Risk Management for Sporting Organisations

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Medical Risk Management for Sporting Organisations

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Overview

- Hot topics in sports medicine and duty of care:
  - Concussion
  - Spinal injury management
  - SCA / SCD
  - ACL injuries / Effective MSK injury prevention

- Conducting a risk audit for sporting organisations / clubs / developing an emergency management plan
Sports Medicine Australia

- Australia’s peak advisory body on medical and health issues for active people.
- Goal: “to enhance the health of all Australian’s through safe participation in sport, recreation and physical activity”
- Established in 1963.
- A not for profit organisation
- Professional education and research
- Community education and advice
Is your club ready?
Managing medical emergencies and implementing effective injury prevention.
Townsville gym club found guilty in teenage gymnast's death

• Fined $70,000.
Michelle's death highlights gymnastics shortcomings

- WHSQ issued 37 enforcement notices to 26 other clubs for safety breaches
“At present the speculation that repeated concussion or subconcussive impacts cause CTE remains unproven”. (McCrory et al 2013)
# Stepwise supervised program for concussion

<table>
<thead>
<tr>
<th>Rehabilitation stage</th>
<th>Functional exercise at each stage of rehabilitation</th>
<th>Objective of each stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No activity</td>
<td>Physical and cognitive rest.</td>
<td>Recovery.</td>
</tr>
<tr>
<td>Light aerobic exercise</td>
<td>Walking, swimming or stationary cycling. Keep intensity 70% maximum predicted heart rate. No resistance training.</td>
<td>Increase heart rate.</td>
</tr>
<tr>
<td>Sport specific exercise</td>
<td>Running drills in basketball and football. No head impact activities.</td>
<td>Add movement.</td>
</tr>
<tr>
<td>Non-contact training drills</td>
<td>Progression to more complex training drills, e.g., passing drills in basketball and football. May start progressive resistance training.</td>
<td>Exercise, coordination, and cognitive load.</td>
</tr>
<tr>
<td>Full contact practice</td>
<td>Following medical clearance participate in normal training activities.</td>
<td>Restore confidence and assess functional skills by coaching staff.</td>
</tr>
<tr>
<td>Return to play</td>
<td>Normal game play.</td>
<td></td>
</tr>
</tbody>
</table>

There should be approximately 24 hours (or longer) for each stage. The player should drop back to the previous asymptomatic level if any post-concussive symptoms recur.
“Mother of Lucas, Celine, said each team in every club in Football Brisbane should have an official trained in CPR and first aid while every club should stock a defibrillator”.

www.couriermail.com.au
Defibrillation: The time factor

“Survival rates after VF cardiac arrest decrease Approximately 7% to 10% with every minute That Defibrillation is delayed.”

Ventricular Fibrillation (VF)

- VF
- Defibrillation
Management of Heart Attack

- DRSABCD
- Call ambulance
- Commence CPR if not responsive
- Attach an AED as soon as it is available
Morosini's death sparks probes into ambulance delay

The death of Livorno's Piermario Morosini during a game on Saturday has triggered investigations into a delay in the ambulance's arrival and calls for more medical equipment at sporting events.

Eurosport – Sun, Apr 15, 2012 16:33 BST

“Any football player who collapses without contact with another player or obstacle should be regarded as being in SCA until proven otherwise”. Kramer 2013
Characteristics of anterior cruciate ligament injuries in AFL

32% Full-contact
12% Partial-contact
56% Non-contact

42% Sidestep
29% Land
13% Land & Sidestep

Knee gave-way
valgus & internal rot’n

Boden et al Orthopedics (2000)
Knee loading in sidestepping & marking
Bad sidestepping techniques

↑ Trunk Lateral Flexion

↑ Trunk External Rotation

↑ Foot distance from Pelvis Midline

↑ peak valgus moments

and

↑ peak internal rotation moments

6 weeks good technique training
Unanticipated changing direction

- Two players stand facing each other about 20 m apart, one holding a ball.
- Players run towards each other, after 3.5 steps, the attacker changing the ball side-step to left or right (as if trying to evade an opponent).
- The defender (without the ball) moves to block it by self-diagonal to the open side (as if pursuing the attacker).
- After the change of direction, the attacker continues to run about 3.3 m in the new direction before gradually turning the back to not maintain.
- The defender should run forward with normal running steps (not shuffling) as they are required to perform a side-step to change direction.
- Focus on the change of direction movement of the defender.
- The attacker should perform 6 changes of direction to both the left and right but do not deviate in a random order as the defender has to change direction in response to an unpredictable attacker.
- The two players change roles as the attacker and defender so that both perform 6 side steps as the defender.
NMT programs

