Rugby Strength Coach

Agility development guide
Outline

- Newton's laws of motion and agility
- Why train agility?
- What is agility?
  - Definition
  - Breaking it down
- Technical demands of agility training
- Rugby specific agility applications
- Loading and training parameters
Outline continued

- Session structure
- Teaching guidelines
- Teaching progression for cut/shuffle
- Teaching progression for crossover
- Fitting agility training into the training week:
  - Pre-season
  - In-season
Newton's laws of motion

- 1\textsuperscript{st} law: a body remains at rest or in uniform motion until a resultant force acts upon it
- 2\textsuperscript{nd} law: the rate and direction at which a body accelerates is proportional to the resultant forces acting upon it
- 3\textsuperscript{rd} law: when a body applies force to another object, the same force is applied back to the body in an equal and opposite fashion
Newton's laws applied

1: You need a resultant force to change direction

2: How much force and the direction you apply determines where you are going and how fast

3: If you want to go in one direction, you need to push in the other
Why train agility?

- Injured players do not win games
- Non contact injuries are 100% preventable
- COD is the biggest culprit of NCIs
  - ACL tears
  - Ankle sprains
  - Muscle tears
- Injury prevention = performance
- Performance = injury prevention
What went wrong?

- Too much force applied to the structures of the knee
- Who's job is it to reduce force? Muscles
- Muscles are not just the gas, they're also the brakes
- The brakes are normally 10-25% stronger than the gas
- So what happened?
  - Lack of eccentric strength?
  - Fatigue?
  - CNS patterning?
  - Movement skill?
  - Timing?
  - Bad luck?
You can't do s**t in a fast car that has no brakes or a driver that doesn't know how to use them.
Why train agility #2?

- You can't wait for the game to come to you
- Right place, right time
- Increased agility optimises:
  - Field position
  - Evasion and tackling
  - Time available for attacking & defensive decision making
Agility defined:

- Getting from point A to point B
- Involves making an environment-informed decision
- Involves a change of direction (COD)
- Is performed in pursuit of a specific outcome e.g.
  - Evade a player
  - Improve field position
  - Make a tackle
  - Chase the ball
Young's model
Agility biomechanics

Phases:

1) Linear running (acceleration or top speed)
2) Deceleration
3) Amortisation
4) Re-acceleration in a different direction

(For linear running see Rugby Strength Coach Speed Guide)

COD: largely control & production of lateral & rotational forces
Right place...

• Point A to point B = FORCE
  – Motor potential + technical mastery
  – Maximise both to maximise performance

• Respect Newton's laws:
  1) Create a BIG resultant force
  2) Apply it in the most efficient manner possible
  3) Push in the opposite direction you want to go
Motor potential

• For another day
  – RSC strength guide
  – RSC power guide

• General guidelines:
  – Develop maximal strength
  – Evenly develop the force velocity curve
  – Work through all 3 planes of movement
  – Seek to control force before creating force
  – All 3 contraction types
Technical mastery: the take home

• The skill of applying one's motor potential to:
  • Maximise efficiency of force application
    – Greater, faster displacement of COG
  • Minimise energy leaks
    – Reduce energy cost
    – Reduce force load of inappropriate tissues
End result?

MP + TM = ↑ Power = ↑ Efficiency = ↓ Movement time
↓ Movement time in attack = ↑ Chance of evasion and defensive error
↓ Movement time in defence = ↑ Chance of defensive success and appropriate decision making
Right time: decision making

- Environmental stimuli inform decision making and are game situation specific.
- Transfer from irrelevant stimuli to game specific situations is extremely limited at best.
- Drills can be developed by or with the rugby coach. But if in doubt, just play the game.
- This is why Roger Federer will never be a rugby player. Put away the fancy balls and ladders!
The Rugby Strength Coach approach

