Ergonomic Assessments, Injury Surveillance & Intervention Points for Injury Prevention:

The Long Overdue Case for Controlling Hotel Housekeeping Hazards

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Ergonomic Assessments

- Barrett and Milburn, 1997
  - Lumbar loading & increased L5/SI compression forces from beds low to floor, larger beds, awkward twisting and 'pushing bed' away from wall & furniture.
  - Recommendations: unrestricted access to bed, reduce awkward twisting; work in pairs for lifting tasks.

- Milburn and Barrett, 1999
  - L5/SI loads exceeded NIOSH Back Compression Design Limit (BCDL) for 'bedding on, 'bedding off', 'lift middle', 'lift corner.'
  - Bed size and bed height separately and combined resulted in increased L5/SI pressure.
  - Averaged results using dynamic methods were 1.5-2.5 times greater than static results; peak estimates using dynamic methods were 5 times higher than static methods
  - Estimates were higher when trunk postures were accelerated during 'bedding on' and 'bedding off' tasks, suggesting that analysis methods focusing on solely on weight limits are inaccurate and a multiple risk assessment approach is needed

Ergonomic Assessments, cont'd

- Woods and Buckle, 2000
  -need for changes in work organization & scheduling, equipment design, training of management

- 'Ergonomics of Housekeeping' presentation at 2007 American Industrial Hygiene Association Annual Meeting by Gary Orr, PE, CPE

2004 NIOSH Lifting Equation Analysis of king luxury bed

Lifting

- Corner of king bed – 32 lbs.
- NIOSH recommended weight limit (RWL) – 24.7.
- Lift index (LI) – 1.29
- NIOSH Safe Lift = Lifting Index of 1.0
- Conclusion: Exceeds what NIOSH considers a safe lift (1.0).

Ergonomic Analyses cont'd

Using Rapid Entire Body Analysis (REBA)

Lifting

- REBA score of 5
- Conclusion: Exceeds action level (remedy must be implemented)

Duvet

- Duvet weighs 14 lbs.
- Straightening required 8 or more rapid shoulder exertions.

Time Pressure

- Housekeeper has a quota of rooms
- Time to clean is variable based on the condition of the room

Ergonomic Assessments, cont'd

- Weigall et all, 2005

-Using the Rapid Upper Limb Assessment (RULA) method, a study of cleaners (non-hotel) found:

1. vacuuming scores of 5.6

Conclusion: Scores of 5 to 6 require changes soon.

2. Toilet cleaning scores of 6.6

Conclusion: Scores of 7 require changes immediately.

Fitted Sheets

- In a survey by UNITE HERE Local 11 of 26 Los Angeles-area hotels with 200+ rooms, 9 provided fitted sheets to its housekeepers. These 9 hotel properties (from 6 different hotel companies) demonstrate that 1/3 of hotels in the LA area use fitted sheets from a variety of hotel companies.
- According to the Chicago Industrial Dryer Corp. that sells equipment to the hotel industry that dries, presses and folds fitted sheets (private communication, 3/11/13), 50-60% of all Marriott hotels use fitted sheets, e.g. Downtown, JW, Courtyard brands.

- Clearly, fitted sheets are preferred by U.S. households when making their own beds.
- And when marketing to such households, fitted sheets are the choice as demonstrated by Hyatt's Make the Grand Bed website.
- But why would employers *not* give the women who make beds all day for a living, the tool that the average U.S. household prefers?