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Quality Teaching

The importance of quality teaching

The essence of ‘How to Teach’ is vital if we are to obtain positive results with exercise programs. Professionals do courses yearly in the hope of learning new skills and new techniques. Our focus may be to learn new anatomical information or qualify in something new. But what about the definitive importance of the ESSENCE OF TEACHING!

QUALITY TEACHING lays the foundation for ‘Training sportsmen/women’ as you embark on a journey of discovery, assessment and movement analysis. In order to improve our teaching skills, we need to assess our own capabilities with an honest but judgemental eye. Remember, your final goal is IMPROVEMENT within yourself and the sportsmen and women whom you teach!

Ask yourself, do you effectively:

- Use your voice (no monotone teaching)
- Cue corrections
- Talk your client through the exercise
- Teach your clients what muscles are producing the movements
- Maintain a rhythm throughout the class

Always recap on your Anatomy!

Do you know your anatomy?

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Alignment

Alignment forms a vital part of any safe sports training and therefore ties in closely with ‘Cross Training for Sportsmen/women’. Working the body out of alignment creates many muscular imbalances which then subsequently leads to injury (strain, sprain and degeneration) and has long-term negative effects. Working in alignment allows the muscles to recruit efficiently without compensating.

- The head, shoulders, hips, knees & ankles should always be in alignment when viewing from the front, side and back to prevent injuries.
- Alignment allows the muscles to work in a balanced format giving overall stability and strength, which in turn results in longevity.
- Working in alignment is the injury preventative application to train the body.
- Alignment allows the body to isolate into specific muscle groups.

*During EMG testing, we found that the intensity of a muscle contraction (primary mover) when the body is in good alignment, and is moving without compensation, spiked the EMG reading considerably for the primary mover.*

Always check alignment and remember that it should always look aesthetically pleasing.

Take a step back and look at the bigger picture.

When an instructor teaches an exercise, the one main aspect to observe is the alignment of the body from head to toe. This will indicate which *compensations* are occurring throughout the execution of the exercise. Most corrections are based on the alignment of movements. Eventually you will see how the constant reminders and assistance that you offer, forms an involuntary correction. **VOILA!**

The Importance of Cross Training

When training sportsmen/women, we need to remember that we are *not there to change their natural ability*, but we are there to enhance their abilities and assist them in protecting their bodies. Every sport is predisposed to certain injuries and your objective is to ensure that these are minimal.

*How do we achieve this?*

- Incorporate exercises that encourage stability in the 5 basic movement principles. (see page 5)

<table>
<thead>
<tr>
<th>LOAD</th>
<th>5 PRINCIPLES PROGRESSION</th>
<th>TECHNIQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIND-BODY</td>
<td>FELXIBILITY IF REQUIRED</td>
<td>SLOW SPEED</td>
</tr>
<tr>
<td>LOW LOAD / GRAVITY</td>
<td>MEDIUM – HIGHER LOAD</td>
<td>INCREASED SPEED</td>
</tr>
<tr>
<td>TIME UNDER TENSION</td>
<td>ULTIMATE STABILITY</td>
<td>RAISES HEART RATE</td>
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</tbody>
</table>
Repeat the stabilized movements 100’s of 1000’s of times, in order to re-educate the body to develop *involuntary stability*

- Co-ordinate their movements to perform the basic movement principles without compensation or verbal correction
- Do movements that are more challenging for their body i.e. put them in positions where their joints are often not required to go (within limits)

Adhere to the progression table above and challenge their body by doing the same exercises but increasing the load or changing the technique, but only if they are able to perform the original exercise efficiently without compensations.

**What is Time under Tension?**

*Time Under Tension* is a controversial subject that has undergone many studies and tests. However, the essence of it needs to be understood if we are to make use of this principle when training because *Time Under Tension* is what creates muscle hypertrophy or increased muscle girth.

*Time Under Tension* refers to the time that only the high-threshold motor units are active or recruited. During this recruitment, the speed needs to be slower. It is relative to which muscle fibres are active and the amount of tension that is applied to the muscle fibres.

Therefore, we require:

- **Load**
- **Slow Speed**

---

**Their needs**

*In order to establish what their needs are you would need to assess the following:*

- What is their current choice of sport?
- Watch them perform their sport or YouTube videos of them in action. In doing so, you are able to assess their individual movements and note which movements could cause possible acute or chronic injuries
- Ask them what they are hoping to achieve in the program and design your program according to their requests
- Do a comprehensive body assessment on each individual to see where their shortcomings are in relation to the 5 movement principles *Refer to the Of-CourseOnline `Client Movement Assessment Course` as well as the `Training your eye Course`*
- Each sport requires FULL BODY joint stability however, each sport also requires sport specific joint stability e.g.

