QRL MOVEMENT SCREENING PROTOCOLS

INTRODUCTION

In Rugby League movement screen assessments are a vital part of athlete care and performance planning. These assessments offer valuable insights into an athlete's movement quality, helping to identify imbalances, restrictions, or dysfunctional patterns that could lead to injury or limit performance. By evaluating key movement competencies, practitioners can implement targeted strategies to improve mobility, stability, and overall functional capacity. Regular screening supports informed decision-making around training loads, injury prevention, and return-to-play protocols, ultimately helping athletes stay on the field and perform at their best.

Movement screening plays a critical role in identifying physical limitations, guiding injury prevention strategies, and informing performance programming. To accommodate varying levels of resources and staffing across clubs, screening protocols can be structured into three progressive levels; each offering increasing depth of insight and specificity.

LEVEL 1: MOBILITY, MOVEMENT & CAPACITY SCREENING

Designed for ease of implementation, Level 1 assessments require minimal equipment and can be conducted in most settings. Tests such as the Overhead Squat, Aspley Scratch Test, Knee-to-Wall, and Lying Hamstring Raise assess joint mobility and movement quality. Capacity tests like the Copenhagen Adduction, Single-Leg Calf Raise, Single-Leg Squat to Bench, and Side Plank evaluate basic strength and endurance. These are ideal for clubs with limited resources and provide a strong baseline for identifying general movement dysfunctions.

Level 1 is broken down into three different categories:

Level 1A Mobility; Used for general mobility or post-game readiness assessment that can be self-managed

Level1B Movement; Used for initial screening of dynamic / functional movement patterns

Level1C Capacity; Used to assess general capacity of specific muscle groups.

LEVEL 2: ISOMETRIC STRENGTH PROFILING

Building on Level 1, Level 2 introduces more specialised equipment and testing protocols, including the Isometric Mid-Thigh Pull (IMTP), ASH Test (Athletic Shoulder Test) and Hip Abduction/Adduction strength assessments. These tests offer quantifiable data on force production and muscular balance, supporting more targeted strength interventions and monitoring of training adaptations.

LEVEL 3: CLUB-SPECIFIC AND ADVANCED TESTING

Level 3 assessments are tailored to individual club capabilities and athlete needs, incorporating advanced tools such as the NordBord for hamstring profiling, force plates for jump testing, and other bespoke assessments. These provide high-resolution data for performance optimisation and injury risk profiling but require access to specialised equipment and trained personnel.

By structuring screening in this tiered format, performance staff can select appropriate tests based on their operational capacity while still gaining meaningful insights. Regardless of level, the goal remains the same: to keep athletes robust, resilient, and ready to perform.

LEVEL 1A
MOBILITY

QRL MOVEMENT SCREENING PROTOCOLS

ASPLEY SCRATCH TEST

LEVEL 1A - MOBILITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Mobility concerns and imbalances between stabilisers of the shoulder joint are highly correlated to shoulder injuries and concerns in rugby codes. This is due to the positions the glenohumeral joint and scapulothoracic joint move into during tackling and offensive actions. More mobility can also assist with concerns on landing too. The Aspley Scratch test will provide insights into the health of shoulder joints in rugby league athletes (similar statement for each mobility screen). [1]

EQUIPMENT REQUIRED



Measuring Tape

TECHNICAL CUES

1. Ensure athlete keeps torso upright without twisting or leaning.
2. One arm reaches overhead and down spine, the other behind back and up spine, aiming for fingers to touch.
3. Observe scapular movement, avoid excessive shoulder elevation.
4. Record distance between fingers if they don't meet, note asymmetry.

COACHING CUES

1. Stand tall.
2. Reach one hand over your shoulder to your back, the other hand down and underneath to your back.
3. Try to touch fingers together.

WHAT DOES GOOD LOOK LIKE?

