

Part 3 - Low Back Problems Resulting From Poor Lumbar Spine Control

Control of Lumbar Spine Flexion

CONTROL OF LUMBAR SPINE FLEXION



- Lumbar spine in a flexed position and pelvis posteriorly rotated
- Increased risk of lumbar spine injury
- Reduces force closure in the posterior oblique system
- Switches off deep multifidus and increases instability

CONTROL OF NEUTRAL SPINE INTO FLEXION



Ensure clients have good control of neutral zone, and maintain posterior systems and good posture throughout exercise.

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Poor Lumbar Spine Flexion Control

STRUCTURES THAT CAUSE POOR FLEXION CONTROL

- Tight hamstrings can pull the pelvis into a posteriorly rotated position



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- In combination with weak back extensors, can lead to a flattened and flexed lumbar spine



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- In combination with weak back extensors, can lead to a flattened and flexed lumbar spine
- In a kyphotic posture, the upper attachments of external obliques can become chronically shortened, leading to flexed lumbar spine



STRUCTURES THAT CAUSE POOR FLEXION CONTROL

- Weak hip flexors and quadriceps muscles can cause lumbar spine to flex slightly



STRUCTURES THAT CAUSE POOR FLEXION CONTROL

- Weak hip flexors and quadriceps muscles can cause lumbar spine to flex slightly
- Weak gluteus maximus muscles and “flat-bottom syndrome” can increase risk of poor lumbar flexion control

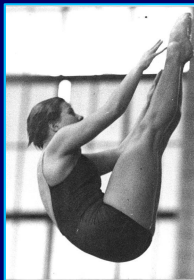


PROBLEMS RESULTING FROM POOR FLEXION CONTROL

- Disc problems can occur due to repetitive exercise, under load, in a flexed position.



PROBLEMS RESULTING FROM POOR FLEXION CONTROL



- Flexion and Extension of the spine places stress on the intervertebral discs

PROBLEMS RESULTING FROM POOR FLEXION CONTROL



- Prolonged sitting followed by strenuous activity can lead to disc problems



PROBLEMS RESULTING FROM POOR FLEXION CONTROL

- Completing exercises with the pelvis tucked under, or posteriorly rotated, places strain on discs and your client at greater risk of injury.
- Watch your client's control of the pelvis to prevent flexion bias injuries.



DEAD LIFT



LEG RAISES IN SUPINE



CONTROL OF NEUTRAL SPINE INTO FLEXION



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Assessment of Lumbar
Extension Control

Assessment of Lumbar Flexion Control

SCOOTER POSITION



- Leaning on a chair or bench with both knees bent
- OR
- Leaning on a box on elbows and knees
 - In either starting position, ensure client is in neutral zone position

ASSESSMENT OF LUMBAR EXTENSION CONTROL

- Note the angle of extension in the initial assessment
- Work through progressive exercises
- Reassess to measure improvement



WAITER'S BOW



- In a standing position with knees slightly bent
- Elbows by side with hands facing ceiling - as if carrying a waiter's tray
- Ask client to bend forward slowly, keeping back as straight as possible

WAITER'S BOW



- 50-70 degrees of movement should occur before any lumbar spine flexion
- Less than 50 degrees of movement indicates some exercises will not be suitable for this client

EXERCISES FOR BASIC CORE STABILITY



CONTROL OF NEUTRAL SPINE WITH HIP FLEXION



CONTROL OF NEUTRAL SPINE WITH HIP FLEXION



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Control of Lumbar Spine Extension

EXERCISES INVOLVING LUMBAR SPINE EXTENSION



LUMBAR SPINE EXTENSION

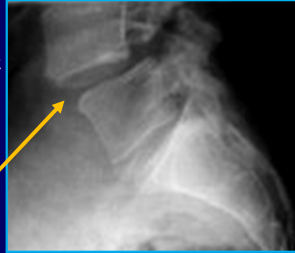


PELVIC BRIDGE



PROBLEMS RESULTING FROM POOR LUMBAR EXTENSION CONTROL

- Spondylosis - degeneration of facet joints and discs
- Increased risks of osteophytes & nerve root compressions
- Spondylolisthesis



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Poor Lumbar Spine Extension Control

STRUCTURES CAUSING POOR LUMBAR EXTENSION CONTROL

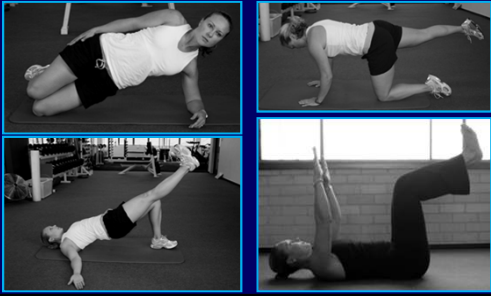


- Tight iliopsoas / rectus femoris
- Tight erector spinae
- Poor core/abdominal control
- Weak gluteus maximus & hamstrings



Kyphosis-Lordosis posture prone to poor control of hip extension

CORE EXERCISES TO HELP WITH LUMBAR EXTENSION CONTROL



FUNCTIONAL EXERCISES TO HELP WITH LUMBAR EXTENSION CONTROL



MOBILITY EXERCISES FOR THE LUMBAR SPINE





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To receive your certificate please complete and submit the assessment.

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