Physical Therapy Prescriptions for Musculoskeletal Disorders

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For Ana and Mila

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—Evan Chait

CONTENTS

PART 1

CERVICAL DISORDERS

CASE 1

MYOFASCIAL NECK PAIN

CC: Neck pain

HPI: Ms. P is 36 years old and presents with 4 months of axial neck and bilateral trapezius pain. She says the pain does not travel into her shoulders or arms, and she denies any numbness, tingling, burning, or weakness. The pain is present all the time and worse toward the end of the day. On a scale of 0 to 10 (with 0 being no pain and 10 being unbearable pain), she says the pain is 4 at present and can get as bad as 7 or 8 at the end of the day. Ms. P works as an administrator and spends lots of time in front of her computer and on the phone. She has not had a formal ergonomic evaluation at work but says she does use a headset.

This is the first time that Ms. P is coming to the doctor for this problem. She has not had any imaging studies and has not been to physical therapy. She occasionally takes Advil for the pain and finds this mildly helpful.

PMHx: None

PSHx: None

Meds: Advil prn; oral contraceptives

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAM

Ms. P is a well-developed, well-nourished female NAD who looks her stated age. BP: 116/68, P: 72, RR: 14. She has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in her upper extremities bilaterally. She has full range of motion of her neck, with pain at the end range of motion in all directions except flexion. Her cervical paraspinals, trapezius, and rhomboids are tight and tender bilaterally. No specific trigger points are identifiable. 2+ distal pulses are palpated bilaterally.

Impression

Myofascial neck pain

Plan

1. X-rays to rule out any underlying structural abnormality
2. Physical therapy

PHYSICAL THERAPY

The patient is a 36-year-old female referred to physical therapy for the treatment of myofascial neck pain that started 4 months ago with an insidious onset. No radicular symptoms are noted.
PMHx: as above
Diagnostics: as above
Meds: as above
Occupation: administrator
Pain scale: 4–7–8/10 pain
Increase pain: prolonged sitting >20 minutes; C/S rotation; C/S extension; stress; carrying anything >10 lb; cold drafts
Decrease pain: hot showers; walking

Range of Motion

Cervical spine
R rotation: WNL pain at end range
L rotation: WNL pain at end range
Extension: WNL pain at end range
Flexion: WNL
R sidebending: 50% limited with tightness
L sidebending: 50% limited with tightness

*Assisted shoulder shrug decreased pain and tightness and normalized sidebending

Thoracic spine
Hyperkyphotic position note
Decreased T/S reversal with wall arm raise
Decreased T/S rotation with pectoralis major restriction

Joint play
Thoracic spine: T7/6/5 2/6 with firm end feel
Special tests
Spurling test +
Compression test +
Manual muscle testing
Bilateral mid trapezius—4–/5
Tight tender points/soft tissue restrictions
Bilateral upper trapezius—trigger points
Bilateral levator scapulae—trigger points
Bilateral serrratus posterior superior and spinalis thoracis/longissimus thoracis—myofascial adhesions
Bilateral pectoralis major—myofascial restriction
Ergonomics
Poor ergonomics noted

ASSESSMENT

The patient presents with significant myofascial restrictions located in the serratus posterior superior and pectoralis major and trigger points in upper trapezius and levator scapulae. Poor ergonomics and poor-fair thoracic mobility are contributing to the patient's pain patterns. Pectoralis major restrictions combined with decreased T/S rotation are limiting T/S reversal.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 1.1A. Tennis ball roll: bilateral upper/mid trapezius.

(*continued*)

Self–Myofascial Release (*continued*)

FIGURE 1.1B. Foam roll: perpendicular from T5-7.

Corrective Flexibility

FIGURE 1.2A. Static: bilateral upper trapezius.

FIGURE 1.2B. Static: bilateral levator scapulae.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 1.2C. Static: sideline T/S rotation with pectoralis major bilateral.

FIGURE 1.2D. Active: standing pectoralis major with T/S rotation/split stance position.

Corrective Exercise

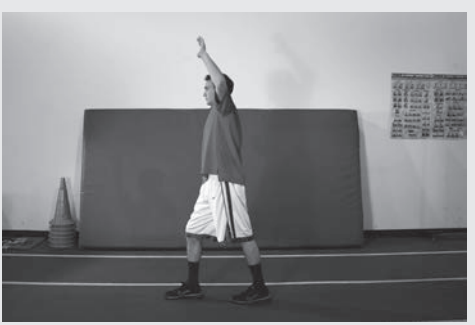
FIGURE 1.3A. Pull: parallel stance/theraband/total body rotation.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 1.3B. Pull: split stance/theraband/two arms.

FIGURE 1.3C. Walk matrix.



(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: bilateral upper/mid trapezius; levator scapulae; posterior elements from C1-T1
2. Inhibitory technique: bilateral upper trapezius/suboccipitals
3. Elongation technique: bilateral levator scapulae; serratus posterior superior and T/S erectors
4. Static stretch: T/S rotation with pectoralis major in sideline
5. PA mobilizations to T5-7

Modalities: prn

1. Moist heat
2. Continuous US

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PATIENT: Ms. P
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Myofascial Neck Pain
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP____ DBP____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: 1.2 W/CM2 x 7 Min to cervical paraspinals B/L
☐ E-STIM TO: X 7 min to cervical paraspinals
B/L _____

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____

☐ ICE TO: 10 min to cervical paraspinals
B/L _____

☐ HOTPACKS TO: 10 min to cervical paraspinals B/L
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: _____

☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: _____

☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATIONa

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT
TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: Cervicalparaspinals

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☒ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1
HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____
_____

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☐ decrease pain, ☐ improve strength/endurance, ☐ improve balance coordination, ☐ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 2

CERVICAL RADICULITIS

CC: Neck and right arm pain

HPI: Mr. X is a 53-year-old investment banker who complains of 4 weeks of neck pain. In the last 2 weeks, the pain has started radiating down his arm. The pain radiates down the posterior upper arm and travels into the hand. He denies any numbness, tingling, or burning. He has been taking 400 mg of Ibuprofen every 6 hours for 3 days and says he feels "a little better." The pain is rated as 4/10 intensity on average. It is worse when he uses the phone. He has not had any imaging studies and has not gone to physical therapy.

PMHx: HTN

PSHx: Appendectomy; R knee meniscectomy

Meds: Advil prn; HCTZ

Allergies: Sulfa gives him a rash

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. X is a well-developed man who looks younger than his stated age. BP: 128/78, P: 80, RR: 14. He has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in his upper extremities bilaterally. His cervical paraspinals, trapezius, and rhomboids are tight and tender bilaterally; right greater than left. No specific trigger points are identifiable. He has full range of motion of his neck,

with pain at the end range of bilateral rotation and lateral flexion. He has a positive Spurling's on the right that reproduces his arm symptoms. 2+ distal pulses are palpated bilaterally.

Impression

Right cervical radiculitis

Plan

1. X-rays to rule out any underlying structural abnormality.
2. Instruction to start using a headset instead of cradling his phone inbetween his ear and shoulder.
3. Physical therapy.
4. Meloxicam 15 mg PO daily #14

PHYSICAL THERAPY

The patient is a 53-year-old male who complains of neck pain that started 4 weeks ago. In the last 2 weeks, the pain has started radiating down the posterior aspect of the arm into the hand.

PMHx: as above

Diagnostics: as above

Meds: as above

Occupation: investment banker

Pain scale: 4/10 pain

Increase pain: talking on the phone; prolonged sitting >30 minutes; C/S rotation right great than left; C/S extension; stress; carrying anything >10 lb; cold drafts

Decrease pain: hot showers; rotating his head left with C/S flexion

Range of Motion

Cervical spine
R rotation: WNL pain with symptoms into the right hand
L rotation: WNL
Extension: WNL pain with symptoms into the right hand
Flexion: WNL
R sidebending: 50% limited with pain and symptoms into the right hand
L sidebending: WNL
Thoracic spine
Hyperkyphotic position note
Normal T/S reversal with wall arm raise noted
Joint play
Thoracic spine: WNL
C/S spine: WNL

Special tests
Spurling's +
C/S distraction decreased symptoms
Scalene compression –
Manual muscle testing
WNL
Neurodynamic assessment
Radial nerve glide diminished
Tight tender points/soft tissue restrictions
Bilateral upper trapezius—trigger points
Right levator scapulae—trigger points
Right serratus posterior superior and spinalis thoracis/longissimus thoracis—myofascial adhesions
Right longus capitis—myofascial adhesions
Ergonomics
Poor ergonomics noted

ASSESSMENT

The patient presents with right side facet joint inflammation that compresses the posterior cord of the brachial plexus with right cervical rotation, right sidebending, and during the Spurling test. C/S traction decreases the symptoms. Myofascial restrictions located in the right serratus posterior superior and right longus capitis and trigger points in bilateral upper trapezius and right levator scapulae. Poor ergonomics and diminished neurodynamic capabilities noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 2.1A. Tennis ball roll: bilateral upper/levator scapulae.

Corrective Flexibility

FIGURE 2.2A. Static: right upper trapezius.

FIGURE 2.2B. Static: right levator scapulae.

FIGURE 2.2C. Neurodynamic: right radial nerve.

Corrective Exercise

FIGURE 2.3A. Pull: parallel stance/theraband/total body rotation.

FIGURE 2.3B. Pull: split stance/theraband/two arms.

FIGURE 2.3C. Walk matrix.

(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: bilateral upper/mid trapezius; levator scapulae; posterior elements from C1-T1
2. Inhibitory technique: bilateral upper trapezius/suboccipitals
3. Elongation technique: right levator scapulae; serratus posterior superior and T/S erectors; longus capitis
4. Neuromobilization: right radial nerve
5. C/S traction (manual or mechanical)

Modalities: prn

1. Moist heat
2. US pulsed

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PATIENT: Ms. X
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Cervical radiculitis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☐ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☒ CARDIAC MAX-SBP 20 DBP 10 HR 30
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: 1.2 W/CM2 x 7 Min to cervical paraspinals B/L
☐ E-STIM TO: X 7 min to cervical paraspinals
B/L _____

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____

☐ ICE TO: 10 min to cervical paraspinals
B/L _____

☐ HOTPACKS TO: 10 min to cervical paraspinals B/L
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: _____

☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: _____

☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT
TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: Cervicalparaspinals

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1
HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 3

WHIPLASH INJURY

CC: Neck pain

HPI: Ms. L is 44 years old and has had neck pain for the last 3 months ever since being involved in a motor vehicle accident in which she was a driver of a car that was rear-ended at a stop light. She had gone to the emergency room and the x-rays of her neck and thoracic spine at that time were normal, per the patient. She does not have her x-rays with her and says it would be difficult to get them because the accident occurred out of state and she does not want to go back there. Ms. L felt okay the day after the injury but subsequently developed axial neck pain that occasionally travels into the top of her head. She denies any radiating symptoms to her upper extremities. She denies any numbness, tingling, burning, or weakness. The pain sometimes keeps her awake at night when her neck goes into spasms. She rates the pain as 3/10 at its best and 7/10 at its worst.

PMHx: None

PSHx: Laparoscopic cholecystectomy

Meds: Advil prn

Allergies: NKDA

Social: No tobacco; no EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. L is an overweight woman who appears her stated age. BP: 118/60, P: 70, RR: 15. She has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in her upper extremities bilaterally. Her cervical paraspinals, trapezius, and rhomboids are tight and tender bilaterally; left greater than right. No specific trigger points are identifiable. She has full range of motion of her neck. She has pain when extending her neck and with oblique extension to the left. Spurling's is negative. 2+ distal pulses are palpated bilaterally.

Impression

Whiplash syndrome with likely z-joint pain.

Plan

1. X-rays to evaluate the facets.
2. Physical therapy.
3. Flexeril 5 mg PO bedtime prn #30

PHYSICAL THERAPY

The patient is a 44-year-old female who presents with axial neck pain that started 3 months ago following an MVA. She was hit from behind. The patient has had no physical therapy treatment previously and was referred to physical therapy to treat whiplash. Pain is constant.