• Arnason et al 2004, NMT programs reduce injuries AND improve team performance.
• Olsen et al 2005, (BMJ) Structured NMT programs reduce knee and ankle injuries in youth sports.
• Arnason et al 2007, Hamstring injuries reduced.
• Soligard et al 2008 Structured warm up programs based on NMT principles reduce injuries.
Does a structured neuromuscular training program reduce lower limb injuries in NZ Army recruits

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RESULTS: Lower Limb Injuries

First Presentation of New and Reoccurring Injury (Total Injury n= 290)

- Foot
- Ankle/Achilles
- Shin/Calf
- Knee
- Thigh
- Hip
- Groin
- Skin/Nail
- Cramp

No. of Injuries

Total Control n=158
Total Intervention n=132
RESULTS: Health Provisions

Local Health Provision for Lower Limb Injury
( n= 889)

<table>
<thead>
<tr>
<th>Role</th>
<th>No. of Appts</th>
<th>Control n=493</th>
<th>Intervention n=396</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medic</td>
<td>180</td>
<td>148</td>
<td>129</td>
</tr>
<tr>
<td>Doctor</td>
<td>172</td>
<td>129</td>
<td>148</td>
</tr>
<tr>
<td>Nurse</td>
<td>25</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Ward Nurse</td>
<td>38</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Physio</td>
<td>78</td>
<td>69</td>
<td></td>
</tr>
</tbody>
</table>
# Health Cost Comparison

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctor</td>
<td>$10,320.00</td>
<td>$7,740.00</td>
</tr>
<tr>
<td>Nurse (Capt)</td>
<td>$967.50</td>
<td>$774.00</td>
</tr>
<tr>
<td>Ward Nurse</td>
<td>$1,470.60</td>
<td>$1,161.00</td>
</tr>
<tr>
<td>Medic (Cpl)</td>
<td>$5,050.80</td>
<td>$4,152.88</td>
</tr>
<tr>
<td>Physio</td>
<td>$2,699.58</td>
<td>$2,388.09</td>
</tr>
<tr>
<td><strong>Total costs</strong></td>
<td><strong>$20,508.48</strong></td>
<td><strong>$16,215.97</strong></td>
</tr>
<tr>
<td><strong>Total difference (2 intakes)</strong></td>
<td></td>
<td><strong>$4,292.51</strong></td>
</tr>
<tr>
<td><strong>Savings x5 Intakes 2013</strong></td>
<td></td>
<td><strong>$10,731.27</strong></td>
</tr>
</tbody>
</table>
Occupational Endpoint Achievement

Occupational Endpoint Comparison Control vs Intervention
(n =248)

Completed training
Backsquad
717 Release
Admin DC
Medical DC

No. of recruits

- Total Control n=124
- Total Intervention n=124
Optimal training load

- E.g Rasmussen et al 2012
- Relative risk (RR) of injury in runners
- RR 2.02 average weekly training volume below 30 km/week (compared to training volume of 30-60 km/week).
- RR 1.13 for runners exceeding 60 km/week
Is your club ready?
Risk management – conducting a risk audit for your sport.
VicHealth Active Club Grant Workshop

Supported by:
Sports Medicine Australia - Victoria

Welcome!
Healthy Club Assessment:
Alcohol management  Smoke free Clubs  Healthy Eating
UV Protection  Injury Prevention  Keeping records
Injury management: equipment & personnel  Club Governance
Personal Record Form

Be aware of an athlete’s specific medical conditions

Know what's normal for each individual athlete.