- **Appropriate** environmental cues - play and train rugby
- Brakes before gas - base position & deceleration mechanics
- Add tools to the tool box - movement skill
- Sharpen the tools - movement skill progressions
- Use the tools in realistic situations - applied drills
• Everything can/does/should come from base
• Base is an optimal position for:
  - Unpredictable, fast movements
  - Creating and absorbing force
• Learn base before everything else:
  - Hips inside knees
  - Knees inside feet
  - Weight over middle of feet
  - Bum back
  - Muscle beach chest
  - Hands ready
“Stop me pushing you over”
Deceleration is about:
- Dropping the COG
- Sharpening the shin angle
- Pushing through the balls
Progression:
- Base position
- Base to base
- Base to cut stop
- Cut to cut
Add tools to the tool box

- Two primary tools:
  - The shuffle/cut: “the fast change”
  - The crossover: “the transition”
- Lesser used/more natural patterns:
  - The drop step (combination pattern)
  - Getting up/down on the floor (no injury risk)
  - Linear deceleration (natural skill)
- The goal is movement literacy
Shuffle/cut

- Weight on the inside edge
- Everything square
- Quick CODs

Attacking uses:
- Evasion
- Quick adjustments

Defensive uses:
- Tackling
- Defensive re-positioning
Masters of the shuffle/cut
Masters of the shuffle/cut
Crossover

- Weight on the outside edge
- Turning + running
  - Abrupt or gradual
- Transitioning pattern

- Attacking uses:
  - Higher speed evasion
  - Less immediate CODs

- Defensive uses:
  - Kick chase
  - Cover defence
  - Tracking
Masters of the crossover
Masters of the crossover
Learning guidelines

- **Learn**: use skill progressions to learn and engrain efficient movement skills
- **Apply**: practice and hone movement skills in a closed and controllable environment
- **Utilise**: implement and cement movement skills in a rugby-realistic environment
Loading parameters

- Do not train at maximum intensity
  - Excessive joint stress and insufficient CNS stress
  - Maximal effort = sub optimal technique
- Build motor potential in the gym or linear speed
- Agility is trained on low days
  - Technique, technique, technique
  - 1 pattern per day
Agility training guidelines

- Technique is king
- No progression without perfect prior technique
- Programme before all other activities
- Utilise every 48-72 hours on low days
- 2 sessions per week pre-season, 1 in-season
- Less is more- 2-3 perfect reps is enough
- Equal emphasis on shuffle/cut and crossover
Agility training guidelines

- Shape the learning environment
  - Make it so you can't do it wrong
  - Make it so you know when you've done it right
  - When it is perfect, move on
  - If it looks bad correct it or move back
- 2-3 sets per exercise is usually sufficient
- 1-2 sessions per week
Shuffle/cut progression

- **Posture:**
  - Hold, load & smash

- **Resisted:**
  - Single, double, triple, continuous

- **Unresisted:**
  - Single, double, triple, continuous

- **Applied:**
  - Closed, pre-programmed agility
  - Open, reactive agility

- **Rugby specific:**
  - Attacking and defensive 1v1s
  - Adjusting support lines
Crossover progression

- **Posture:**
  - Hold, load & smash

- **Resisted:**
  - Single, double, triple

- **Unresisted:**
  - Single, double, triple

- **Applied:**
  - Closed, pre-programmed agility
  - Open, reactive agility

- **Rugby specific:**
  - Attacking swerve
  - Kick chase defence
  - Cover defence
  - Tracking defence
Utilise: Rugby specific agility

- Reactive agility bridges the gap
  - Use sparingly- once it looks good, move on
  - Minimise confounding stimuli
- Guidelines to creating rugby specific agility drills
  - Work with your coaches
  - Keep it clean
  - Keep it realistic
  - Don't reinvent movement, just enhance it
Session structure

- Vibration, myofascial release and stretching (5-20 mins)
- Mobility + heat (5-10 minutes)
- Activation and torso prep (5-10 minutes)
- Technical coaching and drills (15-20 minutes)
- Applied and rugby specific agility (15-20 minutes)
- Total time: 45-80 minutes
Agility training in the week

Use this guide in conjunction with the [Rugby Strength Coach Speed Development Guide](#)

- Agility to be performed on low CNS stress days
- Typically Monday and Wednesday
- Can be trained two days pre-season and in-season
  - But reduce the volume and intensity accordingly
Any questions...

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