Work Injuries Among Adolescents and Young Adults

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Demographic pressures that make youth key

- Early Baby Boomers reach 60 in 2006
- Succession planning must encourage knowledge transfer
- Employers can’t hire their way out of labour shortage
Questions about teen and young adult workers

- What are their unique characteristics?
- What are their employment patterns?
- What is the risk they will be hurt on the job?
- What kinds of injuries are most common?
- Why are young people getting injured at work?
- How can youth work injuries be prevented?
Youth – period of adjustment

Salient areas of concern:

- Being attractive
- Independence from parents
- Balancing school & work
- Concern with vocational plans
- Concern to be considered somebody
- Insecurities around responsibilities/challenges of adulthood

Source: Committee on Supervision of Young Workers, 1953
Reasons young people work

- To get away from “hassles” in their lives
- A place to exercise autonomy
- A place to show others how good they are
- A place to find new/other peers
- A place where others will listen and respect their ideas

Source: Lewko, AWCBC, 2003
Questions about teen and young adult workers

- What are their unique characteristics?
- What are their employment patterns?
Types of jobs held by Canadian teenagers

Source: Canadian Council on Social Development, 2000
Many young people are new and hold temporary jobs

% At current job for < 6 months

Many young people work part-time

Source: Usalcas, 2005
Questions about teen and young adult workers

- What are their unique characteristics?
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Rate of lost-time claims in Ontario

![Bar chart showing the rate of lost-time claims in Ontario by age group and gender. The chart indicates that males have a higher rate of claims compared to females in all age groups except for the 25+ group.](chart-image)

Breslin et al. (2003)
Rate of claims with permanent impairment in Ontario

Breslin et al. (2003)
Rate of work injuries varies by province for teens/young adults

<table>
<thead>
<tr>
<th>Province</th>
<th>Rate/100 FTEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATL</td>
<td>6</td>
</tr>
<tr>
<td>QU</td>
<td>7</td>
</tr>
<tr>
<td>ON</td>
<td>4</td>
</tr>
<tr>
<td>MN</td>
<td>7</td>
</tr>
<tr>
<td>Sask</td>
<td>10</td>
</tr>
<tr>
<td>AL</td>
<td>6</td>
</tr>
<tr>
<td>BC</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Canadian Community Health Survey (2000)
Rate of medically attended work injuries for 15 to 24 year olds by educational status

Rate per 100 FTEs

No school, <HS  No school, HS+  In school, <HS  In school, HS+
Questions about teen and young adult workers

- What are their unique characteristics?
- What are their employment patterns?
- What is the risk they will be hurt on the job?
- What kinds of injuries are most common?
Types of injury, Teen males

- MSK
- Fracture
- Cut
- Contusion
- Burn
- Other

Source: Breslin, Smith, Koehoorn, Manno (2003)
Questions about teen and young adult workers

• What are their unique characteristics?

• What are their employment patterns?

• What is the risk they will be hurt on the job?

• What kinds of injuries are most common?

• Why are young people getting injured at work?
Press on young workers

• “Experts attribute the higher incidence of workplace injuries among young people to inexperience...and immature cognitive development” (Perry, Toronto Star, 2003)

• “In their haste to do a good job, the vitality of youth sometimes overtakes sound reasoning” (Wareing)

• “The vulnerability of younger workers may arise from their well-known sense of invincibility” (Gordon, Canadian Occupational Safety, 2005)
## Unsafe work conditions

<table>
<thead>
<tr>
<th>CONSTRAINTES</th>
<th>15-24</th>
<th>25 ANS ET + 25 AND OVER</th>
<th>CONTRAINTES CONSTRAINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horaires irréguliers</td>
<td>35,0%</td>
<td>30,1%</td>
<td>Irregular schedules</td>
</tr>
<tr>
<td>Travail répétitif</td>
<td>30,1%</td>
<td>19,4%</td>
<td>Repetitive work</td>
</tr>
<tr>
<td>Manipulation de charges lourdes</td>
<td>27,3%</td>
<td>17,6%</td>
<td>Handling of heavy loads</td>
</tr>
<tr>
<td>Efforts sur outils</td>
<td>23,1%</td>
<td>16,9%</td>
<td>Effort involving tools, machinery, equipment</td>
</tr>
<tr>
<td>Horaire de nuit</td>
<td>13,6%</td>
<td>12,7%</td>
<td>Intense Noise</td>
</tr>
</tbody>
</table>

**NOTE:** Le total peut être supérieur à 100%, car les travailleurs pouvaient identifier plus d'une contrainte de travail.