PMHx: as above

Diagnostics: as above

Meds: as above

Occupation: housewife

Pain scale: 3/10 pain at rest up to 7/10

Increase pain: pain is constant; C/S rotation; driving; carrying daughter

Decrease pain: ice; muscle relaxers

Range of Motion

Cervical spine

R rotation: WNL with apprehension and pain
L rotation: WNL with apprehension and pain
Extension: WNL with apprehension and pain
Flexion: WNL with apprehension and pain
R sidebending: 75% limited with apprehension and pain
L sidebending: 75% limited with apprehension and pain

Thoracic spine

WNL

Joint play
C2/3-2/6 bilateral
C3/4-2/6 bilateral
Special tests
Spurling's –
Vertebral artery test –
Alar ligament test –
Manual muscle testing
WNL
Neurodynamic assessment
Great occipital nerve entrapment noted at the superior nuchal line of the upper trapezius attachment. Referral to forehead.
Tight tender points/soft tissue restrictions
Bilateral upper trapezius—trigger points
Bilateral levator scapulae—trigger points
Bilateral longus coli—trigger points
Bilateral rectus capitis major/minor and superior/inferior obliquus capitis—trigger points
Bilateral longus capitis—myofascial adhesions
Bilateral scalenes—myofascial adhesions
Ergonomics
WNL

ASSESSMENT

The patient presents with significant soft tissue restrictions in the bilateral longus coli, suboccipitals, and scalenes. Joint restrictions are noted at the upper cervicals from C2-4 secondary to soft tissue restrictions. Trigger points found in the upper trapezius and suboccipitals referred a headache to the forehead along with greater occipital nerve entrapment where the upper trapezius attaches to the superior nuchal line.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self Myofascial Release

FIGURE 3.1. Tennis ball roll: bilateral upper/levator scapulae.

Corrective Flexibility

FIGURE 3.2A. Static: bilateral upper trapezius.

FIGURE 3.2B. Static: bilateral levator scapulae.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 3.2C. Static: bilateral scalenes.

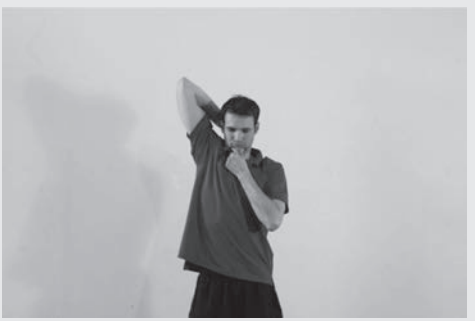


FIGURE 3.2D. Static: bilateral suboccipitals.

Corrective Exercise

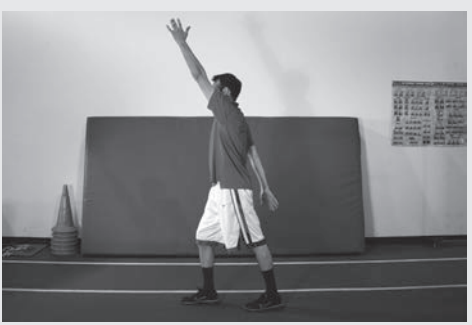
FIGURE 3.3A. Pull: parallel stance/theraband/total body rotation.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 3.3B. Pull: split stance/theraband/two arms.

FIGURE 3.3C. Walk matrix.



(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: bilateral upper/mid trapezius; levator scapulae; posterior elements from C1-T1
2. Inhibitory technique: bilateral upper trapezius/suboccipitals/longus coli

3. Elongation technique: bilateral upper trapezius; longus coli; longus capitis
4. Neuromobilization: bilateral greater occipital nerve at superior nuchal line

Modalities: prn

1. Ice pack
2. US pulsed

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Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: MS. L
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Whiplash syndrome
ICD _____

DIAGNOSIS2 Neck pain
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP____ DBP____ HR____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: 1.2 W/CM2 x 7 Min to cervical paraspinals B/L
☐ E-STIM TO: X 7 min to cervical paraspinals
B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to cervical paraspinals
B/L _____
☐ HOTPACKS TO: 10 min to cervical paraspinals B/L
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: _____
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: _____
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT
TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☐ SPRAY/STRETCH
TO: Cervicalparaspinals

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1
HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 4

CHRONIC NECK PAIN

CC: Neck pain

HPI: Ms. J is 82 years old and has had neck pain for over 20 years. The pain does not radiate down her arms. She denies any numbness, tingling, burning, or weakness. She denies any trauma. Several years ago, she went to physical therapy for a few weeks and felt a little better but never learned her home exercise program and does not exercise at home. She presents today because, she says, the pain has gotten somewhat worse and she figured it was time to do something about it. She has not had any imaging studies in the last several years. She takes Tylenol prn for pain, which helps a little. The pain is rated as 4/10 intensity.

PMHx: HTN, high cholesterol, DM type II

PSHx: Cataract surgery

Meds: Toprol, Crestor, Glucophage, Tylenol prn

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. J is a well-developed woman who looks her stated age. BP: 144/88, P: 73, RR: 14. She has a kyphotic posture and 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in her upper extremities bilaterally. Her cervical paraspinals are tender bilaterally. A trigger point is elicited in the right trapezius that refers

pain to the head. She has a negative Spurling's bilaterally. Her neck pain is worse with extension. She has slightly decreased range of motion of the neck in lateral flexion and rotation. 2+ distal pulses are palpated bilaterally.

Impression

Chronic neck pain, likely secondary to z-joint arthritis

Plan

1. X-rays to evaluate the facet joints
2. Physical therapy

PHYSICAL THERAPY

The patient is an 82-year-old female who presents with chronic neck pain that started over 20 years ago. Pain is from an insidious onset. Recently, the patient saw her medical doctor who referred her to physical therapy with a diagnosis of osteoarthritis in the cervical spine.
Scale: 4/10 pain
Increase pain: C/S extension; C/S rotation; C/S sidebending; prolonged sitting; cold weather
Decrease pain: warm weather; after showering; walking

Range of Motion

Cervical spine
R rotation: 50% limited
L rotation: 50% limited
Extension: 75% limited with pain
Flexion: WNL with upper trapezius tightness
R sidebending: 75% limited
L sidebending: 75% limited
Thoracic spine
R rotation 50% limited no pectoralis
L rotation 50% limited no pectoralis
Hyperkyphosis
Joint play
2/6 bilateral all C/S segments
2/6 T3-6
Special tests
Spurling's –
Compression test –
Wall shoulder flexion test + (decreased T/S reversal)
Manual muscle testing
Middle trapezius bilateral 4/5
Rhomboids bilateral 3/5
Neurodynamic assessment
None

Tight tender points/soft tissue restrictions
Bilateral upper trapezius—trigger points
Bilateral mid trapezius—trigger points
Bilateral longus coli—trigger points
Bilateral spinalis thoracis; iliocostalis thoracis; longissumus thoracis
Bilateral scalenes—myofascial adhesions
Ergonomics
Poor

ASSESSMENT

The patient presents with significant soft tissue restrictions in the bilateral longus coli, mid trapezius, upper trapezius, thoracic erectors, and scalenes. Joint restrictions are noted in C1-7 and poor T/S reversal and T/S rotation. Muscle weakness noted in bilateral middle trapezius and rhomboids of 4/5.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 4.1. Tennis ball roll: bilateral upper/middle trapezius (against wall).

Corrective Flexibility

FIGURE 4.2A. Static: bilateral upper trapezius.

FIGURE 4.2B. Static: bilateral levator scapulae.

FIGURE 4.2C. Static: bilateral scalenes.

FIGURE 4.2D. Active: T/S rotation (against wall) no pectoralis major.

Corrective Exercise

FIGURE 4.3A. Pull: parallel stance/theraband/total body rotation.

FIGURE 4.3B. Pull: split stance/theraband/two arms.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 4.3C. Shoulder matrix.

(*continued*)

Corrective Exercise (*continued*)

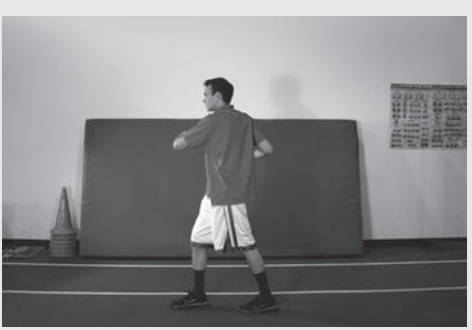

FIGURE 4.3D. Walk matrix.

(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: bilateral upper/mid trapezius; levator scapulae; posterior elements from C1-T1
2. Inhibitory technique: bilateral upper trapezius/suboccipitals/middle trapezius
3. Elongation technique: bilateral upper trapezius
4. Joint mobilization techniques: T3-6 (Grade 1–3 PA mobilization)

Modalities: prn

1. Hot pack
2. US continuous

Home Exercise Program

1. Flexibility as above
2. Moist heat

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
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PATIENT: MS. J
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Z-joint arthritis
ICD

DIAGNOSIS2 Neck Pain
ICD

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: HTN, DM

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☒ CARDIAC MAX-SBP 20 DBP 10 HR 20
ABOVE BASELINE ☒ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: 1.2 W/CM2 x 7 Min to cervical paraspinals B/L
☐ E-STIM TO: X 7 min to cervical paraspinals
B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:

☐ ICE TO: 10 min to cervical paraspinals
B/L

☐ HOTPACKS TO: 10 min to cervical paraspinals B/L
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO:

☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L UE

☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☐ CONTRACT RELAX ☐ CRANIOSACRAL ☐ JONES/C-STRAIN ☐ SOFT TISSUE MOBILIZATION
☐ STRETCHING ☐ MASSAGE ☐ MYOF AS RELEASE ☐ SPRAY/STRETCH
TO: Cervical paraspinals

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER:

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait, ☐ improve transfers,
Other

PHYSICIAN'S SIGNATURE DATE

PART 2

SHOULDER

CASE 5

ROTATOR CUFF TENDONITIS

Mr. F is 28 and has had left anterior shoulder pain for 3 weeks. He is a social studies teacher in an elementary school and enjoys lifting weights. He goes to the gym five times a week but recently has developed shoulder pain when doing military press. In the last few days, he experienced a sharp twinge in his shoulder when doing overhead activities such as reaching for a glass or brushing his hair. He denies any neck pain or symptoms radiating into his arm. No numbness, tingling, or burning. He has not taken any medications for this pain. He rates the pain as 4/10 intensity at its worst (such as when doing military press) and 1/10 when at rest.

PMHx: None

PSHx: Left knee meniscus repair

Meds: None

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. F is a well-developed, athletic male who looks his stated age. BP: 122/70, P: 64, RR: 12. He has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in his upper extremities bilaterally. Left glenohumeral external rotation is painful for him to perform, but he is able to do it. He has a positive Hawkin sign on the left, positive Neer's on the left, positive empty can on the left, negative

O'Brien test, apprehension test, and cross arm test. The right shoulder exam is normal. There is no scapular winging bilaterally. 2+ distal pulses are palpated bilaterally.

Impression

Left shoulder rotator cuff impingement syndrome

Plan

1. X-rays of left shoulder
2. Physical therapy.

PHYSICAL THERAPY

The patient is a 28-year-old male who presents with left shoulder pain that started 3 weeks ago. The pain began while lifting weights overhead, using the military press. No presentations of symptoms down the left arm.
Scale: 4/10 pain with overhead activities, 1/10 at rest
Increase pain: overhead activities; brushing hair; sleeping on the left shoulder; reaching in the cupboard.
Decrease pain: rest; ice

Range of Motion

Glenohumeral joint
Active
Flexion: 130 degrees with pain
Abduction: 120 degrees with pain
IR: 35 degrees
ER: 20 degrees with pain
Passive
Flexion: 145 degrees
Abduction: 135 degrees with pain
IR: 40 degrees
ER: 25 degrees with pain
Thoracic spine
R rotation 100% limited with pectoralis
L rotation 75% limited with pectoralis
Hyperkyphosis
Joint play
Left GH 2/6 joint capsule
T/S T4-7 2/6
Special tests
Neer's +
Hawkin's +
Empty can +
Wall shoulder flexion test + (decreased T/S reversal)
Manual muscle testing
L teres minor 4–/5 with pain

L infraspinatus 4–/5 with pain
L supraspinatus 4–/5 with pain
B middle trapezius 4/5
Neurodynamic assessment
None
Tight tender points/soft tissue restrictions
Left upper trapezius—trigger points
Left mid trapezius—trigger points
Left teres minor/infraspinatus—trigger points
Bilateral spinalis thoracis; iliocostalis thoracis; longissumus thoracis—trigger points
Left subscapularis—myofascial adhesions
Ergonomics
WNL

ASSESSMENT

The patient presents with poor glenohumeral biomechanics secondary to altered force couple relationships between the subscapularis and teres minor/infraspinatus complex. Contributing to the poor glenohumeral biomechanics is the inability for the thoracic spine to reverse itself and rotation of the thoracic spine to the left.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 5.1A. Tennis ball roll: left posterior rotator cuff (on floor).

(*continued*)

Self–Myofascial Release (*continued*)

FIGURE 5.1B. Tennis ball roll: left middle trapezius.

FIGURE 5.1C. Foam roll: T/S perpendicular.

