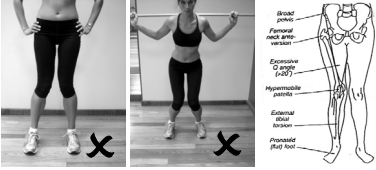
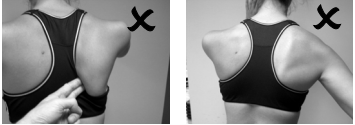
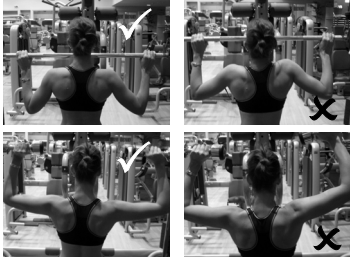

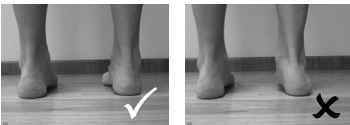



Test	Indication / Observation / Problems	Corrective Techniques / Exercises / Q:
<b>Q-Angle</b>  Normal: Q-Angle < 20°	→ <b>'Malicious Mal-alignment Syndrome'</b> <i>Compare left vs right</i> <ul style="list-style-type: none"> <li>• <u>Excessive Q-Angle (&gt; 20°)</u></li> <li>• <u>Broad Pelvis (female athletes)</u></li> <li>• <u>Hip and Knee internal rotation</u> <ul style="list-style-type: none"> <li>- Hip stabilizer weakness, tight hip capsule</li> <li>- Femoral neck anteversion</li> <li>- Hypermobile patella</li> </ul> </li> <li>• <u>Externally rotated tibia (tibial torsion)</u></li> <li>• <u>Pronated (flat) foot</u> <ul style="list-style-type: none"> <li>- Patellofemoral pain and Hip conditions</li> <li>- Lower leg over use syndromes (e.g. shin splints, plantar fasciitis, Achilles tendonitis)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Avoid long duration running / treadmills</li> <li>• Care with duration of impact exercise, choose more non-impact forms of exercise</li> <li>• Choose Lunges and Step-ups instead of loaded Squats and loaded Deadlifts</li> <li>• Instruct to keep Knee in-line with 2<sup>nd</sup> toe during leg exercises</li> <li>• Advise from Physiotherapist on running shoes and assessment for weightbearing casted orthotics</li> </ul> Q: <i>Knee or Hip Pain with walking or running?</i> Q: <i>Shin splints, plantar fasciitis, Achilles tendonitis)?</i> → <b>Refer to Physio for assessment</b>
<b>Scapula Winging</b>  Normal: Scapula flat against rib cage	→ <b>Weakness or inhibition of scapula stabilisers</b> <ul style="list-style-type: none"> <li>• <u>Winging of inferior medial angle (tip) away from rib cage</u> <ul style="list-style-type: none"> <li>- Serratus anterior weakness, tightness and dominance of pectoralis minor</li> <li>- Shoulder function and movement effected</li> <li>- Altered position of Glenohumeral joint</li> <li>- Long thoracic nerve injury</li> </ul> </li> <li>• <u>Drooping of and lateral displacement of scapula</u> <ul style="list-style-type: none"> <li>- Trapezius weakness</li> <li>- Cervical / Shoulder pain muscle inhibition</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Stretch Pectoralis Minor and Major</li> <li>• Choose Closed Kinetic chain shoulder exercises instead of open chain</li> <li>• Scapular stabilisation re-training with Physiotherapy guidance</li> </ul> Q: <i>Previous neck or shoulder injuries?</i> Q: <i>Nerve injuries?</i> Q: <i>Shoulder dislocations or surgery?</i> → <b>Refer to Physio for assessment</b>
<b>Scapulo-humeral Rhythm</b>  Normal: Even depression in lat pulldown Non-excessive elevation in shoulder press Smooth rotation on shoulder abd / add	→ <b>Poor Scapular Stabilisation and Control</b> <i>Compare left vs right</i> <ul style="list-style-type: none"> <li>• <u>Early and excessive elevation of scapula during lat pulldown and shoulder press</u> <ul style="list-style-type: none"> <li>- Weakness of lower trapezius to assist rotation and control elevation</li> <li>- dominance of upper trapezius to assist abduction</li> </ul> </li> <li>• <u>Sudden jerking adduction and lateral rotation of scapular on adduction of arm</u> <ul style="list-style-type: none"> <li>- Weakness of lower trapezius to assist rotation and pain inhibition of scapular control</li> <li>- Cervical spine referred pain</li> </ul> </li> <li>• <u>Painful arc</u> <ul style="list-style-type: none"> <li>- tendon or subacromial bursae impingement</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Avoid overhead activities if pain produced</li> <li>• Caution with open chain pressing exercises (e.g Bench press)</li> <li>• Choose Closed Kinetic chain shoulder exercises instead of loaded open chain</li> <li>• Scapular stabilisation re-training with Physiotherapy guidance</li> </ul> Q: <i>Previous neck or shoulder injuries?</i> Q: <i>Shoulder dislocations or surgery?</i> Q: <i>Pain with overhead movements?</i> → <b>Refer to Physio for assessment</b>
