

## **PREVENTING FALLS, ENTRAPMENT, AND SKIN PROBLEMS WITH MATTRESSES AND SEATING**

**OR**

**I'VE FALLEN! I'M TRAPPED! OH, NO, LOOK AT MY SKIN!**

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**Span-America**

### **I've Fallen!**

Typical 100 bed LTC reports 100-200 falls/year  
About 35% of fall injuries among residents who cannot walk  
½ of SNF residents fall  
10-20% of falls cause serious injuries  
2% - 6% cause fractures  
Factors that increase risk of falling  
Decreased strength (↑ risk 4x)  
Impaired balance, gait (↑ risk 3x)  
Visual impairment, depth perception (2.5x)  
Orthostasis (2x)  
Cognitive impairment (2x)  
LTC residents take an avg of 3-8 meds/day  
5-9 meds ↑ risk fall risk 4x

### **I'm Trapped!**

HBSW: FDA received 691 entrapment reports from Jan 1985 – Jan 2006, 413 died, 120 injured, 158 near-miss events.  
Probably underreported  
Canadian version due to be released, 60-day comment period ended July 3, 2007.  
American version at [www.fda.gov/cdrh/beds](http://www.fda.gov/cdrh/beds)  
Dr. Steven Miles, Journal of the American Geriatric Society – “the high compressibility of air pressure mattresses”

### **Oh, NO, Look at My Skin!**

Woodbury and Houghton – Canadian pressure ulcer prevalence:  
25.1% for acute care settings  
29.9% in non-acute care settings  
22.1% in mixed health settings  
15.1% in community care  
The overall estimate all healthcare institutions across Canada was 26.0%.  
The Canadian prevalence estimates differed among the healthcare settings and were higher than those reported in the US and the Netherlands.  
SCI – 31.9% incidence, 95% over a lifetime  
Most common sites: sacrum/coccyx, heels, ischials/trochanters  
Body positions and interventions to prevent sacral breakdown  
Body positions and interventions to prevent heel breakdown

Body positions and interventions to prevent trochanter breakdown

**Consider the Mattress / Bedframe in Relation to Above**

Flat, unmoving top  
    Self-repositioning  
    Maintaining position – 30 degree sidelying, 150 degree sidelying  
Firm edges  
    Transfers  
    Prevent entrapment  
    Prevent sliding off edge in sitting  
Hi/lo bedframe to get mattress to same height as wheelchair seat  
Firm siderails or handrail  
  
Pressure Redistribution from sacrum  
Shearing  
Heat/Moisture – low-air-loss

**Consider the Seat Cushion in Relation to Above**

Firm front edge for hand hold, increased lift, sliding boards, and bottom grabber  
Non-slippery material  
Fit to the chair upholstery  
  
Positioning  
Pressure Redistribution with ischial pressure relief/reduction/elimination  
Shear  
Heat/Moisture

**References**

- Centers for Disease Control and Prevention fact sheets on Falls Among Older Adults, accessed July 18, 2007. <http://www.cdc.gov/ncipc/factsheets/adultfalls.htm>
- Miles, S. Deaths caused by bedrails. *Journal of the American Geriatric Society*, 45(7):797-802, July 1997.
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**Speaker Bio**

Laurie is a Physical Therapist and Certified Wound Specialist with clinical background in both adult and pediatric rehab, and in wound management. She has been active in national and international wound care symposiums, educational arenas, publishing and professional organizations such as NPUAP and AAWC (Association for the Advancement of Wound Care) since 1990. Laurie is the Clinical Support Manager for Span-America, a manufacturer of specialty support surfaces and seat cushions, where she is involved in writing, education, outcome studies, and public policy.