Team medical management

Rehabilitation in football medicine
Jason Palmer
Chelsea Football Club Medical Department

Rehabilitation in football medicine

- No single magic treatment to every injury
- Adapt rehab approach to own environment
- Effective rehabilitation
Rehabilitation in football medicine

*Correct diagnosis*

- Multi-disciplinary approach
- Clear understanding of each role and of the procedures of the team
- Everyone’s opinion is important
- Personal relationship with the player does not influence rehab plan
- Team members have different contributions to the process
- Different injuries will be managed in a different way by different people

Rehabilitation in football medicine

*Correct diagnosis*

- Private area
- Involve as many members of the medical team as available
- Avoid over-diagnose
- Group decision
Rehabilitation in football medicine

- What staff and their skills
- What equipment and facilities
- Main pathologies
- Rehabilitation processes in your team
- What do coach, club, player expect about rehabilitation process?
- Who, How communicate? To whom?
- Importance for the team of the rehab process
- Effectiveness of the process

Team members contributions to the process

<table>
<thead>
<tr>
<th>Injury A</th>
<th>Injury B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doctor</strong></td>
<td>5%</td>
</tr>
<tr>
<td><strong>Therapist</strong></td>
<td>15%</td>
</tr>
<tr>
<td><strong>Manual Ther</strong></td>
<td>25%</td>
</tr>
<tr>
<td><strong>Cond trainer</strong></td>
<td>25%</td>
</tr>
<tr>
<td><strong>Coach</strong></td>
<td>15%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Injury Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Injury per 10000 h</td>
</tr>
<tr>
<td>Team 1</td>
<td>37.0</td>
</tr>
<tr>
<td>Team 2</td>
<td>30.6</td>
</tr>
<tr>
<td>Team 3</td>
<td>28.9</td>
</tr>
<tr>
<td>Team 4</td>
<td>28.9</td>
</tr>
</tbody>
</table>

Ekstrand J. UEFA Doctor Education Programme Injury diagnosis and treatment 2013
Table 1. Football activities over a one-year period (values expressed as means, minimum values in brackets).

Ekstrand J. UEFA Doctor Education Programme Injury diagnosis and treatment 2013
Injury Incidence and Injury Pattern in Professional Football – The UEFA Injury Study

Ekstrand et al. BJSM 2009

<table>
<thead>
<tr>
<th>Elements</th>
<th>Injuries per team per season</th>
<th>Absences in days</th>
<th>Absences in days (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anterior cruciate lig.</td>
<td>4.5</td>
<td>12</td>
<td>121</td>
</tr>
<tr>
<td>2. Adductor injury</td>
<td>9.5</td>
<td>3</td>
<td>15.6</td>
</tr>
<tr>
<td>3. Achilles tendon</td>
<td>20</td>
<td>3</td>
<td>15.6</td>
</tr>
<tr>
<td>4. Quadriceps rupture</td>
<td>2.8</td>
<td>14</td>
<td>108</td>
</tr>
<tr>
<td>5. Calf muscle injury</td>
<td>2.5</td>
<td>12</td>
<td>151.6</td>
</tr>
<tr>
<td>6. Knee sprain ACL</td>
<td>2.0</td>
<td>18</td>
<td>161.5</td>
</tr>
<tr>
<td>7. Knee contusion</td>
<td>1.2</td>
<td>5</td>
<td>124</td>
</tr>
<tr>
<td>8. Patellar tendinitis</td>
<td>21.5</td>
<td>6</td>
<td>74.8</td>
</tr>
<tr>
<td>9. Ankle sprain</td>
<td>21</td>
<td>12</td>
<td>108</td>
</tr>
<tr>
<td>10. Lumbar/low back pain</td>
<td>1.5</td>
<td>5</td>
<td>151.6</td>
</tr>
</tbody>
</table>

Table 1.1: Statistics on the ten most common injuries in elite European football

Ekstrand J. UEFA Doctor Education Programme Injury diagnosis and treatment 2013
Table 3.3: Incidence of injury and period of absence.

