

Empower Your Patients with Active Care

The Standard of Excellence

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COACHING

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Dr. Vladimir Janda: The Crossed Syndromes

- Combined therapy and medicine in a hands on approach—a pioneer in the practice of physical medicine and rehabilitation.
- Published more than 16 books and 200 papers.
- Defined crossed syndromes in 1979.
- Emphasized that the sensorimotor system, composed of sensory system and motor system, could not be functionally divided.
- He emphasized the importance of proper proprioception.



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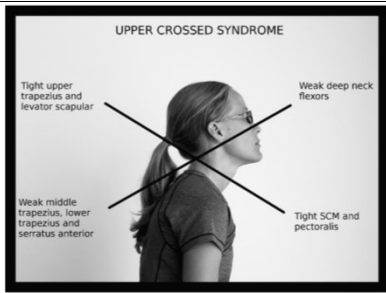
Neurodevelopmental Locomotor Patterns

- **Tonic Muscle System:** prone towards tightness.
- **Phasic Muscle System:** prone towards weakness.
- Work together synchronously through co-activation for posture, gait and coordinated movement.



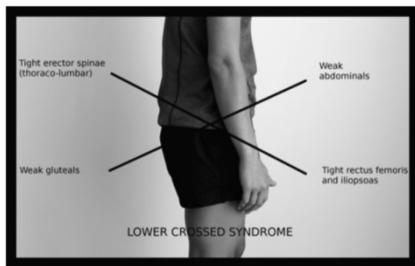
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Upper Crossed Syndrome



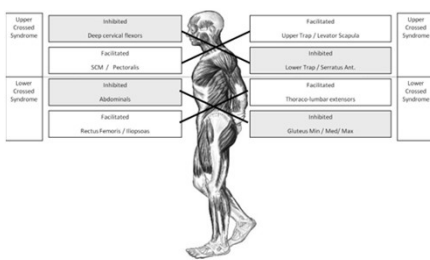
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Lower Crossed Syndrome



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Janda's Muscle Imbalance Syndromes



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- There are predictable muscle imbalances present in most of the patients you see.
- **Six movement pattern tests** screen for the proper functioning of the majority of the clinically significant muscles we address.



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1. Prone Hip Extension
2. Hip Abduction
3. Trunk Curl
4. Seated Arm Abduction
5. Trunk Lowering From Push Up
6. Supine Neck Flexion

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- Palpation of the posterior musculature reveals a pattern of contraction from caudad to cephalad
- Hamstrings then Gluteus maximus then Erector spinae
- Premature contraction of a muscle indicates overactivity



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2 Hip Abduction

- Hip Hiking: Overactive Quadratus lumborum
- Ratcheting: Inhibited Hip Abductors
- Anterior leg excursion: Overactive Iliopsoas.
- Posterior leg excursion: Overactive Hamstrings.
- External Rotation: Overactive Piriformis
- Internal Rotation: Overactive TFL



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3. Trunk Curl

- Ratcheting: Inhibited Abdominals & Overactive Erector spinae
- Foot lift prior to 30° of Flexion: Overactive Iliopsoas
- Chin poking: Overactive SCM and Suboccipitals



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4. Seated Arm Abduction

- Elevated shoulder girdle prior to 30° of Arm Abduction:
 - Overactive Upper Trapezius and Levator scapulae
 - Inhibited Serratus Anterior and Lower Trapezius



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5. Trunk Lowering from a Pushup

Winging of the scapula



Inhibited Serratus anterior



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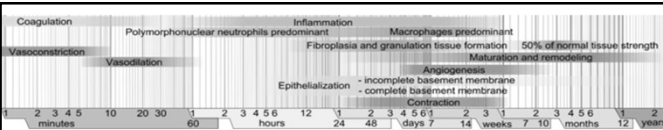
6. Supine Neck Flexion

• Ratcheting: Inhibited Deep Neck Flexors and Scalenes

• Chin poking: Overactive SCM and Suboccipitals



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Dynamic Functional Assessment

Establishing Medical Necessity by
Setting Your Criteria for Care

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Functional Capacities Evaluation

- **Alaranta:** 4 tests are safe, inexpensive, time efficient, reliable, and comparable to normative databases.
- **Sorensen's Static Trunk Extensor Endurance** has been shown to predict recurrence rates of low back pain in asymptomatic individuals.

