Scan the QR code with your mobile device for FREE resources and notes from this presentation.

Step 1: Open the camera app on your phone.

Step 2: Frame the QR code.

Step 3: Click on the pop-up link & fill out the form.

1

Resolving 7 Problems That Delay Recovery

Brandon Steele DC, FACO

2

The Healthcare Value Formula

$$V = \frac{\text{Results}}{\text{Price x Time}}$$

3

4

5

Differentiating Structural vs Functional Diagnoses

6

01/23/2025

Proper Scapular Function Improves Neck Pain

Pain Research and Management:

"Adding scapular functional exercises to cervical isometric exercises and conventional physiotherapy was more effective than just using cervical isometric exercises and conventional physiotherapy alone. This approach better alleviated neck pain, improved cervical range of motion (particularly in forward and left-side flexion), and reduced functional limitations in individuals with chronic mechanical neck pain."

Improve your scapular function with these "Push Up" exercises in this video from ChiroUp.

Bharti N, Ahmed H, Hasan S, Iqbal A, Uddin S, Ahamed WM, Ahmad F, Mujtaba MA, Alghadir AH. Efficacy of Scapular Functional and Cervical Isometric Exercises in the Management of Chronic Mechanical Neck Pain: A Randomized Comparative Trial. Pain Research and Management. 2024;2024(1):5873384. Link

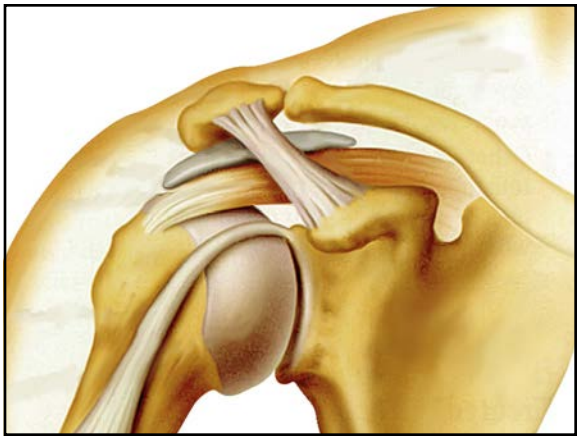
7

The Shoulder Dysfunction Continuum

- Scapular Dyskinesis
- Anterior Impingement Syndrome
- Rotator Cuff Tear
- Rotator Cuff Rupture

8

9



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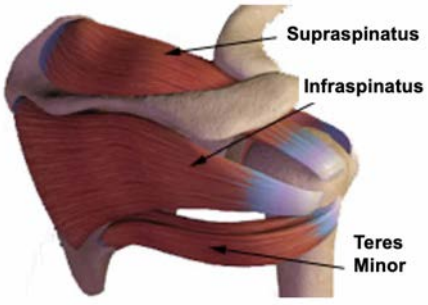
Large Movers

Deltoid

11

Rotator Cuff



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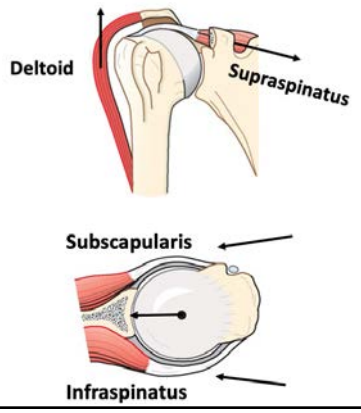
Rotator Cuff



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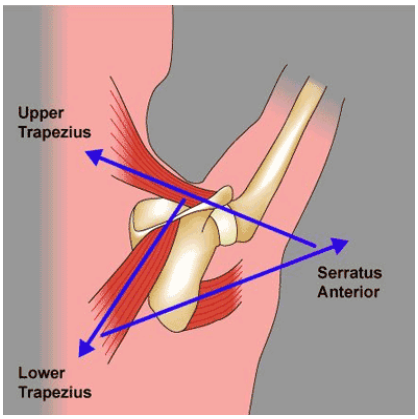
Scapular Stabilizers



14

Scapular Stabilizers

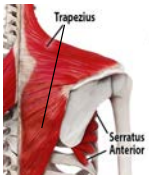
Serratus Anterior

15

Scapular Dyskinesis (SD)

Tightness:
-Pec
-Biceps (short head)

Weakness:
-Lower trapezius
-Serratus anterior

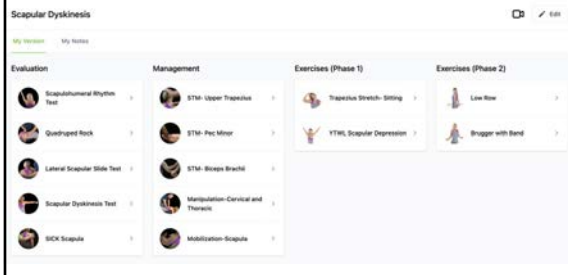


16

SD Symptoms

- Pain in the anterior or posterosuperior aspect of the shoulder
- May radiate inferiorly toward the lateral deltoid or superiorly into the trapezius region
- Pain over the coracoid (pec minor tightness)

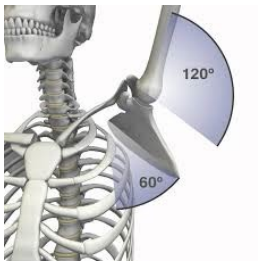
17



18

SD Dynamic Assessment

- Limited IR
- Scapulohumeral rhythm test
- Scapular dyskinesis test



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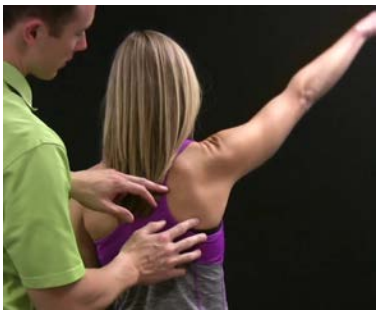
Scapulohumeral Rhythm Test



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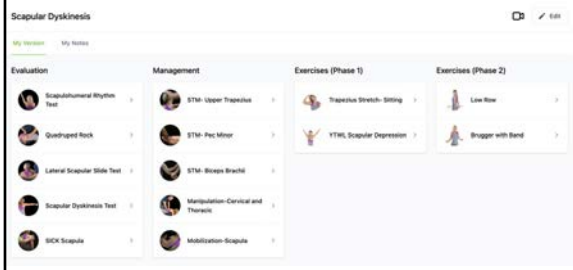

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Myofascial Release

Biceps

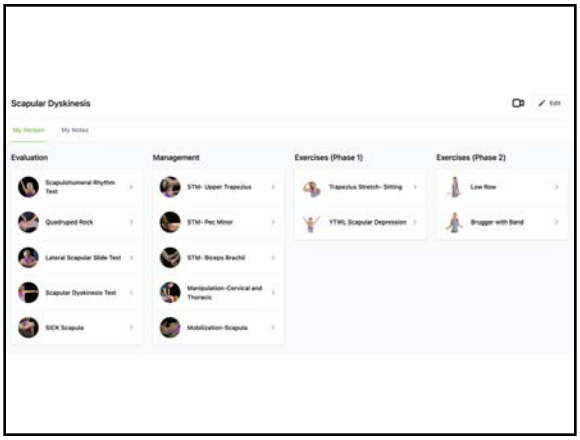
Upper Trapezius

Pectorals

23

Scapular Mobilization

24

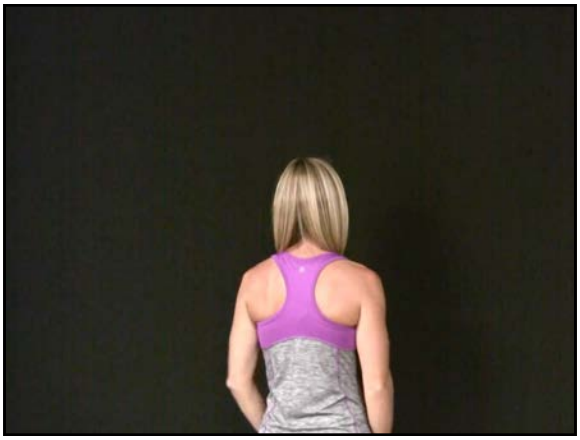


25

YTWL Scapular Depression

Stand with your straight arms raised above your head in a "Y" position. Squeeze your shoulder blades together and downward throughout the following sequence of movements. Lower your straightened arms to shoulder level, into a "T" position. Next bend your elbows so that your fingers are pointing straight up while slightly lowering your elbows to make a "W". Finally, while keeping your elbows bent 90 degrees, lower your arms to your sides so that your elbows are touching your ribs to form an "L" on each side and squeeze. Hold each position for 1-2 seconds and repeat 3 sets of 10 repetitions, twice per day or as directed

26



27

Trapezius Stretch

While sitting or standing, reach down with your right arm, grasping your thigh or the bottom of a chair for stability. While looking straight ahead, place your left hand on top of your head, and gently pull your head sideways toward the left. Against the resistance of your arms, attempt to bring your right ear and right shoulder together for seven seconds. Relax and stretch further toward the left. “Lock in” to each new position, and do not allow any slack. Repeat three contract/relax cycles on each side twice per day or as directed.

28

29

Corner Pec Stretch

Begin standing, facing a corner with your palms on the walls above head level. Step toward the corner and “lean in” to stretch your chest muscles. Against the resistance of the wall, attempt to push your hands into the wall and toward each other for 7 seconds. Relax and “lean in” to increase the stretch. Lock into this new position and repeat 3 contract/ relax cycles, twice per day or as directed.

30

31

Low Row

Attach the center of an elastic exercise band to a doorknob or other sturdy object in front of you. Grasp one end of the band in each hand and with straight arms at your side, stretch the band backwards. Keep your palms facing backward and arms pointed straight down throughout the exercise. Return to neutral and repeat 3 sets of 10 repetitions daily, or as directed.