Injury Incidence

<table>
<thead>
<tr>
<th>Sports</th>
<th>Injury Incidence /1000 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football</td>
<td>26.6 match, 4.1 training</td>
</tr>
<tr>
<td>Basketball</td>
<td>53.3 match female, 46.8 match men</td>
</tr>
<tr>
<td>Rugby</td>
<td>47</td>
</tr>
<tr>
<td>Jogging</td>
<td>6.8 - 59</td>
</tr>
<tr>
<td>Ski</td>
<td>1</td>
</tr>
</tbody>
</table>

The Football Association Medical Research Programme: An Audit of Injuries In Professional Football – Analysis of Preseason Injuries

Presason football injuries: 2 seasons, 91 football clubs
6030 injuries: 17% (1025) during preseason

<table>
<thead>
<tr>
<th>INJURIES</th>
<th>Preseason</th>
<th>Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contusion</td>
<td>&gt;</td>
<td>&lt;</td>
</tr>
<tr>
<td>Running or shooting</td>
<td>&gt;</td>
<td>&gt; 25 years</td>
</tr>
<tr>
<td>&lt; 25 years</td>
<td>&gt;</td>
<td>&gt;</td>
</tr>
</tbody>
</table>

Rehabilitation in football medicine

- You are responsible for the players’ rehab
  - You need to be comfortable with the plan of action
  
  - Player
  - Club
  - Your staff
  - External medical specialist (Radiologists,…)

Medical room in stadium
- Basic medication, splints, braces
- Direct contacts with hospital, with specialists
- What treatment equipment do we have?
- Access to the grass, basic equipment for functional rehab
- Medical budget of the team
- Other resources to manage comfortably the majority of injuries (Pool, strengthening equipment,…)
- How to improve what we are doing?
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- “Training is the best prevention for injuries”
- It is the most specific activity available that replicate match play

Rehabilitation in football medicine

- “How long will I be out”
  - Players are different
  - Rate of recovery is different
  - Injuries are different
- Get move as soon as ready
- Rehab without any pain or discomfort
- If you need more time it’s OK

Injury card
- Compare results with other clubs

Rehabilitation in football medicine

- Muscle injuries
  - Football team with 25 players:
    - 15-18 lesions/season
      (7 Hamstrings, 3 Quadriceps, 5-6 Groin, 2-3 Caves)
    - 1 player: 0.6 lesion / season
    - Muscle injuries 8.7/1000 hours (match), 1.37/1000 hours (training)
    - 39-62% are moderate injuries (8-28 days)
Rehabilitation in football medicine

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Location</th>
<th>Grade</th>
<th>Re-injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dp</td>
<td>proximal third direct muscle injury</td>
<td>0</td>
<td>R0 - 1st episode</td>
</tr>
<tr>
<td>Dmt</td>
<td>medial third direct muscle injury</td>
<td>1</td>
<td>R1 - 2nd episode</td>
</tr>
<tr>
<td>Dtd</td>
<td>distal third direct muscle injury</td>
<td>2</td>
<td>R2 - 3rd episode</td>
</tr>
<tr>
<td>I indirect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lp</td>
<td>proximal tendon rear</td>
<td>3</td>
<td>R3 - ... episode</td>
</tr>
<tr>
<td>Lt4</td>
<td>distal tendon rear</td>
<td>4</td>
<td>R4 - ... episode</td>
</tr>
<tr>
<td>Sp</td>
<td>proximal PES rear</td>
<td>5</td>
<td>R5 - ... episode</td>
</tr>
<tr>
<td>Bd</td>
<td>distal PES rear</td>
<td>6</td>
<td>R6 - ... episode</td>
</tr>
<tr>
<td>If</td>
<td>infrapatellar</td>
<td>7</td>
<td>R7 - ... episode</td>
</tr>
</tbody>
</table>


Prognostic indicators of longer time to recovery

- Proximal injury
- Larger lesion (MRI)
- Greater reduction of ROM
- More than 1 day before walking pain-free
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Muscle injuries

- Destruction
- Repair
- Remodelling


Muscle injuries clinical Guide 3.0
FC Barcelona & Aspetar

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Rehab protocols must be personalized

Rehabilitation in football medicine

FC Barcelona Primary Prevention Program

Rehabilitation in football medicine
Rehabilitation in football medicine

- RTP
  - Pain-free palpation over the site of injury
  - Conc and Ecc strength in lengthened position (<5% deficit compared to uninjured (isokinetic))
  - Conc and Ecc endurance in lengthened position (<5% deficit compared to uninjured (isokinetic))
  - Angle peak torque within 5%, time to peak torque within 10% side to side
  - No kinesiophobia
  - High speed running without pain or discomfort
  
Rehabilitation in football medicine

- 52 players
- Isokinetic tests 21 days post injury, mostly (59%) last day of rehab protocol
- 11.5% reinjury at 2 months

Rehabilitation in football medicine

- Active/passive lower limb elevation
- Insecurity estimation

RTP