<b>Forward Head Posture</b>  Normal: Ear in plumb-line with shoulder	→ <b>Lower Cervical flexion / Upper Cervical Ext</b> <ul style="list-style-type: none"> <li>• <u>Chin poked forward in fixed position</u> <ul style="list-style-type: none"> <li>- poor spinal posture awareness and 'cervical core stability'</li> <li>- over active SCM, stiff upper cervical spine</li> <li>- Upper Trapezius trigger points</li> <li>- cervical spine strain, pain and headaches</li> </ul> </li> <li>• <u>Rounded / Kyphotic Thoracic spine</u></li> </ul>	<ul style="list-style-type: none"> <li>• Care with overhead pressing movements (e.g. Bench press and Shoulder press)</li> <li>• Promote neutral cervical posture correction with all exercises</li> <li>• Deep neck flexor activation exercises</li> <li>• Thoracic extension stretches over ball or towel</li> </ul> Q: <i>Sedentary occupation / poor sitting posture?</i> Q: <i>Pain in cervical or thoracic spine?</i> → <b>Refer to Physio for assessment</b>
<b>Static &amp; Dynamic Pronation</b>  Normal: Calcaneus neutral / achilles vertical	→ <b>Rear foot eversion and dropped arch</b> <i>Compare left vs right</i> <ul style="list-style-type: none"> <li>• <u>Excessive medial angle of heel, Internal rotation of knee and hip</u> <ul style="list-style-type: none"> <li>- Patellofemoral pain and Hip conditions, wear/tear injuries</li> <li>- Lower leg over use syndromes (e.g. shin splints, plantar fasciitis)</li> <li>- Bowing of Achilles – tendonitis</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Advise from Physiotherapist on running shoes and assessment for weightbearing casted orthotics</li> <li>• Avoid long duration running / treadmills</li> <li>• Ankle proprioceptive exercises (e.g. Wobble board, BOSU)</li> </ul> Q: <i>Knee or Hip Pain with walking or running?</i> Q: <i>Shin splints, plantar fasciitis, achilles tendonitis)?</i> → <b>Refer to Physio for assessment</b>
<b>Walking &amp; Running Gait</b>  Normal: PSIS level on foot strike Rear foot supinated at strike Knee in midline and in line 2 <sup>nd</sup> toe	→ <b>'Trendelenberg's Sign' and Leg Alingment</b> <i>Compare left vs right</i> <ul style="list-style-type: none"> <li>• <u>Drop of Opposite Hip</u></li> <li>• <u>Hip internal rotation</u> <ul style="list-style-type: none"> <li>- One-sided hip stabilizer weakness or control</li> <li>- Foot pronation</li> </ul> </li> <li>• <u>Knee Valgus or internal rotation, circumduction swing of tibia and foot</u> <ul style="list-style-type: none"> <li>- Foot pronation, poor toe off</li> <li>- Patellofemoral, Hip and lower leg conditions</li> </ul> </li> <li>• <u>Forefoot strike</u> <ul style="list-style-type: none"> <li>- calf and hip injuries</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• (as for Pronation above)</li> <li>• Instruct to keep Knee in-line with 2<sup>nd</sup> toe during leg exercises</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> <li>- <b>Pronation Test as above</b></li> </ul> </li> </ul> Q: <i>Knee or Hip Pain with walking or running?</i> Q: <i>Shin splints, plantar fasciitis, achilles tendonitis)?</i> → <b>Refer to Physio for assessment</b>