**NOTE:** The total may be above 100%, because each worker could identify more than one work constraint.

Systematic review of youth work injury

- 6043 citations from general and OHS specific literature databases
- 95 studies met our relevance criteria
- 21 occupational disease studies will be contained in a separate report
- 23 studies were excluded because of our methodological criteria
- Total of 46 studies retained
Summary of systematic review on young workers

• Demographic/individual factors
  – Visible minority – preliminary evidence

• Job/workplace factors
  – Perceived work overload – sufficient evidence
  – Occupation/work hazards – sufficient evidence
Things That Made Workplace Safety Hard

- Crowded work area: 8%
- Weather conditions: 7%
- Lack of adequate staff working: 4%
- Slippery floors: 3%
- Time constraints (incl. rushing to get a job done, too busy): 3%
- Management (incl. poor relationship with management, employers): 3%
- Other: 15%
- Nothing: 49%
- Don’t know: 7%

Source: WSIB, 2004
New workers at any age are at risk

1st lost-time claim rate by age group and job tenure. Adjusted for occupation, industry and gender.

Source: Breslin & Smith, 2006
Lack of training & supervision

- Young workers in their 1st year of the job who received safety, orientation, or equipment training: 23%

- 80% of work-related injuries among teens occurred when no supervisor was present
Developmental factors

• Physical development
  – Ergonomic mismatches (National Research Council, 1998)
  – Rapid growth (Nelson, 1992)

• Maturity in judgment
  – Cognitive differences
    • Risk appraisal
  – Psychosocial differences
    • Self-regulation, perspective taking
Risk comparisons: Percentage by group

Source: Quadrel et al. 1993
1 in 7 worries about a work accident

<table>
<thead>
<tr>
<th>Concern</th>
<th>Extremely/rather concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety of drinking water</td>
<td>36%</td>
</tr>
<tr>
<td>Losing your job</td>
<td>21%</td>
</tr>
<tr>
<td>Being victim of terrorist attack</td>
<td>20%</td>
</tr>
<tr>
<td>Being injured at work</td>
<td>15%</td>
</tr>
</tbody>
</table>

Source: Vector Research, 2002
Invulnerability/Impulsivity

- Omnipotence scale not correlated with number of work injuries among 145 males 18 to 22 years of age (WCB of BC, 2001)
- Impulsivity personality scale not associated with occurrence of work injury among 319 youth 16 to 19 years old (Frone, 1998)
Psychosocial differences: self-regulation

- Gains in capacity for self-direction continue through final years of high school (Greenberger, 1982)
- Susceptibility of teens to parental influence declines with age (Berndt, 1979)
- Susceptibility to peer influence peaks around age 14 (Steinberg & Silverberg, 1986)
Psychosocial differences: Perspective taking

- “Societal” perspective taking (Selman, 1980)
  - Other’s perspectives influenced by social institutions and roles
  - Age-related changes in perspective taking until about age 16

- Future time perspective
  - Ability to take into account potential long-term as well as short-term consequences
  - Gains take place during adolescence and again in young adulthood (Nurmi, 1991)
Context

- Self-regulation and decision making influenced by:
  - Peers (Jessor, 1998)
  - Emotional arousal (Steinberg, 2004)
Image from the Chicken video game

Source: Gardner & Steinberg, 2005
Age by condition interaction in risk taking

Source: Gardner & Steinberg, 2005
## Association between risk behaviours and injury by context