Functional Capacities Evaluation

Name: _____ Patient No: _____

Date of Examination: _____

Strength, Strength and Endurance Test*

1. Repetitive Neck Lifts _____ / 100

2. Repetitive Upright _____

3. Repetitive Squats _____ (10 reps, moderate with assist)

4. Hand Grip Strength _____ / 100

Flexion-Extension Ratio

1. Neck Flexion _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

2. Neck Extension _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

3. Lumbar Flexion _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

4. Lumbar Extension _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

Balance and Coordination Tests

1. Heel-to-Toe Gait _____ gait 60-90 sec _____ gait 70-75 sec _____

2. Romberg _____ 10 sec _____ 15 sec _____ 20 sec _____

3. Tandem _____ 10 sec _____ 15 sec _____ 20 sec _____

4. Eyes Closed _____ 10 sec _____ 15 sec _____ 20 sec _____

Range of Motion Tests

1. Cervical _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

2. Shoulder _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

3. Elbow _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

4. Wrist _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

5. Hip _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

6. Knee _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

7. Ankle _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

8. Foot _____ $1^\circ = 10^\circ$ or _____ $\% \text{ F.R. Ratio}$

Test performed by _____ Date _____

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When to Perform Functional Capacities Evaluation

- When should a physical capacity evaluation be performed?
- **As soon as the patient is out of acute pain.**
- This is when the goal of care transitions from **pain relief to functional restoration** and these tests are important for establishing clear goals.

PAIN MEASUREMENT SCALE

The scale consists of 10 faces arranged horizontally, each with a different expression of pain. Below each face is a number and a description of the pain level. Below the faces is a horizontal line with tick marks corresponding to the numbers 1 through 10. Below the line are the words 'No pain', 'Mild', 'Moderate', 'Severe', and 'Worst Pain Imaginable'.

Number	Description
1	NO PAIN
2	HEARTS LITTLE BIT
4	HEARTS LITTLE MORE
6	HEARTS EVEN MORE
8	HEARTS WHOLE LOT
10	HEARTS WORST

No pain Mild Moderate Severe Worst Pain Imaginable

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Functional Capacities Evaluation Guidelines

- Patient warm-up for 5 minutes prior to beginning testing (bicycle/ergometer).
- Tests are retested in the same order.
- 1-minute interval between each test.
- Tester may count repetitions aloud but should remain as neutral as possible.
- Test terminated if patient told more than one time to correct trunk motion.
- Patient informed about possible mild muscle pain during the days following the test.

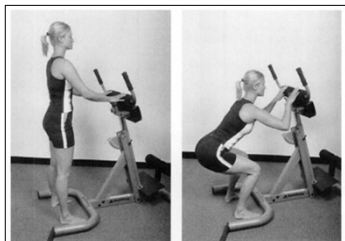
www.mhhe.com/9780073375312

Repetitive Squat

- Patient Position: The patient stands with feet shoulder-width apart.
- Technique: The patient squats until thighs are horizontal and returns to upright position. Each repetition rate is 1-3 seconds. Repeat to maximum.
- Observe: Count number of repetitions (max. 50).
- The normative data for dynamic squatting endurance is segregated by age, sex and occupation.

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Repetitive Squat



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Repetitive Squat

Table 11.4 Repetitive Squat Test Normative Data (1)

Age	Males (n=242)						Females (n=233)					
	Blue Collar		White Collar		All		Blue Collar		White Collar		All	
	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD
35-39	39	13	46	8	42	12	24	11	27	12	26	12
40-44	34	14	45	9	38	13	22	13	18	8	20	12
45-49	30	12	40	11	33	13	19	12	26	13	22	13
50-54	28	14	41	11	31	14	13	10	18	14	14	11
35-54	33	14	43	10	37	13	20	12	23	12	21	12

X = Average

SD = Standard deviation

Note: The last row represents the average of all the ages (35-54)

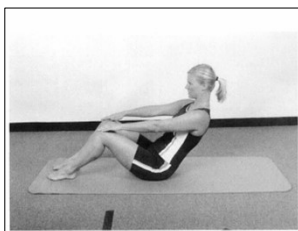
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Repetitive Sit-Up

- Patient position: The patient is supine, knees flexed 90 and ankles fixed.
- Technique: Patient sits up until touching the thenar-hand to patella, and curls back down to the supine position.
- Observe: Count number of repetitions (max. 50).
- The normative data for dynamic trunk flexor endurance segregated by age, sex and occupation.