Corrective Flexibility

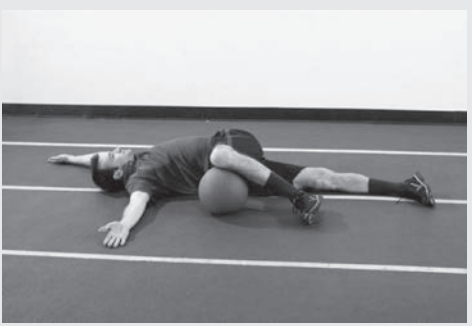

FIGURE 5.2A. Static: left T/S rotation/sideline/with pectoralis.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 5.2B. Active: left T/S rotation/sideline/with pectoralis.

Corrective Exercise

FIGURE 5.3A. Gradient isometric: ER 6 × 6 (gradually increase the isometric contraction).

FIGURE 5.3B. ER: sideline/DB.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 5.3C. ER: TB/parallel stance/SHARC technique (short fast external rotation).

FIGURE 5.3D. Shoulder matrix: DB.

Manual Therapy

1. Warming technique: left upper/mid trapezius; left posterior cuff
2. Inhibitory technique: bilateral upper trapezius/middle trapezius
3. Elongation technique: left subscapularis
4. Activating technique: left teres minor/infraspinatus/middle trapezius
5. Joint mobilization techniques: T3-6 (Grade 1–5 PA mobilization)

Modalities: prn

1. Ice pack
2. US pulsed

Home Exercise Program

1. Tennis ball roll: posterior rotator cuff

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PATIENT: Mr. F
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Shoulder Impingement Syndrome
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☐ NO PERTINENTMEDICALHISTORY: HTN, DM

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☒ CARDIAC MAX-SBP 20 DBP 10 HR 20
ABOVE BASELINE ☒ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: L shoulder x 7 Min
☐ E-STIM TO: L Shoulder x 7 min B/L

B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to L Shoulder

B/L _____
☐ HOTPACKS TO: 10 min to L Shoulder
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L UE
☒ PRE's ☐ SOMETRICS ☐ SOKINETICS
TO: B/L UE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: _____ UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait, ☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 6

BICEPS TENDONITIS

CC: Shoulder pain

HPI: Mr. R is 72 years old and complains of 4 months of right shoulder pain. He says the pain began gradually and has been getting worse over the last 3 weeks. The pain is located in the anterior shoulder. He denies any neck pain or radiating symptoms. He takes Advil once in a while and this helps the symptoms. He rates the pain as 4/10 intensity.

PMHx: High cholesterol, HTN

PSHx: Prostatectomy

Meds: Toprol XL, HCTZ, Lipitor

Allergies: NKDA

Social: He quit smoking 10 years ago; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. R is a well-developed male who looks his stated age. BP: 138/88, P: 60, RR: 14. He has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in his upper extremities bilaterally. He has tenderness over the long head of the right biceps tendon as it passes through the bicipital groove of the humerus. He has a positive right Speed test, negative Hawkin, Neer, and cross arm test and a negative O'Brien test. The left shoulder exam is within normal limits.

There is no scapular winging bilaterally. 2+ distal pulses are palpated bilaterally.

Impression

Right shoulder bicipital tendonitis

Plan

1. X-rays of right shoulder
2. Physical therapy

PHYSICAL THERAPY

The patient is a 72-year-old male who presents with right shoulder pain that started 4 weeks ago. The pain started from an insidious onset. Pain has progressively gotten worse over the past 3 weeks.
Scale: 4/10 constant ache
Increase pain: overhead activities; putting on seat belt; sleeping on the left shoulder; donning/doffing shirts
Decrease pain: meds; heat

Range of Motion

Glenohumeral joint
Active
Flexion: 140 degrees with discomfort
Abduction: 135 degrees with discomfort
IR: 40 degrees
ER: 20 degrees with pain
Passive
Flexion: 150 degrees
Abduction: 145 degrees
IR: 40 degrees
ER: 25 degrees with pain
Thoracic spine
WNL
Joint play
3/6 through out
Special tests
Speed's +
Yergason's +
Neer's –
Hawkin's –
Manual muscle testing
R biceps 4/5 with pain
R infraspinatus 4/5 with pain
Neurodynamic assessment
None

Tight tender points/soft tissue restrictions
Right pectoralis major/minor—trigger points
Right biceps—trigger points
Right infraspinatus—trigger points
Right subscapularis—myofascial adhesions
Right pectoralis major and long head biceps junction—myofascial adhesion
Right latissimus dorsi—myofascial adhesions
Ergonomics
WNL

ASSESSMENT

The patient presents with bicipital tendonitis that was caused by poor glenohumeral biomechanics secondary to altered force couple relationships between the subscapularis and infraspinatus. Myofascial restrictions at the junction of the long head of the biceps and the pectoralis major are limiting the efficacy of the long head to slide in the groove effectively.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

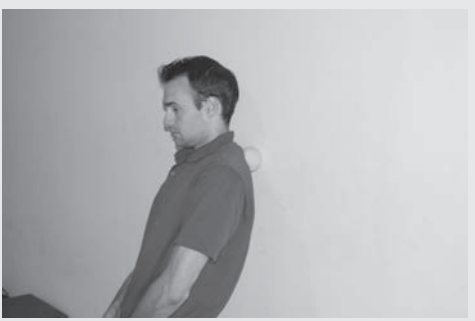

FIGURE 6.1. Tennis ball roll: right posterior rotator cuff (against wall).

Corrective Flexibility

FIGURE 6.2. Static: right latissimus dorsi.

Corrective Exercise

FIGURE 6.3A. Gradient isometric: ER 6 × 6 (gradually increase isometric contraction).

FIGURE 6.3B. ER: sideline/DB.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 6.3C. ER: TB/parallel stance/SHARC technique (short fast ER).

(*continued*)

Corrective Exercise (*continued*)

FIGURE 6.4. Shoulder matrix: DB.

Manual Therapy

1. Warming technique: right pectoralis major/minor; right posterior cuff
2. Inhibitory technique (positional release technique): right subscapularis
3. Elongation technique: right subscapularis/latissimus dorsi
4. Activating technique: right infraspinatus/long head of biceps and pectoralis major junction

Modalities: prn

1. Hot pack
2. US continuous

Home Exercise Program

1. Tennis ball roll: right posterior rotator cuff
2. Static: right latissimus dorsi

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Fax. (666) 666-7777

PATIENT: Mr. R
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Right bicipital tendonitis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: HTN

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☒ CARDIAC MAX-SBP 20 DBP 10 HR 20
ABOVE BASELINE ☒ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: R shoulder x 7 Min
☐ E-STIM TO: R shoulder x 7 min B/L
B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to R shoulder
B/L _____
☐ HOTPACKS TO: 10 min to R shoulder
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L UE
☒ PRE's ☐ SOMETRICS ☐ SOKINETICS
TO: B/L UE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☐ JONES/C-STRAIN ☐ SOFT TISSUE MOBILIZATION
☐ STRETCHING ☐ MASSAGE ☐ MYOF AS RELEASE ☐ SPRAY/STRETCH
TO: _____ Cervicalparaspinals

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 7

LEFT AC JOINT ARTHRITIS

CC: Left shoulder pain

HPI: Mr. Z is 43 years old and complains of left shoulder pain. The pain is a dull ache and has been present for about 2 months. It began gradually and has gotten worse. When Mr. Z points to the pain, he points to his AC joint. The pain is worse with carrying heavy loads and doing the bench press in the gym. On average, VAS = 4/10. He denies any numbness, tingling, burning, or weakness. He denies any neck pain or radiating symptoms. He cannot remember having pain like this before, but he does note that he played football in college and was "always getting hurt." He never fractured his collar bone. He takes over-the-counter NSAIDs before going to the gym and says this helps him do his workout with less pain.

PMHx: None

PSHx: Tonsillectomy

Meds: Advil prn

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. Z is a well-developed, athletic male who looks his stated age. BP: 122/70, P: 64, RR: 12. He has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in his upper extremities

bilaterally. Left glenohumeral external rotation is painful for him to perform, but he is able to do it. He has a positive Hawkin sign on the left, positive Neer on the left, positive empty can on the left, negative O'Brien test, apprehension test, and cross arm test. The right shoulder exam is normal. There is no scapular winging bilaterally. 2+ distal pulses are palpated bilaterally.

Impression

Left AC joint arthritis

Plan

1. X-rays of left shoulder
2. Physical therapy

PHYSICAL THERAPY

The patient is a 43-year-old male who presents with left shoulder pain that started 2 weeks ago. The pain has gradually gotten worse and went to his medical doctor. The patient was diagnosed with AC joint arthritis and his physician recommended physical therapy. The patient has a history of trauma to his left shoulder while playing football in college.
Scale: 6–8/10 pain at most and 2/10 at rest
Increase pain: lifting heavy loads; bench pressing; putting on his seat belt
Decrease pain: meds; heat

Range of Motion

Glenohumeral joint
Active
Flexion: 140 degrees with discomfort
Abduction: 135 degrees with discomfort
IR: 40 degrees
ER: 20 degrees with pain
Passive
Flexion: 150 degrees
Abduction: 145 degrees
IR: 40 degrees
ER: 25 degrees with pain
Thoracic spine
WNL
Joint play
3/6 through out
Special tests
Speed's +
Yergason's +
Neer's –
Hawkin's –

Manual muscle testing
R biceps 4/5 with pain
R infraspinatus 4/5 with pain
Neurodynamic assessment
None
Tight tender points/soft tissue restrictions
Right pectoralis major/minor—trigger points
Right biceps—trigger points
Right infraspinatus—trigger points
Right subscapularis—myofascial adhesions
Right pectoralis major and long head biceps junction—myofascial adhesion
Right latissimus dorsi—myofascial adhesions
Ergonomics
WNL

ASSESSMENT

The patient presents with bicipital tendonitis that was caused by poor glenohumeral biomechanics secondary to altered force couple relationships between the subscapularis and infraspinatus. Myofascial restrictions at the junction of the long head of the biceps and the pectoralis major are limiting the efficacy of the long head to slide in the groove effectively.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

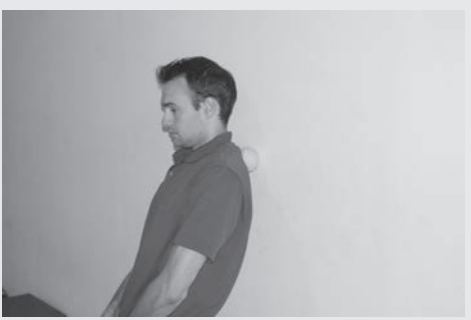

FIGURE 7.1. Tennis ball roll: right posterior rotator cuff (against wall).

Corrective Flexibility

FIGURE 7.2. Static: right latissimus dorsi.

Corrective Exercise

FIGURE 7.3A. Gradient isometric: ER 6 × 6 (gradually increase isometric contraction).

FIGURE 7.3B. ER: sideline/DB.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 7.3C. ER: TB/parallel stance/SHARC technique (short fast ER).

FIGURE 7.3D. Shoulder matrix: DB.

Manual Therapy

1. Warming technique: right pectoralis major/minor; right posterior cuff
2. Inhibitory technique: right subscapularis
3. Elongation technique: right subscapularis/latissimus dorsi
4. Activating technique: right infraspinatus/long head of biceps and pectoralis major junction

Modalities: prn

1. Hot pack
2. US continuous

Home Exercise Program

1. Tennis ball roll: right posterior rotator cuff
2. Static: right latissimus dorsi

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PATIENT: Mr. Z
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 AC joint arthritis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☒ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☒ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: L shoulder x 7 min
☐ E-STIM TO: L shoulder x 7 min B/L
B/L _____

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to L shoulder
B/L _____

☐ HOTPACKS TO: 10 min to L shoulder
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L UE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L UE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait, ☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 8

LABRAL TEAR

CC: Right shoulder pain

HPI: Ms. M is 40 years old and has had shoulder pain for over 6 months. She says the pain began when she fell onto an outstretched arm (after slipping on ice). She never had it looked at by a doctor, but the pain just got better over the course of several weeks. However, it never got completely better and she continues to have a dull ache in the entire right shoulder. She rates the pain as 3/10 intensity. The pain is worse with activities that require any force with her arm (such as shoveling snow and picking up her 7-year-old daughter). She denies any numbness, tingling, or burning. She does not describe any neck pain or radiating symptoms. She does not take any medications for pain.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco; no EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. M is a well-developed female who looks her stated age. BP: 116/80, P: 74, RR: 14. She has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in her upper extremities

bilaterally. Right O'Brien test is positive. Otherwise, she has a negative apprehension test, negative Hawkin, Neer, empty can test, and Speed test on the right. The left shoulder exam is within normal limits. There is no scapular winging bilaterally. 2+ distal pulses are palpated bilaterally.