**The needs of various sports**

- **Cricket** – Requires shoulder stability (additional to hip and spinal stability)
  - Require mobility in shoulder joint + stability
  - Start with awareness and free movement in the shoulder where they connect to the Scapula. Progress to concentric strength and then to progress to eccentric strength

- **Rugby** – Spine, knee, hip and shoulder stability (full body stability)
  - Require the ability to work in outer ranges together with strength in movement principles
  - Strength in mobility should be emphasised in their program with involuntary stability

- **Skiing** – Knee, hip and spinal stability (additional to shoulder stability)
  - Require eccentric Quadricep strength with isometric back extensor strength
  - Strength in hip, spine and knee alignment should be the main focus in this sport
✓ **Swimming** – Shoulder, hip, knee and spinal stability (full body stability)
  - Requires shoulder stability in outer ranges as well as hip stability for leg movements
  - General shoulder strength is required in full ranges. Latissimus dorsi strength is required through its full range together with good hip stability and Gluteus Medius and Maximus co-ordination

✓ **Ballet / Dancing** – hip, knee, shoulder and spinal stability in outer ranges
  - Requires increased ranges for movements with support and strength
  - Restricting ranges and incorporating strength training is required, then increase ranges and incorporate strength training
  - Ensure that you incorporate jumping into their program with full use of the legs in order to create balance

✓ **Gymnastics** – spinal, hip, knee and shoulder stability (additional to knee and full body stability)
  - In their training, focus on strength in inner and outer ranges. Ensure that stability is maintained in each movement and that no compensations occur. It is better to train them in limited ranges initially to obtain the required strength when they do go into the outer ranges

✓ **Runners** – spinal, hip and knee stability (additional to shoulder stability)
  - Due to the fact that long distance running is an endurance sport, they do not build muscle bulk and therefore their muscle girth is less. Focusing on hip, knee and spinal stability in medium to higher load will be beneficial for them so that they have stronger muscles stabilizing the joints as they run.

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**Now let’s get moving**

- **Remember your 5 basic movement principles:**

  1. **Hip disassociation;** moving the femur freely within the acetabulum socket without any changes occurring within the pelvis, unless the joint has reached its maximum range (please note that joint range is client specific and is dependant of structure and flexibility of muscles, ligaments and injury).

  2. **Hip flexor abdominal co-ordination;** This is the ability of the abdominals to maintain the pubic symphysis in the optimal position whilst the hip flexors are working through moving or lifting the legs up. This is also dependant on the amount of load that the hip flexors are required to carry or hold.

  3. **Spinal articulation and isolation;** How easily and efficiently does the spine articulate. What spinal restriction, if any, does the client have and are these true restrictions? Are they able to isolate areas of the spine in movements such as chest lift, pelvic curls or any abdominal work?

  4. **Shoulder stability and free movement;** The method of relaxed Scapula and shoulder stability is introduced as this creates functional stability for anyone who moves their arms during the day. Scapula stability strength comes in when we add additional load and challenge the scapula as the arm is asked to carry more weight.

  5. **Developing a mind body connection;** This connection occurs through professional instructions.
## Developing Good Mechanics and Strength in Hip Disassociation

<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>SLOW PACE</th>
<th>INCREASED SPEED</th>
<th>ISOMETRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single leg lift</strong></td>
<td>✤ To ensure good form</td>
<td>✤ To maintain good form</td>
<td>✤ <em>Important to teach how to resist movement in certain sports and increase endurance</em></td>
</tr>
</tbody>
</table>

### Exercise Corrections

- ✚ Cue your client to maintain abdominal activation
- ✚ Ensure that they are aware of activating the opposite oblique to assist with rotational stability
- ✚ Place your hand in their lumbar spine or place a half lumbar roll in the lumbar spine to avoid the lumbar flexion as they flex the hip. Ask them to activate this area with 20% effort in order to maintain pelvic stability

<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single leg lift</strong></td>
<td>✤ Pelvic rotation</td>
<td>✤ Loss of contralateral oblique &amp; spinal stability</td>
</tr>
<tr>
<td></td>
<td>✤ Altered pelvic tilt</td>
<td>✤ Tuck – loss of lumbar extensors</td>
</tr>
<tr>
<td></td>
<td>✤ Lack of hip disassociation</td>
<td>✤ Arch – loss of abdominal control at the pubic symphysis</td>
</tr>
<tr>
<td></td>
<td>✤ Stable leg abducting</td>
<td>✤ Mind-body connection and lack of abdominal and lumbar spine stability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✤ Leg abduction overriding contralateral trunk stability</td>
</tr>
</tbody>
</table>

### Exercise Movements and Loadings

- ✤ **Low load**
  - Gravity
- ✤ **Medium load**
  - Tone loop
- ✤ **High load** (slow pace)
  - Double tone loop

Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue.

