Integrated Conditioning

Compiled by –

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IRFU Fitness Education Manager
Question 1

- **The gap is closing between Tier 1 and 2**
  - Source - IRB 2011 RWC Statistical Review

<table>
<thead>
<tr>
<th>Tier 1 v Tier 2 Matches</th>
<th>No. Of Matches</th>
<th>Average Points Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 RWC</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>2007 RWC</td>
<td>6</td>
<td>41</td>
</tr>
<tr>
<td>2003 RWC</td>
<td>6</td>
<td>45</td>
</tr>
</tbody>
</table>
In order for the gap to continue closing, what are the main areas for development?

(a) – Fitness

(b) – Skill

(c) – Fitness & Skill
Question 2

How have you got your teams fit in the past?
Traditional Training
Traditional Training

- Long Slow Runs
- Classic Interval Training
- Hill Runs
- Beach Runs
- Track Runs
Traditional Training

- **Pros**
  - High Intensity Possible
  - Volume and Intensity easy to Measure
  - Easy to organise

- **Cons**
  - All in a straight line (Low number of Movement skills)
  - No Skills involved
  - No Contact involved
  - High incidence of injuries in comparison to small sided games.
  - Can have a negative effect in Speed and Power Levels
  - Not position specific
Rugby Specific Multi Activity Training
Rugby Specific Multi Activity Training

- Multi Sprint Activity Endurance
- Position Specific Training
- Rugby Specific Circuit Training
- Games based approach
- Combat Conditioning
- Integrated Approach
  (Above combined with Small sided Games)
- Skills Games
- Rugby Content
- Rugby Session
Rugby Specific Multi Activity Training

**Pros**
- High number of Movement skills involved
- Rugby Skills can be part of the session
- Contact can be involved
- Lower incidence of injuries in comparison to traditional training

**Cons**
- Players can hide in games if not managed
- Volume and Intensities harder to measure compared to traditional training
- Sessions harder to organise than traditional training
Evidence for Multi Sprint Endurance

- Tabata et al (1997) – 6 weeks of 20sec on 10sec recovery at 170% of VO2 Max = 13% improvement in VO2 max.
- Dawson et al (1998) – 16 sessions over 6 weeks covering distances of 30m to 80m at 90% - 100% of max speed. Resulted in improvements in 40m time, sustained sprint performance, repeated sprint performance and VO2 max and proportion of type II muscle fibres.
- Moir et al (2007) – Two types of training performed (1) 6s sprints & (2) 30s runs at 130% of VO2 max. (1) = High levels of Lactate and greater decrease, Improved Sprint performance, Improved Yo-Yo. (2) High levels of Lactate and greater decrease, Improved Yo-Yo, Decrease fatigue index. Both methods may be needed
- Bishop et al (2005) - Compared athletes to team sport players. Team sport players performed better at during repeated sprint testing.
Evidence for Small Sided Games

Evidence for Small Sided Games


- N.B. – Games vary


Training Principle

- Individuality
Principal of Individuality


- Good – “Work Rate”
- Good – “Skill Involvements”

- Poor – “Work Rate”
- Good – “Skill Involvements”

- Good – “Work Rate”
- Poor – “Skill Involvements”

- Poor – “Work Rate”
- Poor – “Skill Involvements”
Training Principle

• Variation
What is the most fatiguing part of rugby?

- Contact

Tips for planning a Rugby Fitness Session

- A percentage of the session will be based on Contact Situations
- Rugby Movements must be recreated
- Push the players to their limit
- Keep it simple
- Option 1 - Plan session like circuit training with 6 to 8 different stations
- Option 2 – Integrated Conditioning Games & Drills
Option 1 – Integrated Conditioning Circuit – Example Session 1

- 10min to 1 hour long
- Minimum 2 maximum 30 people

**Rugby Fitness Session**

1. Tackle Bag Hit
2. Shield Hit
3. 40m Run With Ball
4. Zig Zag With Ball
5. Boxing / Ball Rip Drill
6. Around Ruck Sprint
7. Channel Run

Work for 30sec Rest for 30sec
1 circuit = 10min
Complete 3 circuits 3min rest between circuits
Tackle Bag Hit
Shield Hit
30m Run with Ball
Zig Zag Run
Boxing Drill / Ball Rip
Around Back of Ruck Sprint
Channel Run
Option 2 – Integrated Conditioning (Small Sided Games & MSAE)

- What is the aim of this Session –
- To combine core rugby skills with fitness training and measure the intensity
Question 3

• What would you do in this situation?
Monitoring

- A critical element of Periodisation
- Record **every minute** of training, practice and playing
- This will give ‘**VOLUME**’
- Record the intensity with **RPE** (scale of 1-10) during practice and training – Intensity of practice index, HR Monitor
- This will give ‘**INTENSITY**’
## Intensity

- "The effort applied"

<table>
<thead>
<tr>
<th>Intensity</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>10</td>
<td>Match</td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Very Hard</td>
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<tr>
<td>6</td>
<td></td>
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<tr>
<td>5</td>
<td>Hard</td>
</tr>
<tr>
<td>4</td>
<td>Somewhat Hard</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
</tr>
<tr>
<td>2</td>
<td>Easy</td>
</tr>
<tr>
<td>1</td>
<td>Very Easy</td>
</tr>
<tr>
<td>0</td>
<td>Rest</td>
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</tbody>
</table>
Task