Impression

Right glenoid labral tear

Plan

1. X-rays of right shoulder
2. Physical therapy

PHYSICAL THERAPY

The patient is a 40-year-old female who presents with right shoulder pain that started 6 months ago after slipping on ice and landing on her outstretched arm. The pain has progressively gotten worse and the patient went to her physician to get it looked at. The pain is a deep dull ache.
Scale: 3/10 pain
Increase pain: lifting loads >15 lb; carrying groceries; pushing shopping cart; carrying her daughter; shoveling snow
Decrease pain: nothing

Range of Motion

Glenohumeral joint
Active
Flexion: 160 degrees with discomfort
Abduction: 150 degrees with discomfort
IR: WNL
ER: WNL with dull ache
Passive
Flexion: 160 degrees
Abduction: 150 degrees
IR: WNL
ER: WNL with dull ache at end range
Thoracic spine
WNL
Joint play
Anterior: empty end feel
Special tests
O'Brien's +
Empty can –
Neer's –
Hawkin's –
Manual muscle testing
R teres minor 4/5
R infraspinatus 4/5

R subscapularis 4/5
R pectoralis major clavicular portion 4/5
Neurodynamic assessment
None
Tight tender points/soft tissue restrictions
Right pectoralis major/minor—trigger points
Right subclavius—trigger points
Right infraspinatus—trigger points
Right teres minor—trigger points
Ergonomics
WNL

ASSESSMENT

The patient presents with right labral tear with weakness of perigleno humeral joint muscles, including teres minor; infraspinatus; subscapularis; and clavicular portion of the pectoralis major. Trigger points noted at right subclavius, infraspinatus; teres minor; and pectoralis major and minor. Joint play of the right anterior joint capsule is empty, with noticeable joint capsular instability.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 8.1. Tennis ball roll: right posterior rotator cuff (floor).

Corrective Flexibility

1. None

Corrective Exercise

FIGURE 8.2A. Gradient isometric: ER 6 × 6 (gradually increase isometric contraction).

FIGURE 8.2B. ER: sideline/DB.

FIGURE 8.2C. ER: TB/parallel stance/SHARC technique (short fast ER).

(*continued*)

Corrective Exercise (*continued*)

FIGURE 8.2D. Pull: split stance/theraband/two arms.

FIGURE 8.2E. Pull: parallel stance/theraband/total body rotation.

Manual Therapy

1. Warming technique: right pectoralis major/minor; right posterior cuff
2. Inhibitory technique: right subscapularis
3. Activating technique: right infraspinatus/teres minor/clavicular portion of the pectoralis major

Modalities: prn

1. NA

Home Exercise Program

1. Tennis ball roll: right posterior rotator cuff
2. Gradient isometric: ER 6 × 6

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PATIENT: Ms. M
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Glenoid labral tear
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: R shoulder x 7 min
☐ E-STIM TO: R shoulder x 7 B/L

B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to R shoulder

B/L _____
☐ HOTPACKS TO: 10 min to R shoulder
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L UE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L UE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☐ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

PART 3

ELBOW

CASE 9

LATERAL EPICONDYLITIS

CC: Right elbow pain

HPI: Mr. B is a 33-year-old male with right elbow pain for the last 2 weeks. He says it began while he was putting together his son's new baby crib and has gotten worse since then. The pain is on the lateral aspect of the elbow. He denies any numbness, tingling, or burning sensation. The pain is worse when using his right upper extremity, such as when shaking hands, throwing a ball or anything else that requires force with his hand. He has not taken any pain medications. On a scale of 0 to 10, he rates the pain, on average, a 4/10.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. B is a well-developed male who looks his stated age. BP: 124/78, P: 62, RR: 14. He has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in his upper extremities bilaterally. He has tenderness over the lateral aspect of the right elbow. He has a positive Cozen, Maudsley, and Mill tests on the right. Examination of his left elbow is within normal limits. 2+ distal pulses are palpated bilaterally.

Impression

Right lateral epicondylitis

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 33-year-old male who presents with right elbow pain that started 2 weeks ago while putting together his son's new baby crib. Pain has been progressing and recently, the patient went to his physician who referred the patient to physical therapy.

Scale: 4/10 pain

Increase pain: lifting loads >10 lb; shaking hands; pouring a glass of milk; carrying anything >10 lb

Decrease pain: rest

Range of Motion

Wrist

Wrist flexion: WNL with lateral elbow discomfort
Wrist extension: WNL
Radial deviation: WNL
Ulna deviation: WNL
Supination: 30 degrees
Pronation: WNL

Elbow

Flexion: WNL
Extension: –5 degrees

Shoulder

Flexion: 140 degrees

Joint play

WNL

Special tests

Cozen's +
Maudsley +
Mill's +

Manual muscle testing

R brachioradialis 4/5 with pain
R extensor carpi radialis longus 4/5 with pain

Neurodynamic assessment

Radial nerve

Tight tender points/soft tissue restrictions

Right pectoralis minor—trigger points
Right subclavius—trigger points
Right brachioradialis—trigger points
Right extensor carpi radialis longus—trigger points
Right pronator teres—myofascial restrictions
Right latissimus dorsi—myofascial restrictions

Ergonomics
WNL

ASSESSMENT

The patient presents with right elbow pain that is indicative of lateral epicondylitis. Muscle weakness of the brachioradialis and extensor carpi radialis longus along with decreased supination from myofascial restrictions noted in the pronator teres are contributing factors to the patient's pain. Both trigger points noted in the pectoralis major and subclavius refer into the right elbow.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self Myofascial Release

1. None

Corrective Flexibility

FIGURE 9.1A. Static: wrist flexion.

FIGURE 9.1B. Neurodynamic: radial nerve stretch.

Corrective Exercise

1. Phase 1: Pain Management Phase—Exercise should be limited secondary to the repetitive trauma of the elbow for the first 2 weeks until pain is resolved.
2. Phase 2: Exercise is slowly introduced.

FIGURE 9.2A. Shoulder matrix.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 9.2B. Pull: split stance/theraband/two arms.

FIGURE 9.2C. Bicep curls: palm up.

FIGURE 9.2D. Bicep curls: palm down.

Manual Therapy

1. Warming technique: brachioradialis; extensor carpi radialis longus; anconeus
2. Inhibitory technique: right brachioradialis; subclavius; pectoralis minor
3. Activation technique: right brachioradialis; extensor carpi radialis longus/brevis
4. Elongation technique: pronator teres

Modalities: prn

1. Ice pack
2. US pulse

Home Exercise Program

1. Neurodynamic: radial nerve
2. Ice

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PATIENT: Mr. B
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Lateral epicondylitis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: R elbow x 7 min
☐ E-STIM TO: R elbow x 7 min B/L

B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to R elbow

B/L _____
☐ HOTPACKS TO: 10 min to R elbow
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L UE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L UE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait, ☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 10

MEDIAL EPICONDYLITIS

CC: Right elbow pain

HPI: Mr. Q is 46 years old and presents with 2 weeks of right medial elbow pain. He works as a plumber and first noticed the pain while at work. Since then, the pain has gotten worse. It does not radiate. He denies any numbness, tingling, or burning. Over the last 2 days, he says that even shaking hands has become painful. He does not take any medications for the pain. The pain is rated as 5/10. This is the first time he is coming to the doctor for this problem.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. Q is a well-developed male who looks his stated age. BP: 130/80, P: 60, RR: 14. He has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in his upper extremities bilaterally. He has tenderness over the medial aspect of the right elbow. Pain is reproduced with resisted wrist flexion. Examination of his left elbow is within normal limits. 2+ distal pulses are palpated bilaterally.

Impression

Right medial epicondylitis

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 46-year-old male who presents with right medial elbow pain that started 2 weeks ago while working as a plumber. Pain has been progressing and recently the patient went to his physician who referred the patient to physical therapy.
Scale: 5/10 pain
Increase pain: lifting loads >15 lb; shaking hands; pouring a glass of milk; carrying anything >10 lb; using a hammer
Decrease pain: rest

Range of Motion

Wrist
Wrist flexion: WNL
Wrist extension: WNL with lateral elbow discomfort
Radial deviation: WNL
Ulna deviation: WNL
Supination: 35 degrees
Pronation: WNL
Elbow
Flexion: WNL
Extension: –5 degrees
Shoulder
WNL
Joint play
WNL
Manual muscle testing
R flexor carpi ulnaris 4/5 with pain
Neurodynamic assessment
Ulnar nerve
Tight tender points/soft tissue restrictions
Right biceps brachii—trigger points
Right brachioradialis—trigger points
Right pronator teres—myofascial restrictions
Right flexor carpi ulnaris—myofascial restrictions
Right medial intermuscular septum—myofascial restrictions
Ergonomics
WNL

ASSESSMENT

The patient presents with right medial elbow pain that is indicative of medial epicondylitis. Muscle weakness and trigger points of the flexor carpi ulnaris, trigger points located in the brachioradialis and biceps, and myofascial restrictions noted in the pronator teres and intermuscular septum are contributing factors of the patient's pain.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

1. None

Corrective Flexibility

FIGURE 10.1. Neurodynamic: ulnar nerve.

Corrective Exercise

1. Phase 1: Pain management phase—exercise should be limited secondary to the repetitive trauma of the elbow for the first 2 weeks until pain is resolved.
2. Phase 2: Exercise is slowly introduced.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 10.2A. Shoulder matrix.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 10.2B. Pull: split stance/theraband/two arms.

FIGURE 10.2C. Bicep curls: palm up.

FIGURE 10.2D. Bicep curls: palm down.

Manual Therapy

1. Warming technique: brachioradialis; flexor carpi ulnaris; wrist flexors; medial intermuscular septum; biceps brachii
2. Inhibitory technique: right brachioradialis; flexor carpi ulnaris; biceps brachii
3. Activation technique: right brachioradialis; flexor carpi ulnaris
4. Elongation technique: pronator teres; flexor carpi ulnaris; biceps brachii

Modalities: prn

1. Ice pack
2. US pulse

Home Exercise Program

1. Neurodynamic: ulnar nerve
2. Ice pack

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PATIENT: Mr. Q
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Medial epicondylitis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: R elbow x 7 Min
☐ E-STIM TO: R elbos x 7 B/L

B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to R elbow

B/L _____
☐ HOTPACKS TO: 10 min to cervical paraspinals B/L
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: _____
☐ XPRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: _____
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT
TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☐ MOBILITY: ☐ TRANSFERS ☐ ADL ☐ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1
HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☐ decrease pain, ☐ improve strength/endurance, ☐ improve balance coordination, ☐ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

PART 4

WRIST AND HAND

CASE 11

CARPAL TUNNEL SYNDROME

CC: Hand numbness and tingling

HPI: Ms. G is a 34-year-old right-handed administrative assistant who complains of numbness and tingling in her right hand, digits one through three. The symptoms are worse when typing at a computer, and sometimes she wakes up at night, at which point she shakes her hand and it feels better. The symptoms have been present, off and on, for 3 months, but have gotten worse in the last month. No neck or arm pain. No weakness.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. G is a well-developed female who looks her stated age. BP: 110/70, P: 60, RR: 14. She has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in her upper extremities bilaterally. She has a positive Phalen test that reproduces her right hand symptoms. She has a positive right carpal compression and Tinel test, both reproducing her symptoms. 2+ distal pulses are palpated bilaterally.

Impression

Right carpal tunnel syndrome

Plan

1. Neutral wrist splint to maintain to be worn at bedtime
2. Vitamin B_6 100 mg PO BID
3. Physical therapy

PHYSICAL THERAPY

The patient is a 34-year-old female who presents with right hand tingling and numbness in her first through third fingers that started 3 months ago. The patient is a right-handed administrative assistant. The patient's symptoms have progressively gotten worse over the past month and she recently went to the physician who referred her to physical therapy.
Scale: 0/10 pain
Increase pain: sleeping at night; typing on the computer
Decrease pain: rest

Range of Motion

Wrist
Wrist flexion: WNL increased tingling and numbness
Wrist extension: 30 degrees
Radial deviation: WNL
Ulna deviation: WNL
Supination: 30 degrees
Pronation: WNL
Elbow
Flexion: WNL
Extension: –5 degrees
Shoulder
WNL
Joint play
WNL
Special tests
Phalen's +
Scalene compression test: + (with referral into first to third digit)
Neurodynamic assessment
Median nerve
Tight tender points/soft tissue restrictions
Right thenar eminence—trigger points
Right subscapularis—trigger points (with referral into first to third digit)
Right pronator teres—myofascial restrictions (with referral into first to third digit)
Right transverse carpal ligament—myofascial restriction
Ergonomics
WNL

ASSESSMENT

The patient presents with right tingling and numbness into the first to third digits that is indicative of carpal tunnel syndrome.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

1. None

Corrective Flexibility

FIGURE 11.1. Neurodynamic: median nerve.