**Remember,** the more load the less reps (4 – 6)

*Record the time to failure*
**EXERCISE / MOVEMENT** | **SLOW PACE** | **INCREASED SPEED** | **ISOMETRIC**  
--- | --- | --- | ---  
**Pelvic Bridge**  
- To ensure good form  
- To maintain good form  
- Important to teach how to resist movement in certain sports and increase endurance

| Load | Movement | Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue. **Remember**, the more load the less reps (4 – 6) **Record the time to failure**  
--- | --- | ---  
**Low load**  
Gravity  
- No load  
- Grey band  
- 10kg weight  
**Medium load**  
Grey Theraband  
- 5gk – 8kg weight  
**High load (slow pace)**  
- | **EXERCISE CORRECTIONS**  
- Cue your client to maintain abdominal activation as they roll up  
- Ensure that they are activating their Gluteus Maximus throughout the movement and that they are activating equally bilaterally. If not, then adjust or modify the exercise to a mid-way hinge or a lower Pelvic Curl  
- Cue vertebra for vertebra and say this in a relaxing, meditative tone  
- Allow them to open their feet a bit wider if the pull of the knees is too intense as they roll up. This will in any event enable them to fire the Gluteus Maximus better as they are currently restricted by the anterior muscles on the thigh  
If they are struggling to articulate down without extending their neck then ask them to rest their arms in a wide V above their head on the floor. If they cannot reach the floor, then put a foam roller there for them to rest their hands on. This will allow for a relaxed flexion range in the shoulder and it will maintain the thoracic spine position as they roll down. This position will encourage the spine to articulate as the weight of the arms holds the upper torso down.  

--- | --- | --- | ---  
**EXERCISE / MOVEMENT** | **ASSESS COMPENSATION** | **REASON FOR COMPENSATION**  
--- | --- | ---  
**Pelvic Bridge**  
(Any articulation and isolation work should look relaxed without any additional tension occurring in the shoulders)  
- Hinge with flared ribs  
- Altered pelvic tilt  
- Hamstring cramp  
- Lateral shift in pelvis  
- Abducts the knees as they hinge up  
- Lack of mind-body connection and did not complete the exhale to maintain core connection  
- Arch – loss of abdominal control at the pubic symphysis as well as the loss of Gluteus Maximus activation or a possible tight Hip Flexor or Rectus Femoris  
- Weak Gluteus Maximus  
- Loss of Gluteus Medius and Maximus activation on the lowered hip or a possible tight Hip Flexor group on the lowered hip  
- Possible tight Hip Flexor, Rectus Femoris, ITB, Vastus Lateralis and Sartorius. Alternatively, a lack of mind-body connection
**MOUVEMENT**

<table>
<thead>
<tr>
<th>Squats</th>
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<tbody>
<tr>
<td>To ensure good form</td>
</tr>
<tr>
<td>To maintain good form</td>
</tr>
<tr>
<td>Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

<p>| Low load |
| Medium load |</p>
<table>
<thead>
<tr>
<th>High load (slow pace)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravity</td>
</tr>
<tr>
<td>2 x 4kg Kettle Bells</td>
</tr>
<tr>
<td>10kg – 20kg bar</td>
</tr>
<tr>
<td>Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue. <strong>Remember</strong>, the more load the less reps (4 – 6) <em>Record the time to failure</em></td>
</tr>
</tbody>
</table>

**EXERCISE CORRECTIONS**

- Cue your client to maintain lower abdominal area activation to avoid too much of an arch in their back
- Ensure that they are aware of activating the opposite oblique area
- Ensure that they are activating both legs Gluteus Medius
- Place your hand or a foam roller on their lumbar spine to avoid the lumbar flexion as they flex down into the hip. Ask them to activate this area with 30% effort in order to maintain pelvic stability

**EXERCISE / MOVEMENT**

<table>
<thead>
<tr>
<th>Squats</th>
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<tbody>
<tr>
<td>(Any unilateral leg work requires similar stability patterns. Some may require Gluteus activation, especially when standing)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>ASSESS COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic rotation</td>
</tr>
<tr>
<td>Altered pelvic tilt</td>
</tr>
<tr>
<td>Lack of hip disassociation</td>
</tr>
<tr>
<td>Thoracic flexion</td>
</tr>
<tr>
<td>One or both knees adduct</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of contralateral oblique, spinal stability and loss of the Gluteus Medius of the hip that rotates backwards</td>
</tr>
<tr>
<td>Tuck – loss of lumbar extensors and hip flexors (SIJ vulnerable)</td>
</tr>
<tr>
<td>Arch – loss of abdominal control at the pubic symphysis</td>
</tr>
<tr>
<td>Mind-body connection and lack of abdominal and lumbar spine stability</td>
</tr>
<tr>
<td>Loss of Thoracic back extensors</td>
</tr>
<tr>
<td>Loss of the affected knees hip abductors and Gluteus Medius</td>
</tr>
</tbody>
</table>
## EXERCISE / MOVEMENT