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Repetitive Sit-Up



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Repetitive Sit-Up

Table 11.6 Repetitive Sit-Up Test Normative Data (1)

Age	Males (n=242)						Females (n=233)					
	Blue Collar		White Collar		All		Blue Collar		White Collar		All	
	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD
35-39	29	13	35	13	32	13	24	12	30	16	27	14
40-44	22	11	34	12	27	13	18	12	19	13	19	12
45-49	19	11	33	15	24	14	17	14	22	15	19	14
50-54	17	13	36	16	23	16	9	10	20	13	11	11
55-54	23	13	35	13	27	14	17	13	24	15	19	14

X = AVERAGE
SD = Standard deviation

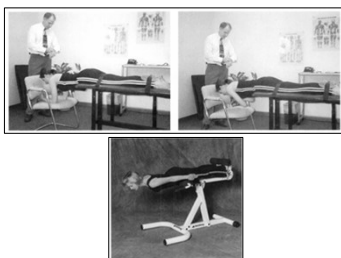
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Static Back Endurance Test

- Examiner Position: The doctor is at the side of the table holding the patient's ankles (strap is ideal). Alternatively, a Roman chair can be used.
- Patient position: The patient is prone with the inguinal region at the end of the table; arms at sides, ankles fixed and holding horizontal position.
- Technique: The patient maintains the horizontal position as long as possible.
- Observe: Time the duration the position can be held (max. 240 seconds).

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Static Back Endurance Test



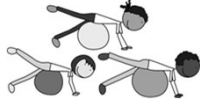
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Static Back Endurance Test

Table 11-9 Static Trunk Extensor Endurance—Sorensen Test Normative Data (1)

Age	Males (n=242)						Females (n=233)					
	Blue Collar		White Collar		All		Blue Collar		White Collar		All	
	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD
35-39	87	38	113	47	97	43	91	61	95	48	93	55
40-44	83	51	129	57	101	57	89	57	67	51	80	55
45-49	81	45	131	64	99	58	90	55	122	73	102	64
50-54	73	47	121	56	89	55	62	55	99	78	69	60
35-54	82	45	123	55	97	53	82	58	94	62	87	59

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Soft Tissue Techniques

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Soft Tissue Techniques

- Certain soft-tissue techniques, such as kinesiological and myofascial approaches, have been found to be effective in normalizing the balancing capabilities of the position receptors.
- Trigger-point therapy (using ischemic compression, spray and stretch, or injections) seems to be able to correct imbalances in muscle tone and tension that are perpetuated by sensory receptor problems.



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Stretching Procedures

- The more effective stretching maneuvers take advantage of our knowledge of the proprioceptive responses in the muscles and joints.
- A list of some of the more popular procedures includes: active release (Leahy technique), contract-relax (CRAC), muscle energy techniques, postisometric relaxation (Lewitt technique), and proprioceptive neuromuscular facilitation (PNF).
- By activating and coordinating the muscle spindles and the mechanoreceptors, these stretching procedures can be very effective in chronic cases.

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- Post Isometric Relaxation is a technique developed by Dr. Karel Lewit.
- PIR is the effect of the decrease in muscle tone in a single or group of muscles, after a brief period of submaximal isometric contraction.
- PIR works on the concept of autogenic inhibition.



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- PIR is a gentle muscle relaxation technique that can be used to restore a muscle to its maximum length without dynamic stretching.
- There should be no pain.
- The patient is asked to resist with only minimal force (isometrically) and to breathe in for 8-10 seconds.
- Give the patient the auditory cue, "Don't let me move you."

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- The patient is then told to "let go" (relax) and exhale slowly.
- It is important for the therapist to wait to feel the relaxation.
- The therapist could wait 7-10 seconds or longer as long as relaxation is taking place.
- Due to pure relaxation there should be an increase in the range of motion.
- If the patient has difficulty relaxing, hold the isometric phase for 30 seconds before having the patient "let go."

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Post Isometric Relaxation

- Usually three to five times is all that is necessary to obtain spontaneous stretch each session.
- Along with the breathing, having the patient look up (with the eyes only).
- This helps facilitate the inspiration, which facilitates the muscle.
- Have the patient look down during expiration to aid in relaxation.

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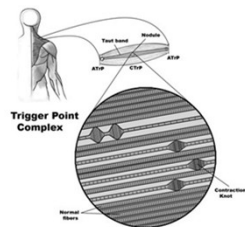
Post Isometric Relaxation

- The following script helps patients get the hang of it.
- Explain the purpose of the stretch: to lengthen the small but tightly knotted part of the involved muscle.
- "Stretching pulls the knot loose, and when you release the stretch, fresh blood flows through the painful area of muscle. This washes away the pain-causing chemicals trapped in the knot."