Corrective Exercise

3. Phase 1: Pain management phase—exercise should be limited secondary to the repetitive trauma of the elbow for the first 2 weeks until pain is resolved.
4. Phase 2: Exercise is slowly introduced.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 11.2A. Shoulder matrix.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 11.2B. Pull: split stance/theraband/two arms.

FIGURE 11.2C. Bicep curls: palm up.

FIGURE 11.2D. Bicep curls: palm down.

Manual Therapy

1. Warming technique: brachioradialis; flexor carpi ulnaris; wrist flexors; medial intermuscular septum; biceps brachii
2. Inhibitory technique: right brachioradialis; flexor carpi ulnaris; biceps brachii
3. Activation technique: right brachioradialis; flexor carpi ulnaris
4. Elongation technique: pronator teres; flexor carpi ulnaris; biceps brachii

Modalities: prn

1. Ice pack
2. US pulse

Home Exercise Program

1. Neurodynamic: median nerve
2. Ice pack

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PATIENT: Ms. G
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Carpal Tunnel Syndrome
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: R wrist and hand x 7 min
☐ E-STIM TO: R wrist and hand x 7 B/L

B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to R elbow

B/L _____
☐ HOTPACKS TO: 10 min to R elbow
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L UE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L UE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait, ☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 12

DE QUERVAIN TENOSYNOVITIS

CC: Left wrist pain

HPI: Ms. L is 28 years old and recently gave birth to a healthy baby boy. Her son is now 6 months old. She is doing well except that her left wrist has been hurting for the last 4 months. The pain is on the lateral aspect of her wrist, over the first dorsal compartment of the wrist. No numbness, tingling, or burning. No weakness. No neck pain or radiating symptoms. She has not done anything about the pain. She wanted to come to the doctor sooner but has been too busy with her son and was hoping the pain would just get better. Instead it has gotten worse. She rates the pain as 1/10 when resting but 5/10 when picking up her son, which she naturally has to do a lot. She is breast-feeding and does not want to take any pain medications. She denies any trauma to the wrist or arm.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco. No EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. L is a well-developed female who looks her stated age. BP: 108/64, P: 68, RR: 14. She has 5/5 strength, intact sensation, and 2+ biceps, triceps, and brachioradialis reflexes in her upper extremities

bilaterally. She has a positive left Finkelstein test and tenderness over the first dorsal wrist compartment. No swelling is evident. 2+ distal pulses are palpated bilaterally.

Impression

Right de Quervain tenosynovitis

Plan

1. Thumb spica splint
2. Physical therapy

PHYSICAL THERAPY

The patient is a 28-year-old female who presents with left wrist pain that started 4 months ago. The patient's symptoms have progressively gotten worse over the past month and she recently went to the physician who referred her to physical therapy.
Scale: 1/10 pain at rest to 5/10
Increase pain: when picking up her son; knitting; tying her shoelaces; pouring orange juice in the morning
Decrease pain: rest; ice

Range of Motion

Wrist
Wrist flexion: WNL
Wrist extension: WNL
Radial deviation: WNL
Ulna deviation: WNL with pain
Supination: WNL
Pronation: WNL
Opposition: WNL with pain
Elbow: WNL
Shoulder
WNL
Joint play
WNL
Special tests
Finkelstein +
Manual muscle testing
4/5 brachioradialis with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left brachioradialis—trigger points
Left extensor pollicis longus and abductor pollicis—myofascial restrictions
Ergonomics
WNL

ASSESSMENT

The patient presents with left wrist pain with a positive Finkelstein's, both signs and sx are indicative of de Quervain tenosynovitis, secondary to pattern overload from picking up her son who is an infant. Trigger points and muscle weakness in the brachioradialis are contributing symptoms.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self Myofascial Release

1. None

Corrective Flexibility

1. None

Corrective Exercise

1. Phase 1: Pain Management Phase—Exercise should be limited secondary to the repetitive trauma of the elbow for the first 2 weeks until pain is resolved.
2. Phase 2: Exercise is slowly introduced.

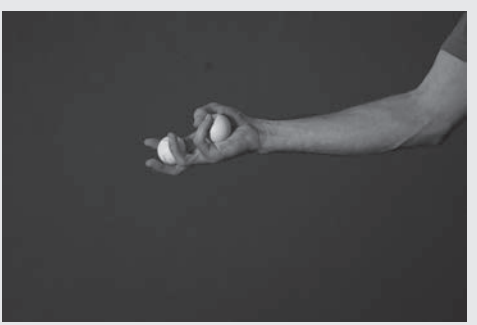

FIG. 12.1A. Golf ball rolling.

(*continued*)

Corrective Exercise (*continued*)

FIG. 12.1B. Thera-puddy squeeze.

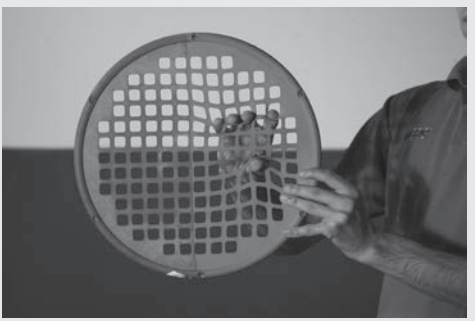

FIG. 12.1C. Thera-web squeeze.

FIG. 12.1D. Pull: split stance/ theraband/two arms.

FIG. 12.1E. Hammer curls (bicep curl with thumb up).

Manual Therapy

1. Warming technique: left brachioradialis; wrist extensors; wrist flexors; extensor pollicis longus; abductor pollicis
2. Inhibitory technique: left brachioradialis
3. Activation technique: left brachioradialis
4. Elongation technique: extensor pollicis longus; abductor pollicis

Modalities: prn

1. Ice pack
2. US pulse

Home Exercise Program

1. Ice pack: as needed

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Ms. L
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Carpal Tunnel Syndrome
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: R wrist and hand x 7 min
☐ E-STIM TO: R wrist and hand x 7 min B/L

B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to R elbow

B/L _____
☐ HOTPACKS TO: 10 min to R elbow
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L UE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L UE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait, ☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

PART 5

THORACIC PAIN

CASE 13

MID BACK MYOFASCIAL PAIN

CC: Upper back pain

HPI: Ms. L is a 38-year-old office administrator who complains of constant mid back pain for the last 2 years. She says that the pain began gradually and has been getting worse. It is particularly bad at work. It gets somewhat better over the weekend but then starts up again on Monday. She does not believe that it is stress-related, exactly, but sitting still at the desk all day exacerbates the pain. During the weekend, she is outside with her kids and moving around. During the week, the pain is worse when at her desk. She tries to get up and move around while at work but it does not help. No radiation of symptoms into the upper or lower extremities bilaterally. No numbness or tingling. The pain is described as "deep and achy."

PMHx: Depression

PSHx: Appendectomy

Meds: Paxil, Advil prn

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. L is an overweight female who looks her stated age. BP: 142/90, P: 72, RR: 14. Pain is present with trunk flexion and extension. She has 5/5 strength, intact sensation, and 2+ biceps, triceps,

brachioradialis, patella, and Achilles reflexes bilaterally. No pathologic reflexes are elicited. Tenderness is noted along the paraspinals from T4 to T12 bilaterally. No specific trigger points are elicited. No bony tenderness is found. 2+ distal pulses are palpated bilaterally.

Impression

Myofascial thoracic pain

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 38-years-old female who presents with mid back pain that started 2 years ago. The pain has progressively gotten worse over time and currently presenting as a deep ache. Recently, the patient went to the physician who referred the patient to physical therapy.

Scale: 6–7/10

Increase pain: prolonged sitting >20 minutes; working; driving; forward and backward bending

Decrease pain: lying supine

Range of Motion

Thoracic spine

T/S rotation left: 75% limited

T/S rotation right: 75% limited

T/S flexion: WNL

T/S extension: 75% limited

Shoulder

Shoulder flexion right: 130 degrees

Shoulder flexion left: 130 degrees

Joint play

T/S 2/6

Special tests

T/S reversal against wall +

Manual muscle testing

4/5 bilateral rhomboids

Neurodynamic assessment

WNL

Tight tender points/soft tissue restrictions

Bilateral spinalis/iliocostalis/longissimus thoracic; rhomboids—trigger points

Bilateral latissimus dorsi; pectoralis major—myofascial restrictions

Ergonomics

Poor

ASSESSMENT

The patient presents with a deep ache into her thoracic spine. The patient has poor ergonomics and poor posture. There is a decreased T/S reversal secondary decreased joint play in the T/S. Weakness noted in the rhomboids and tight tender points in the spinalis, longissimus, and iliocostalis erectors and myofascial restriction in pectoralis major and latissimus dorsi all contributing to her pain and deep ache.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 13.1A. Foam roll: T/S perpendicular.

FIGURE 13.1B. Tennis ball roll: bilateral rhomboids.

Corrective Flexibility

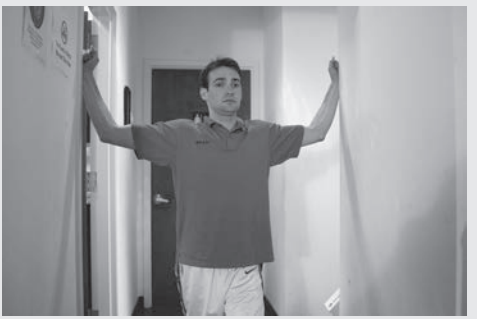

FIGURE 13.2A. Static: bilateral pectoralis major in doorway.

FIGURE 13.2B. Static: bilateral latissimus dorsi stretch/ physioball.

FIGURE 13.2C. Active: T/S rotation/ sideline.

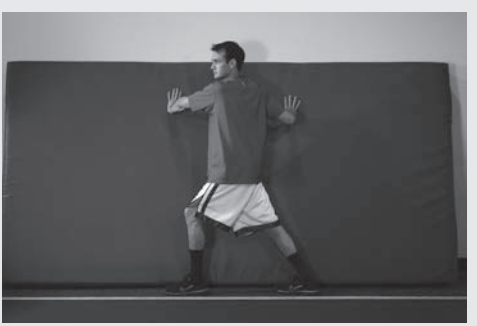

FIGURE 13.2D. Active: T/S rotation/ against wall.

Corrective Exercise

FIGURE 13.3A. Wall sit: overhead press.

FIGURE 13.3B. Pull: SpS/theraband/two arms.

FIGURE 13.3C. Pull: PS/theraband/total body rotation.

Manual Therapy

1. Warming technique: thoracic extensors
2. Inhibitory technique: thoracic extensors
3. Elongation technique: bilateral latissimus dorsi; pectoralis major
4. Joint mobilizations: T/S

Modalities: prn

Home Exercise Program

1. Static: bilateral pectoralis major; latissimus dorsi

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Ms. L
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Myofascial thoracic back pain
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Thoracic paraspinals x 7 min
☐ E-STIM TO: Thoracic paraspinals x 7 min B/L

B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to thoracic paraspinals

B/L _____
☐ HOTPACKS TO: 10 min to thoracic paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☒ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☐ improve gait, ☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 14

THORACIC COMPRESSION FRACTURE

CC: Back pain

HPI: Mr. G is 76 years old and complains of severe (7/10) back pain for the last 2 weeks. He does not "like going to doctors" so he tried to give the pain time and rest and see if things would get better. But the pain has persisted and he wants to do something about it. The pain began suddenly when he bent over to open a window. He thought he "threw the back out" as he had in the past, but this time it "felt different." Denies any radiation of symptoms into his lower extremities bilaterally. No numbness, tingling, or burning. No weakness. The pain is "sharp" and "stabbing," and worse with sitting or bending forward. The pain is located at the bottom of his thoracic spine. He hates taking pain medications but has been taking Tylenol, which does not help.

PMHx: BPH, HTN, high cholesterol

PSHx: Cataract surgery

Meds: Flomax, Toprol XL, Lipitor, Tylenol

Allergies: NKDA

Social: Quit smoking in 1984; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. G is in mild discomfort while sitting and appears his stated age. BP: 140/88, P: 76, RR: 14. Pain with trunk flexion. Pain is somewhat reduced with trunk extension. He has 5/5 strength in his lower extremities, bilaterally, though has pain with resisted muscle testing. His sensation in his lower extremities is intact bilaterally. No pathologic reflexes are elicited. Marked tenderness is noted over the T12 spinous process. The paraspinals are mildly tender. 2+ LE distal pulses are palpated bilaterally.