### Side Lying Glutes

<table>
<thead>
<tr>
<th>SLOW PACE</th>
<th>INCREASED SPEED</th>
<th>ISOMETRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure good form</td>
<td>To maintain good form</td>
<td>Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

- **Low load**
  - Gravity
- **Medium load**
  - Tone loop
- **High load (slow pace)**
  - Double tone loop

Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue.

**Remember**, the more load the less reps (3 – 6)

**Record the time to failure**

---

### EXERCISE CORRECTIONS

- Cue your client to maintain lower abdominal area activation as they do hip abduction
- Ensure that they are aware of activating the opposite oblique and quadratus lumborum area as this will enable them to maintain a lateral neutral spine.
- Ensure that they are activating the top legs Gluteus Medius
- Place your hand or a foam roller on their lumbar spine to avoid the lumbar extension as they abduct the hip.
- Place your hand on their abdominal area if they go into an arch and ask them to activate this area with 30% effort

---

### EXERCISE / MOVEMENT

**Side Lying Glutes**

(Any unilateral leg work requires similar stability patterns. Some may require Gluteus activation, especially when standing)

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<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic rotation</td>
<td>Loss of lower side hip adductors and top sides hip abductors</td>
</tr>
<tr>
<td>Altered pelvic tilt</td>
<td>Arch – loss of abdominal control at the pubic symphysis</td>
</tr>
<tr>
<td>Lack of hip disassociation</td>
<td>Mind-body connection and lack of lower Oblique and Quadratus Lumborum activation</td>
</tr>
<tr>
<td>Leg travels forward</td>
<td>Loss of Gluteus Medius and Maximus activation and dominance of Tensor Fascia Lata</td>
</tr>
<tr>
<td>Arches Lumbar Spine in extension</td>
<td>Possible tight Hip Flexor or Rectus Femoris. Alternatively, a lack of mind-body connection or a lack of activation of lower abdominal area</td>
</tr>
</tbody>
</table>
## EXERCISE / MOVEMENT

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>Prone Glutes</strong></td>
<td>To ensure good form</td>
<td>To maintain good form</td>
<td>Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

### Low load
- Gravity edge of Cadillac or bench
- To ensure good form

### Medium load
- Tone loop lateral rotation
- To maintain good form

### High load (slow pace)
- Double tone loop lateral rotation
- Important to teach how to resist movement in certain sports and increase endurance

### Gravity

### 1 Tone loop

### 2 Tone loops

### EXERCISE CORRECTIONS

- Cue your client to maintain lower abdominal area activation as they do hip extension
- They should get the feeling of drawing the pubic bone through with the abdominals as they do the hip extension
- Place your hand or a foam roller in their lumbar spine and pull the sacrum down to avoid the lumbar extension as they abduct the hip.

### EXERCISE / MOVEMENT

<table>
<thead>
<tr>
<th>PRONE GLUTES</th>
<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Hip disassociation is controlled through the abdominals and the back extensors)</td>
<td>Altered pelvic tilt</td>
<td>Arch – loss of abdominal control at the pubic symphysis as well as the loss of Gluteus Maximus activation or a possible tight Hip Flexor or Rectus Femoris</td>
</tr>
<tr>
<td></td>
<td>Cramp in Hamstrings</td>
<td>Due to weak Gluteus Maximus</td>
</tr>
<tr>
<td></td>
<td>Medial hip rotation</td>
<td>Loss of Gluteus Maximus activation</td>
</tr>
</tbody>
</table>
# Developing Good Mechanics and Strength in Spinal Articulation

<table>
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<tr>
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<th>ISOMETRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic Curl</td>
<td>✷ To ensure good form</td>
<td>✷ To maintain good form</td>
<td>✷ Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

- **Low load**
  - Gravity

- **Medium load**
  - Foam Roller / band

- **High load (slow pace)**
  - Foam Roller + band

Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue.

