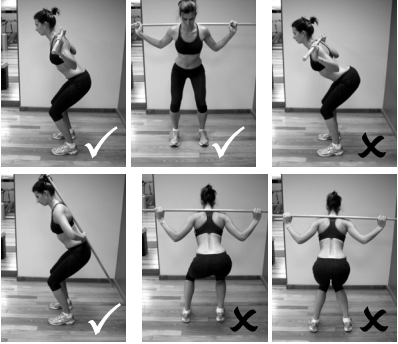
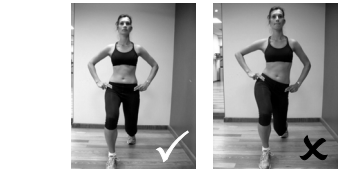
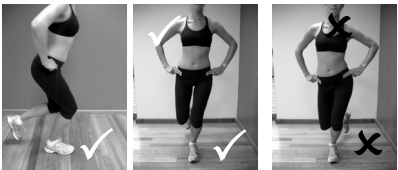
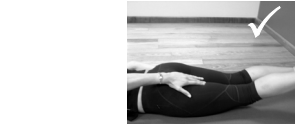

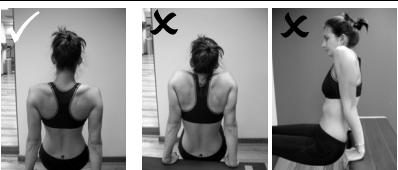


Test	Indication / Observation / Problems	Corrective Techniques / Exercises / Q:
<b>Squat (with bar or pole)</b>  <p>Normal: Shoulder over ankle, centered Shin and spine (neutral) = parallel lines Knee in line 2<sup>nd</sup> toe</p>	<p>→ <b>Poor Lumbo-pelvic Stability &amp; Control</b></p> <ul style="list-style-type: none"> <li>• <b>Spine and Tibia not parallel:</b> <ul style="list-style-type: none"> <li>- <b>Forward upper body:</b> poor hip stabilization, reduced dorsi-flexion – lumbar spine loading</li> <li>- <b>Loss of dorsi-flexion:</b> ankle joint stiffness and/or calf muscle tightness - compensation at Hip or Lumbar Spine</li> <li>- <b>Increased dorsi-flexion:</b> poor hip stabilization and/or awareness of hip flexion – knee and patellofemoral joint loading</li> </ul> </li> <li>• <b>Increased lumbar lordosis / anterior pelvic tilt</b> <ul style="list-style-type: none"> <li>- Hypermobile lumbar spine / L/S junction</li> <li>- Weakness deep anterior stabiliser (TA)</li> <li>- Muscle imbalance; over-active extensors</li> </ul> </li> <li>• <b>Loss of lumbar curve at bottom of squat</b> <ul style="list-style-type: none"> <li>- Weakness in extensors / reduced lordosis</li> <li>- Lumbar spine disc injuries</li> </ul> </li> <li>• <b>Lateral Pelvic Shift, Hip / Knee internal rotation</b> <ul style="list-style-type: none"> <li>- One-sided hip stabilizer weakness</li> <li>- Reduced ankle dorsi-flexion</li> <li>- Spine, Hip, Knee and Patellofemoral injuries</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Correct technique, practice unloaded until correct. Use pole in midline to assist spine position awareness</li> <li>• Level One Core Stability activation exercises, with a graded progression of difficulty</li> <li>• Instruct on neutral pelvic position in exercise standing or loading positions <ul style="list-style-type: none"> <li>- <b>Isometric Core Stability test</b></li> </ul> </li> <li>• Gluteus medius and piriformis hip stabilizer strengthening routines – following level of difficulty in progression and stability - physio <ul style="list-style-type: none"> <li>- <b>Gluteal activation (prone leg lift) test</b></li> </ul> </li> <li>• Stretch Calves (Bent and Straight knee) <ul style="list-style-type: none"> <li>- <b>Dorsi-flexion wall test</b></li> </ul> </li> </ul> <p>Q: Previous or current disc injuries? Q: Lumbar spine pain when standing or sitting? Q: Anterior Knee Pain? Q: Previous ankle sprains or surgery? → Refer to Physio for assessment</p>
<b>Static Lunge</b>  <p>Normal: ASIS level / knee in line 2<sup>nd</sup> toe</p>	<p>→ <b>Positive 'Trendelenberg's Sign'</b> Compare left vs right</p> <ul style="list-style-type: none"> <li>• <b>Drop of Opposite Hip and Hip internal rotation</b> <ul style="list-style-type: none"> <li>- One-sided hip stabilizer weakness or control</li> <li>- Decreased Hip flexion - hip joint lesion</li> </ul> </li> <li>• <b>Knee Valgus or internal rotation</b> <ul style="list-style-type: none"> <li>- Poor VMO strength, Q-Angle</li> <li>- Ankle eversion / foot pronation</li> <li>- Patello-femoral pain</li> </ul> </li> <li>• <b>Compensatory loading onto back leg</b></li> </ul>	<ul style="list-style-type: none"> <li>• Correction as for Squat (see above)</li> <li>• Closed Kinetic Chain VMO strengthening exercises - as instructed by Physio <ul style="list-style-type: none"> <li>- <b>One Leg Squat test</b></li> </ul> </li> </ul> <p>Q: Previous Low back Pain referring into buttock? Q: Anterior Knee Pain or previous knee injuries? Q: Painful snapping hip / Lateral Hip and ITB pain? Q: Hip Osteoarthritis? → Refer to Physio for assessment</p>
