THORACOLUMBAR STRAIN/SPRAIN

Evaluation

MYOFASCIAL PAIN
WEEK ONE

MOI: Lifting injury.

PAIN: Localized to thoraco-lumbar muscles with referred pain on palpation of trigger points.

POSTURE: Patient finds relief in forward flexed position.

AROM: Decreased lumbar motion in all planes secondary to symptoms with active movement.

PROM: Hypomobility at level of injury secondary to muscle guarding and pain.

FLEXIBILITY: Tight hip flexor, hamstrings, and thoracolumbar paraspinal muscles.

PALPATION: Point tenderness at level of injury/over trigger points.

FACET SYNDROME
WEEK ONE

MOI: Rotation, flexion injury secondary to non-coupled movement.

PAIN: Local muscle guarding.

POSTURE: Lateral shift away from injury and forward flexed position is more comfortable.

AROM: Thoracolumbar extension and rotation to side of injury is limited. Positive Quadrant test.

PROM: Suggest intervertebral testing in sidelying, flexed position. Possible prominence of transverse process if vertebra rotated.

FLEXIBILITY: Tight hip flexors.

NEURO: Myotomes, dermatomes, DTR's SLR

PALPATION: Point tenderness at level of injury.

Education

- Avoid extension and rotation for facet syndrome if painful.
- Understand lumbar neutral spine in supine and standing. Avoid prone sleeping postures. For myofascial syndromes, educate in stretching and strengthening exercises
- Decrease muscle guarding with modalities as indicated.
- Discourage self-mobilization of spine and advocate trunk stability.
- Decrease ADL activity/lifting, and demonstrate neutral spine and mechanics for necessary lifting. For facet syndrome, provide unilateral stretches or met's to facilitate vertebral alignment/facet symmetry.

Treatment

Manual therapy: Eventually, muscle guarding resolves via myofascial treatment and rest. Consider gentle grade I-II thoracolumbar flexion and rotation to opposite side of injury. Manual traction may assist in unloading facet joint.

Flexibility: Gentle hip flexor stretch, hamstrings and deep hip external rotators stretch.

Strength: Begin flexion biased lumbar stabilization with transverse, rectus abdominus and multifidus emphasis.

Endurance: Initiate walking on treadmill with grade, initiate cardiovascular program with flexion bias.

Aquatics: Unloading techniques, flexibility and core stabilization work.

Pain: Modalities, and myofascial techniques to decrease muscle guarding. Support NSAID and Physician.

Goals

- Avoidance of extension activities for facet dysfunction
- Understanding of thoraco-lumbar neutral spine.
- Independence with home pain management.
- Independence with HEP and walking program.

THORACOLUMBAR STRAIN/SPRAIN

	TWO TO FOUR WEEKS	WEEK FIVE TO DISCHARGE
Evaluation	• Assess PROM/ passive inter-vertebral joint mobility at levels surrounding the injury level and at injury level if local muscle guarding and pain decreased. Compensatory hypomobility at injury level may persist but underlying inter-vertebral hypermobility needs to be addressed with core strengthening. • AROM less guarded and minimally restricted. • Myofascial component and palpable tenderness decreased. • Review ability to acquire and hold neutral lumbar spine in all positions, ie) supine, sit and stand. • Review compliance with home exercise and stretching program.	• Return to work or recreation plan. Contact employer, case worker, or trainer as indicated. • Demonstrate neutral spine with trunk strength engaged throughout all straight plane, trunk stabilization therapeutic exercises. • Demonstrate a full squat maintaining a neutral spine without loss of balance and/or demonstrate a single knee with same neutral spine postures • No active signs of apprehension with rotation and forward bending. • Lower extremity flexibility limitations. • Lifting tolerance.
Education	• Avoid thoracolumbar extension exercises and activities as well as sleeping postures in prone. • Understand lumbar neutral spine in both static and dynamic postures. • Discourage self-mobilization of spine and advocate trunk stability. • Body mechanics for ADL's and minor lifting. • Begin walking program for endurance.	• Avoid twisting and rotation when loading spine. •. Discourage self-mobilization of spine and advocate trunk stability. Encourage home met/stretching program to maintain proper facet motion. • Body mechanics for lifting greater than 5-10 lbs. • Emphasis on keeping established core strength and bridging the patient to continued success in their exercise/hobbies through positive reinforcement.
Treatment	**Manual Therapy:** Thoracolumbar grade I-III inter-vertebral joint mobilization in flexion, rotation and the combination of the two if restrictions remain. **Strength:** Lumbar stabilization in supine on dynamic surfaces. Progress strengthening from supine to standing. Use unloading techniques while strengthening and slowly add thoracolumbar motion that is not flexion biased. If stable on static surfaces, add dynamic levels to straight plane exercises. **Flexibility:** Pt should be independent with HEP. Treat deficits and residual muscle tightness. **Endurance:** Walking or biking program 10-30 minutes outside of formal P.T. treatment. **Aquatics:** Progress to deep-water exercises and increase resistance in shallow water exercises.	**Manual Therapy:** Treat any joint restrictions remaining with grade I-IV joint mobilization. Referral to manual medicine physician if grade V joint mobilization indicated. **Strength:** Progress to PNF thoracic and upper extremity diagonals. Progress toward multiplane exercises as tolerated. Decrease limits of stability with unsupported positions of exercise. Maximum multifdus and transverse abdominus strength achieved. **Aquatics:** Rotational component to core stabilization introduced in both deep and shallow water if tolerated. **Endurance:** Cardiovascular activity at least three times per week for 20-30 minutes as tolerated. **ADL/WORK:** Simulate lifting and endurance type activity needed for work and recreation.
Goals	• Neutral spine in all positions • Independent with body mechanics for lifting and restrictions of activity until core strength obtained. • Establish return to work plan or return to recreation plan. • Independent with home walking and HEP including self management techniques for myofascial trigger points. • Demonstrate reversal of lordosis with forward bend.	• Discuss return to work and/or return to recreational activity. • Demonstrate full reversal of lordosis fingertips to lower shin or the floor. • Patient to resist standing rotational perturbations to test multifidus. • Achieve fifty modified abdominal curls if tolerated. • Independent with home walking exercise program • Progressive return to work. • Appropriate referral outside realm of P.T. if necessary.