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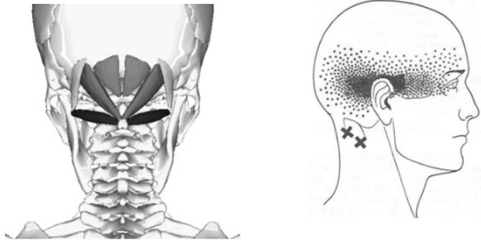
Trigger Points

- Trigger points are discrete, focal, hyperirritable spots located in a taut band of skeletal muscle. The spots are painful on compression and can produce referred pain, referred tenderness, motor dysfunction, and autonomic phenomena.
- They are often found in overactive muscles and can be released with manual therapy techniques such as PIR.



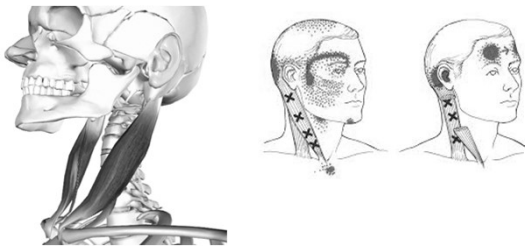
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PIR Suboccipitals



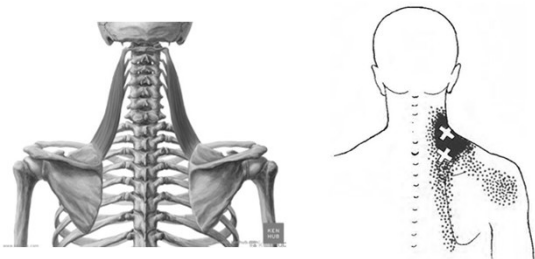
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PIR Sternocleidomastoid



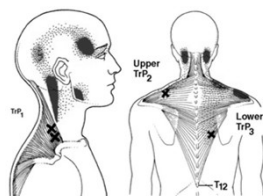
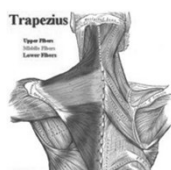
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PIR Levator Scapulae



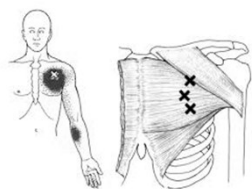
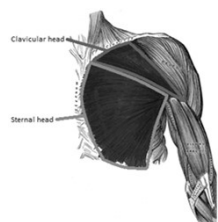
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PIR Upper Trapezius



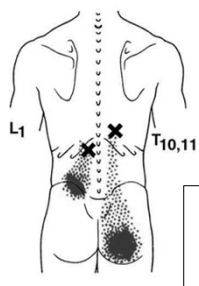
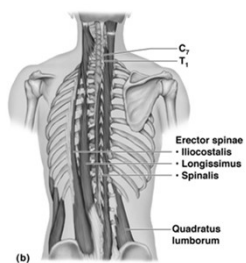
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PIR Pectoralis



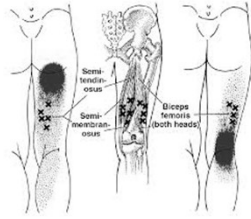
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PIR Back Extensors



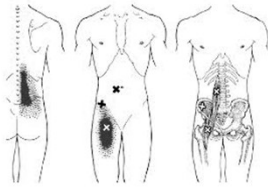
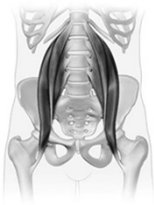
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PIR Hamstrings

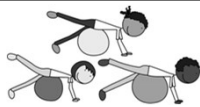


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PIR Iliopsoas



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Exercises to Improve Posture

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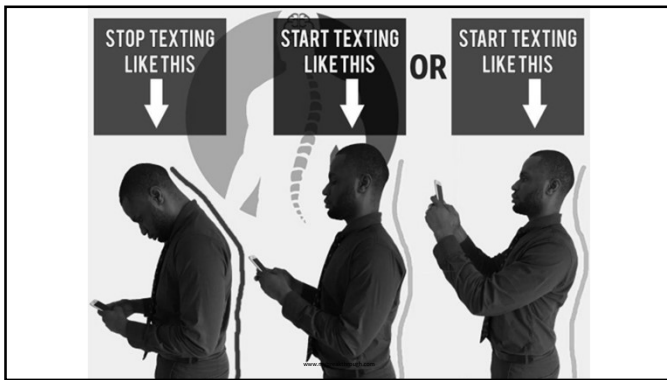
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BREAKTHROUGH COACHING **Chin Tuck**