At Standard: Fingers touch/overlap

Needs Improvement: > 5cm apart, or asymmetry

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

CLICK HERE TO VIEW AN EXAMPLE

THOMAS TEST

LEVEL 1A - MOBILITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Limited range in the anterior hip musculature can lead to an increase in quadriceps and adductor injury concerns, particularly for those who have kicking duties or operate at a higher speed. This is due to the range of the hip flexors in extension at the hip in prepping for a kick or the extension of the hip when accelerating forward or laterally. [2-4]

EQUIPMENT REQUIRED



Table or Bench



Goniometer / Phone with goniometer app

TECHNICAL CUES

1. Athlete lies supine on bench, lumbar spine pressed flat.
2. Pull one knee firmly to chest without lifting hips.
3. Opposite leg hangs off bench.
4. Watch for external rotation, knee lift, or asymmetry indicating tightness.

COACHING CUES

1. Sit on the edge of a bench so both legs are hanging off.
2. Lie backwards and hug one knee tight to chest until the back praesses flat against the bench.
3. Let the other leg relax and hang down.

WHAT DOES GOOD LOOK LIKE?

At Standard: femur below parallel to ground > 180 degrees

Needs Improvement: femur parallel to ground or above parallel < 180 degrees

IP (Illipsoas) or RF (Rec Fem) push ankle in

Needs Improvement: thigh raises more, RF

No change, IP Variations

Needs Improvement: thigh rotates externally (TFL) Or Asymmetry

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

CLICK HERE TO VIEW AN EXAMPLE

KNEE TO WALL

LEVEL 1A - MOBILITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

An increased range in the ankle joint can assist with deceleration and landing actions, reducing overall impact on the ankle joint. This increased range can also reduce overall load on the Achilles and quadriceps tendon due to the positions the ankle joint needs to access.

[5-7]

EQUIPMENT REQUIRED



Measuring Tape



Goniometer / Phone with goniometer app

TECHNICAL CUES

1. Athlete places foot a set distance from wall, heel down.
2. Drive knee forward to touch wall without heel lifting.
3. Keep hips square, ensuring no rotation.
4. Measure max distance where heel stays grounded.

COACHING CUES

1. Place foot close to wall.
2. Ensure hips are straight, and push knee towards wall without lifting heel.
3. If knee touches, move foot back a little bit and try again.

WHAT DOES GOOD LOOK LIKE?

At Standard: > 10cm

Needs Improvement: > Asymmetry, or less than 8cm

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

CLICK HERE TO VIEW AN EXAMPLE

LYING HAMSTRING RAISE

LEVEL 1A - MOBILITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Limited range in the hamstring is a risk factor for hamstring injury concerns, particularly for those who have kicking duties. Although the hamstring is predominantly isometric at ground contact in top speed running, the hamstring moves through extended ranges of moving at the hip and knee through different actions.

[8, 9]

EQUIPMENT REQUIRED



Goniometer / Phone with goniometer app

TECHNICAL CUES

1. Athlete lies supine, both legs extended.
2. Raise one leg with knee fully straight, ankle dorsiflexed.
3. Opposite leg remains flat, pelvis neutral.
4. Stop when knee bends, pelvis rotates, or opposite leg lifts.

COACHING CUES

1. Lie flat on the ground, looking up to the sky
2. Lift one leg straight up with foot flexed, whilst the other remains on the ground.
3. Keep knee locked and foot flexed and raise as far as possible.

WHAT DOES GOOD LOOK LIKE?

At Standard: 90 degrees

Needs Improvement: < 70 degrees or asymmetry or knee bends

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

CLICK HERE TO VIEW AN EXAMPLE

LEVEL 1B
MOVEMENT

QRL MOVEMENT SCREENING PROTOCOLS

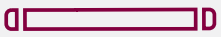
OVERHEAD SQUAT

LEVEL 1B - MOVEMENT

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Provides assessment of shoulder, thoracic, lumbar, hip knee and ankle mobility. Important in assessing upper/lower body movement in end range positions that may be achieved in the game.

EQUIPMENT REQUIRED



Dowel

TECHNICAL CUES

1. How dowel in snatch grip, arms extended directly overhead.
2. Feet shoulder width apart, heels down, toes slightly out.
3. Squat down to ground as far as possible, keeping the dowel overhead.
4. Ensure athlete aims to get below parallel with dowel staying above midfoot, spine neutral.
5. Knees track over toes, no valgus.