<table>
<thead>
<tr>
<th>Number of high risk behaviours</th>
<th>Severe injury ((N = 756/7177)^a)</th>
<th>Sports injury ((N = 1836/7177)^a)</th>
<th>Home injury ((N = 1010/7177)^a)</th>
<th>School injury ((N = 875/7177)^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds ratio (95% CI)(^b)</td>
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<td>Odds ratio (95% CI)(^b)</td>
</tr>
<tr>
<td>0</td>
<td>1.00 (^c)</td>
<td>1.00 (^c)</td>
<td>1.00 (^c)</td>
<td>1.00 (^c)</td>
</tr>
<tr>
<td>1</td>
<td>1.50 (1.03–2.17)</td>
<td>1.21 (0.98–1.50)</td>
<td>1.19 (0.91–1.56)</td>
<td>1.12 (0.85–1.48)</td>
</tr>
<tr>
<td>2</td>
<td>2.23 (1.55–3.20)</td>
<td>1.46 (1.19–1.81)</td>
<td>1.58 (1.21–2.05)</td>
<td>1.35 (1.02–1.78)</td>
</tr>
<tr>
<td>3</td>
<td>2.85 (1.96–4.15)</td>
<td>1.94 (1.56–2.41)</td>
<td>1.89 (1.42–2.50)</td>
<td>1.61 (1.21–1.78)</td>
</tr>
<tr>
<td>4</td>
<td>4.12 (2.80–6.08)</td>
<td>2.24 (1.77–2.84)</td>
<td>2.32 (1.71–3.13)</td>
<td>1.98 (1.45–2.71)</td>
</tr>
<tr>
<td>5</td>
<td>5.20 (3.48–7.79)</td>
<td>2.31 (1.79–2.98)</td>
<td>2.78 (2.01–3.84)</td>
<td>1.84 (1.30–2.61)</td>
</tr>
<tr>
<td>6</td>
<td>5.07 (3.26–7.90)</td>
<td>2.00 (1.48–2.70)</td>
<td>3.04 (2.12–4.36)</td>
<td>1.95 (1.31–2.90)</td>
</tr>
<tr>
<td>7</td>
<td>10.84 (6.50–18.09)</td>
<td>3.98 (2.71–5.86)</td>
<td>3.86 (2.34–6.36)</td>
<td>2.73 (1.59–4.70)</td>
</tr>
</tbody>
</table>

Source: Pickett et al., 2002
Tentative conclusions about developmental factors

- No direct evidence regarding work injury
- Relevant age differences may lie in psychosocial domain, not in cognitive appraisal of risk
- Developmental factors may be context dependent
- Education focused on risk awareness not an optimal strategy
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- How can youth work injuries be prevented?
Injury prevention strategies

Education & Training

• Early structured safety orientation

• Graduated entry into job tasks

• Monitor new workers’ injury/near miss experience

Source: Gray, 2002
Injury prevention strategies

Supervisory approach

- Safety-conscious leadership
  - Act on OHS issues raised

- Style: Warmth, clarity, and teamwork

Source: Barling, 2000; Lewko, 2004; Boyd, 2006
Managers/Supervisor’s Concern for Safety

- Managers/Supervisors checking to see if I was safe: 18%
- Safety information sessions – no mention of WHMIS: 16%
- Managers/Supervisors showing me how to properly do the job: 13%
- Provided proper safety equipment: 9%
- Training/ training programs (unspecified): 7%
- Safety inspections: 5%
- Managers/Supervisors helping me when I am too busy: 4%
- Other: 9%
- Nothing: 13%
- DK/NS: 9%

Source: WSIB, 2004
Injury prevention strategies

Improving work conditions

• Removal of unnecessary hazards

• Improve safety features of equipment youth are using
Work co-op and OHS

• Work co-op: working for employer as an unpaid trainee and receiving school credit

• “Learning to 18”
  – Potentially increases the role of work co-op placements

• Work co-op may influence skills and connections in ways that change the:
  – Type of job held post coop
  – Job tenure
Ensuring healthy employees tomorrow by focusing on preventing youth work injuries today

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