- This exercise can be done sitting or standing.
- Start with your shoulders rolled back and down.
- While looking straight ahead, place two fingers on your chin, slightly tuck your chin and move your head back (image at right). Hold for 3-5 seconds and then release. Repeat 10 times.
- Tip: The more of a double chin you create, the better the results. If you're in a parked car, try doing the Chin Tuck pressing the back of your head into the headrest for 3-5 seconds. Do 15-20 repetitions.



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BREAKTHROUGH COACHING **Wall Angels**

- Stand with your back against a flat wall with your feet about four inches from the base.
- Maintain a slight bend in your knees. Your glutes, spine and head should all be against the wall.
- Bring your arms up with elbows bent so your upper arms are parallel to the floor and squeeze your shoulder blades together, forming a letter "W". Hold for 3 seconds.
- Next, straighten your elbows to raise your arms up to form the letter "Y." Make sure not to shrug your shoulders to your ears.
- Repeat this 10 times, starting at "W," holding for 3 seconds and then raising your arms into a "Y"
- Do 2-3 sets.



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Doorway Stretch

- Standing in a doorway, lift your arm so it's parallel to the floor and bend at the elbow so your fingers point toward the ceiling. Place your hand on the doorjamb.
- Slowly lean into your raised arm and push against the doorjamb for 7-10 seconds.
- Relax the pressure and then press your arm against the doorjamb again, this time coming into a slight lunge with your legs so your chest moves forward past the doorjamb for 7-10 seconds.
- Repeat this stretch two to three times on each side.



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Hip Flexor Stretch

- Kneel onto your right knee with toes down, and place your left foot flat on the floor in front of you.
- Place both hands on your left thigh and press your hips forward until you feel a good stretch in the hip flexors.
- Contract your abdominals and slightly tilt your pelvis back while keeping your chin parallel to the floor.
- Hold this pose for 20-30 seconds and then switch sides.



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Your Friend the Foam Roller

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Tips for Effective Foam Rolling

- Fascia is a thick, fibrous web of tissue. As such, it can't be released with a quick pass of the foam roller.
- You need to be slow and deliberate in your movements.
- Once you find a sensitive area, slowly work back and forth over the spot.
- Be gentle at first.
- Start with half your body weight, using your hands or other leg to adjust pressure, and slowly work into full body weight.
- The maximum amount of time you should spend on any one area is 20 seconds.
- After this, you only risk irritating the spot more than you're helping it.

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Neck Extensors



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Thoracic Spine Extensors



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Low Back Extensors



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Hamstrings



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Quadriceps



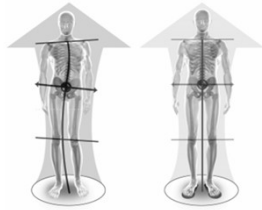
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- Patients with proprioceptive imbalances often benefit from various external supports to help them achieve proper body positioning.
- These may include custom-made, flexible orthotics for the foot and ankle, cervical pillows for chronic neck pain, and chair supports to provide alignment of the back during sitting.

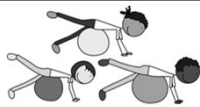


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- The foot is the base of the lower quarter kinetic chain.
- If not managed properly, imbalances in the feet can ultimately cause secondary problems elsewhere up the chain.



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Training Proprioception

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Why Proprioception?

Research Letter
June 4, 2019
Mortality From Falls Among US Adults Aged 75 Years or Older, 2000-2016
Klaas A. Hartholt, MD, PhD¹; Robin Lee, PhD, MPH²; Elizabeth R. Burns, MPH²; et al
> Author Affiliations | Article Information
JAMA. 2019;321(21):2131-2133. doi:10.1001/jama.2019.4185

By David Sparks
Fatal falls on the rise for seniors
June 5, 2019



More older Americans are reportedly dying after from falling. Many of these deaths are related to hip fractures and traumatic brain injuries that patients don't recover from.
At study published in the Journal of the American Medical Association states that fatal falls have nearly tripled in older Americans during a 16-year span, rising to more than 25,000 deaths yearly.