32

33

Brugger with Band

Begin sitting or standing with an elastic exercise band wrapped and secured around your palms. Begin with your arms at your side, elbows bent, forearm' s pointing forward. Move your hands apart from each other to maximally stretch the band while simultaneously rotating your palms out, straightening your arms, and pinching your shoulder blades together as your hands move behind your hips. Return to the start position and repeat 3 sets of 10 repetitions daily, or as directed.

34

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The Shoulder Dysfunction Continuum

- Scapular Dyskinesis
- Anterior Impingement Syndrome
- Rotator Cuff Tear
- Rotator Cuff Rupture

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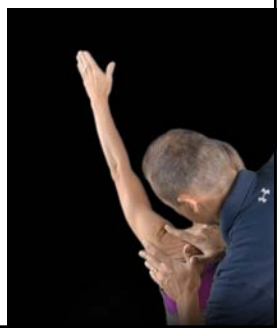
Shoulder Anterior Impingement Syndrome



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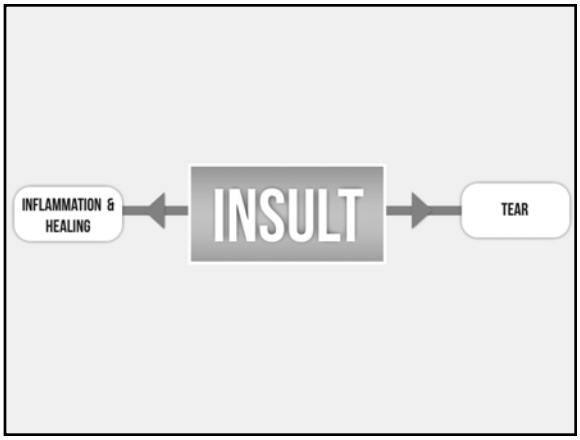

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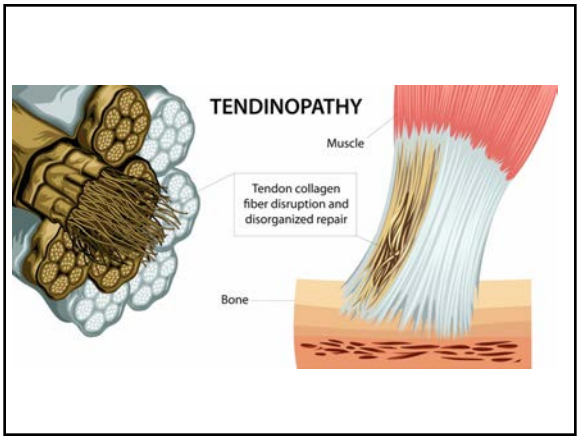

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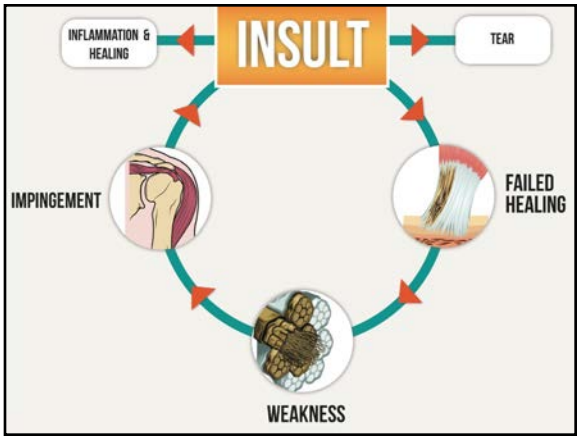

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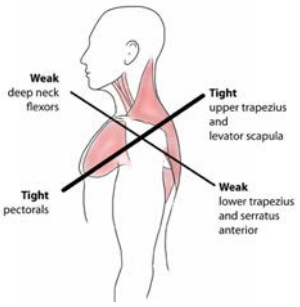
Upper Crossed Syndrome

41

Upper Crossed Syndrome



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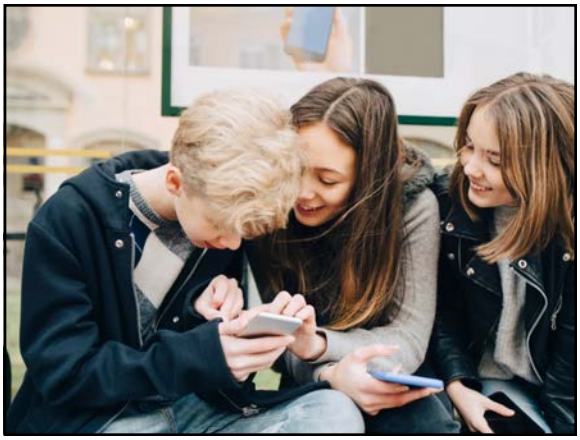

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Sherrington's Law of Reciprocal Inhibition

Activation/ Shortening of a Muscle ⇒ Relaxation/ Weakening of Antagonist

"Postural" Muscles
- Upper trapezius
- Levator
- SCM
- Pectoralis major

"Phasic" Muscles
- Rhomboid
- Serratus anterior
- Scalenes
- Middle & lower trapezius
- Deep Neck Flexors

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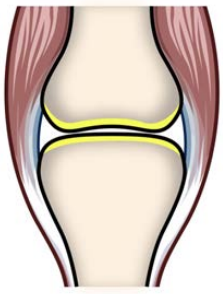
Centration



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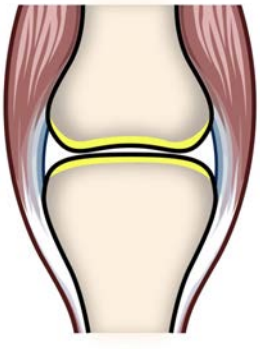

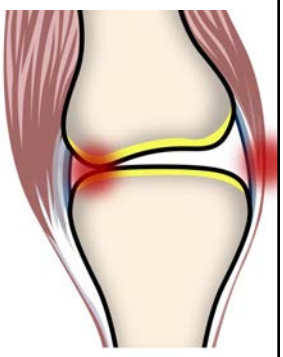

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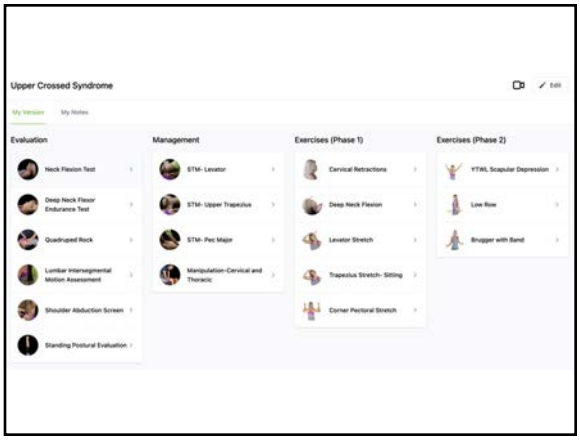
Predictable Joint Dysfunction

- Atlanto-occipital joint
- C4-5
- C7-T1
- T4-5
- Glenohumeral joint

49

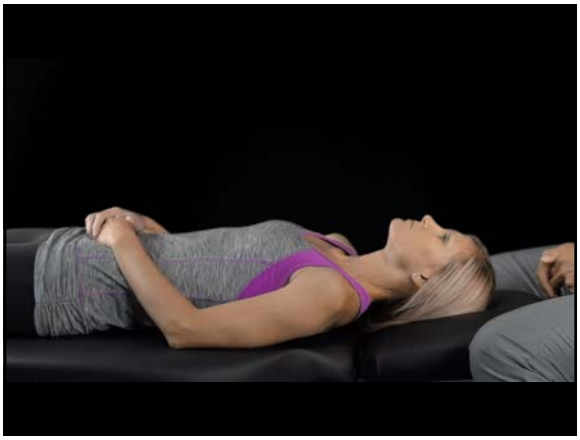


50

Neck Flexion Test

The supine patient is asked to lift their head several inches off of the table to look at their toes. The clinician observes for a "normal" movement pattern which would be initiated with a chin tuck and smooth reversal of the cervical lordosis. An "abnormal" screen would result in the chin moving forward into protraction from over compensation by the SCM. The normal firing pattern for this movement is: longus capitus, longus colli, SCM and finally anterior scalenes. Abnormal movement patterns suggest weakness of the deep neck flexors.

51



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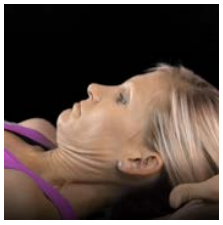
Deep Neck Flexor Endurance Test

The patient begins in a supine, hook lying position. The patient performs chin retraction then lifts their head an inch off the table. The clinician places their flat hand on the table below the patient's occiput. If the patient's head begins to lower or their anterior neck skin folds separate, they are reminded to "tuck your chin and hold your head up". The test is timed until the patient's head touches the clinician's hand for more than one second.