Impression

Thoracic compression fracture

Plan

1. X-rays
2. Physical therapy
3. D/C Tylenol. Start Vicodin prn

PHYSICAL THERAPY

The patient is a 76-year-old male who presents with mid back pain that started 2 weeks ago. The pain started suddenly after bending forward to open the window. The pain is sharp and stabbing in nature.
Scale: 7/10
Increase pain: prolonged sitting >10 minutes; driving; forward and backward bending
Decrease pain: lying sideline

Range of Motion

Thoracic spine
T/S rotation left: 50% limited
T/S rotation right: 50% limited
T/S flexion: WNL
T/S extension: 75% limited
Shoulder
Shoulder flexion right: 120 degrees
Shoulder flexion left: 120 degrees
Joint play
N/A secondary to spinal fracture
Special tests
T/S reversal against wall +
Manual muscle testing
4–/5 bilateral rhomboids with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Bilateral spinalis/iliocostalis/longissimus thoracic; rhomboids—trigger points
Bilateral latissimus dorsi; pectoralis major—myofascial restrictions

Ergonomics
Poor

ASSESSMENT

The patient presents with a T/S compression fracture. The patient has poor ergonomics and poor posture. There is a decreased T/S reversal secondary to pain and myofascial restrictions in the latissimus dorsi and pectoralis major. Weakness noted in the rhomboids.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Corrective Flexibility

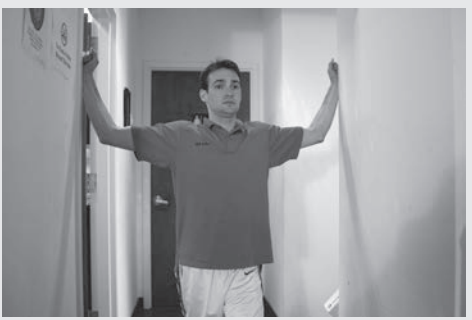

FIGURE 14.1A. Static: bilateral pectoralis major in doorway.

FIGURE 14.1B. Static: bilateral latissimus dorsi stretch/doorway.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 14.1C. Active: T/S rotation/sideline.

FIGURE 14.1D. Active: T/S rotation/against wall.

Corrective Exercise

FIGURE 14.2A. Wall sit: overhead press.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 14.2B. Pull: SpS/theraband/two arms.

FIGURE 14.2C. Pull: PS/theraband/total body rotation.

Manual Therapy

1. Warming technique: thoracic extensors
2. Elongation technique: bilateral latissimus dorsi; pectoralis major

Modalities: prn

1. Moist heat: pretreatment as needed

Home Exercise Program

1. Static: bilateral pectoralis major; latissimus dorsi

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Mr. G
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Compression fracture
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: HTN

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP 20 DBP 10 HR 20
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Thoracic paraspinals x 7 min
☐ E-STIM TO: Thoracic paraspinals x 7 min B/L
B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to thoracic paraspinals
B/L _____
☐ HOTPACKS TO: 10 min to thoracic paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☒ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: UE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

PART 6

LUMBOSACRAL SPINE

CASE 15

LUMBAR STRAIN

CC: Lower back pain

HPI: Mr. Z is a 38-year-old investment banker who presents on Monday having hurt his left lower back after playing basketball on Saturday. He does not remember a particular injury during his game, but that night his back was achy. He woke up Sunday in "excruciating pain." Today, the pain is only modestly improved. No radiation of symptoms. No numbness, tingling, burning, or weakness. No change in bowel or bladder. The pain is somewhat worse with sitting but is painful all the time. The pain stretches across his entire back, but in the left side is much worse. He rates the pain 7/10. He has been taking Advil and extra strength Tylenol "around the clock" with minimal relief. He wants to ease the pain but does not want to take a narcotic because he needs "to stay alert."

PMHx: None

PSHx: None

Meds: Advil, Tylenol prn

Allergies: NKDA

Social: No smoking; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. Z is in moderate discomfort. BP: 144/86, P: 80, RR: 14. He has increased pain with trunk flexion and overall limited trunk mobility secondary to pain. He has 5/5 strength in his lower extremities,

bilaterally, though has pain with resisted muscle testing. His sensation in his lower extremities is intact bilaterally. 2+ reflexes in the patella and Achilles are elicited bilaterally. No pathologic reflexes are elicited. He has discomfort while switching positions. Tenderness is noted over the bilateral lumbar paraspinals, L > R. 2+ distal pulses are palpated bilaterally.

Impression

Acute lumbar strain

Plan

1. Physical therapy
2. D/C Advil and Tylenol. Instead, Voltaren 75 mg PO BID and Ultracet 1 PO TID prn

PHYSICAL THERAPY

The patient is a 38-year-old male who presents with left lower back pain that started several days ago after playing basketball. The day after playing basketball the patient woke up with severe low back pain. The patient feels increased pain with sit-to-stand and feels hunched over.
Scale: 7/10
Increase pain: sitting; constant in nature; sitting to standing
Decrease pain: Advil and extra strength Tylenol

Range of Motion

Lumbar spine
Flexion: 50% with pain
Extension: 75% with pain
Left sidebending: 75% with pain
Right sidebending: 75% with pain
Left rotation: WNL
Right rotation: WNL
Thoracic spine
T/S rotation left: WNL
T/S rotation right: WNL
T/S flexion: WNL
T/S extension: WNL
Hip
Left hip extension: –10 degrees
Right hip extension: 0 degree
Bilateral hip internal rotation: 0 degree
Joint play
Empty end feel
Special tests
Spurling's –

Sideglide –
SLR –
Manual muscle testing
Core: 4/5 throughout
Psoas: 4–/5 bilateral with pain
Piriformis: 4–/5 bilateral with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Bilateral psoas; iliacus; quadratus lumborum; piriformis—trigger points
Bilateral psoas left > right—myofascial restrictions
Ergonomics
Fair secondary to pain

ASSESSMENT

The patient presents with an acute lumbar spine sprain/strain with trigger points in bilateral psoas; iliacus; quadratus lumborum; and the piriformis. Myofascial restrictions noted in the psoas left > right causing decreased hip extension on the left and the inability to transition from a sitting position to a standing position without increased symptoms and being hunched. Core weakness was noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 15.1. Tennis ball: bilateral piriformis.

Corrective Flexibility

FIGURE 15.2(A–C). Static: hip flexor stretch/3D 2:1 ratio left to right.

FIGURE 15.3(A–C). Active: hip flexor stretch/3D 2:1 ratio left to right.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 15.4. Static: piriformis on bench.

Corrective Exercise

FIGURE 15.5A. Bridging: two legs.

FIGURE 15.5B. Quadruped: alternate limb extensions.

FIGURE 15.5C. Deadlift: technique/hip hinge.

FIGURE 15.6. Walk matrix.

(*continued*)

Corrective Exercise (*continued*)

(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: lumbar erectors; bilateral piriformis
2. Inhibitory technique: bilateral psoas; quadratus lumborum
3. Elongation technique: left psoas/iliacus

Modalities: prn

1. Ice as needed

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Static: bilateral psoas; piriformis

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PATIENT: Mr. Z
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Compression Fracture
ICD

DIAGNOSIS2
ICD

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: Lumbar paraspinals x 7 min
☐ E-STIM TO: Lumbar paraspinals x 7 min B/L
B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:
☐ ICE TO: 10 min to lumbar paraspinals
B/L

☐ HOTPACKS TO: 10 min to lumbar paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☒ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER:

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other

PHYSICIAN'S SIGNATURE DATE

CASE 16

SUBACUTE DISCOGENIC LOWER BACK PAIN

CC: Back pain

HPI: Ms. M is 33 years old and has had lower back pain for 6 weeks. She does not remember a specific inciting event. The pain is "dull" and "aching" and located in the lower back. No radiation of symptoms into the lower extremities bilaterally. No numbness, burning, tingling, or weakness. Pain is worse while sitting, and long car rides are particularly difficult for her. The pain is worse in the morning. Standing and walking make the pain better. No change in bowel or bladder. This is the first time she is coming to a doctor for her symptoms in part because she is trying to start a family and does not want any x-rays. She has not taken any pain medications for the symptoms. She rates the pain as 4/10 on average, and 6/10 after sitting for 10 minutes.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No smoking; no EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. M is in no acute distress and appears her stated age. BP: 122/76, P: 64, RR: 14. She has increased pain with trunk flexion and no pain with trunk extension. She has 5/5 strength, 2+ patella and Achilles reflexes, and intact sensation in her bilateral lower extremities. No pathologic reflexes are elicited. She has a negative FABER, SLR, and slump test. Tenderness is noted over the bilateral L3-5 paraspinals. The SI joint is not tender. She has pain with maximal simultaneous passive hip and knee flexion. 2+ distal pulses are palpated bilaterally.

Impression

Subacute discogenic pain

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 33-year-old female who presents with lower back pain that started 6 weeks ago with an insidious onset. The pain is dull and achy. The patient went to the physician who referred the patient to physical therapy.

Scale: 4/10 on average up to 6/10
Increase pain: sitting >10 minutes; mornings; rolling over in bed
Decrease pain: walking and moving around

Range of Motion

Lumbar spine
Flexion: 75% with pain
Extension: 75% with pain
Left sidebending: WNL
Right sidebending: WNL
Left rotation: WNL
Right rotation: WNL
Thoracic spine
T/S rotation left: WNL
T/S rotation right: WNL
T/S flexion: WNL
T/S extension: WNL
Hip
Left hip extension: 0 degree
Right hip extension: 0 degree
Bilateral hip internal rotation: 0 degree
Joint play
4/6

Special tests
Spurling's –
Sideglide –
SLR –
Manual muscle testing
Core: 4/5 throughout
Psoas: 4–/5 bilateral with pain
Piriformis: 4–/5 bilateral with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Bilateral psoas; iliacus; quadratus lumborum; piriformis—trigger points
Bilateral psoas left > right—myofascial restrictions
Ergonomics
Fair secondary to pain

ASSESSMENT

The patient presents with an acute lumbar spine sprain/strain with trigger points in bilateral psoas; iliacus; quadratus lumborum; and the piriformis. Myofascial restrictions noted in the psoas left more than right, causing decreased hip extension on the left and the inability to transition from a sitting position to a standing position without increased symptoms and being hunched. Core weakness was noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self Myofascial Release

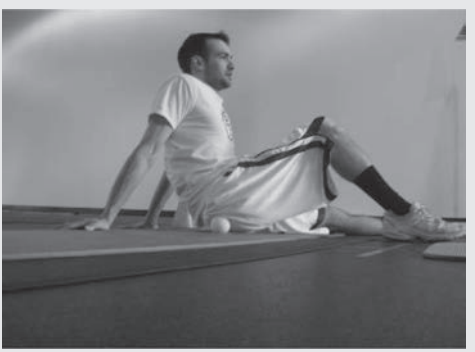


FIGURE 16.1. Tennis ball roll: bilateral piriformis.

Corrective Flexibility

FIGURE 16.2(A–C). Static: hip flexor stretch/3D 2:1 ratio left to right.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 16.3(A–C). Active: hip flexor stretch/3D 2:1 ratio left to right.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 16.4. Static: piriformis on bench.

Corrective Exercise

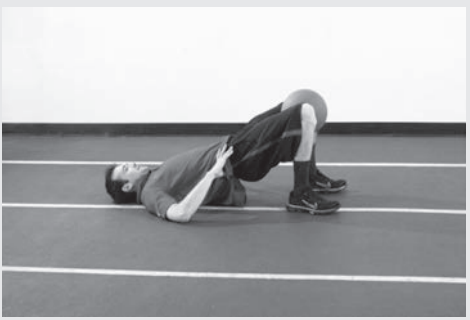


FIGURE 16.5A. Bridging two legs.

FIGURE 16.5B. Quadruped: alternate limb extensions.

(*continued*)

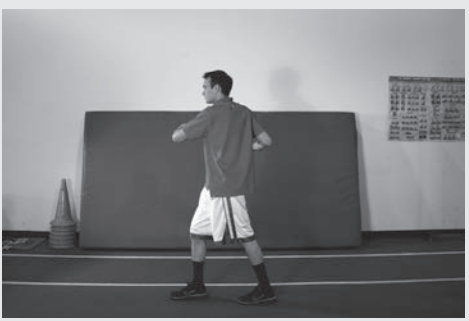
Corrective Exercise (*continued*)

FIGURE 16.5C. Deadlift: technique/hip hinge.

FIGURE 16.6. Walk matrix.