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The Levels

- Patients must be able to master an NMR exercise to a level B for 1 week or 3 visits, which ever comes first (this includes the instruction visit) or a Level C for 1 visit before progressing from one to the next the next Step of NMR.
- Level A = Assisted (Exercise with Assistance)
- Level B = Basic (Exercise without Assistance)
- Level C = Challenged (Basic Exercise with the addition of extremity movement)

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The Levels

- A patient may begin any exercise at a level other than B, but he or she may not advance to the next stage until all exercises within a stage are at a minimum Level B for one week or three visits (including the instruction visit).
- This means that some patients may not advance as quickly as others. Slow progress may indicate the necessity to alter the treatment plan and should be brought to the doctor's attention.
- A re-evaluation may be scheduled with the doctor or physical therapist and additional recommendations may be made at the time.

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BREAKTHROUGH COACHING The 80%

- This program is organized to rehabilitate the average patient to the point of pre-injury function that is mindful of office flow and patients' time commitments.
- Approximately 80% of patients should be able to perform NMR to the final stage of Stability ball exercises within a 3-month period.
- If patients progress is delayed, or they plateau at a particular stage of NMR exercises, without being able to advance to a level B, it may be necessary to re-examine the treatment protocol.
- The doctor and/or therapist should review all notes on a weekly basis screening for patients who fall outside of the 80%.

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BREAKTHROUGH COACHING Slow & Controlled Exercises

- Advances have been made in methods for strengthening postural muscles based on our knowledge of proprioception.
- Since postural (especially back and neck) muscles are tonic, slow-twitch muscles, we must use slow and controlled exercises in an upright position, in order to stimulate and normalize input from position receptors.

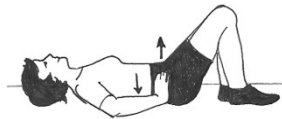


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BREAKTHROUGH COACHING Step 1: Posterior Pelvic Tilt

Level A:

1. Lie flat on your back with your hands flat on the floor. Therapist puts hand, palm up, under low back to accentuate position.
2. Bend your knees and keep your feet flat on the floor. Press your lower back onto the floor while pulling up and in with the muscles of the lower abdomen.
3. Hold the contracted position for 10 seconds, relax and rest 3 seconds. Perform 10 repetitions.



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Step 1: Posterior Pelvic Tilt

- Level B Pelvic Tilt:
- Instruction: Patient is supine; performs exercise unassisted. Hold for 10 second intervals, repeat, 10 times.
- Level C Pelvic Tilt:
- Instruction: Patient is supine; performs unassisted. Lift one leg at a time alternating, Holding for 10 second intervals, repeat, 10 times.
- This exercise is the foundation for all other NMRs, which must be performed with a proper pelvic tilt.

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Step 2: Unilateral Lower Extremities

- Standing Posterior Pelvic Tilt:
- Patient stands on each leg 10 times for 10 seconds or to the point of fatigue.
- Level A:
- The patient is allowed to use a chair or wall to balance him or herself during exercise.



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Step 2: Unilateral Lower Extremities

- Level B: The patient can perform the exercise without assistance.
- Level C: The patient is instructed to trace out the letters of the alphabet (A-E) with the toe of the raised leg.



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Step 2: Unilateral Lower Extremities

Normative Data		
AGE (years)	EYES OPEN (seconds)	EYES CLOSED (seconds)
20-59	29-30	21-28.8
60-69	22.5	10
70-79	14.2	4.3

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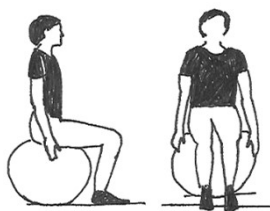
Stability Trainers

- Thera-Band® Stability Trainers are closed cell foam pads with an anti-slip ridged surface and oval foot fitting shape.
- These foam pads are very effective for balance training, rehabilitation of lower extremities, and for sports performance enhancement.

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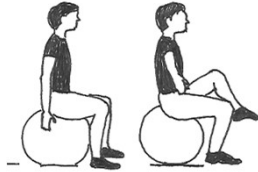
Step 3: Seated Stability Ball

- The patient sits on the ball, feet at shoulder length apart. The patient assumes a position of a pelvic tilt with erect spinal posture.
- Level A: Basic Bounce. Starting Position: Sit correctly on the ball in optimal posture.
- Movement/Exercise: Begin bouncing by pushing feet into the floor and tightening thigh and hip muscles to slightly lift trunk, relax. Continue bouncing by alternately tightening and relaxing these muscles as vigorously as balance, coordination and comfort allow in optimal posture.