*Snatch Grip – hands slide out on the dowel until it sits at hip crease, with arms relaxed.

COACHING CUES

1. Hold dowel in snatch grip straight above head.
2. Press elbows out and pointing the inside of the elbow to the sky.
3. Squat down with chest tall, heels down.

WHAT DOES GOOD LOOK LIKE?

Key components for good at bottom position:

- Parallel depth
- Dowel above head and midfoot
- Elbows locked
- Torso stacked
- Feet width shoulder width apart, knees inline with middle of foot

HOW & WHEN TO USE

Integrated into weekly strength sessions for assessment, warm up or as a strength exercise

FRONT VIEW EXAMPLE

SIDE VIEW EXAMPLE

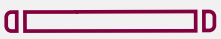
ROMANIAN DEADLIFT

LEVEL 1B - MOVEMENT

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Provides feedback on posterior chain movement capability important in assessing potential for calf, hamstring, gluteus and lower back injury related to running.

EQUIPMENT REQUIRED



Dowel

TECHNICAL CUES

1. Start tall, dowel resting on thighs, hands shoulder-width apart.
2. Unlock knees slightly, push hips back to the wall.
3. Keep bar sliding along thighs/shins.
4. Maintain neutral spine
5. Return by driving hips forward, not arching back.

COACHING CUES

1. Stand tall, dowel resting on thighs, hands shoulder-width apart.
2. Unlock knees slightly, push hips back to the wall.
3. Graze the dowel along the legs until just below the knees.
4. Stand up tall.

WHAT DOES GOOD LOOK LIKE?

Key components for good at bottom position:

- Bar against shins
- Mid-shin depth
- Shins vertical
- Back neutral
- Feet hip-width apart

HOW & WHEN TO USE

Integrated into weekly strength sessions for assessment

FRONT VIEW EXAMPLE

SIDE VIEW EXAMPLE

FORWARD LUNGE WITH ROTATION

LEVEL 1B - MOVEMENT

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Provides single limb assessment through range with additional upper body rotation as required in both attacking and defensive game positions.

EQUIPMENT REQUIRED

NIL

TECHNICAL CUES

1. Step forward into lunge, front knee over midfoot.
2. Back knee lowers gently to ground.
3. Torso upright, spine neutral.
4. Rotate arms/torso across lead leg.
5. Avoid forward lean or twisting pelvis.

COACHING CUES

1. Cross your arms by placing hands on opposite shoulders
2. Take one large step forward and drop the back knee directly to the ground.
3. Keep chest tall and turn body towards front leg.

WHAT DOES GOOD LOOK LIKE?

Key components for good at bottom position:

- Knee inline with middle of foot
- Knee doesn't exceed toe in forward direction
- Torso upright, spine neutral maintained during rotation
- Feet hip-width apart

HOW & WHEN TO USE

Integrated into weekly strength sessions for assessment

FRONT VIEW EXAMPLE

SIDE VIEW EXAMPLE

LATERAL LUNGE

LEVEL 1B - MOVEMENT

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Important in understanding player movement in cutting movements/change of direction.

EQUIPMENT REQUIRED

NIL

TECHNICAL CUES

1. Take one large step sideways, with that leg bending at the knee and the other leg staying straight.
2. Both feet flat, toes forward.
3. Neutral spine, opposite hand touches ankle of bent leg.
4. Avoid trunk lean or toe lift.

COACHING CUES

1. Take one large step sideways.
2. Whilst staying as tall as possible, try and touch fist to ankle on that same leg
3. Keep both feet flat and toes pointed forward.

WHAT DOES GOOD LOOK LIKE?

Key components for good at bottom position:

- Both feet flat on ground, toes pointed forward
- Opposite hand of bent leg touches inside ankle of bent leg
- Spine neutral
- Bent knee parallel
- Lengthened leg remains straight

HOW & WHEN TO USE

Integrated into weekly strength sessions for assessment

FRONT VIEW EXAMPLE

SIDE VIEW EXAMPLE

LEVEL 1C
CAPACITY

Termination Criteria for Capacity tests: test is stopped on volitional failure or when participants could no longer maintain technical cues (i.e., technical failure). Maximum of 2 x technical faults allowed, 3rd technical failure is end of test.