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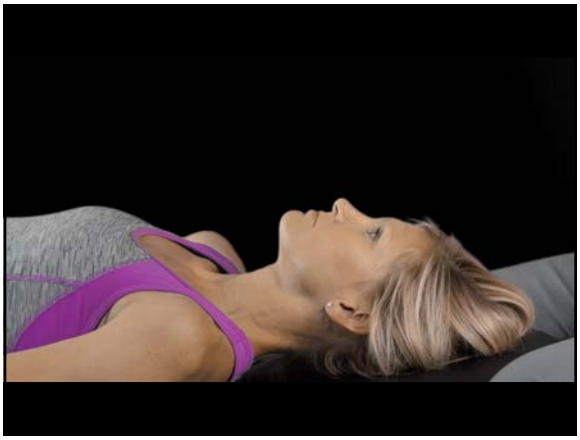

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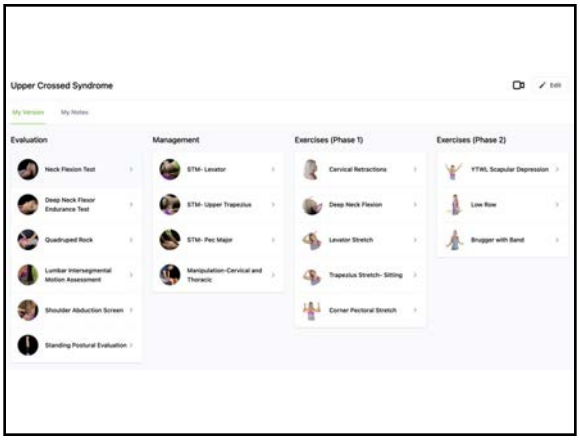

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STM – Levator

STM – Upper Trapezius

STM – Pec Major

STM – Pec Minor

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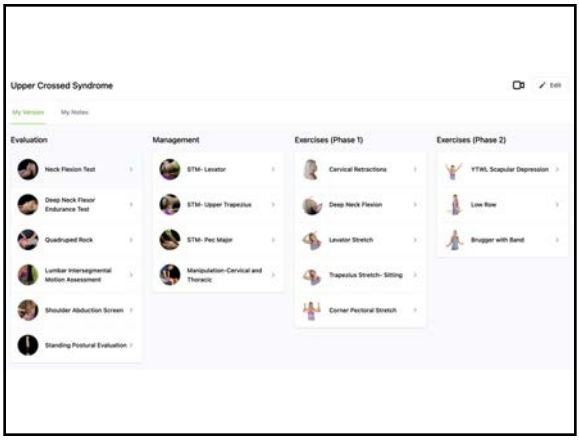

57

Cervical Retraction

Sit or stand looking forward with good posture. Tuck your chin to create a double chin. Hold this position for 3-5 seconds. Return to the starting position. Focus your vision on a spot on the wall to avoid neck flexion or extension. To progress, place a finger on your chin, and apply backwards pressure at end range. Imagine that your head is on drawer slides. Keep your mouth closed. Perform 1 set of 10 repetitions every hour. Alternately, this exercise may be performed standing with your back against a wall. Your buttocks and shoulder blades should be in contact with the wall. Tuck your chin to make a “double chin” until the base of your skull contacts the wall, relax and repeat as directed.

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Deep Neck Flexion

Lie on your back, with your head supported. Perform a "chin tuck" by retracting your head to create a double chin. Lift your head, bringing chin toward your chest without lifting shoulders- as though you are looking at your toes. Hold this position for 3-4 seconds. Lower your head and relax. Keep your teeth apart during exercise to decrease straining at the jaw. Perform 1 set of 10 repetitions three times a day.

60

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Levator Stretch

While sitting, grasp the seat of your chair with your left hand. Rotate your head toward the right and look downward toward the floor. Place your right hand over the top of your head and gently pull down and diagonally in the direction you are looking. Against the resistance of your hand, contract your neck in an attempt to push your head backward/diagonally from the direction you are looking for seven seconds. Relax and gently pull your head further toward the floor to increase the stretch. Lock into this new position, and make sure that you continue to keep your head rotated in the direction that you are pulling. Perform three contract/relax cycles on each side twice per day or as directed.

62

63

Trapezius Stretch

While sitting or standing, reach down with your right arm, grasping your thigh or the bottom of a chair for stability. While looking straight ahead, place your left hand on top of your head, and gently pull your head sideways toward the left. Against the resistance of your arms, attempt to bring your right ear and right shoulder together for seven seconds. Relax and stretch further toward the left. "Lock in" to each new position, and do not allow any slack. Repeat three contract/relax cycles on each side twice per day or as directed.

64

65

Corner Pec Stretch

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66

67

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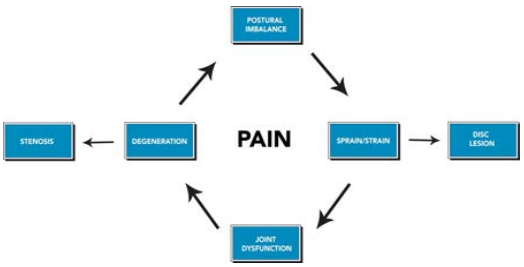
The LBP Continuum



70

Disc Lesions

A systematic review of 33 studies demonstrated the presence of asymptomatic disc bulge increased from 30% of those 20 years of age to 84% of those 80 years of age.

Brinjikji W, Luetmer PH, Comstock B, Bresnahan BW, Chen LE, Deyo RA, Halabi S, Turner JA, Avins AL, James K, Wald JT, Kallmes DF, Jarvik JG. Systematic literature review of imaging features of spinal degeneration in asymptomatic populations. AJNR Am J Neuroradiol. 2015 Apr;36(4):811-6.

71

Lumbar Degeneration

A systematic review of 33 studies demonstrated the presence of asymptomatic degeneration increased from 37% of 20-year-old individuals to 96% of 80-year-old individuals.

W. Brinjikji, P.H. Luetmer, B. Comstock, B.W. Bresnahan, L.E. Chen, R.A. Deyo, S. Halabi, J.A. Turner, A.L. Avins, K. James, J.T. Wald, D.F. Kallmes, J.G. Jarvik. Systematic Literature Review of Imaging Features of Spinal Degeneration in Asymptomatic Populations. AJNR November 27, 2014

72

Degenerative Spondylolisthesis

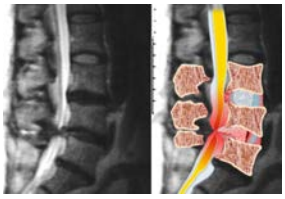
There is no correlation between the progression of spondylolisthesis and the patient's clinical symptoms.

Mac-Thiong JM, Duong L, Parent S, et al. Reliability of the Spinal Deformity Study Group classification of lumbosacral spondylolisthesis. Spine (Phila Pa 1976). Jan 15 2012;37(2):E95-102

73

Lumbar Stenosis

Up to 20% of asymptomatic patients meet the radiographic criteria for the diagnosis of lumbar spine stenosis.



Jarvik JG, Deyo RA. Diagnostic evaluation of low back pain with emphasis on imaging. Ann Intern Med. 2002 Oct 1;137(7):586-97.

Jensen MC, Brant-Zawadzki MN, Obuchowski N, Modic MT, Malkasian D, Ross JS. Magnetic resonance imaging of the lumbar spine in people without back pain. N Engl J Med 1994;331:69-73

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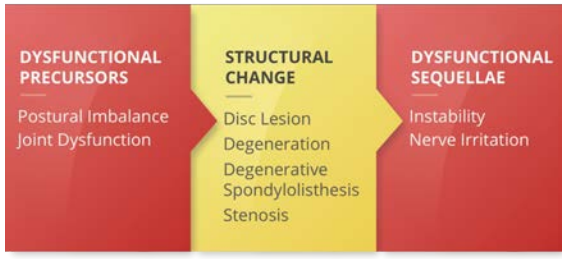
LBP Continuum



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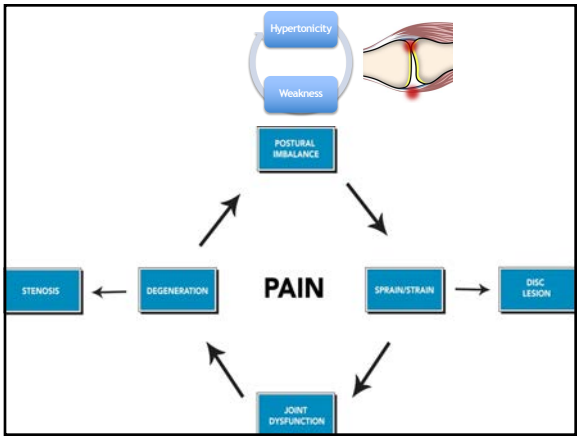

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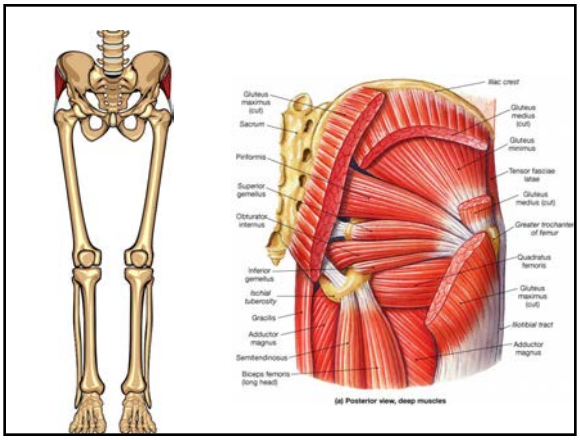
Hip Abductor Weakness

78



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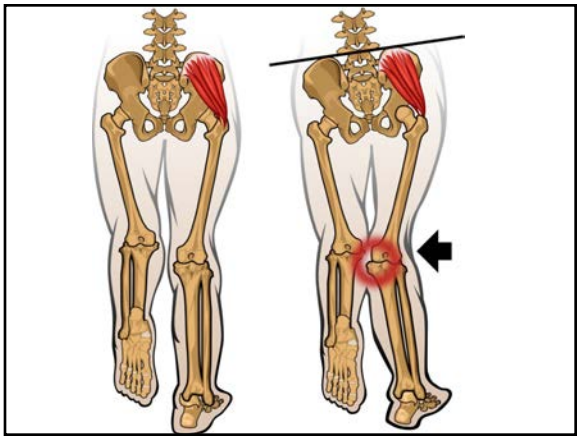

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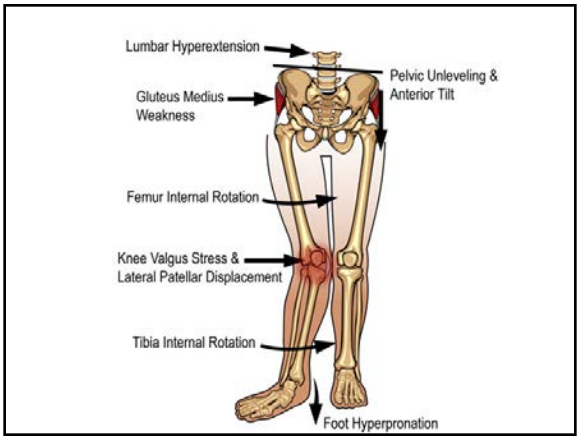