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Step 3: Seated Stability Ball

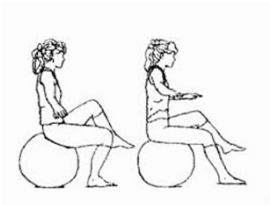
- Level B:
- The patient raises one heel at a time until he or she can perform a small march by lifting one foot at a time completely off the ground.
- Perform 10 repetitions per foot.



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Step 3: Seated Stability Ball

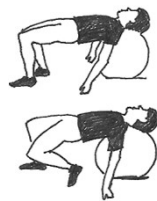
- Level C:
- The patient straightens out one leg at a time so that it is parallel with the ground.
- Perform 10 repetitions per leg.



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Step 4: The Bridge

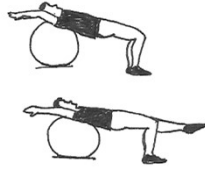
- The patient forms a bridge between his or her body and a stability ball.
- Level A:
- The patient places his or her shoulders on the ball and feet on the floor, and raises into a bridge.
- Maintain posterior pelvic tilt.



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Step 4: The Bridge

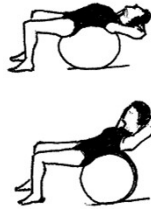
- Level B:
- The patient raises up to bridge position and then lifts his or her heels from the ground one at a time and performs a small march with his or her feet.
- Level C:
- The patient bridges up and straightens out one leg at a time so that it is parallel with the ground.



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Step 5: Abdominal Curl Up

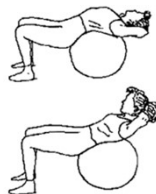
- The patient sits on the ball and then slides the buttocks forward until the shoulders are on the ball and the body forms a bridge with the floor.
- Level A:
- The patient slowly curls up by raising his or her shoulders up from the ball while reaching, with arms extended, for the knees.



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Step 5: Abdominal Curl Up

- Level B:
- The patient curls up with arms folded across the chest.
- Level C:
- The patient curls up with the hand placed lightly by the side of his or her head at the ears.
- To avoid straining the neck, it is important not to interlock the fingers behind the neck while performing this exercise.



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Step 6: Superman on Stability Ball

- Instruction: The patient kneels with the ball in front of them in a "prayer position". With the heels against a wall, the patient extends his or her body forward.
- It is essential that proper alignment be maintained during this NMR.
- Level A:
- The patient performs the Superman position with arms at his or her sides.



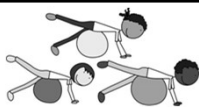
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Step 6: Superman on Stability Ball

- Level B:
- The patient performs the Superman position and then extends both arms out in front of them as though flying like Superman.
- Level C:
- The patient performs the flying position and then performs a freestyle-stroke swimming motion with his or her arms.



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Closed-chain Exercising

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Closed Chain Exercises

- Closed-chain exercising (whether stretching or strengthening) is being used much more frequently in sports and rehabilitation.
- By keeping the body upright and weight-bearing during exercising, all of the proprioceptors are recruited to condition the muscle and joints.
- This provides a rapid and appropriate neuromuscular learning experience, and allows the skills practiced to be used in functional everyday and sports-specific situations.



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Theraband® CLX

- TheraBand® CLX Consecutive Loops deliver versatility and ease of use that change how people experience exercise and rehab.
- It's all in the loops, which are versatile, and simple.
- According to multiple studies, the elastic resistance used in TheraBand® CLX Consecutive Loops is equivalent to weight training in strength curve, muscle activation, perceived exertion, and strength gain.
- The CLX loops provide multiple, unique grip and anchor options.

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Theraband®

THERA-BAND® COLOR PROGRESSION

Use Thera-Band® System of Progressive Resistance™. Both Thera-Band® elastic bands and tubing produce similar levels of resistance when stretched to the same percent elongation.

Percent Elongation	Resistance in Pounds			
	Yellow	Red	Green	Blue
55%	1.1	1.5	2.0	2.8
50%	1.8	2.6	3.2	4.6
75%	2.4	3.3	4.2	5.9
100%	2.9	3.9	5.0	7.1
125%	3.4	4.4	5.7	8.1
150%	3.9	4.9	6.5	9.1
175%	4.3	5.4	7.2	10.1
200%	4.8	5.9	7.9	11.1

