Injury risk in Finnish youth floorball: A one-year prospective follow-up study

Kati Pasanen¹, Jussi Hietamo¹, Pekka Kannus¹, Tommi Vasankari¹, Urho Kujala², Ari Heinonen², Jari Parkkari¹

¹UKK Institute for Health Promotion Research, Finland | ²University of Jyväskylä, Finland

Background
Floorball is a popular team sport in Finland. Previous studies have revealed that injuries are a significant problem in adult floorball. However, epidemiological studies of injuries in youth floorball are lacking.

Purpose
The aim of this study was to investigate the incidence and pattern of injuries in young floorball players.

Participants
One-hundred-fifty-six female (n=57) and male players (n=99) (mean age 17.1 ± 1.6 years) from nine floorball teams participated in the study.

Methods
Injury and exposure data were collected over the 12-month period (from May 2013 to April 2014). An injury was defined as having occurred in an organized floorball practice or game, and having resulted in the inability to participate in floorball training or playing for one or more days. Severity of injury was measured by number of days lost from floorball training and playing.

Results
The players reported a total of 136 injuries, of which 63 % were acute and 37 % were from overuse. The overall incidence of injuries in female and male players per 1000 practice and game hours was 4.5 (95% CI 3.48 to 5.79) and 3.0 (95% CI 2.41 to 3.76), respectively. Incidence of traumatic game-related injuries in females was 45.1 per 1000 game hours (95% CI 30.98 to 65.67), and 19.9 (95% CI 12.87 to 30.65) in males. The majority of injuries involved the lower extremity (Figure 1). Most of the injuries affected joint/ligament and muscle/tendon structures (Figure 2). Thirty-five percent of injuries were severe (Table 1). The sites and types of injuries are presented in Figure 1 and 2.

Conclusions
The injury risk in youth floorball games is high. The lower limb is the most commonly injured body area. Rather many of the injuries are severe resulting in long-term absence from sports.

Table 1. Severity of injuries classified according to time loss from sports, given as percentage of injuries.

<table>
<thead>
<tr>
<th>Severity</th>
<th>Acute injuries (%)</th>
<th>Overuse injuries (%)</th>
<th>All injuries (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–3 days</td>
<td>14</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>4–7 days</td>
<td>29</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td>8–28 days</td>
<td>30</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>&gt; 28 days</td>
<td>27</td>
<td>48</td>
<td>35</td>
</tr>
</tbody>
</table>

![Figure 1. Percentage distribution of injuries by anatomical site among young floorball players.](image)

![Figure 2. Percentage distribution of injury types among young floorball players.](image)