floor space and wider pathways
II. Risk Factors

Environmental Factors

- Walking Surfaces
  - Carpet, ramps & uneven surfaces increase risk for mobility and gait-impaired
  - These also demand higher push forces from staff to transport patients and equipment

- Restrooms
  - Toilet heights, floor space, door widths, hand-rails
  - Safe access for all users
  - Adequate space for assistance & emergency response
  - Bariatric accommodations
III. Ambulatory Characteristics & Processes Affecting Safety

- **Staffing:** Ratio of licensed to unlicensed staff
  - Assistants are predominant staff in many clinics
  - Scope of practice limits clinical tasks that unlicensed staff may perform
    - Can not “assess”

- **Implement Screening (vs. Assessment)**
  - Can be accomplished by *any* staff member
  - Consider time and ease of use in design
  - Standardize across disciplines
    - May need to group similar services together
III. Ambulatory Characteristics & Processes Affecting Safety

- Limited patient contact time
  - Provider time with patient decreasing in some clinics
  - Effect: entire “Patient Flow” cycle compressed
  - Pressure to eliminate unnecessary tasks and poses challenges for staff in retrieval & use of lifts

- Implement
  - Patient Flow time includes safety screenings
  - Support from physicians and management
  - Simple, easy, reliable screening tools
  - Readily accessible lifting equipment in good working order
III. Ambulatory Characteristics & Processes Affecting Safety

- Management Structure
  - Physician-owner
  - Practice manager

- Educate – Show Risks
  - Managers most likely MBA – not clinical background
  - Physicians – employee safety = patient safety
Challenging or Unique Procedures & Processes

* Need to Identify & Assess all Out-Patient Settings

Examples from University Healthcare System:

- **IVF/Fertility Clinic**: After invasive procedures on surgical tables; lateral transfer required to stretcher for recovery; patient under anesthesia; limited space, older stretchers.

- **Dermatology**: “MOHS” surgery - multiple short procedures to remove cancer layer by layer; frequent transfers from chairs in surgical and waiting room; several hours to full day; elderly become increasingly tired.

- **Diagnostic Imaging**: Bone Density Scans; one staff member in suite; half of patients arrive in WC; many elderly or mentally-impaired; requiring transfer to non-adjustable table.
IV. Regulatory & Other Considerations

Arriving Patients – sicker and physically de-conditioned

- Increased severity of patient illness/condition
  - Push to reduce hospital re-admissions
  - Physician appointments within 24 - 48 hours of hospital discharge
  - These patients require more assistance
IV. Regulatory & Other Influences

Arriving Patients – sicker and physically de-conditioned

- Patient referrals from Emergency Department
  - Major efforts to reduce over-utilization of ER to conserve resources
  - Some patients not being accepted in ER
    - Chronic, non-acute, stable conditions
    - Appointment made with physician before patient leaves ER
  - Hospitals establishing “Urgent Care” clinics
    - On-site within ER
    - Co-located with other out-patient services
IV. Regulatory & Other Considerations

ADA Regulations – 2010*

- ADA: requirements for ambulatory facilities
- Requires equal accessibility and treatment for all patients
- If exam is best performed on table, then disabled must be transferred, in order to receive the same quality level of care

“Staff should be protected from injury, but that doesn’t justify refusing to provide equal medical services to individuals with disabilities. The medical provider can protect his or her staff from injury by providing accessible equipment, such as an adjustable exam table and/or a ceiling or floor based patient lift, and training on proper patient handling techniques as necessary to provide equal medical services.”