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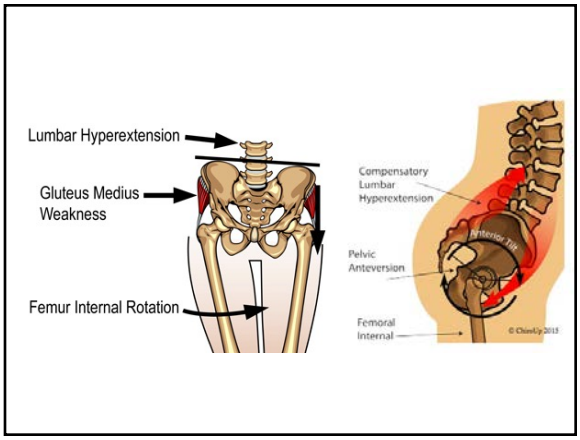

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HAB Weakness Complaints

- Lumbar & Sacroiliac joint dysfunction
- Lumbar Facet Syndrome
- Lumbar Sprain/strain
- Discogenic pain
- Degeneration
- Greater Trochanteric Pain Syndrome
- ITB Syndrome
- Knee Sprain/ Strain
- Patellofemoral Pain Syndrome
- MTTP- Shin Splints
- Hyperpronation
- Achilles Tendinopathy
- Plantar Fasciitis

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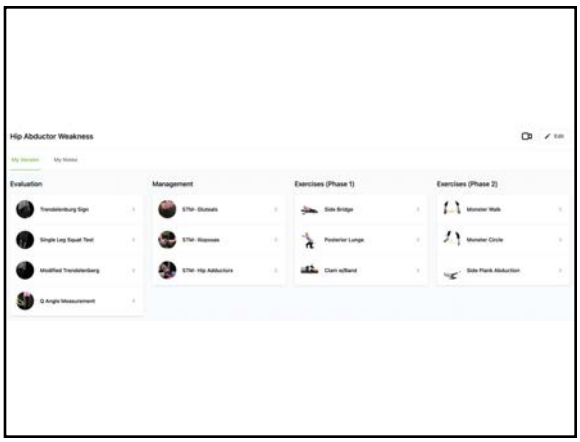

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Trendelenburg Sign

The Trendelenburg test is performed by having the patient cross their arms over their chest and lift one leg at a time, while the clinician observes for pelvic drop or knee valgus. The presence of an "uncompensated" pelvic drop when performing the Trendelenburg maneuver suggests gluteus medius weakness.

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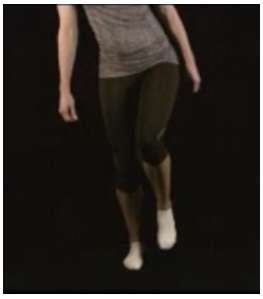
Compensated Trendelenburg



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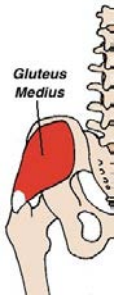
Hip Abductor Weakness



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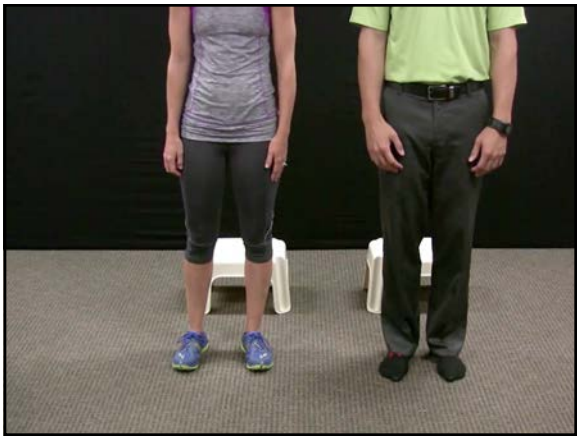

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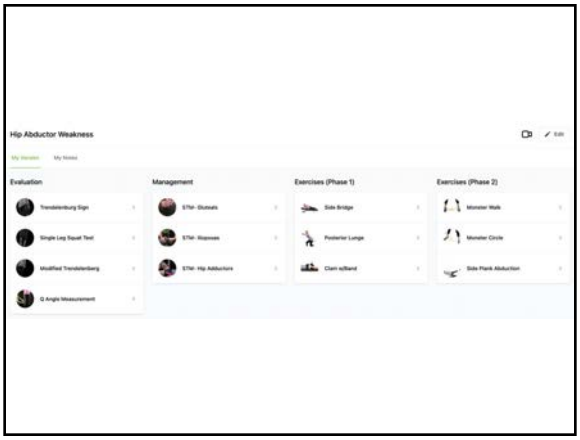
89

Hip Abductor Weakness

- Pelvic drop
- Medial thigh rotation and adduction
- Knee buckling
- Instability
- Excessive foot pronation
- Lumbar hyperlordosis

90



91

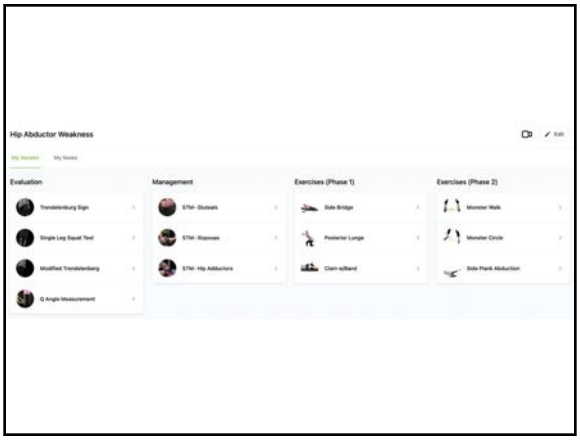
Gluteals

TFL

Hip Adductors

Iliopsoas

92



93

Posterior Lunge

While standing on one leg, slowly bend your knee to lower your hips toward the floor as though you are going to sit in a chair. Keep your knee positioned directly above your ankle and do not allow it to shift forward. Try not to allow your back leg to touch the ground. Consciously contract your gluteal muscle on the planted leg side to return to the start position and repeat three sets of 10 repetitions once per day or as directed.

94

Clam (#1)

Lie on your side with your affected hip pointing up. With your feet together, knees bent at 90 degrees and hips at 45 degrees, lift your knee upward without rolling your hips backward. Lower your legs so that your knees are touching and repeat on each side for three sets of 10 repetitions once per day or as directed.

95

Clam with Band

Lie on your side with your affected hip pointing up. Keep your feet together, knees bent at 90 degrees and hips at 45 degrees. Place an elastic band around the outside of both knees. Lift your knee upward without rolling your hips back. Maintain a pain-free range of motion. Slowly lower your legs so that your knees are touching and repeat on each side for three sets of 10 repetitions once per day or as directed.

96

Sidebridge

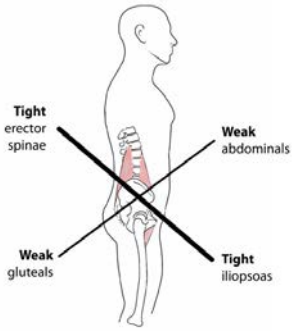
Begin lying on your side. Rest your weight on your forearm and feet. Lift your hips forward and toward the ceiling until your body is in a straight "plank" position. Initially, you may need to use your knees for support. Slowly lower your hips back to the floor and repeat for three sets of 10 repetitions per day on each side, or as directed.

97

Lower Crossed Syndrome

98

Lower Crossed Syndrome

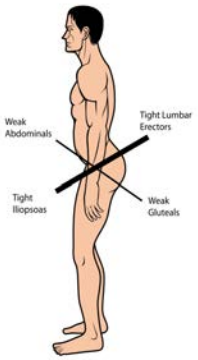


99

Lower Crossed Syndrome

"**Postural**" Muscles Tighten
- Iliopsoas
- Rectus Femoris
- Spinal Erectors
- Hamstring
- Piriformis
- TFL

"**Phasic**" Muscles Weaken
- Deep abdominal muscles
- Gluteals



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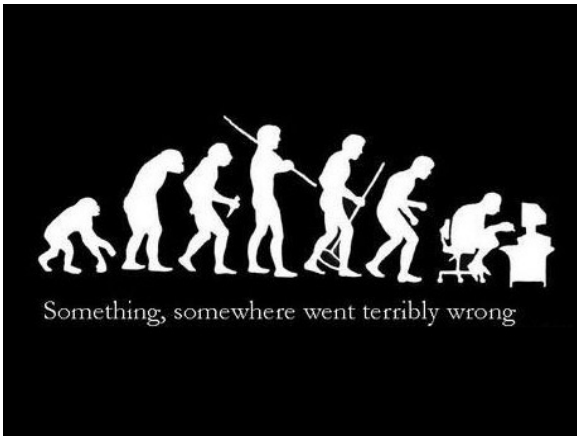

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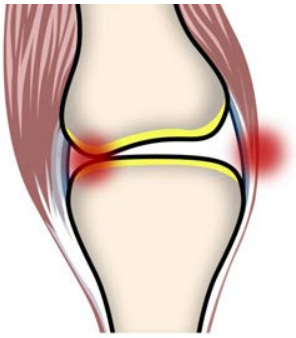