SINGLE LEG CALF RAISE

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

The calf raise capacity test is an important test in reducing risk of injury in the lower limb in rugby league. Calf raise endurance has also been shown to reduce risk of ankle injury as the calf raise improves stabilisers and proprioception of the ankle joint. In addition a well functioning calf complex, specifically the gastrocnemius provides the assistance to hamstrings in knee flexion. Important from both acceleration and max velocity running. [10]

EQUIPMENT REQUIRED



Step

TECHNICAL CUES

Starting with one foot on the edge of a step, raise as high as possible and lower as low as possible to a 212 tempo -attaining extension through ankle knee and hip at terminal range.

WHAT DOES GOOD LOOK LIKE?

At Standard: 25+

Needs Improvement: Less than 15 or more than 5 reps between sides

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions, post-session buy outs/ capacity extras

CLICK HERE TO VIEW AN EXAMPLE

COPENHAGEN

LEVEL 1C - CAPACITY

*If an athlete cannot tolerate the position at the ankle then perform this exercise with the knee supported on the bench

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Adductor injuries

Important for understanding cutting and COD capacity.

EQUIPMENT REQUIRED



Bench

TECHNICAL CUES

1. Athlete side-lying, top leg supported on bench.
2. Lift hips so body is straight from head to foot.
3. Lower body under control, avoid rotation.
4. Maintain pelvis stability.

COACHING CUES

1. Rest top leg on bench.
2. Lift hips so body is straight.
3. Hold.

WHAT DOES GOOD LOOK LIKE?

At Standard: 60s+

Needs Improvement: < 30s or more than 10s between sides

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions, post-session buy outs/ capacity extras

SHORT LEVER EXAMPLE

LONG LEVER EXAMPLE

PLANK

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Risk of injury in pelvic complex, and trunk stability/strength. Ability to brace is important in contact activities defensively and in attack.

EQUIPMENT REQUIRED

NIL

TECHNICAL CUES

1. Elbows under shoulders, toes on floor.
2. Body forms straight line head–heels.
3. Brace core, avoid sagging or piking.
4. Maintain neutral spine and breathing.

COACHING CUES

1. Rest on elbows and toes.
2. Press up off the ground so your body is straight like a board.
3. Hold.

WHAT DOES GOOD LOOK LIKE?

At Standard: 120s+
Needs Improvement: < 90s

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions, post-session buy outs/ capacity extras

CLICK HERE TO VIEW AN EXAMPLE

SIDE PLANK

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Adductor injuries and trunk stability/strength. Ability to brace is important in contact activities defensively and in attack.

EQUIPMENT REQUIRED

NIL

TECHNICAL CUES

1. Elbow under shoulder, body on side.
2. Stack shoulders, hips, feet.
3. Lift hips, maintain straight line.
4. Avoid sag or rotation.
5. Hold steady with core engaged.

COACHING CUES

1. Lay sideways with feet on top of each other.
2. Position elbow under the shoulder and press the hips off the ground so that only feet and elbow are touching the ground ground.
3. Keep body straight like a board and hold.

WHAT DOES GOOD LOOK LIKE?

At Standard: 90s+

Needs Improvement: < 60s or more than 15s difference in sides

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions, post-session buy outs/ capacity extras

CLICK HERE TO VIEW AN EXAMPLE

SINGLE LEG SQUAT TO BENCH

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Risk of injury in lower limb. Provides single limb assessment through range as required in both attacking and defensive game positions.

EQUIPMENT REQUIRED



Bench

TECHNICAL CUES

1. Stand in front of bench, lift opposite leg.
2. Lower slowly on one leg, light touch to bench.
3. Knee aligned with foot, avoid valgus.
4. Spine neutral, trunk upright.
5. Drive back up through heel.