- SMA Athlete Medical Profile
- IOC Periodic Health Evaluation (PHE)
## Area 2: First Aid

### 04 First Aid and Sports Trainers
Does your club have a dedicated and adequately qualified person who is responsible for first aid and immediate injury management allocated to each team or venue?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
</table>

### 05 First Aid Kits

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
</table>

#### a) Does your club provide first aid kits / supplies for each team / venue?

#### b) Do the kits contain the recommended supplies and are they replenished when required, checked and maintained on a regular basis?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
</table>

### 06 First Aid Equipment
Is there a stretcher available at training and competition venues for use by trained personnel?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
<th>Unsure</th>
</tr>
</thead>
</table>
SMA Safer Sport Program
FIMS letter of endorsement 25 August 2011:

- “the International Federation of Sport Medicine supports the concept of the Safer Sport Program as a means of promoting healthy and safe physical activity”.

- “This initiative represents a model to other countries to provide community’s awareness of the prevention, assessment, management and referral of sporting injuries.”
Emergency planning checklist. E.g:

- Venue address and contact details? Ambulance entry?
- What will the procedure be in an emergency?
- Who will be in charge?
- Who looks after the first aid equipment and consumables?
- Have you practised the plan?

### Appendix 7 - Club Action Plan – An Example

#### 1.1 Environment – Padding Goal Posts – Safe and Sound Football Club

<table>
<thead>
<tr>
<th>IDEA – Priority Issue</th>
<th>WHAT WILL MAKE IT HAPPEN</th>
<th>WHAT DO YOU NEED TO MAKE IT HAPPEN</th>
<th>WHO WILL MAKE IT HAPPEN</th>
<th>WHO WILL HELP Partner Organisation</th>
<th>WHEN WILL IT HAPPEN</th>
<th>WHERE ARE WE UP TO Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put Australian standard padding on the goal posts by the start of the next season</td>
<td>Call the Local Council, the League and Football Victoria (our key stakeholders) and find out where to source padding from and if there are any standards that the padding needs to meet.</td>
<td>Contact numbers Football Victoria - Christian ph 111222333 Local Council – Jimmy ph 0011223333</td>
<td>Club Committee Safety officer – Janet 1235468</td>
<td>NA</td>
<td>1st July - 20th July</td>
<td>Completed – we have standards</td>
</tr>
<tr>
<td>Get a quote on the padding and see if it can be labeled with sponsors names</td>
<td>Foam and Padding Kings – ph 0245866577</td>
<td>Club Committee Safety Officer – Janet 1235468 working with the Club Treasurer – John 021485944</td>
<td>Ask friends from other clubs who to get a quote from</td>
<td>20th July – 28th July – present to Club Committee.</td>
<td>Completed – quote $190 and further $80 per sponsor name – approved by committee</td>
<td></td>
</tr>
<tr>
<td>Ask sponsors if they will support the padding on the goal posts</td>
<td>Contact Numbers Joes Country Chicken - 132485978 (speak to Jill)</td>
<td>Club Committee Sponsorship and Marketing Officer – Andrew - 126587197</td>
<td>Sponsors</td>
<td>28th July – 28th August present to Club Committee</td>
<td>No action</td>
<td></td>
</tr>
<tr>
<td>See if there is a grant available for putting padding on goal posts</td>
<td>Regional Sports Assembly and Local Government, State Government and VicHealth Websites</td>
<td>Club Grants and Fundraising Officer - Will</td>
<td>NA</td>
<td>1st July - 28th August present to Club Committee</td>
<td>Will has sent emails to RSA and had a look on ASC website – nothing to date</td>
<td></td>
</tr>
<tr>
<td>Decide on how to pay, when to purchase and when delivery is needed. Apply for a grant if able. Nominate someone to put up the padding in the required time frame</td>
<td>TBC</td>
<td>TBC</td>
<td>TBC</td>
<td>28th August - Decide at Club Committee meeting these time frames and set new actions to get the job done.</td>
<td>No action</td>
<td></td>
</tr>
</tbody>
</table>
Summary

- Injury prevention has many components
- Properly designed NMT programs can reduce MSK injuries.
- Standardised risk audits are the first step in implementing effective injury prevention and emergency management plans.

Contact SMA for assistance:

www.sma.org.au
mbrown@sportsmedicine.com.au
Acknowledgements

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