*Remember*, the more load the less reps (3 – 6)

*Record the time to failure*

### EXERCISE CORRECTIONS

- ✔ Cue your client to maintain lower abdominal area activation as they roll up
- ✔ Ensure that they are activating their Gluteus Maximus throughout the movement and that they are activating equally bilaterally. If not, then adjust or modify the exercise to a mid-way hinge or a lower Pelvic Curl
- ✔ Cue vertebra for vertebra and say this in a relaxing, meditative tone
- ✔ Allow them to open the feet a bit wider if the pull of the knees is too intense as they roll up. This will in any event enable them to fire the Glutes Maximus better as they are currently restricted by the anterior muscles on the thigh
- ✔ If they are struggling to articulate down without extending their neck then ask them to rest their arms in a wide V above their head. If they cannot reach the floor, then put a foam roller there for them to rest their hands on. This will allow for a relaxed flexion range in the shoulder and it will assist in maintaining the thoracic spine position as they roll down. This position will encourage the spine to articulate as the weight of the arms holds the upper torso down.

### EXERCISE / MOVEMENT

- **Pelvic Curl**
  - (Any articulation and isolation work should look relaxed without any additional tension occurring in the shoulders)
  - ✔ Curl commences followed by hinge
  - ✔ Altered pelvic tilt
  - ✔ Lack of articulation
  - ✔ Lateral shift in pelvis
  - ✔ Abducts the knees as they roll up
  - ✔ Lack of mind-body connection to the spine or possible structural or muscular spinal restriction
  - ✔ Arch – loss of abdominal control at the pubic symphysis as well as the loss of Gluteus Maximus activation or a possible tight Hip Flexor or Rectus Femoris
  - ✔ Mind-body connection in segmental spinal work
  - ✔ Loss of Gluteus Medius and Maximus activation on the lowered hip or a possible tight Hip Flexor group on the lowered hip
  - ✔ Possible tight Hip Flexor, Rectus Femoris, ITB, Vastus Lateralis and Sartorius. Alternatively, a lack of mind-body connection

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### EXERCISE / MOVEMENT

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<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
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<th>ISOMETRIC</th>
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</thead>
<tbody>
<tr>
<td>Chest lift &amp;</td>
<td>✅ To ensure good form</td>
<td>✅ To maintain good form</td>
<td>✅ Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
<tr>
<td>Abdominal work +</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criss - Cross</td>
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</tbody>
</table>

### EXERCISE CORRECTIONS

- ✨ Cue your client to rest their head in their hands as their hands form a hammock behind their head
- ✨ They must maintain the elbows within the 30° Scapula line in order to maintain Serratus Anterior Activation
- ✨ Cue that the abdominals are PULLING them up
- ✨ Place your hand in their Lumbar spine and ask them to maintain a marginal contraction in that area in order to avoid a posterior pelvic tilt (now you are educating them)
- ✨ If they pull into their hip flexors with their feet on the floor, then they can do the exercise with legs extended on the floor. This will enable them to build that connection of isolating the thoracic spine from the lumbar spine
- ✨ If they are unable to flex the Thoracic spine, then give them a support so that they are still able to work abdominals without flexion strain occurring on the neck or thoracic spine.
<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest lift &amp; Abdominal work</td>
<td>Elbows move anteriorly</td>
<td>This exercise is easier with less work on the abdominals</td>
</tr>
<tr>
<td>(Any articulation and isolation work should look relaxed without any additional tension occurring in the shoulders)</td>
<td>Altered pelvic tilt</td>
<td>Arch – they have pulled into their Hip Flexors and are therefore unable to activate the lower region of the abdominals effectively</td>
</tr>
<tr>
<td></td>
<td>Unable to flex Thoracic spine</td>
<td>Tuck – they have released the small effort that is required of their lumbar extensors to maintain the pelvic position</td>
</tr>
<tr>
<td></td>
<td>Use of their neck</td>
<td>This could be due to weak Rectus Abdominus or a restriction in the mobility of the thoracic spine either structurally or muscually</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If their head is not resting in their hands then they would need to use their neck, however, if they are resting their head in their hands then they can completely relax their neck. It is usually and mind-body connection issue</td>
</tr>
</tbody>
</table>

**NOTE: ABDOMINAL WORK WITH RAISED LEGS**

If you do any raised leg abdominal work, then the principle of Hip Flexor - Abdominal Co-ordination comes into play. You are also not able to raise your legs off of the floor without the use of your Hip Flexors. They will definitely have to work in any raised leg position where your legs are not resting on a surface.

In this case, the spine wants to pull into a Lumbar arch as the Rectus Abdominus fails to maintain the original position of the Pubic Symphysis. Strength of the Rectus Abdominus is required in order to improve the intensity of any Hip Flexor – Abdominal challenging work.