* Access to Individuals with Disabilities, 2010
V. Solutions

- **Recognize**

- **Evaluate** ~ Conduct ERGONOMIC RISK ASSESSMENT to identify safety risks
  - Patient factors: dependency level, bariatric, possible changes
  - Patient handling tasks
  - Environment
  - Equipment and other influences

- **Control** ~ Implement prioritized improvements
  - Accountability through written policies and department-specific procedures
  - Staff Involvement: Champions, committee meetings, education/training
  - Measurable goals and metrics: Leading and lagging indicators
  - Follow best practices for establishing SPH&M “system”
  - Needs assessment & prioritization for equipment deployment, *after* risk assessment
V. Solutions

Challenges

- Management and physician resistance
  - Wide variation in out-patient services
  - Feel that patients not at risk in their particular setting
  - Object to time required for screening
  - Object to time required for safe pt. handling

- Culture change for all levels of staff
V. Solutions

All options need to be accessible & in sufficient quantity

- Independent & Minimum assistance
- Stand-Assist & Sit-to-Stand
- Lateral
- Maximum assistance: “Total” lift
- Portable or Installed devices
V. Solutions

Independent or Minimum Assistance

- Devices differ in level of safety / risk reduction
- Insure weight capacity appropriate
- Insure device is in good condition; inspected periodically
V. Solutions

Promote Patient Participation, without compromising safety

- Some wheelchair-bound patients may be able to self-transfer
V. Solutions

Other Clinical Equipment

- Vital Signs ~ Weight
  - New technology integrates scale into table or chair
  - Wi-Fi to B/P monitor
  - Reduce risk by matching type of scale with patient dependency
V. Solutions

Other Clinical Equipment

- **Transport**
  - Power-assist preferable; to reduce risk when transporting over-weight patients or travelling long distances or up / down ramps

- **Furniture**
  - Furniture to accommodate range of patient sizes, with sturdy armrests and higher heights
V. Solutions

Other Clinical Equipment

- **Patients of-Size**
  - Insure all equipment has capacity to safely accommodate bariatric patients & family
  - Patients of-size have family members of-size
  - Avoid all wall-mounted toilets
  - Appropriate seating: single cushion chairs
V. Solutions

Floor Lift & Emergency Evacuation

- Devices differ in level of safety / risk reduction
- Need to consider environmental limitations: space, flooring
V. Solutions

Long-Term Planning

Capital Funding: Renovation - New Constructions

- Purchase adjustable devices to reduce risks during transfers
- Equipment available for all specialty areas and bariatrics
V. Risks in the Ambulatory Setting

Solutions - Case Studies

- **Fertility Clinic:** Implemented *Air-assist* lateral transfer devices for Table Stretcher transfer

- **Dermatology:** Implemented *“Stand-Assist”* for Chair Transfer

- **Diagnostic Imaging:** Installed *Ceiling Lift* for Chair Table Transfer
VI. Research to Reduce Risks *

Goal: Minimize risk factors that we can change
- Force
- Repetition
- Posture: Awkward & Static

Consider the central task: moving patients onto exam tables
- A high risk task
- What is best approach to improve safety for both patient & staff, during this task

* Conducted by Guy Fragala Ph.D., PE, CSP, CSPHP
VI. Research to Reduce Risks

Ergonomic problem with fixed height exam tables

- Designed for independent patients
VI. Research to Reduce Risks

Research Hypothesis
- Less perceived exertion by caregiver to assist mobility-impaired patient onto adjustable table

Methodology
- Volunteers moved a 235 lb. volunteer
  - who exhibited “mobility impaired” lack of movement
  - then exhibited “independent” was independent
- Moved
  - first to adjustable table
  - then moved to fixed-height table

Collecting Data
- “Borg Scale” measuring perceived physical exertion has been shown to be an effective technique to investigate relative risk of patient handling activities

VI. Research to Reduce Risks

Results
Caregivers reported that significantly lower perceived physical exertion was required to perform the task with a height-adjustable examination table.
VI. Research to Reduce Risks

Next Steps in Research

- Research Questions Related to Patient Benefits
- Measure Exertion Required for Patients
- Evaluate Aspects of Patient Safety
- Explore Patient Experience and Dignity
Thank You

Questions?

Patti Wawzyniecki, MS, CSPHP
Safety Programs Manager
Hovertech International
pwawzyniecki@hovermatt.com