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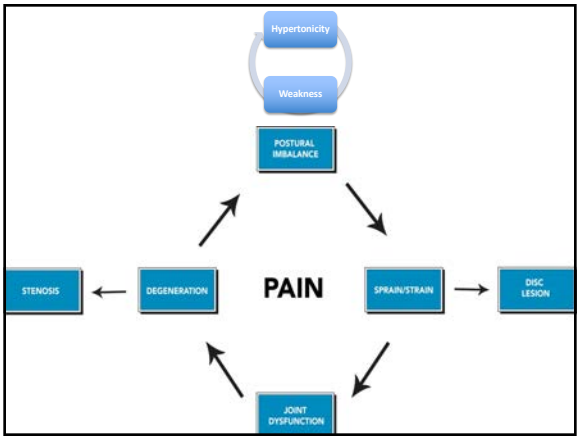
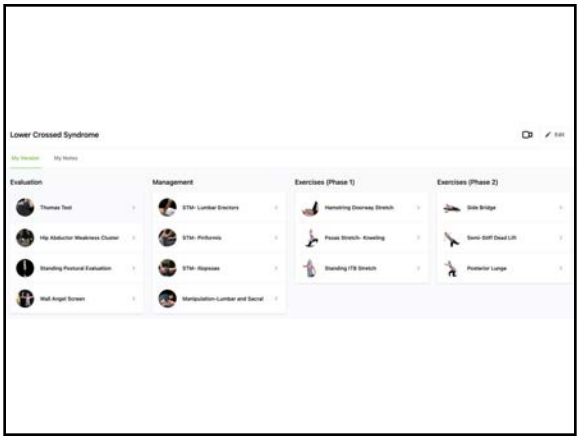


103

Lower Crossed Complaints

- Lumbar & Sacroiliac joint dysfunction
- Lumbar Facet Syndrome
- Lumbar Sprain/strain
- Discogenic pain
- Degeneration
- Greater Trochanteric Pain Syndrome
- ITB Syndrome
- Knee Sprain/ Strain
- Patellofemoral Pain Syndrome
- MTTP- Shin Splints
- Hyperpronation
- Plantar Fasciitis

104



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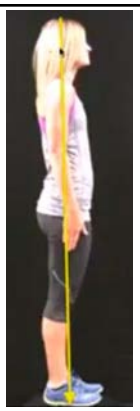


- Ear
- Shoulder
- Greater Trochanter
- Anterior to Lateral Malleoli

106

Muscular Assessment

Hypertonicity

- Thoraco-lumbar erectors
- Rectus femoris
- Iliopsoas(Thomas Test)
- TFL (Obers Test)
- Hamstring (SLR)
- Piriformis

Weakness

- Abdominals/ transversus abdominus
- Gluteal muscles (single leg stand, single leg squat, or single leg 6" step down)
- Lumbar hyperlordosis

107

Thomas Test

This test entails having the patient perform a single knee to chest maneuver, while the clinician observes the opposite thigh to determine whether it remains flat on the table or rises. Patients with excessive hip flexor tightness will flex or lift their straightened leg.

108

Obers Test

The patient is side-lying, with their top knee flexed to 90 degrees. The clinician extends the patient's hip and lift's their leg into abduction, then releases it, asking the patient to slowly lower their leg toward the table. The clinician assesses the flexibility of the TFL/ITB based upon how far the thigh drops. Lack of mobility suggests TFL/ITB hypertonicity.

109

SLR

The clinician progressively lifts the supine patients straightened leg

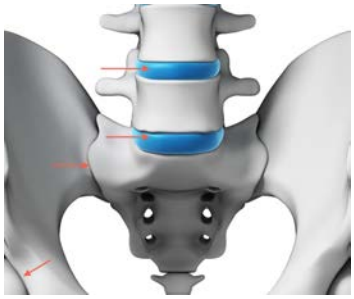
110

Hip Abductor Weakness

111

Predictable Joint Dysfunction

- L4/5
- L5/S1
- SI Joints
- Hips



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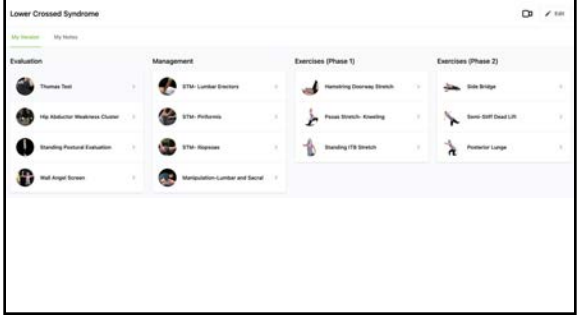


113


Lumbar Erectors


Iliopsoas


Rectus Femoris

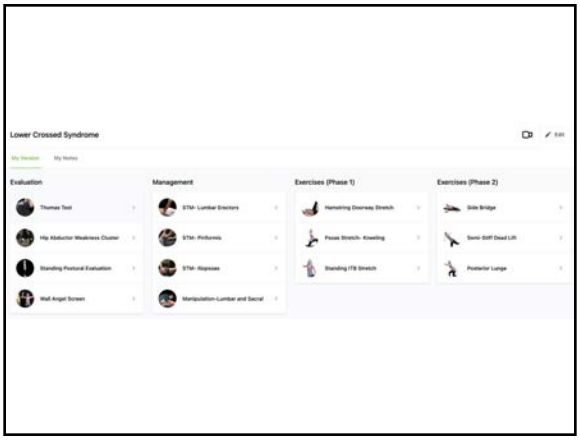

Piriformis


TFL


Hamstring


Gluteals

114



115

Iliopsoas

Begin in a half-kneeling position with the side to be stretched on the floor and your opposite knee bent at 90 degrees, foot planted on the floor. Shift your pelvis forward slowly, keeping your hips and back straight. Against the resistance of the floor, contract your involved thigh in an attempt to flex it forward toward your chest for seven seconds. Relax and shift your pelvis further forward to increase the stretch. Keep your trailing leg rotated outward. "Lock in" to each new position and perform three contract/relax cycles twice per day or as directed.

116

Hamstring

Lie flat on your back with your leg elevated and positioned in a doorway as shown. "Scoot" toward the doorframe until your hamstring is taut. Contract your hamstring by attempting to push your heel into the doorframe for seven seconds. Relax and gently slide your buttocks toward the doorframe while keeping your knees straight to increase the stretch. Repeat three contract/relax cycles on each side, twice per day or as directed. Alternately, you may provide your own resistance by looping a belt or towel around your heel instead of using a doorframe.

117

Piriformis

Lie flat on your back with your affected knee bent and your ankle touching the outside of your opposite leg. Grasp your knee and pull your thigh across your chest toward your opposite shoulder. If you are unable to comfortably reach your knee, grasp a thin towel wrapped around your knee. Against the resistance of your hand, contract your affected hip in an attempt to push your knee outward for seven seconds. Relax and pull your knee further across your body towards your shoulder to increase the stretch. "Lock in" to this new position and perform three contract/relax cycles on each side twice per day or as directed.

118

ITB

Stand approximately two feet from a wall with your affected hip facing the wall. Move your opposite leg forward so that your legs are in a scissors position. The outsides of your feet should be facing each other. Most of your weight should be on your straightened rear leg with your front knee slightly bent and relaxed. With your trunk upright, rotate your pelvis away from the wall and drop your buttock towards the wall until you feel a stretch. Be sure to keep your pelvis forward, not allowing it to drop backward. Keep your breastbone over your uninvolved hip throughout this stretch. Against the resistance of the floor, attempt to contract your rear leg away from your body (toward the wall) for seven seconds. Relax and drop into this stretch to increase the pull. "Lock in" to this new position and repeat three contract/relax cycles on each side twice per day or as directed.

119

Sidebridge

Begin lying on your side. Rest your weight on your forearm and feet. Lift your hips forward and toward the ceiling until your body is in a straight "plank" position. Initially, you may need to use your knees for support. Slowly lower your hips back to the floor and repeat for three sets of 10 repetitions per day on each side, or as directed.

120

Posterior Lunge

While standing on one leg, slowly bend your knee to lower your hips toward the floor as though you are going to sit in a chair. Keep your knee positioned directly above your ankle and do not allow it to shift forward. Try not to allow your back leg to touch the ground. Consciously contract your gluteal muscle on the planted leg side to return to the start position and repeat three sets of 10 repetitions once per day or as directed.

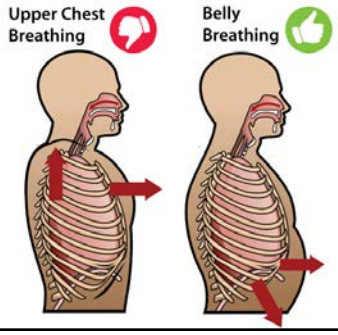
121

Semi-Stiff Deadlift

Begin standing with your thumbs on your rib cage and your fingers on the crests of your hip, making sure not to approximate your fingers throughout the exercise. Stand on one leg with your knee bent only slightly. Slowly flex forward from the hips moving your chest toward the floor, making certain not to flex your back. Return to an upright position. Repeat 15 repetitions on each leg once per day or as directed.