**It is normal to feel your Hip Flexors when your legs are raised off of the surface.**
**EXERCISE / MOVEMENT** | **SLOW PACE** | **INCREASED SPEED** | **ISOMETRIC**
--- | --- | --- | ---
Abdominals + Spinal Rotation on a ball + band | ✗ To ensure good form | ✗ To maintain good form | ✗ Important to teach how to resist movement in certain sports and increase endurance

Low load | Medium load | High load (slow pace)  
Just sitting + rotating | Forward hinge + pull band | Squat + pull band  
Hinge back + pull band

Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue. **Remember**, the more load the less reps (3 – 6)  
**Record the time to failure**

---

**EXERCISE CORRECTIONS**

✓ Teach your client that stability comes from the opposite side (oblique), this will inhibit the abduction and adduction that they want to do in their hips, when they are rotating their spine
✓ Ensure that they maintain the neutral pelvic position to get that pure elongated spinal rotation
✓ Show them where their elbows should be (30° scapular line) and that this should be maintained. You can give them the correction by standing above them with your hands and elbows in the perfect position
✓ Mimic the client’s movements above them by showing them how they are doing lateral rotation and how they should be rotating

---

**EXERCISE / MOVEMENT** | **ASSESS COMPENSATION** | **REASON FOR COMPENSATION**
--- | --- | ---
Abdominal & Spinal Rotation Exercises  
(The spine is capable of 30° rotation before the body has to adapt to take it beyond that range) | ✗ Shift in hips  
✗ Elbow position changes  
✗ Change in pelvic position  
✗ Lateral flexion | ✗ Gives an illusion of increased range by going into hip abduction and adduction  
✗ Gives an illusion of spinal rotation  
✗ This could be due to a release of the Rectus Abdominus or the back extensors or due to a restriction in the mobility of the thoracic spine in rotation, either structurally or muscursively  
✗ This is due to either limited rotational range or a lack of mind-body connection into rotation
### EXERCISE / MOVEMENT

<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>SLOW PACE</th>
<th>INCREASED SPEED</th>
<th>ISOMETRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spinal Extension</strong></td>
<td>To ensure good form</td>
<td>To maintain good form</td>
<td>Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

### EXERCISE CORRECTIONS

- Cue abdominals to maintain pubic symphysis pulling through towards a more posterior position (this just creates a feeling of not falling into that anterior compensation. This will also deactivate the Gluteus Maximus.
- Ensure that the scapula is in a neutral position when they start and it is to stay there, so they need activation of the Rhomboids and Middle Trapezius as gravity will want to pull the Gleno – Humeral joint forward.
- Have them start with slightly medially rotated hips to avoid over working of the Gluteus Maximus in thoracic extension when lying prone in the basic exercise.

### EXERCISES

- **Low load - prone**
  - Prone
  - Medium load
    - Standing hinge with grey band & spinal articulation
- **Medium load - standing with band**
  - High load (slow pace)
    - Off edge of Cadillac or bench with anchored legs
  - Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue.
  - Remember, the more load the less reps (3 – 6)
  - Record the time to failure
<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal Extension Exercises</td>
<td>Loss of pelvic position ➡️</td>
<td>Anterior tilt; this will occur due to a loss of abdominal activation, tight hip flexors or larger quads and thighs</td>
</tr>
<tr>
<td></td>
<td>Pressing legs into the floor ➡️</td>
<td>To assist them with height, but you will see that they anteriorly tilt their pelvis when they do this</td>
</tr>
<tr>
<td></td>
<td>Raising the arms too high and extending the neck too much ➡️</td>
<td>Again, giving the illusion of height in the spine but this illustrates a lack of mind-body connection in spinal extension</td>
</tr>
<tr>
<td></td>
<td>Sinking into the lumbar spine ➡️</td>
<td>They are unable to isolate into their thoracic spine and therefore all back extension goes into their lumbar spine. This can be due to a lack of thoracic spine mobility, a weakness of the thoracic back extensors or a lack of mind-body connection in spinal extension</td>
</tr>
<tr>
<td></td>
<td>Gluteus Maximus works in Thoracic back extension ➡️</td>
<td>This will force the lumbar spine to activate and will take the effort away from the thoracic spine</td>
</tr>
</tbody>
</table>

**NOTE: SPINAL WORK**

When performing full spinal extension, it is necessary to create an isometric hold with the abdominals. This will take the pressure off of the spinous processes as you go into full extension. Releasing the abdominals completely promotes a vulnerability in the spine. A feeling of maintaining rib closure, which can be successfully achieved with a completed exhalation, will create resistance for the spinal extensors. Therefore, the body is creating its own load.
<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>SLOW PACE</th>
<th>INCREASED SPEED</th>
<th>ISOMETRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obliques</td>
<td>✗ To ensure good form</td>
<td>✗ To maintain good form</td>
<td>✗ Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

- **Low load**
  - Standing with blue band
- **Medium load**
  - Sides anchored feet on Spine corrector / Bosu
- **High load (slow pace)**
  - Off edge of Cadillac or bench with anchored legs

Finish the set of 10 reps X 2 or 3 sets then do one rep holding the leg until fatigue.