Data from Page et al. 2000. JCBPT 35(1):A47-8

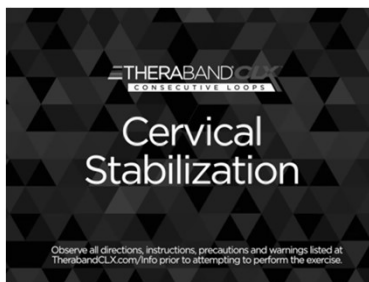
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Posture Reset



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Cervical Stabilization

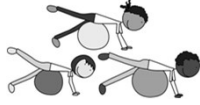


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Upper Back Extension



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Correct Coding

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Three Spinal CMT Codes

- | | |
|--------------------------------|--|
| • 98940: | • According to CMS: |
| • One to two spinal regions | • 98940: 35% |
| • 98941: | • 98941: 55% |
| • Three to four spinal regions | • 98942: 10% |
| • 98942: | • Full Spine Adjustment: |
| • Five spinal regions | Remember that you are counting regions and not vertebral segments. |

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Five Extraspinal Regions

- 98943: Extraspinal Manipulation
 - Head (including TMJ, excluding atlanto-occipital region)
 - Lower Extremities
 - Upper Extremities
 - Rib Cage (excluding costotransverse and costovertebral joints)
 - Abdomen!

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• 97140 describes manual therapy techniques such as:

- Mobilization
- Manual Lymphatic Drainage
- Manual Traction



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- Same Provider, Separate Structure
- Same Area, Separate Providers
- Same Provider, Same Area, Separate Encounter
- Use Appropriate Modifiers



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- The code 97140, Manual Therapy, requires the modifier 59 when combined with an adjustment.
- Use 59 when billing 97140, manual therapy, when done with chiropractic spinal manipulation 98940-2.



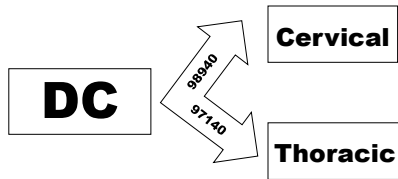
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The X{EPSU} Modifiers

- The four newest HCPCS modifiers, are also commonly referred to as X{EPSU} modifiers.
- The acronym EPSU is made up of the last letter of the new modifiers.
 - Same Provider, Separate Encounter XE
 - Same Area, Separate Practitioner XP
 - Same Provider, Separate Structure XS
 - Unusual Non-Overlapping Service XU

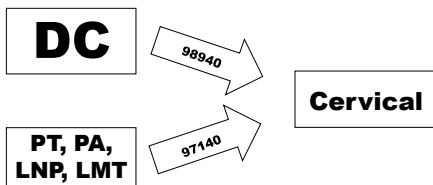
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Same Provider/Separate Structure 59/XS

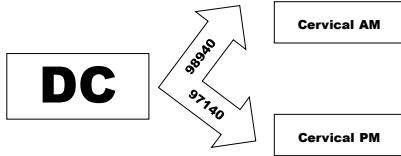


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Same Area/Separate Provider 59/XP



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- These X{EPSU} modifiers were released by CMS, which governs Medicare billing, they are being gradually introduced for commercial carriers.
- Some commercial carriers are requiring the X{EPSU} modifiers in place of modifier 59.
- Other carriers are requiring both modifier 59 plus the X{EPSU} modifiers.
- Be sure to check with individual non-Medicare payors (i.e., commercial carriers) to clarify which modifiers to use.

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D		E	
CPT/HCPCS		MODIFIER	
97140		59 XS	
98940			

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- Indicate separate areas on an insurance claim form by linking each procedure to a diagnosis referring to a different area.
- If your billing software automatically defaults to linking diagnoses, contact your software vendor to unlock this feature.



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- Therapeutic Procedures are time-based codes.
- Billed in 15-minute units beginning with 8 minutes.
- The patient is active in the encounter.
- Require direct one-on-one patient contact by provider of the service.



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- Develop one functional parameter: strength, endurance, range of motion, or flexibility
 - Treadmill for endurance
 - Isokinetic exercise for ROM
 - Lumbar stabilization exercises for flexibility
 - Stability ball to stretch or strengthen



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- Used when multiple parameters are trained including balance, strength, and range of motion.
- Must be related to a functional activity (ADL) with direct functional improvement expected.
- Use Outcomes Assessment Tools.

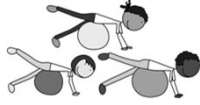


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- Used to describe those activities that affect proprioception:
 - Balance
 - Coordination
 - Kinesthetic sense
 - Posture
- 3rd Party Payers often interpret as Upper Motor Neuron Rehab.



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