- Players – 16/20
- Session – 87min
- Plan a full session and run 10min of the session
- Group 1&2 – Warm Up (12min)
- Group 3&4 – Session 1 – (10 min)
  (5min)
- Group 5&6 – Session 2 – (10min)
  (5min)
- Group 7&8 – Session 3 – (10min)
  (5min)
- Group 9&10 – Session 4 – (10min)
  (5min)
- Group 11&12 – Session 5 – (10min)
Literature on Integrated Conditioning

q 2004 National Strength & Conditioning Association

A SKILL-BASED CONDITIONING GAMES APPROACH TO METABOLIC CONDITIONING FOR ELITE RUGBY FOOTBALL PLAYERS
PAUL GAMBLE
London Irish Rugby Football Club, Sunbury-on-Thames, Middlesex, United Kingdom.

q 2006 National Strength & Conditioning Association

SKILL-BASED CONDITIONING GAMES AS AN ALTERNATIVE TO TRADITIONAL CONDITIONING FOR RUGBY LEAGUE PLAYERS
TIM J. GABBETT
Athlete and Coach Support Services, Queensland Academy of Sport, Queensland, Australia.

HEART RATE RESPONSES DURING SMALL-SIDED GAMES AND SHORT INTERMITTENT RUNNING TRAINING IN ELITE SOCCER PLAYERS: A COMPARATIVE STUDY
ALEXANDRE DELLAL,1,2,3 KARIM CHAMARI,3 ANTONIO PINTUS,4 OLIVIER GIRARD,5 KELLER
If all else falls
Questions
Integrated Conditioning

Fitness
Mesuring Intensity

- Multi Sprint Training – RPE 9 (90% Av HR)
- Conditioned Games – RPE 7 (80% Av HR)
- Integrated Training – RPE 8 (85% Av HR)

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Intensity assessed by heart rate monitors

<table>
<thead>
<tr>
<th>Section</th>
<th>Max Heart rate</th>
<th>Average Heart rate</th>
<th>Duration over 80% of Max HR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated Session</strong></td>
<td>97.5% of Max</td>
<td>82% of Max</td>
<td>30 min</td>
</tr>
<tr>
<td><strong>Fitness Section</strong></td>
<td>97.5% of Max</td>
<td>86% of Max</td>
<td>22 min</td>
</tr>
<tr>
<td><strong>Rugby Section</strong></td>
<td>91% of Max</td>
<td>78% of Max</td>
<td>8 min</td>
</tr>
<tr>
<td><strong>Team Run (Selected)</strong></td>
<td>82% of Max</td>
<td>70% of Max</td>
<td>0 min</td>
</tr>
<tr>
<td><strong>Team Run (Non Selected)</strong></td>
<td>68% of Max</td>
<td>62% of Max</td>
<td>0 min</td>
</tr>
</tbody>
</table>
Data on measuring Intensity

Ire v Bar 08
*Rugby Union Match International (2 Players)*
Player A – **40min** above 80% of Max HR
Player B – **27min** above 80% of Max HR (12min in sin bin)

Taylor & Francis 98
*Rugby Union Match elite colts U19 (24 Players)*
Forwards – **48min** above 85% of Max HR
Backs – **29min** above 85% of Max HR

Coutts & Reaburn 2003
*Rugby League Match Professional Level (17 Players)*
Rugby League – **37min** above 85% of Max HR
Assessment of Average Heart Rate in Sessions

Max HR 211 bpm
Inta. Session 82%
Team Sess. Sel 70%
Team Sess. Non sel 62%
Most common fitness sessions

- Full Squad Session
- Non Selected Session (4 to 9 players)
- Individual Session
- Unit Session (3 to 9 players)

- Our Goals are to include core skills and reach high intensity levels
Example Session 2

Number = 24 players
Time = 80min
Coaches = 3
Facility = 1 rugby pitch
Equipment = Ball’s & shields

Session Plan
15min – Warm up
12min – Game 1 & Fitness Section 1
12min – Games 2 & Fitness Section 2
12min – Games 3 & Fitness Section 3
12min – Games 4 & Fitness Section 4
12min – Game 5 & Fitness Section 5
3min – Warm Down
Example Session 3

Number = 24 players
Time = 70min
Coaches = 3 (1 Fitness & 2 Rugby)
Facility = 1 rugby pitch
Equipment = Ball’s & shields

Session Plan
10min – Warm up
7min – Rugby Fitness Section 1
7min – Team Patterns / Games
7min – Rugby Fitness Section 2
7min – Team Patterns / Games
7min – Rugby Fitness Section 3
7min – Team Patterns / Games
3min – Warm Down
### Example Session 2 Drills

**Rugby Fitness Section 1, 2 & 3**

<table>
<thead>
<tr>
<th>Drill Name</th>
<th>Core skill / skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill 1 – Hit &amp; Long arm Placement</td>
<td>( Leg Drive &amp; Ball Retention )</td>
</tr>
<tr>
<td>Drill 2 – 2 Man Pass</td>
<td>( Lateral Passing )</td>
</tr>
<tr>
<td>Drill 3 – Defence hit &amp; reset</td>
<td>( Defensive Line )</td>
</tr>
<tr>
<td>Drill 4 – Hit &amp; Quick feet</td>
<td>( Power Drive &amp; Piller Position Reset Reaction )</td>
</tr>
<tr>
<td>Drill 5 – X Run</td>
<td>( Side step &amp; Pop )</td>
</tr>
</tbody>
</table>
Questions