COACHING CUES

1. Stand in front of bench, lift opposite leg.
2. Squat down so bum touches the bench.
3. Stand up.

WHAT DOES GOOD LOOK LIKE?

At Standard: 30+

Needs Improvement: < 20 or more than 5 reps between sides

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions

FRONT VIEW EXAMPLE

SIDE VIEW EXAMPLE

SINGLE LEG HAMSTRING RAISE

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Risk of injury in lower limb. Hamstring range important in running mechanic and the ability to repeatably find and hold position at speed.

EQUIPMENT REQUIRED



Bench

TECHNICAL CUES

1. Supine, heel on bench, other leg straight.
2. Drive hips up until body is straight.
3. Keep pelvis level, spine neutral.
4. Lower under control without dropping hips.

COACHING CUES

1. Lie on the ground facing the sky and place the heel of one leg on bench.
2. Push hips up high.
3. Return to ground and repeat.

WHAT DOES GOOD LOOK LIKE?

At Standard: 30+

Needs Improvement: < 20 or more than 5 reps between sides

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions

CLICK HERE TO VIEW AN EXAMPLE

PUSH UP

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Fatiguability in shoulder joint / risk of injury. Important component of controlling movements on the ground following defensive and attacking moves i.e getting up from a tackle.

EQUIPMENT REQUIRED

NIL

TECHNICAL CUES

1. Hands under shoulders, body in plank.
2. Lower chest to fist gap above floor.
3. Elbows ~45° to torso.
4. Core tight, no sagging.
5. Push back to full extension.

COACHING CUES

1. Start in push up position.
2. Lower chest close to floor.
3. Push back up straight.

WHAT DOES GOOD LOOK LIKE?

At Standard: M30+, W20+

Needs Improvement: < M20, W < 10

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions

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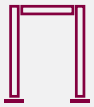
CHIN UP

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Relationship to shoulder injury and contact performance. Research has shown chin up strength to correlate highly with tackle efficiency. [11]

EQUIPMENT REQUIRED



Chin up bar / rack

TECHNICAL CUES

1. Grip bar supinated, legs off ground.
2. Start from dead hang, elbows extended.
3. Pull elbows to sides, chin above bar.
4. Lower fully, no swing.
5. Keep shoulders packed.

COACHING CUES

1. Hang from bar.
2. Pull chin over bar.
3. Lower all the way down.

WHAT DOES GOOD LOOK LIKE?

At Standard: M10+, W5+

Needs Improvement: M < 8, W < 3

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions

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SINGLE LEG GLUTE BRIDGE

LEVEL 1C - CAPACITY

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Risk of injury at pelvis complex and hamstring. A well-functioning pelvis complex, specifically the gluteals provides the assistance to hamstrings in hip flexion. Important from both acceleration and max velocity running.

EQUIPMENT REQUIRED

NIL

TECHNICAL CUES

1. Supine, one foot flat, other leg extended.
2. Drive hips up, shoulders–hips–knee in line.
3. Keep pelvis level, glutes engaged.
4. Hold top position as long as possible.
5. Lower under control.

COACHING CUES

1. Lie down, one foot flat.
2. Lift hips up straight.
3. Don't twist hips.
4. Hold at top position as long as possible.

WHAT DOES GOOD LOOK LIKE?

At Standard: 90s+

Needs Improvement: < 60s or more than 15s between sides

HOW & WHEN TO USE

Pre-season screening, integrated into weekly strength sessions, post-session buy outs/ capacity extras

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LEVEL 2
ISOMETRIC STRENGTH

Used to assess maximal strength of relevant and specific joint positions.

QRL MOVEMENT SCREENING PROTOCOLS

ISOMETRIC MID-THIGH VARIATION

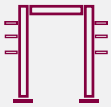
LEVEL 2 - ISOMETRIC STRENGTH

(belt squat, IMTP or quarter isometric squat) [12]

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Rugby league is a high impact, high force sport and as such, the physical capacity required by individuals needs to meet appropriate game demands. The IMTP is the highest possible force output in the athletic position by an individual and represents the potential capacity of the athlete just prior to contact as a tackler, in acceleration actions, and particularly when jumping.

