**BACKGROUND**

- Nurses are at high risk of musculoskeletal (MS) disorders - 55-70% prevalence of work-related MS symptoms
- ~12,000 lost-time MSD cases/year in the US
- High risk perception - 83% felt they were more likely than not to have a MS injury within a year (Lee et al. 2013)
- Patient handling is the primary risk factor for MSDs
- Organizational and individual-level safety practices are important to prevent MS injuries among workers

**OBJECTIVES**

- To examine the associations of organizational safety practices with physical and psychosocial job factors, risk perception, safety behaviors, and work-related MS symptoms among hospital nurses

**METHODS**

- Cross-sectional survey
  - Postal (primary) and web survey in Jan-July 2013
- Sample
  - Random sampling from the California Board of Registered Nurses (RN) list (n=2,000)
  - 526 RNs responded (26.3%)
  - 268 eligible RNs working in hospitals (67.7%)
- Variables and Measures
  - Organizational safety practices (Amick III et al. 2000)
    - Safety climate, people-oriented culture, ergonomic practices
  - Physical workload index (Hailman et al. 1999)
  - Job strain, job satisfaction, intention to leave job
  - Job content Questionnaire
  - Risk perception of MS injury (Lee et al. 2013)
  - Safe patient handling behavior (Lee et al. 2010)
  - Work-related* musculoskeletal symptoms in the lower back, neck, shoulder, hand, or wrist in the past 12 months (*caused or worsened by work)
  - Demographic and job characteristics

**RESULTS**

### Organizational Safety Practices and Work Environment, Worker Perceptions, and Behaviors

<table>
<thead>
<tr>
<th>Variables (dichotomized at medians)</th>
<th>Physical workload</th>
<th>Job strain</th>
<th>Risk perception</th>
<th>Safe work behavior</th>
<th>Job satisfaction</th>
<th>Intention to leave job</th>
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<tbody>
<tr>
<td></td>
<td>(Range 0.5-6.17)</td>
<td>(Range 0.125-2.0)</td>
<td>(Range 1.6)</td>
<td>(Range 1.6)</td>
<td>(Very satisfied)</td>
<td>(Yes)</td>
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<tr>
<td>Safety climate</td>
<td></td>
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<tr>
<td>High</td>
<td>35.2</td>
<td>0.45</td>
<td>3.40</td>
<td>5.22</td>
<td>30.7</td>
<td>11.8</td>
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<td>Low</td>
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<td>0.58</td>
<td>3.95</td>
<td>4.59</td>
<td>12.9</td>
<td>19.8</td>
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<td>People-oriented culture</td>
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<tr>
<td>High</td>
<td>37.3</td>
<td>0.46</td>
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<td>5.15</td>
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<tr>
<td>Low</td>
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<td>0.56</td>
<td>3.88</td>
<td>4.70</td>
<td>13.3</td>
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<td>Ergonomic practices</td>
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<tr>
<td>High</td>
<td>33.9</td>
<td>0.45</td>
<td>3.24</td>
<td>5.15</td>
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</tr>
<tr>
<td>Low</td>
<td>41.8</td>
<td>0.56</td>
<td>4.02</td>
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</table>

**CONCLUSIONS**

- Higher organizational safety practices were significantly associated with
  - lower physical workload and job strain
  - lower risk perception
  - safer patient handling behaviors
  - higher job satisfaction, lower intention to leave job
  - lower work-related symptom reporting

- The study findings suggest that organizational safety practices may play a pivotal role in promoting nurses’ safety behaviors and positive perceptions about job, and in reducing the risk of work-related MSDs.

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