*Remember*, the more load the less reps (3 – 6)

*Record the time to failure*

---

**EXERCISE CORRECTIONS**

- ✓ Cue the client to imagine being in-between two sheets of glass and if they laterally flex their spine, they may not break the imaginary glass sheets
- ✓ Ensure that the clients maintain lower abdominal control to avoid an anterior pelvic tilt. Also check the positioning of their legs. If they have tight Hip Flexors, asking them to get their legs behind them in certain lateral flexion exercises will mean that they have to anteriorly tilt their pelvis and this we do not want
- ✓ As they lift up, they should get the feeling of pulling their top leg away from them. This will encourage more hip abduction action but it will inhibit the lateral pelvic tilt that they are tempted to go into
- ✓ Encourage thoracic extension by maybe placing a pole behind their back. They need to keep contact with the pole and their head at all times as they perform the movement
- ✓ If they keep bringing their leg forward, then ask them to do a slight posterior pelvic tilt. This will ensure that they do not dominate with the TFL for the hip abduction that occurs during lateral spinal flexion
- ✓ Ensure that they keep their elbows in the 30° scapula line with relaxed shoulders
<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oblique Exercises</td>
<td>Loss of pelvic position</td>
<td>Anterior tilt; this will occur due to a loss of abdominal activation or tight hip flexors. If this occurs then the Quadratus Lumborum will dominate in the exercise.</td>
</tr>
<tr>
<td></td>
<td>Lateral pelvic tilt</td>
<td>Posterior tilt; this will encourage more oblique work and less quadratus lumborum activation. However, be careful that the Rectus Abdominus is not over compensating for the lateral flexion and that the SIJ is stable.</td>
</tr>
<tr>
<td></td>
<td>Flexion of the Thoracic spine</td>
<td>The top hip will want to come closer to the ribcage as this makes the movement easier.</td>
</tr>
<tr>
<td></td>
<td>Bringing the leg forward</td>
<td>They are creating a shorter lever with the spine through flexing it. They are also favouring rectus abdominus in the movement.</td>
</tr>
<tr>
<td></td>
<td>Changing arm positioning</td>
<td>This occurs because the Tensor Fascia Lata and hip abductors want to assist in doing the lateral flexion. These muscles will work as you bring the trunk up in some exercises (position dependant) but they must not dominate the movement.</td>
</tr>
</tbody>
</table>

**NOTE: OBLIQUE WORK**

When doing lateral oblique work, it is imperative to notice the position of the spine. When the effort is coming from the top then there should be no rotation of the top shoulder or hip to the front as this will encourage quadratus lumborum work. When the effort is coming from the bottom obliques, then there should be no rotation of the bottom hip or shoulders to the front as this again will encourage quadratus lumborum work on the bottom side.
### Developing Good Mechanics and Strength in Scapula Stability

<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>SLOW PACE</th>
<th>INCREASED SPEED</th>
<th>ISOMETRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plank + Push Ups</td>
<td>❑ To ensure good form</td>
<td>❑ To maintain good form</td>
<td>❑ Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low load</th>
<th>Medium load</th>
<th>High load (slow pace)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raised surface for arms</td>
<td>Flat surface</td>
<td>Raised Surface for legs</td>
</tr>
</tbody>
</table>

Finish the set of 10 -50 exhales for approximately 3 sets, then do one rep holding the push up position on the elbow flexion portion of the exercise. **Remember**, the more load the less reps (3 – 6)  
**Record the time to failure**

### EXERCISE CORRECTIONS

- Cue the client to lift out of the chest with the use of the serratus anterior, send their palms through the floor and open their chest to the wall and not round their chest to the floor as this will be pectoralis major.
- If they still wing or poke, then put their hands on a raised surface as this will make it easier due to the angle of the body.
- Do a thoracic mobilization exercise before they do the plank as this will give them the mobility to maintain that thoracic extension when their body is under load.
- Emphasize a good pelvic position of neutral or a slight posterior tilt.
- Ensure that they are activating abdominals to pull the pubic symphysis through in order to take pressure off of the lumbar vertebra.
- They have to get that feeling of lifting up and out of their chest.
<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plank and Push Ups</td>
<td>● Winging</td>
<td>● Loss of serratus anterior either due to weakness or lack of mind-body connection</td>
</tr>
<tr>
<td></td>
<td>● Poking</td>
<td>● Loss of serratus anterior and over activation of upper trapezius, levator scapula and pectoralis minor</td>
</tr>
<tr>
<td></td>
<td>● Thoracic flexion</td>
<td>● They are using their pectoralis major to lift them out of their shoulders instead of the serratus anterior</td>
</tr>
<tr>
<td></td>
<td>● Raising their pelvis</td>
<td>● This is to make the body lighter as the higher the angle of the pelvis, the easier the exercise is</td>
</tr>
<tr>
<td></td>
<td>● Change in pelvic position</td>
<td>● They normally go into an anterior pelvic tilt and this is due to a loss of abdominals maintaining the pubic symphysis in a slight posterior pelvic tilt.</td>
</tr>
<tr>
<td></td>
<td>● Drop in the pelvis</td>
<td>● This occurs when they lose the hip flexors in the exercise. The hip flexors are actually maintaining the height of the pelvis</td>
</tr>
</tbody>
</table>