(*continued*)

Corrective Exercise (*continued*)



(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: lumbar erectors; bilateral piriformis
2. Inhibitory technique: bilateral psoas; quadratus lumborum
3. Elongation technique: left psoas/iliacus

Modalities: prn

1. Ice as needed

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Static: bilateral psoas; piriformis

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PATIENT: Ms. M
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Subacute discogenic pain
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Lumbar paraspinals x 7 min
☐ E-STIM TO: Lumbar paraspinals x 7 min B/L
B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to lumbar paraspinals
B/L _____
☐ HOTPACKS TO: 10 min to lumbar paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☒ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☐ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 17

CHRONIC DISCOGENIC LOWER BACK PAIN

CC: Back pain

HPI: Ms. K is 36 years old and has had lower back pain for 4 months. She does not remember a specific inciting event. The pain is "dull" and "aching" and located in the lower back. The pain sometimes radiates to the bilateral buttocks. No numbness, burning, tingling, or weakness. Pain is worse while sitting, and long car rides are particularly difficult. The pain is worse in the morning. She went to her PMD 1 month ago who took x-rays that were "normal" per the patient. She was given a prescription for physical therapy but never went because she decided she should see a spine specialist first. Her PMD also prescribed a muscle relaxant, Flexeril 10 mg PO bedtime, which helps her sleep. During the day she has been taking Tylenol, and this helps take the edge off the pain. No change in bowel or bladder.

PMHx: None

PSHx: None

Meds: OCPs, Flexeril, Tylenol prn

Allergies: NKDA

Social: No smoking; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. K is in no acute distress and appears her stated age. BP: 118/64, P: 60, RR: 14. She has increased pain with trunk flexion and no pain with trunk extension. She has 5/5 strength, 2+ patella and Achilles reflexes, and intact sensation in her bilateral lower extremities. No pathologic reflexes are elicited. She has a negative FABER test. SLR and slump test reproduce back pain bilaterally. Tenderness is noted over the bilateral L4-5 paraspinals. The SI joint is not tender. She has pain with maximal simultaneous passive hip and knee flexion. 2+ distal pulses are palpated bilaterally.

Impression

Chronic discogenic pain

Plan

1. MRI
2. Physical therapy

PHYSICAL THERAPY

The patient is a 36-year-old female who presents with lower back pain that started 4 months ago with an insidious onset. The pain is dull and achy and refers at times into bilateral buttock. The patient went to the physician who took x-rays that showed negative results and was referred to physical therapy.
Scale: 7/10
Increase pain: sitting >20 minutes; mornings
Decrease pain: walking and moving around

Range of Motion

Lumbar spine
Flexion: 50% with pain
Extension: 100% decreases pain
Left sidebending: WNL
Right sidebending: WNL
Left rotation: WNL
Right rotation: WNL
Thoracic spine
T/S rotation left: WNL
T/S rotation right: WNL
T/S flexion: WNL
T/S extension: WNL
Hip
Left hip extension: WNL
Right hip extension: WNL
Bilateral prone hip internal rotation: –5 degrees

Joint play
Bilateral hip posterior capsule 2/6
Special tests
Spurling's –
SLR + bilateral
Vasalva –
Manual muscle testing
Core: 4/5 throughout
Psoas: 4–/5 bilateral with pain
Piriformis: 4–/5 bilateral with pain
Neurodynamic assessment
+ neural tension bilateral on common peroneal nerve
Tight tender points/soft tissue restrictions
Bilateral psoas; iliacus; quadratus lumborum; piriformis—trigger points
Bilateral psoas; piriformis—myofascial restrictions
Ergonomics
Poor

ASSESSMENT

The patient presents with chronic discogenic pain with trigger points in bilateral psoas; iliacus; quadratus lumborum; and the piriformis. Myofascial restrictions noted in bilateral psoas and piriformis, which is causing decreased hip internal rotation and is increasing shear force in the lumbar spine secondary to compensatory movement patterns. Spinal extension decreases symptoms. Core weakness was noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self-Myofascial Release

FIGURE 17.1A. Tennis ball: bilateral piriformis.

Corrective Flexibility

FIGURE 17.1B. Static: bilateral piriformis on bench.

FIGURE 17.1C. Active: bilateral psoas.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 17.1D. Active: prone press-up.

Corrective Exercise

FIGURE 17.2A. Prone alternate limb extensions.

FIGURE 17.2B. Prone cobras.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 17.2C. Rolling: prone to supine with lower extremity drive.

FIGURE 17.2D. Deadlift: dowel technique.

Manual Therapy

1. Warming technique: lumbar erectors; bilateral piriformis
2. Inhibitory technique: bilateral psoas; quadratus lumborum
3. Elongation technique: bilateral piriformis
4. Joint mobilizations: PA mobs L/S0 while doing press-up
5. Joint mobilizations: bilateral hip internal rotation
6. Neuromobilization technique to common peroneal nerve

Modalities: prn

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Static: piriformis
3. Active: prone press-ups

PATIENT: Ms. K
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☐ NEW DIAGNOSIS ☒ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Spondylolisthesis
ICD

DIAGNOSIS2 Back pain
ICD

PREGNANT? ☐ YES ☒ NO PERTINENT MEDICAL HISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP____ DBP____ HR____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: Lumbar paraspinals X 7 min
☐ E-STIM TO: Lumbar paraspinals X 7 min B/L
B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:

☐ ICE TO:
B/L

☐ HOTPACKS TO:

☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE

☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE

☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☒ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT
TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOFAS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER:

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☒ improve transfers,
Other
PHYSICIAN'S SIGNATURE DATE

CASE 18

SPONDYLOLISTHESIS

CC: Back pain

HPI: Ms. A is 43 years old and has had 4 months of axial lower back pain. She does not remember any specific inciting event, though she does mention that she used to be a gymnast and often had back pain toward the end of her college training days. After stopping training, the pain went away and only returned gradually 4 months ago. She is not sure if it is the same character as the old back pain. The pain occasionally radiates into the bilateral buttocks. There is more pain with walking and standing and less pain with sitting. The pain is 5/10 if she goes for a long walk, and it is 2/10 when sitting and talking in the office. Ms. A denies any numbness, burning, tingling, or weakness. She does not take any pain medications and has not had any radiographs of her spine.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No smoking. No EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. A is pleasant and in no acute distress. BP: 120/82, P: 64, RR: 12. She has increased pain with trunk extension and no pain with trunk flexion. She has 5/5 strength, 2+ patella and Achilles reflexes,

and intact sensation in her bilateral lower extremities. No pathologic reflexes are elicited. She has a negative FABER, slump, and SLR test bilaterally. Tenderness is noted over the bilateral L4-5 paraspinals. There is no bony tenderness elicited. The SI joint is not tender. She has no pain with maximal simultaneous passive hip and knee flexion.

Radiographs: X-rays were obtained in the office. Bilateral L5 pars interarticularis fractures and an L5-S1 grade I spondylolisthesis are noted. There is no instability on flexion/extension views. 2 + distal pulses are palpated bilaterally.

Impression

Grade I spondylolisthesis

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 43-year-old female who presents with lower back pain that started 4 months ago with an insidious onset. The patient was a gymnast in college where she had lower back pain that went away after she stopped training but recently returned. The pain intermittently refers into bilateral buttocks. The patient went to the physician and was referred to physical therapy.

Scale: 5/10 at most 2/10 at least
Increase pain: 5/10 with standing; walking; spine extension
2/10 with prolonged sitting
Decrease pain: lying side line

Range of Motion

Lumbar spine
Flexion: 75% with pain
Extension: 75% with severe pain
Left sidebending: WNL
Right sidebending: WNL
Left rotation: WNL
Right rotation: WNL
Thoracic spine
T/S rotation left: WNL
T/S rotation right: WNL
T/S flexion: WNL
T/S extension: WNL
Hip
Left hip extension: –10 degrees
Right hip extension: –15 degrees
Bilateral prone hip internal rotation: 0 degree
Joint play
WNL

Special tests
Spurling's + with pain
SLR –
Vasalva –
Manual muscle testing
Core: 4/5 throughout
Psoas: 4/5 bilateral with pain
Tight tender points/soft tissue restrictions
Bilateral psoas; iliacus; quadratus lumborum; piriformis—trigger points
Bilateral psoas; piriformis—myofascial restrictions
Ergonomics
Fair

ASSESSMENT

The patient presents with spondylolisthesis that possibly occurred when she was a gymnast in college. There were trigger points in bilateral psoas; iliacus; quadratus lumborum; and the piriformis. Myofascial restrictions noted in bilateral psoas and piriformis, which is causing decreased hip internal rotation and hip extension is increasing shear force in the lumbar spine secondary to compensatory movement patterns. Spinal extension increases. Core weakness was noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 18.1. Tennis ball: bilateral piriformis.

Corrective Flexibility

FIGURE 18.2A. Static: bilateral piriformis on bench.

FIGURE 18.2B. Active: bilateral rectus femoris/prone.

Corrective Exercise

FIGURE 18.3A. Quadruped: alternate limb extensions/ with dowel vertical.

(*continued*)

Corrective Exercise (*continued*)

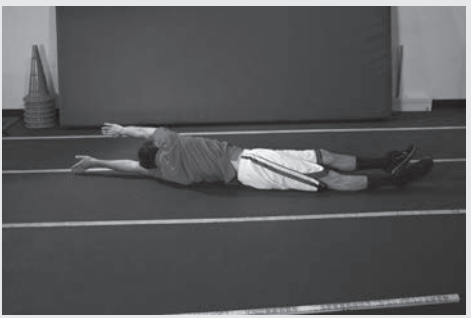

FIGURE 18.3B. Rolling: supine to prone arm drive.

FIGURE 18.3C. Rolling: supine to prone leg drive.

Manual Therapy

1. Warming technique: lumbar erectors; bilateral piriformis
2. Inhibitory technique: bilateral psoas; quadratus lumborum
3. Elongation technique: bilateral piriformis; bilateral psoas
4. Joint mobilizations: bilateral hip internal rotation

Modalities: prn

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Static: piriformis

Orthopedic and Rehabilitation Associates
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Omaha, OH
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Fax. (666) 666-7777

PATIENT: Ms. A
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Spondylolisthesis
ICD _____

DIAGNOSIS2 Back pain
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Lumbar paraspinals x 7 min
☐ E-STIM TO: Lumbar paraspinals x 7 min B/L
B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to lumbara paraspinals
B/L _____
☐ HOTPACKS TO: 10 min to lumbara paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☒ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 19

FACET ARTHROPATHY

CC: Back pain

HPI: Mr. V is a 64-year-old male with a 3-year history of lower back pain. He says the pain began gradually and without inciting event. The pain is localized to the lower back and does not radiate into his lower extremities. He denies any numbness, tingling, or burning. The pain is described as a dull ache and is 5/10 intensity. He went to his PMD a year ago. He did not get any x-rays taken but was sent for physical therapy. He went to therapy for a few sessions but did not feel it was helping, so he stopped. Since that time, he has been taking Tylenol for the pain. The pain is much worse while standing and walking and better with sitting or resting.

PMHx: High cholesterol, BPH

PSHx: None

Meds: Crestor, Flomax

Allergies: NKDA

Social: No smoking. One glass of red wine every night.

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. V is pleasant and in no acute distress. He looks his stated age. BP: 132/88, P: 70, RR: 14. He has increased pain with trunk extension and no pain with trunk flexion. He has 5/5 strength, 2 + patella and Achilles reflexes, and intact sensation in the bilateral lower extremities. No pathologic reflexes are elicited. He has a negative FABER,

slump, and SLR test bilaterally. Tenderness is noted over the bilateral L4-5 paraspinals. There is no bony tenderness elicited. The SI joint is not tender. He has no pain with maximal simultaneous passive hip and knee flexion. Pain is exacerbated by arching his lower back while prone. 2+ distal pulses are palpated bilaterally.

Impression

Facet arthropathy

Plan

1. X-ray
2. Physical therapy

PHYSICAL THERAPY

The patient is a 64-year-old male who presents with lower back pain that started 3 years ago with an insidious onset. The pain is localized to the lower back with no radicular symptoms. The patient had three physical therapy sessions about a year ago and discontinued physical therapy. The patient went to the physician and was referred to physical therapy.
Scale: 5/10
Increase pain: prolonged walking; prolonged standing
Decrease pain: sitting; lying in side line with torso rotation

Range of Motion

Lumbar spine
Flexion: 75% with no pain
Extension: 75% with pain
Left sidebending: 75% with pain
Right sidebending: 75% with pain
Left rotation: 50% no pain
Right rotation: 50% no pain
Thoracic spine
T/S rotation left: 50%
T/S rotation right: 50%
T/S flexion: WNL
T/S extension: 75%
Hip
Left hip extension: –10 degrees
Right hip extension: –10 degrees
Bilateral prone hip internal rotation: –10 degrees
Joint play
L/S 2/6 throughout
Special tests
Spurling's + with pain
SLR –
Vasalva –

Manual muscle testing
Core: 4/5 throughout
Psoas: 4/5 bilateral
Piriformis: 4/5 bilateral
Tight tender points/soft tissue restrictions
Bilateral psoas; iliacus; quadratus lumborum; piriformis—trigger points
Bilateral psoas; piriformis; thoracic spine erectors—myofascial restrictions
Ergonomics
Fair

ASSESSMENT

The patient presents with facet arthropathy. The patient presents with trigger points in bilateral psoas; iliacus; quadratus lumborum; and the piriformis. Myofascial restrictions noted in bilateral psoas; piriformis; and thoracic erectors. There is decreased T/S and hip rotation, which has increased lumbar spine stress and facet wear. Lumbar spine gapping decreases symptoms. Core weakness was noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 19.1A. Tennis ball: bilateral piriformis.