122

Dysfunctional Breathing



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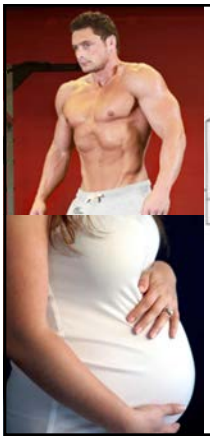
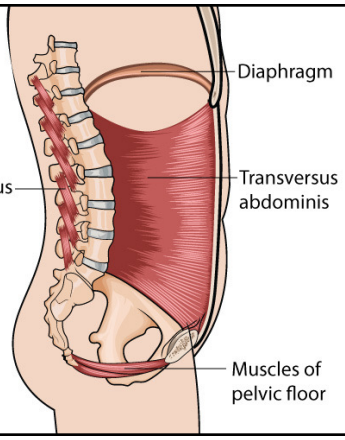


Aesthetics

Pregnancy

Workstation Ergonomics

124

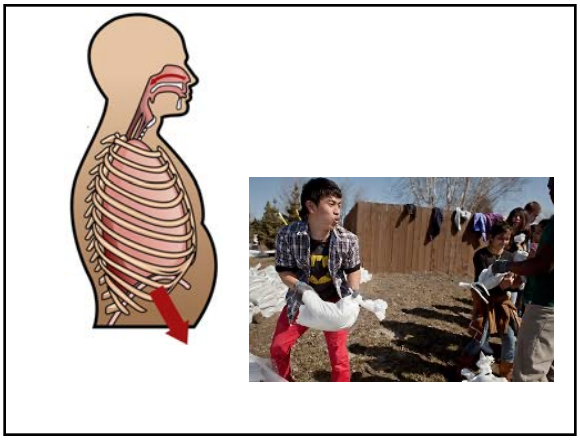


125

Dysfunctional Breathing Complaints

- Thoracic, Lumbar & Sacroiliac joint dysfunction
- Sprain/strain
- Disc Lesion
- Spondylolisthesis
- Myofascial Pain
- Degeneration

126



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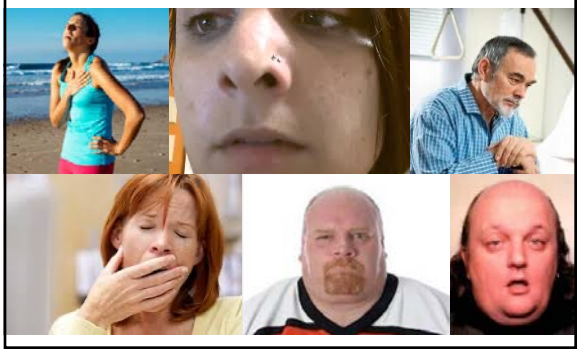
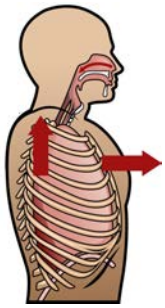
Signs of Dysfunctional Breathing



128

Paradoxical Breathing



129

Breathing Assessment

Breathing may be assessed with the patient lying supine, knees bent having the patient place one hand over their umbilicus, the other hand on their sternum.

Initiation of a deep breath should start in the abdomen with minimal chest elevation.

Normal breathing should cause a wave-like pattern of spinal flexion beginning at the diaphragm then moving cephlad (best observed in a prone patient).

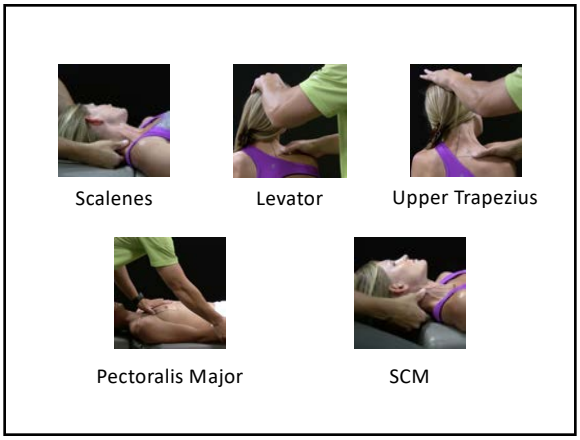
130

131

Secondary Sites of Myofascial Irritation

- Upper trapezius
- Scalenes
- Levator scapula
- SCM
- Pectoral muscles

132



133

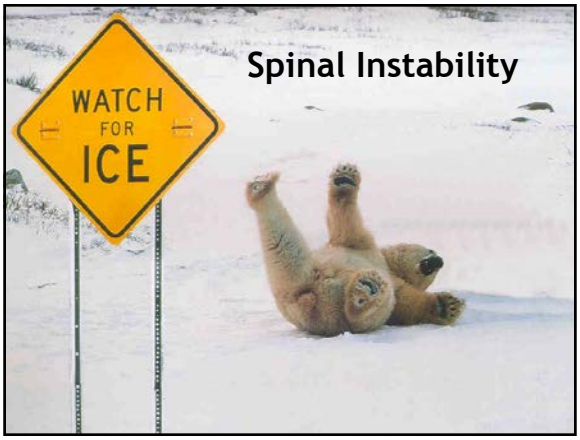
Training

Training proper breathing techniques may begin with the patient in a supine hook-lying position, placing one hand on their abdomen and the other over their sternum. The patient should breathe in slowly and deeply through their nose. If they are breathing properly from their diaphragm, only the hand over their abdomen should rise, and the hand over their chest should remain still. Clinicians must stress the emphasis on abdominal expansion. Instruct the patient to lightly compress their abdomen while they breathe in, followed by relaxation of the pressure as they breathe out. The patient may apply light pressure to the lower lateral rib borders as they inhale and exhale. The patient should practice two to three breaths hourly and 10-20 breaths upon awakening and retiring. Patients should "groove" proper breathing mechanics by practicing in a progressive fashion- first in a supine position, then seated, then standing, and finally, while performing dynamic movements (i.e. overhead squat).

134

135

136



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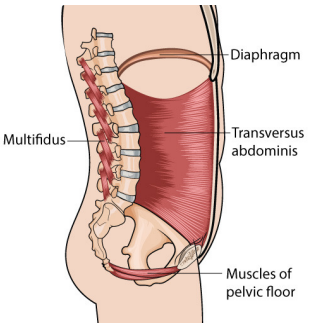
Spinal Stability



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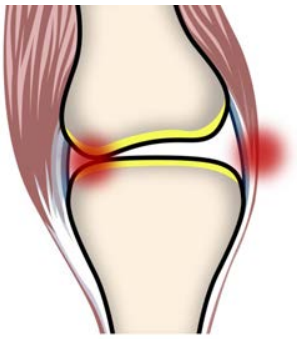
139

Centration



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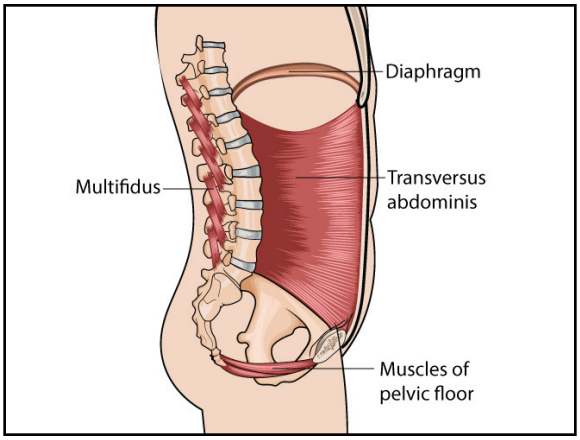

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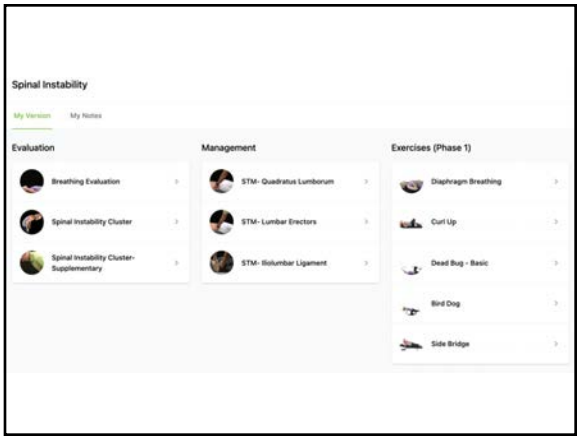
142

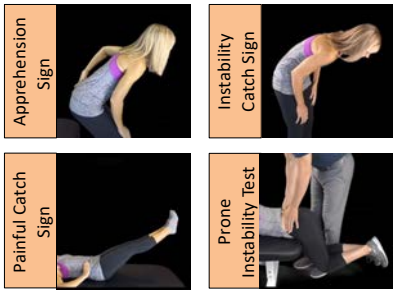
Symptoms

143



144

Spinal Instability Cluster



Areeudomwong P, Jirarattanaphochai K, Ruanjai T, Buttagat V. Clinical utility of a cluster of tests as a diagnostic support tool for clinical lumbar instability. Musculoskeletal Science and Practice. 2020 Jul 24:102224.

145

Apprehension Sign

The patient is asked if, within the past week, they had experienced any sensation of lower back collapse or giving-way due to sudden onset of LBP during transitional movements like standing up or sitting down. This test shows high specificity (92.60%), but low sensitivity (17.4%) for spinal instability.

146

Instability Catch Sign

The patient performs standing forward flexion and return to upright, while the clinician evaluates for an aberrant movement pattern. The test is repeated with an abdominal brace.

147

Painful Catch Sign

The supine patent lifts both straightened legs approximately 24 inches off of the table and then **slowly** lowers their legs, then performs an abdominal brace and repeat the leg lift maneuver.

148

PA Shear

With the patient lying in the prone position, gently palpate the lumbar and thoracic spinous processes. Using approximately 2 lbs of force, challenge the joints in a posterior to anterior direction. Each joint should be assessed individually for joint play, end feel and pain. Limited end feel or reproduction of pain is a positive test and suggests joint dysfunction at that level.

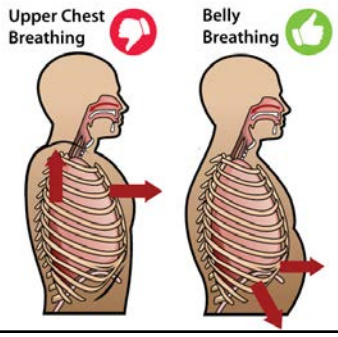
149

Prone Instability Test

The Prone instability test is a comparison of the PA shear test when performed in two different positions. The prone instability test is performed with the patient lying prone on the exam table with their legs over the edge, feet on the floor. The clinician applies a posterior to anterior shear force to each lumbar level and notes pain provocation. The patient then lifts their legs off of the floor, and the clinician repeats the PA shear over any segments that were identified as painful. Symptoms that disappear when the test is performed with the legs lifted suggest spinal instability.

