ROWING IRELAND
NATIONAL COACHING CONFERENCE
on Sun 25th of January 2009, 9 a.m. to 5 p.m.
in the Red Cow Hotel, Dublin

“BUILDING A PATHWAY FOR THE DEVELOPMENT OF IRISH ROWERS THROUGH BEST PRACTICE IN COACHING”
Rowing injuries: The role of the coach in management and prevention.

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Rowing injuries: The facts

- Injury rate of 3.67/1000 hours. (boxing=2/1000 hours, distance running=2.5/1000 hours)
- In a 12 month period, international rowers sustain 2.2 injuries.
- In a 12 month period, 31.2% of injuries were to lower back, 15.9% were to knee and 11.36% were to cervical spine (neck).
- Half of all injuries were to the spine.
Injuries sustained per annum
Risk factors for injury

- Ergometer training is significantly associated with increased injury risk.
- Heavy weights and core stability (!) training increase risk of injury.
- No difference in injury rates between scullers and sweep rowers.
- Peak number of injuries occur in November, December and January with another peak in September. This correlates with increased land training volumes.
- Scullers have a high risk of neck injury compared to sweep rowers.
Injury counts per month.
# Risk factor summary

**TABLE TO SHOW MEAN NUMBER OF SESSIONS PER WEEK OF EACH ACTIVITY**

<table>
<thead>
<tr>
<th>Month</th>
<th>boat</th>
<th>ergometer</th>
<th>heavy weights</th>
<th>light weights</th>
<th>core stability</th>
<th>flexibility</th>
<th>number of injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>November</td>
<td>6.65</td>
<td>2.83</td>
<td>2.08</td>
<td>0.65</td>
<td>3.675</td>
<td>4.9</td>
<td>14</td>
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<tr>
<td>December</td>
<td>7.85</td>
<td>2.3</td>
<td>2.33</td>
<td>0.5</td>
<td>2.95</td>
<td>4.525</td>
<td>8</td>
</tr>
<tr>
<td>January</td>
<td>7.33</td>
<td>1.95</td>
<td>1.9</td>
<td>0.65</td>
<td>2.825</td>
<td>5.125</td>
<td>7</td>
</tr>
<tr>
<td>February</td>
<td>8.63</td>
<td>2.13</td>
<td>2</td>
<td>0.7</td>
<td>2.925</td>
<td>4.45</td>
<td>2</td>
</tr>
<tr>
<td>March</td>
<td>8.4</td>
<td>2.3</td>
<td>1.925</td>
<td>0.825</td>
<td>2.95</td>
<td>4.65</td>
<td>3</td>
</tr>
<tr>
<td>April</td>
<td>9.8</td>
<td>1.15</td>
<td>1.6</td>
<td>0.55</td>
<td>2.225</td>
<td>4.325</td>
<td>1</td>
</tr>
<tr>
<td>May</td>
<td>11.05</td>
<td>0.225</td>
<td>0.8</td>
<td>1.4</td>
<td>2.6</td>
<td>3.775</td>
<td>3</td>
</tr>
<tr>
<td>June</td>
<td>10.15</td>
<td>0.15</td>
<td>0.45</td>
<td>1.325</td>
<td>2.425</td>
<td>3.375</td>
<td>1</td>
</tr>
<tr>
<td>July</td>
<td>9.4</td>
<td>0.3</td>
<td>0.625</td>
<td>0.15</td>
<td>1.175</td>
<td>3.575</td>
<td>0</td>
</tr>
<tr>
<td>August</td>
<td>1.4</td>
<td>0.15</td>
<td>0.225</td>
<td>0.15</td>
<td>0.825</td>
<td>0.925</td>
<td>0</td>
</tr>
<tr>
<td>September</td>
<td>1.975</td>
<td>1</td>
<td>0.725</td>
<td>0.3</td>
<td>0.9</td>
<td>1.5</td>
<td>3</td>
</tr>
<tr>
<td>October</td>
<td>3.525</td>
<td>1.225</td>
<td>1.225</td>
<td>0.225</td>
<td>1.225</td>
<td>2.45</td>
<td>2</td>
</tr>
</tbody>
</table>
Managing risk: input from the coach.

The ergometer

- Reduce time spent on the ergo.
- Never follow or precede ergo with a weights session.
- Observe biomechanics, particularly of the lower back.
- Use a rowperfect when possible.
- Follow ergo session with stretches, particularly low back extension.
Catch position
Finish position
Managing risk: input from the coach.
Heavy weights.

- Technique is key, power cleans are the worst offender.
- Never lift weights to fatigue.
- Do not encourage competition in the weights room.
- Never follow a rowing or ergo session with weights.
- Consider removing power cleans from programme for athlete with history of back injury.
- Give constant feedback.
Managing risk: input from the coach. **Core stability.**

- Frequently a poorly understood term.
- Exercises should be carried out at a low level.
- Each athlete should be trained individually and have their own programme – generic programmes rarely work in core training.
Managing risk: input from the coach.

Injury peak in winter months.

- Examine programme!
- Consider reducing ergometer training.
- Are the athletes resting adequately? Consider social pressures in December.
- Are endurance sessions being followed by weight training?
- Does cold weather restrict stretching programmes.
- Ensure that September is a GRADUATED return to training.
Managing risk: input from the coach. Scullers and neck injury

- All rowers are at risk of neck injury.
- Steering is main culprit, hence the increased risk to scullers.
- Advise all rowers to look to both sides when steering.
- Give as much input as possible from bank/launch.
- Check neck position at catch.
Injury prevention: What is the role of the coach?

- Know the risk factors.
- Know the injuries.
- Understand how biomechanics and loading leads to injury.
- Adapt/coach technique to improve performance AND reduce injury risk.
- Introduce a good stretching programme.
- Introduce an appropriate core stability programme.
Injury prevention: What is the role of the coach?

Technique and biomechanics

- Rowing is bad for the lower back!!!
- Danger point in the stroke is the catch.
- Compression should come from the knees and hips. Common mistake is to flex over with the upper and lower back and reach forward with the shoulders to increase length of the stroke.
- A hard catch requires an extremely stable lower back and should not be encouraged in younger age groups.
- The trunk is the fulcrum and limbs are the levers, to improve power and minimise injury there should be no movement in the fulcrum.
Key technical points.

- Keep lumbopelvic neutral at all times.
- Achieve flexion from the hips and knees, not the lower back.
- Ensure that the rower is achieving stroke length from hip and knee compression and by reaching up and out with chest (this requires good extension in the thorax).
- Ensure that the power applied at the catch is appropriate to the rower’s strength.
Lumbopelvic neutral
Stretching programme

- Some evidence that stretching prevents injury.
- Joint mobility is important in rowing to achieve correct position in boat.
- Stretching is important to achieve neutral pelvis position.
- A few key stretches are important for every day but there should also be an intensive programme on a weekly basis.
Key stretches.
Lumbar extension
Thoracic extension
Thoracic rotation and side flexion
Hamstring stretches
Adductor stretch
Evidence that trunk stability protects the back from injury and enhances performance.

Poorly understood concept.

Basic concept that trunk should be kept completely stable while limbs move.
Abdominal bracing in a neutral position
Introduce loading
Increase loading
Further increase load
Challenge stability in a dynamic situation
Challenge stability in a dynamic situation
Summary

- Understand injury profile in rowing.
- Know risk factors.
- Adapt training according to rower’s ability and exposure to risk.
- Introduce core stability and stretching into programme.
- Ensure that if rowers are injured, they see appropriate personnel.
Questions?