**NOTE: SHOULDER STABILITY**

Scapula stability and FREE shoulder movement is seldom performed with ease. Clients always tend to create more tension than is needed. Understanding the scapula in movement is vital as a movement professional. Please take a look at our ‘Shoulder Stability WOW’ factor course to understand the movement of this joint in more detail.
<table>
<thead>
<tr>
<th>EXERCISE / MOVEMENT</th>
<th>SLOW PACE</th>
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<th>ISOMETRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm work</td>
<td>• To ensure good form</td>
<td>• To maintain good form</td>
<td>• Important to teach how to resist movement in certain sports and increase endurance</td>
</tr>
</tbody>
</table>

- **Low load**
  - Floating Arms
- **Medium load**
  - Blue band for all movements
- **High load (slow pace)**
  - Grey band for all movements

Finish the set of 10 - 15 reps X 2 or 3 sets and always hold the final repetition.

*Remember*, the more load the less reps (3 – 6)

*Record the time to failure*

---

**EXERCISE CORRECTIONS**

- Cue the client to lift their chest to the ceiling (thoracic extension)
- If they still wing or poke their scapula, use the cue to ‘reach their arms out of their sockets with thoracic extension’
- Always speak of ‘heavy blades and light arms’ as this will encourage FREE, RELAXED movement
- Use the cue ‘roll your shoulders back and down’, without force, when teaching shoulder extension exercises
### EXERCISE / MOVEMENT

<table>
<thead>
<tr>
<th>Arm exercises</th>
<th>ASSESS COMPENSATION</th>
<th>REASON FOR COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Always be aware of what your clients shoulder range is without compensations. Also be aware of what their muscular restrictions are)</td>
<td>➡️ Winging ➡️ Poking ➡️ Thoracic flexion ➡️ Lifting the shoulders ➡️ Rolling the shoulder forward ➡️ Scrunching the scapula</td>
<td>➡️ Loss of serratus anterior either due to weakness or lack of mind-body connection ➡️ Loss of serratus anterior and over activation of upper trapezius, levator scapula and pectoralis minor. This also normally occurs when the arms are loaded and this is due to the fact that the humerus does not move freely in the glenoid cavity especially when the arm is flexed and you are controlling it back to neutral against resistance and gravity ➡️ They are using their pectoralis major to act as the serratus anterior ➡️ This shows weak scapula mind-body connection where the scapula should be heavy and the arms are supposed to feel light especially in low load movements. It also shows an imbalance between serratus anterior and lower trapezius versus upper trapezius and levator scapula ➡️ This activates the pectoralis minor and this is due to a muscular tightness restriction or due to a lack of strength from the serratus anterior and lower trapezius ➡️ This gives an illusion of more range in arm extension. When they are raising their arms in flexion or abduction, it shows a lack of Serratus Anterior activation</td>
</tr>
</tbody>
</table>

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## Conclusion

Every single sportsman/woman needs the 5 movement principles laid down deep within their mind and body in order to prevent injury and enhance natural movement abilities. In essence, not only does it develop a mind-body connection but it will encourage less injuries, should any injuries be peering their nasty head.

When injury does occur, go back to the movement principles.

**REMEMBER:**

- **A comprehensive body assessment** is required for each sports individual as this will depict what their weaknesses are within the movement principles
- **Flexibility issues** should be noted and addressed. Remember, in order to improve flexibility, regular stretching is required by the individual on a daily basis. Stretching should be done at a time when the body is warm. If the body shows a particular stiffness in a group, then the individual needs to stretch 3 times a day to see quicker improvement
- Be aware of **neural tightness** as this can create uncomfortable sensations and injury if held for long periods
- A lot of the above exercises can be done **unilaterally especially in a standing position**. This is great to incorporate into the program as it develops proprioception and better reflexes when the body is functioning on one leg
References

A look at time under tension

What is time under tension?

The effect of isometric training for sports

The art of Kinetic Precision for effective training

A comprehensive Pilates Mat Course consisting of all theory pertaining to movement