150

Dysfunctional Breathing



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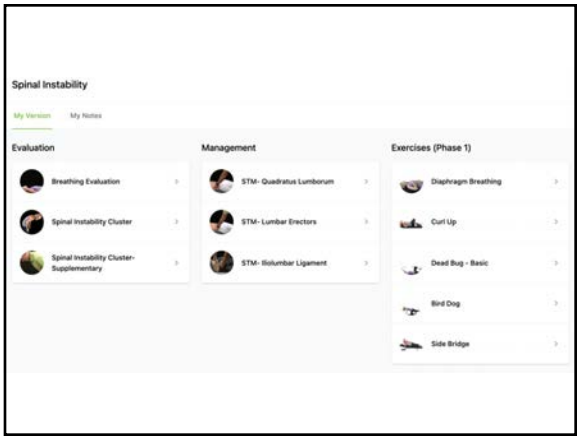


152

STM - Iliolumbar Ligament

STM – Lumbar Erectors

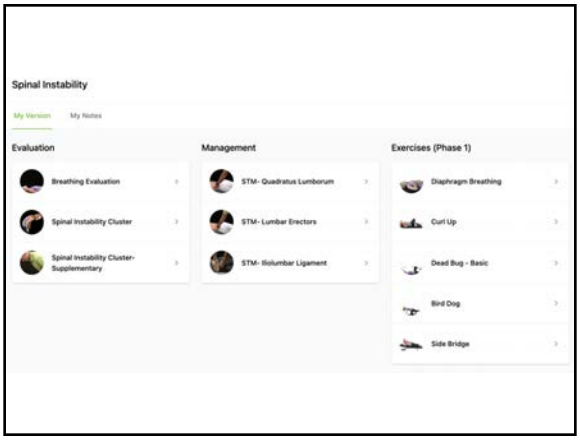
STM – Quadratus Lumborum

153

Mobilize or Stabilize?

- Under 40 years old
- ASLR greater than 90 degrees
- Positive prone instability test
- Presence of aberrant movement during lumbar flexion

154



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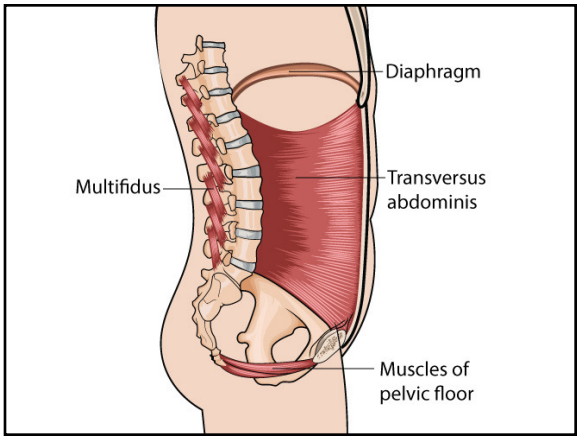


156

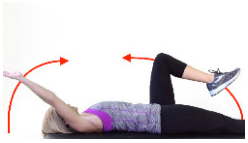
Side Bridge

Begin lying on your side. Rest your weight on your forearm and feet. Lift your hips forward and toward the ceiling until your body is in a straight "plank" position. Initially, you may need to use your knees for support. Slowly lower your hips back to the floor and repeat for three sets of 10 repetitions per day on each side, or as directed.

157

158

Dead Bug



Begin lying on your back with your right arm reaching overhead and your left leg flat on the table. Your right knee should be bent 90 degrees and your hip 45 degrees. Place your left wrist beneath your back to prevent your back from flattening against the ground. Slowly begin by raising your left knee and right arm at the same time until your hand touches your knee. Be sure not to lift your head or allow your spine to flatten against the floor. Return to the start position and repeat for three sets of 10 repetitions on each side, twice per day or as directed.

159

160

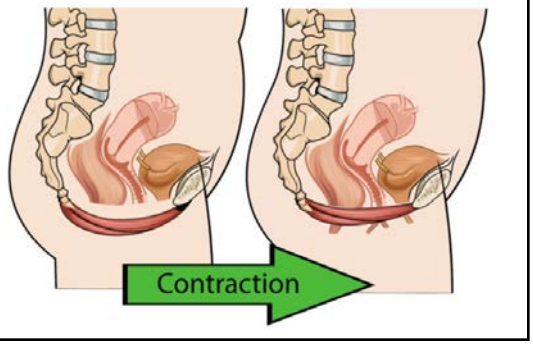
Bird Dog

Begin on your hands and knees in a quadruped position. Extend your right leg and left arm into a fully straightened "bird dog" position. Hold this contraction for two seconds and return to the quadruped position. Do not arch your back or twist your hips at any point. Repeat with your opposite limbs, slowly alternating for three complete sets of 10 repetitions two times per day or as directed.

161

162

Pelvic Floor Training



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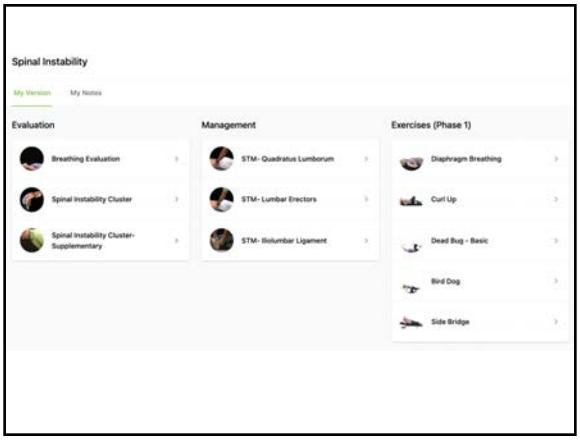

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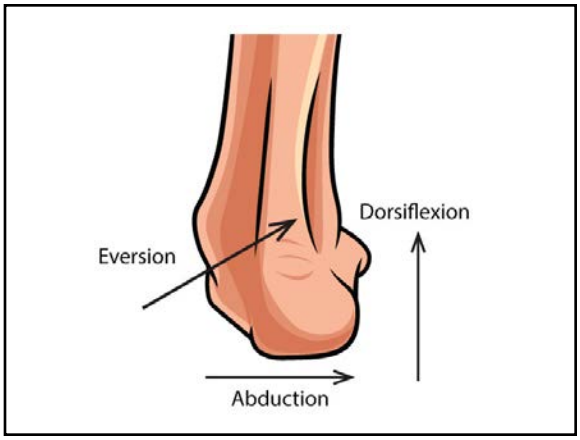
Foot Hyperpronation

166

167



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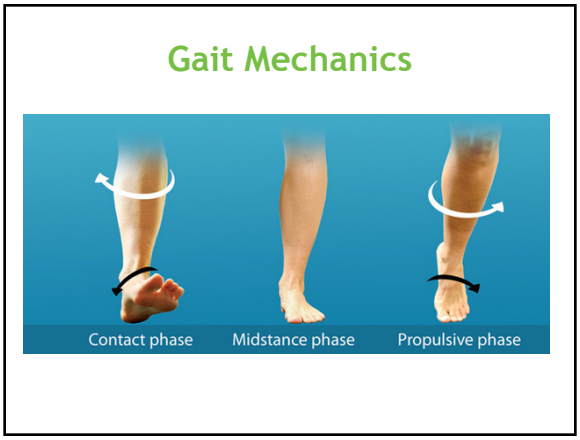

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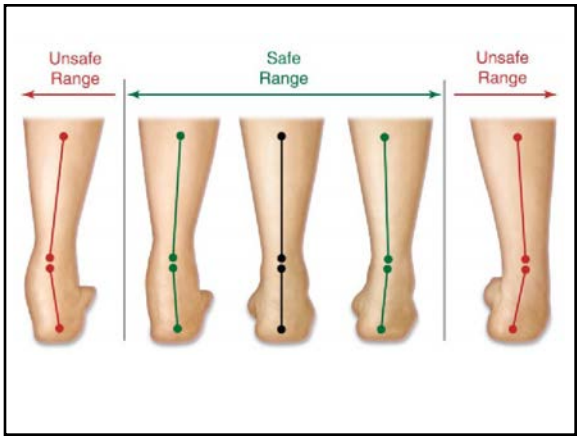

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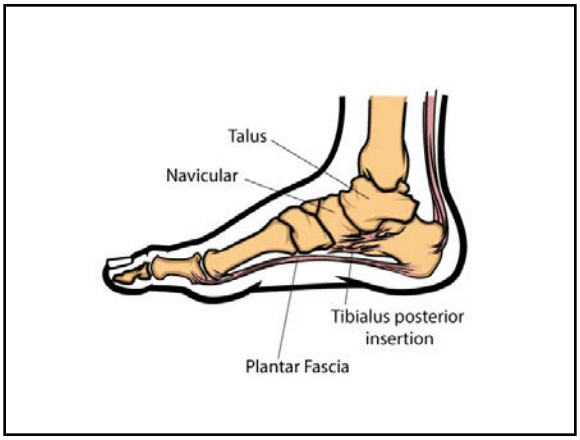

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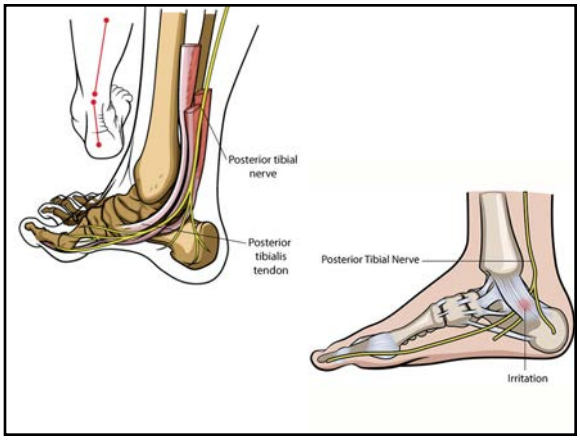