EQUIPMENT REQUIRED



IMTP rack / belt squat / rig installed into ground Force plates

TECHNICAL CUES

1. Bar at mid-thigh, athlete in quarter squat.
2. Arms extended, grip bar tightly.
3. Hips and knees ~125°, spine neutral.
4. Pull maximally into bar for 5s, no jerking.
5. Heels stay planted.

COACHING CUES

1. Stand with bar at mid-thigh.
2. Push hard into ground and pull up.
3. Hold max effort for 5s.

WHAT DOES GOOD LOOK LIKE?

At Standard: > 45N/kg

Needs Improvement: < 35N/kg

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

HIP ADDUCTION [13]

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Strong hip abduction and adduction strength is essential in rugby league to stabilise the pelvis and knee during cutting, sprinting, and contact, with deficits linked to higher risk of groin strains and ACL injuries.

[3, 14-20]

EQUIPMENT REQUIRED



Dynamometer
(single leg if handheld, double leg if VALD ForceFrame)

TECHNICAL CUES

1. Supine, feet flat, dynamometer between knees.
2. Squeeze evenly, pelvis neutral.
3. Hold 5s without compensations.
4. Watch for trunk rotation.

COACHING CUES

1. Lie on back with feet down.
2. Squeeze knees together hard.
3. Don't twist hips.

WHAT DOES GOOD LOOK LIKE?

At Standard: > 150N (Ankles), 300N (knees)

Needs Improvement: < 120N (Ankles), 250N (Knees) or ratio of AD/AB: 1 to 1.3 (AD = or more than AB)

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

HIP ABDUCTION [13]

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Strong hip abduction and adduction strength is essential in rugby league to stabilise the pelvis and knee during cutting, sprinting, and contact, with deficits linked to higher risk of groin strains and ACL injuries.

[3, 14-20]

EQUIPMENT REQUIRED



Dynamometer
(single leg if handheld, double leg if VALD ForceFrame)

TECHNICAL CUES

1. Supine, dynamometer outside knees.
2. Press knees outward evenly.
3. Neutral spine, no pelvic tilt.
4. Hold max for 5s.

COACHING CUES

1. Lie on back.
2. Push knees out hard.
3. Keep hips still.

WHAT DOES GOOD LOOK LIKE?

At Standard: > 150N (Ankles), 300N (Knees)

Needs Improvement: < 120N (Ankles), 250N (Knees) or ratio of AD/AB: 1 to 1.3 (AD = or more than AB)

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

ATHLETIC SHOULDER TEST [21]

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Rugby league is contact sport, where the shoulder joints absorb a high amount of impact. The shoulder moves into strong and weak positions during the match and as such requires the strength to meet game demands in these positions at high forces. The ASH test is an integral part of testing the health of the shoulder joint for impact in rugby league. [22]

EQUIPMENT REQUIRED



Dynamometer, force plates

TECHNICAL CUES

1. Athlete prone, arm extended to set position.
2. Apply downward force on plate, shoulder braced.
3. Trunk stable, no rotation.
4. Hold 5s max.
5. Positions: 1. abducted 90 degrees, 2. Abducted 135 degrees, 3. Abducted 180 degrees.

COACHING CUES

1. Lie face down, arm out.
2. Push hand down into plate.
3. Keep body still.

WHAT DOES GOOD LOOK LIKE?

I

At Standard: > 1.5N/kg

Needs Improvement: < 1.2N/kg

Y

At Standard: > 1.3N/kg

Needs Improvement: < 1N/kg

T

At Standard: > 1.2N/kg

Needs Improvement: < 1N/kg

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment for those at risk

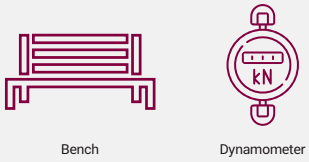
ISOMETRIC KNEE EXTENSION [23]

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Isometric knee extension is critical to ensure the balance between hamstring and quadriceps strength to reduce risk of knee injuries. This can also be used to improve strength in kicking actions, deceleration and change of direction actions, acceleration, and collisions.