<b>One Leg Squat</b>  <p>Normal: ASIS level / knee in line 2<sup>nd</sup> toe Shin and spine (neutral) = parallel lines</p>	<p>→ <b>Positive 'Trendelenberg's Sign'</b> Compare left vs right Check dominate co-ordination side</p> <ul style="list-style-type: none"> <li>• <b>Drop of Opposite Hip and Hip internal rotation, Increased knee flexion with reduced hip flexion</b> <ul style="list-style-type: none"> <li>- One-sided hip stabilizer weakness or control</li> </ul> </li> <li>• <b>Knee Valgus or internal rotation</b> <ul style="list-style-type: none"> <li>- Poor VMO strength, Q-Angle</li> <li>- Reduced ankle dorsi-flexion</li> <li>- Ankle eversion / foot pronation</li> <li>- Patello-femoral pain</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• (Hip Stabilisation as for Squat) <ul style="list-style-type: none"> <li>- <b>Gluteal activation (prone leg lift) test</b></li> </ul> </li> <li>• Closed Kinetic Chain VMO strengthening exercises - as instructed by Physio</li> <li>• Caution with impact activities</li> </ul> <p>Q: (as for Static Lunge) Q: Previous ankle sprains or surgery? Q: Pregnancy? (Sacro-iliac Joint problems) → Refer to Physio for assessment</p>
<b>Gluteal Activation (prone leg lift)</b>  <p>Normal: Gluteals 1<sup>st</sup>, Hamstrings 2<sup>nd</sup></p>	<p>→ <b>Incorrect Extensor Muscle Firing</b> Compare left vs right Check dominate co-ordination side</p> <ul style="list-style-type: none"> <li>• <b>Unable to contract Gluteals before lift</b> <ul style="list-style-type: none"> <li>- Lumbar Extensor dominance, weakness in hip stabilisation during exercise</li> <li>- Hamstring overloading, muscle tears</li> <li>- Deep Anterior Stabiliser (TA) inhibition</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Closed Kinetic Chain Hip stabilizer strengthening progressing to Open Chain</li> <li>• Practice test to help correction – watch for early extensor activation anterior pelvic tilt</li> <li>• Level one Core stability activation exercises</li> </ul> <p>Q: Previous Low back Pain referring into buttock? Q: Hip / Knee injuries, pain or conditions? → Refer to Physio for assessment</p>
<b>Isometric Core Stability</b>  <p>Normal: Transversus abdominus activated Spine keep in neutral, no rise in rectus Good: Single Leg / Excellent: Double Leg</p>	<p>→ <b>Poor Lumbo-pelvic Stability &amp; Control</b></p> <ul style="list-style-type: none"> <li>• <b>Arching of Lumbar Spine on lift</b> <ul style="list-style-type: none"> <li>- Transversus Abdominus (TA) weakness or poor control</li> </ul> </li> <li>• <b>Compensatory use / overactive global muscles &amp; dominant Rectus Abdominus</b> <ul style="list-style-type: none"> <li>- Pelvic muscle instability, lumbar spine injuries, lower limb biomechanical problems</li> </ul> </li> <li>• <b>Altered breathing or breath holding</b> <ul style="list-style-type: none"> <li>- Transversus Abdominus (TA) inhibition</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Level one Core stability activation exercises, using a progressive goal-orientated stability program to advance</li> <li>• Instruct on neutral pelvic position in exercise standing or loading positions</li> <li>• Practice test to help correction</li> </ul> <p>Q: Previous Low back Pain? Q: Poor ability to activate transversus abdominus? → Refer to Physio for assessment</p>
<b>Lower Trapezius (box dip)</b>  <p>Normal: Scapula depressed at top of movement</p>	<p>→ <b>Weak Lower Trapezius</b> Compare left vs right</p> <ul style="list-style-type: none"> <li>• <b>Rise in scapula at top of movement</b> <ul style="list-style-type: none"> <li>- inability to depress scapula</li> <li>- scapulo-thoracic hypermobility</li> <li>- shoulder impingement and instability problems</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Correct instruction of scapular setting posture and depression on all dip and pulldown exercises / Reduce load</li> <li>• Care with loaded or body weight dips</li> </ul> <p>Q: Previous shoulder injuries? Q: Previous or current neck pain with or without referral to shoulder or scapular muscles? → Refer to Physio for assessment</p>