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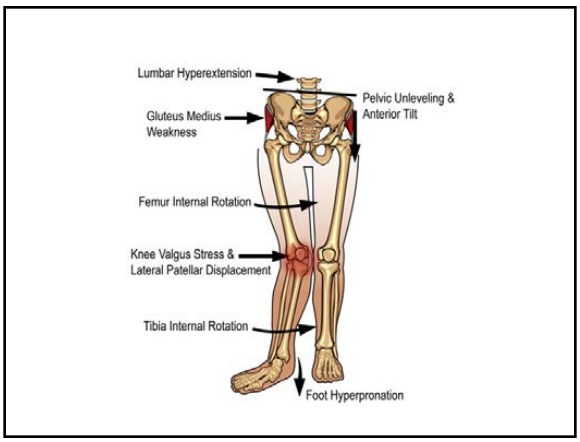

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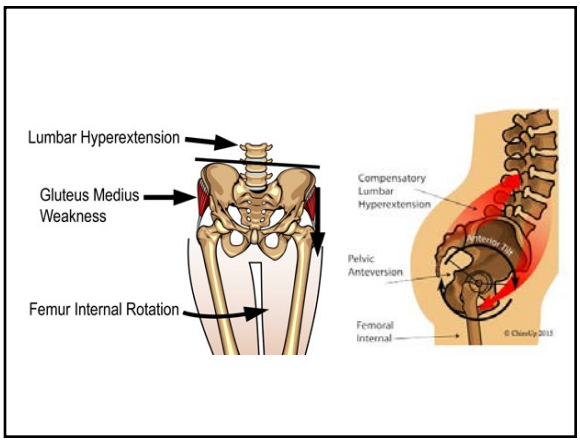

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Presentation

- Plantar fasciitis
- Achilles tendinopathy
- Metarsalgia
- Medial tibial stress syndrome
- Patellofemoral pain syndrome
- Greater trochanteric pain syndrome
- Low back pain

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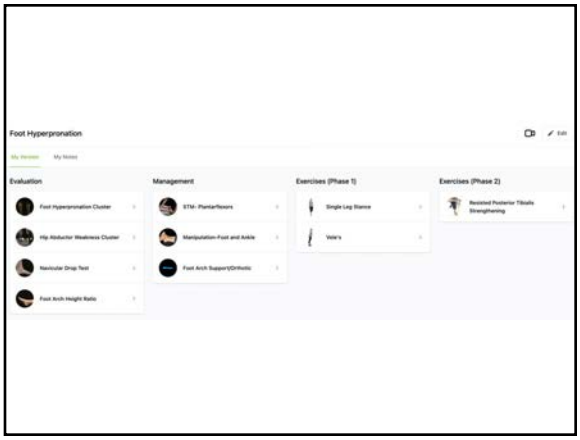

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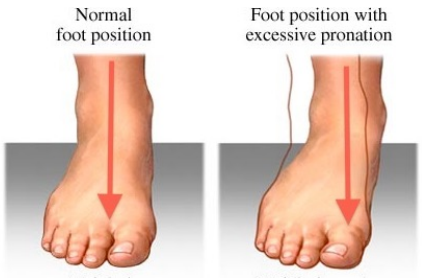
Evaluation



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Posterior Tibialis Assessment

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Plantarflexor Assessment

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Hip Abductor Weakness Assessment

Hip abductor weakness may be assessed by observing for pelvic drop or knee valgus (Trendelenberg sign) when performing a single leg stand, single leg squat, single leg 6 inch step down, or overhead the squat test.

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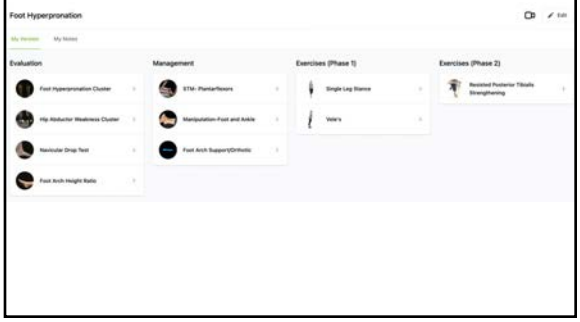

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STM – Gastroc / Soleus

STM – Posterior Tibialis

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Manipulation & Mobilization

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Orthotics

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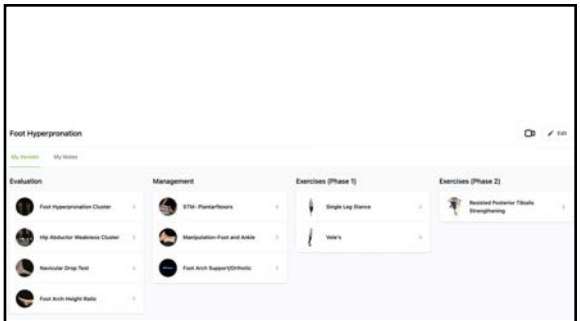

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Single Leg Stance

Stand on one leg and slowly bend your knee while maintaining your balance for 30 seconds. As your balance improves, you may increase the difficulty of this exercise by closing your eyes or standing on a softer surface like a pillow or a BOSU ball. Perform this exercise one minute on each foot twice per day or as indicated.

187

Vele's

Begin standing near a wall for stability. Stand with your feet shoulder width apart. Keeping your body straight, bend at the ankles to shift your weight forward onto your toes until your heels are about to lift off the floor. Return to the start position and perform three sets of 20 repetitions twice per day or as directed.

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Gastroc Stretch

Stand facing a wall with your hands on the wall at head level. Your affected leg to be stretched should be back and straight with your heel on the floor. Your unaffected leg may be bent in front of your for support. While keeping your back straight, lean forward until you feel a stretch in your calf. Against the resistance of the floor, attempt to push the toes of your trailing foot into the floor for seven seconds. Do not lift your heel off of the floor. Relax and lean further forward to increase the stretch. "Lock in" to this new position and repeat three contract/relax cycles on each side twice per day or as directed.

189

Soleus Stretch

Stand facing the wall with the ball of your affected foot on the wall, heels on the ground with your other leg behind you for stability. As an alternate to placing your foot on the wall, you may step on a 2-4 inch block or book on the floor in front of the wall. Place your hands on the wall for additional stability. Bend your forward knee while lowering your body toward the wall until you feel a strong stretch in your calf. Against the resistance of the wall/block, attempt to flex the front of your foot toward the floor. Hold this contraction for seven seconds. Relax and stretch further. "Lock in" to this new position and repeat three contract/relax cycles on each side twice per day or as directed.

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Posterior Tibialis Strengthening

Sit with your involved leg crossed over your uninvolved leg. Loop a piece of resistance tubing over your forefoot and secure it beneath your foot on the floor. Stabilize your lower leg with one hand. Against the resistance of the elastic, roll your involved foot upward, as though you are attempting to look at the bottom of your foot. Slowly return to the start position and repeat three sets of 10 repetitions daily or as directed.

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ADL's

- Wear shoes with good arch supports
- Avoid going barefoot
- Avoid high heels or shoes with narrow toe boxes
- Maintain a normal weight
- Increase activity slowly (10% rule)

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FUNCTIONAL EVALUATION				STRETCH	STRENGTHEN	OTHER
FH/FS Posture	Upper Crossed	Scap Dyskinesis		Pectorals, Upper Traps, Levator, Cervical Retractions (1–4)	Deep Nek Flexors (5)	
Neck Flexion Test						
DNF Endurance Test					Serratus Anterior, Lower Traps, Rhomboids: YTWL, Low Row, Brugger (6-8)	
SICK Scapula						
Quadruped Rock Test						
Scapulohumeral Rhythm						
Aberrant Forward Flex	Spinal Instability				Transverse Abdominus, Lumbar Paraspinal: Bird Dog, Side Bridge, Dead Bug (9-11)	
Passive L/S Extension						
Prone Instability Test						
ASLR						
Upper Chest Breathing		Dysfn Breath		Scalene, Levator, SCM, Pecs (1,3)	Diaphragm Breathing (12)	
Diminished Ab/Rib Expansion						
Lower Cross Posture A B	Lower Crossed	HAB Weakness		Psoas, Lumbar Paraspinal, Hamstring, ITB, Rectus Femoris (13-15)	Sidebridge (11)	
Thomas Test						
Trendelenberg Test					Gluteus Medius: Clam, Sidebridge with HAB, Posterior Lunge, Semi-stiff deadlift (16-19)	
Overhead Squat Test						
Single Leg Squat						
6" Step Down						
Fallen Arch		Hyperpronation		Ankle Plantar Flexors (20)	Posterior Tibialis, Vele's, Single leg stance (21-23)	Orthotic, Arch wrap
Too Many Toes Sign						
Navicular Drop Test						
Posterior Tibialis Weakness						
Plantarflexor Hypertonicity						

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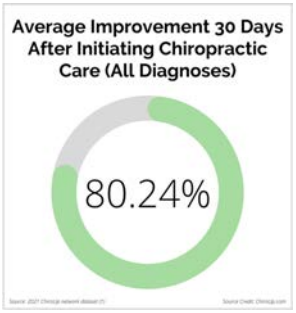
Average Improvement



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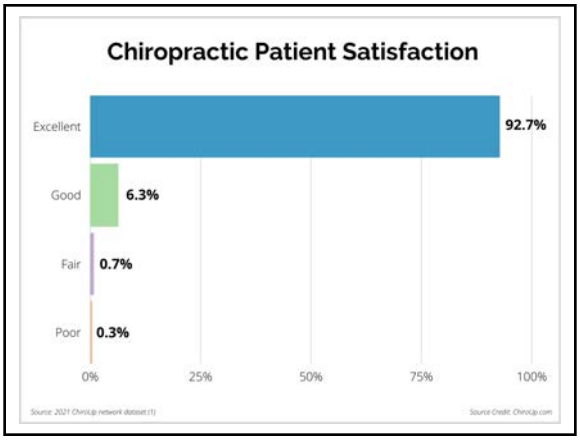

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Likelihood to Refer

The 2021 ChiroUp network dataset demonstrated that chiropractic patients are extremely likely to recommend their provider to others.

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