EQUIPMENT REQUIRED



Bench Dynamometer

TECHNICAL CUES

1. Seated, knee at 90°, dynamometer on shin.
2. Press forward maximally for 5s.
3. Spine upright, pelvis stable.
4. No hip lift.

COACHING CUES

1. Sit with knees bent.
2. Kick forward hard.
3. Hold strong for 5s.

WHAT DOES GOOD LOOK LIKE?

At Standard: M > 7N/kg, W > 5.5 N/kg
Needs Improvement: M < 6.5 N/kg, W < 5 N/kg

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment for those at risk

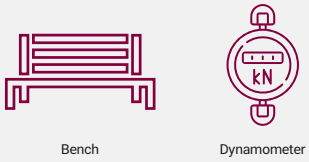
ISOMETRIC KNEE FLEXION (30°)

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

The first of three hamstring profiling assessments performed across a range of muscle lengths. Rugby league athletes repeatedly transition between high-speed running, acceleration, change of direction, grappling and strength-based actions. Isometric hamstring strength at 30° of knee flexion assesses the athlete's ability to produce force at a relatively long hamstring length, which is particularly important during sprinting, acceleration and rapid changes of direction.

EQUIPMENT REQUIRED



Bench Dynamometer

TECHNICAL CUES

1. Prone, knee flexed 30°, dynamometer at heel.
2. Athlete pulls heel up maximally.
3. Neutral pelvis, no hip rotation.
4. Hold for 5s.

COACHING CUES

1. Lie face down, knee bent.
2. Pull heel up hard.
3. Keep hips still.

WHAT DOES GOOD LOOK LIKE?

At Standard: M > 3.5N/kg, W > 3 N/kg

Needs Improvement: M < 3.0 N/kg, W < 2.5 N/kg

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment for those at risk

NECK FLEXION [24]

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Neck strength testing is an important component in assessing an athlete's capacity to tolerate high-impact forces during contact and reduce risk of concussion in rugby league. [25-28]

EQUIPMENT REQUIRED



Dynamometer, force plates

TECHNICAL CUES

1. Supine position with paddle at forehead.
2. Hands crossed at chest.
3. Legs straight, remaining on the floor.
4. Push for 5s.

COACHING CUES

1. Lie down, face to the sky, forehead underneath the paddle.
2. Hands cross your chest.
3. Push the forehead into the paddle as hard as possible for 5 seconds.

WHAT DOES GOOD LOOK LIKE?

FLEXION
At Standard: > 2.5N/kg
Needs Improvement: < 2.5N/kg

EXTENSION
At Standard: > 3.5/kg
Needs Improvement: < 3.5N/kg

Ratio of FL:EX: > 0.6
Ratio of R LF:L LF: 1:1

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment for those at risk

NECK EXTENSION [24]

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Neck strength testing is an important component in assessing an athlete's capacity to tolerate high-impact forces during contact and reduce risk of concussion in rugby league. [25-28]

EQUIPMENT REQUIRED



Dynamometer, force plates

TECHNICAL CUES

1. Prone position with paddle at occiput.
2. Hands by side with palms up.
3. Legs straight, remaining on the floor.
4. Push for 5s.

COACHING CUES

1. Lie face down, underneath the paddle (coach will position athlete appropriately).
2. Hands by your side.
3. Push the back of your head into the paddle as hard as possible for 5 seconds.

WHAT DOES GOOD LOOK LIKE?

FLEXION
At Standard: > 2.5N/kg
Needs Improvement: < 2.5N/kg

EXTENSION
At Standard: > 3.5/kg
Needs Improvement: < 3.5N/kg

Ratio of FL:EX: > 0.6
Ratio of R LF: L LF: 1:1

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment for those at risk

NECK LATERAL FLEXION [24]

LEVEL 2 - ISOMETRIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Neck strength testing is an important component in assessing an athlete's capacity to tolerate high-impact forces during contact and reduce risk of concussion in rugby league. [25-28]

EQUIPMENT REQUIRED



Dynamometer, force plates

TECHNICAL CUES

1. Side-lying position with knees slightly bent.
2. Shoulders, hips and ankles in alignment; top of the head, neck and sternum in a straight line.
3. Paddle positioned just above the ear.
4. Bottom hand reaching up to touch the top shoulder and the top hand sliding through to touch the opposite shoulder.
5. 4. Push for 5s.

COACHING CUES

1. Lie face down, underneath the paddle (coach will position athlete appropriately).
2. Hands by your side.
3. Push the back of your head into the paddle as hard as possible for 5 seconds.

WHAT DOES GOOD LOOK LIKE?

FLEXION
At Standard: > 2.5N/kg
Needs Improvement: < 2.5N/kg

EXTENSION
At Standard: > 3.5/kg
Needs Improvement: < 3.5N/kg

Ratio of FL:EX: > 0.6
Ratio of R LF:L LF: 1:1

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment for those at risk

LEVEL 3
DYNAMIC STRENGTH

Used to assess maximal dynamic strength of relevant movements

QRL MOVEMENT SCREENING PROTOCOLS

1RM NORDIC HAMSTRING CURL [29]

LEVEL 3 - DYNAMIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

A large body of evidence shows that increased hamstring eccentric strength can aid in reducing risk of hamstring injury. The Nordboard evaluates eccentric hamstring strength in each limb. The high eccentric forces on the hamstring muscle group at ground impact is testament to the importance of such testing, particularly in rugby league.

EQUIPMENT REQUIRED



VALD Nordboard

TECHNICAL CUES

1. Kneel with ankles secured.
2. Torso upright, hips extended.
3. Slowly lower torso forward (5s).
4. Maintain straight line head–hips–knees.
5. Catch with hands if failing.

COACHING CUES

1. Kneel tall with ankles held.
2. Lean forward slowly, stay straight.
3. Catch with hands if needed.

WHAT DOES GOOD LOOK LIKE?

At Standard: > M400N, W300N

Needs Improvement: M < 300N, W < 200N or less than 15% between sides

HOW & WHEN TO USE

Individual screening pre-season and during season, weekly pre-training assessment, integrated into weekly strength sessions for self-screening

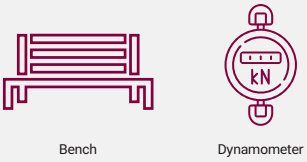
ECCENTRIC MID RANGE HAMSTRING [23]

LEVEL 3 - DYNAMIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Second of the three hamstring profiling tools across a range of lengths. Rugby league athletes face repeated transitions between running, grappling, and strength based actions. Eccentric mid-range hamstring strength connects outer and inner-range lengths. It specifically helps in deceleration and acceleration based actions, and helps to reduce injury risk during sprinting.

EQUIPMENT REQUIRED



Bench Dynamometer

TECHNICAL CUES

1. Prone, knee flexed ~45°, dynamometer at heel.
2. Athlete resists downward force.
3. Keep hips neutral, avoid pelvis lift.
4. Control resistance through range.

COACHING CUES

1. Lie face down, knee partly bent.
2. Resist as partner pushes.
3. Keep hips still.

HOW & WHEN TO USE

Individual screening pre-season and during season

ECCENTRIC OUTER RANGE HAMSTRING [23]

LEVEL 3 - DYNAMIC STRENGTH

WHY IS IT IMPORTANT IN RUGBY LEAGUE?

Third of the three hamstring profiling tools across a range of lengths. Rugby league athletes face repeated transitions between running, grappling, and strength based actions. The outer range is where most hamstring injuries occur, terminal extension at ground contact. Ensuring strength here is critical to reduce hamstring injuries at high speeds.

EQUIPMENT REQUIRED



Bench Dynamometer

TECHNICAL CUES

1. Prone, femur vertical, knee bent 90°.
2. Dynamometer at heel, athlete resists as force applied.
3. Keep pelvis neutral, spine stable.

COACHING CUES

1. Lie face down, knee bent.
2. Resist partner pushing leg.
3. Keep hips square.

HOW & WHEN TO USE

Individual screening pre-season and during season

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