(*continued*)

Self–Myofascial Release (*continued*)

FIGURE 19.1B. Foam roll: T/S perpendicular.

Corrective Flexibility

FIGURE 19.2A. Static: bilateral piriformis on bench.

FIGURE 19.2B. Static: bilateral rectus femoris/prone.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 19.2C. Active: T/S rotation in side line with pectoralis.

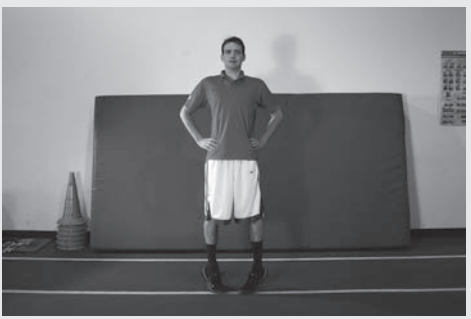

FIGURE 19.2D. Active: progressive hip internal rotation.

FIGURE 19.2E. Active: double knees to chest.

Corrective Exercise

FIGURE 19.3A. Wall sit: shoulder extension.

FIGURE 19.3B. Side line: hip internal rotation bilateral.

FIGURE 19.3C. Quadruped: alternate limb extension with dowel.

Manual Therapy

1. Warming technique: lumbar erectors; bilateral piriformis
2. Inhibitory technique: bilateral psoas; quadratus lumborum
3. Elongation technique: bilateral piriformis; bilateral psoas
4. Joint mobilizations: bilateral hip internal rotation
5. Joint mobilizations: T/S rotation

Modalities: prn

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Static: piriformis
3. Active: double knee to chest

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Mr. V
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Facet Arthropathy
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP _____ DBP _____ HR _____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Lumbar paraspinals x 7 Min
☐ E-STIM TO: Lumbar Paraspinals x 7 min

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to lumbar paraspinals

☐ HOTPACKS TO: 10 min to lumbar paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☒ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 20

SACROILIAC JOINT PAIN

CC: Back pain

HPI: Ms. X is 42 years old and has a history of L3-S1 fusion in 1992 for chronic lower back pain. Following her surgery, she felt 90% better until 3 months ago when her pain returned. The pain is in a slightly different location than before. It is more inferior, in the buttocks. She says the pain is sometimes "sharp" and sometimes "dull." There is no radiation of symptoms. No numbness, tingling, or burning. No weakness. She went to her spine surgeon who took x-rays and confirmed that the hardware was in place. The surgeon felt she was not a surgical candidate and referred her to this office for further evaluation. Her pain is currently 4/10 intensity. She is taking Flexeril and Vicodin prn, which the surgeon gave her. These medications help the pain and allow her to function during the day and to sleep at night. The pain is worse with walking and better with rest.

PMHx: None

PSHx: None

Meds: Flexeril and vicodin

Allergies: NKDA

Social: No smoking. Social EtOH.

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. X is pleasant and in no acute distress. She looks her stated age. BP: 120/76, P: 64, RR: 14. She has minimal pain with trunk flexion and extension. She has 5/5 strength, 2+ patella and Achilles reflexes, and intact sensation in the bilateral lower extremities. No pathologic reflexes are elicited. She has a positive FABER test and her SI joint is tender. She has a negative slump and SLR test bilaterally. There is no tenderness over the paraspinals. There is no bony tenderness elicited. She has no pain with maximal simultaneous passive hip and knee flexion. 2+ distal pulses are palpated bilaterally.

Impression

SI joint pain

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 42-year-old female who presents with lower back pain that started 3 months ago with an insidious onset. Past medical history included L3-S1 spinal fusion in 1992 where pain had tingling and numbness down the left leg. No tingling and numbness currently noted. Current symptoms are in a different location. The pain is localized to the lower back with no radicular symptoms. The patient went to the physician and was referred to physical therapy.

Scale: 4/10

Increase pain: pain is localized and fixed; no movements increase symptoms; constant

Range of Motion

Lumbar spine

Flexion: WNL
Extension: WNL
Left sidebending: WNL
Right sidebending: WNL
Left rotation: WNL
Right rotation: WNL

Thoracic spine

T/S rotation left: WNL
T/S rotation right: WNL
T/S flexion: WNL
T/S extension: WNL

Hip

Left hip extension: 0 degrees
Right hip extension: –10 degrees

Left hip flexion hip internal rotation: –10 degrees
Left long axis internal rotation: 0
Joint play
L/S WNL
Left hip posterior capsule 2/6
Special tests
Left leg length discrepancy ¼ in short
Long sit test + left leg lengthened
SLR –
Manual muscle testing
Core: 4/5 throughout
Psoas: 3/5 left
Gluteus medius: posterior fibers left 3/5
Tensor fascia latae: left 3/5
Neurodynamic assessment
Left side common peroneal nerve restrictions
Tight tender points/soft tissue restrictions
Left psoas; iliacus; gluteus medius posterior fibers—trigger points
Left biceps femoris long head—myofascial restrictions
Ergonomics
Fair

ASSESSMENT

The patient presents with left-sided SI joint dysfunction. The patient presents with a functional leg length discrepancy with trigger points in left psoas; iliacus. Myofascial restrictions noted in left biceps femoris long head. The patient also presents with neural adhesions around the common peroneal nerve as shown during neurodynamic assessments and palpating the biceps femoris attachment to the fibular head. Core weakness was noted along with left psoas and posterior gluteus medius.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 20.1. Tennis ball: left gluteus medius posterior fibers; left ITB/TFL.

Corrective Flexibility

FIGURE 20.2A. Static: left-sided psoas in standing.

FIGURE 20.2B. Neuromobilization: common peroneal nerve left.

Corrective Exercise

FIGURE 20.3A. Bridge: leg lock left side only with knee bent.

FIGURE 20.3B. Bridge: leg lock left side only foam roll under ankle.

FIGURE 20.3C. Side line: hip internal left side only.

Manual Therapy

1. Warming technique: bilateral gluteus maximus
2. Inhibitory technique: left psoas; posterior gluteus medius
3. Elongation technique: left psoas
4. Neuromobilization: left side common peroneal nerve

Modalities: prn

Home Exercise Program

1. Tennis ball: left side ITB/TFL; posterior gluteus medius
2. Static: psoas

Orthopedic and Rehabilitation Associates
Orthopedic Street
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Fax. (666) 666-7777

PATIENT: Ms. X
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 SI Joint Pain
ICD

DIAGNOSIS2
ICD

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: NO ULTRASOUND
☐ E-STIM TO: SI Joint x 7 minutes

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:
☒ ICE TO: 10 min to SI Joint and paraspinals

☒ HOTPACKS TO: 10 min to SI Joint and paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: BL L/E
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L Cervical/paraspinals

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER:

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other

PHYSICIAN'S SIGNATURE DATE

CASE 21

SPINAL STENOSIS

CC: Back and bilateral lower extremity pain

HPI: Mr. B is 68 years old and complains of 4 months of achy lower back pain and radiating "burning" leg pain. The pain radiates through his buttocks, posterior thighs, and into the posterior calves. The right leg is more painful than the left. The lower back pain is constant but the leg pain is intermittent. The back and leg pain are worse with standing and walking. Sitting and bending forward make the pain better. Mr. B used to be an active walker, but in the last 2 months he has to stop repeatedly after just a few blocks of walking because the pain increases too much. He rates the pain as 2/10 at rest, but 6 or 7/10 while walking. This is the first time that he is coming to the doctor for this problem. He has not had any imaging studies of his spine, and he does not take any pain medications. No change in bowel or bladder.

PMHx: HTN

PSHx: None

Meds: Enalapril

Allergies: Sulfa gives a rash

Social: No smoking. Social EtOH.

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. B is pleasant and in no acute distress. He looks his stated age. BP: 134/88, P: 66, RR: 14. He has lower back pain, but not leg pain, with trunk extension but no pain with trunk flexion. He has 5/5 strength, 2+ patella and Achilles reflexes, and intact sensation in the bilateral lower extremities. No pathologic reflexes are elicited. He has a negative FABER test and his SI joint is not tender. He has a positive slump and SLR test bilaterally. There is tenderness over the paraspinals, right worse than left. There is no bony tenderness elicited. He has no pain with maximal simultaneous passive hip and knee flexion. 2+ distal pulses are palpated bilaterally.

Impression

Spinal stenosis

Plan

1. X-rays
2. Physical therapy

PHYSICAL THERAPY

The patient is a 68-year-old male who presents with lower back pain that started 4 months ago. The pain radiates down the posterior aspect of both legs, the right is more painful than the left.
Scale: 2/10 at rest, 6–7/10 at most
Increase pain: walking; standing >8 minutes; bending backward
Decrease pain: sitting; bending forward

Range of Motion

Lumbar spine
Flexion: 75%
Extension: 25% with pain down both legs
Left sidebending: 75%
Right sidebending: 75%
Left rotation: 75%
Right rotation: 75%
Thoracic spine
T/S rotation left: 75%
T/S rotation right: 75%
T/S flexion: WNL
T/S extension: 50%
Hip
Left hip extension: –5 degrees
Right hip extension: –5 degrees
Bilateral hip flexion hip internal rotation: –10 degrees
Joint play
L/S: L1-5 2/6 with reproduction of symptoms

Special tests
Bicycle test +
SLR –
Manual muscle testing
Core: 4/5 throughout
Psoas: 3/5 bilateral
Quadratus lumborum: 3/5 bilateral
Neurodynamic assessment
Tight tender points/soft tissue restrictions:
Bilateral psoas; iliacus; piriformis; quadratus lumborum—trigger points
Bilateral psoas—myofascial restrictions
Posture
Increased kyphosis in thoracic spine; increased forward head posture; decreased lumbar lordosis
Ergonomics
Fair

ASSESSMENT

The patient presents with signs and symptoms consistent with spinal stenosis. The patient presents with dysfunctional painful movement patterns in lumbar extension. The patient has poor lordotic curvature in the lumbar spine. Bicycle test was positive. Trigger points in bilateral psoas; iliacus, piriformis, and quadratus lumborum. Myofascial restrictions noted in bilateral psoas. Core weakness was noted along with weakness in bilateral psoas and quadratus lumborum.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 21.1. Tennis ball: bilateral piriformis.

Corrective Flexibility

FIGURE 21.2A. Active: single knee to chest.

FIGURE 21.2B. Active: double knee to chest.

FIGURE 21.2C. Active: hip flexor stretch with three directions.

(*continued*)

Corrective Flexibility (*continued*)

Corrective Exercise

FIGURE 21.3A. Wall push knee to chest.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 21.3B. Push up with an incline.

FIGURE 21.3C. Lunge: anteriorly with anterior reach down.

FIGURE 21.3D. Bicycle.

Manual Therapy

1. Warming technique: bilateral gluteus maximus and quadratus lumborum
2. Inhibitory technique: bilateral psoas and quadratus lumborum
3. Elongation technique: bilateral psoas

Modalities: prn

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Active: single knee to chest
3. Active: double knee to chest

Orthopedic and Rehabilitation Associates
Orthopedic Street
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Fax. (666) 666-7777

PATIENT: Mr. B
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Spinal Stenosis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP____ DBP____ HR____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: B/L lumbar paraspinals x 7 min
☐ E-STIM TO: B/L lumbar paraspinals x 7 min

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☒ ICE TO: 10 min to B/L lumbar paraspinals

☒ HOTPACKS TO: 10 min to B/L lumbar paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 22

ACUTE LUMBAR RADICULITIS

CC: Back and leg pain

HPI: Mr. R is 39 years old and complains of 1 week of back and shooting left leg pain. He says that the pain began when he was wrestling with his 12-year-old son. He bent forward and felt a "searing" pain down the posterior aspect of the left leg, from the buttock to the bottom of the foot. The pain was so bad that he went to the ER. In the ER, he was given a muscle relaxant, Skelaxin, and Vicodin. He has taken these medications as prescribed since the ER visit, but the pain has only gotten minimally better. He has 4/10 left lower back pain that radiates down his leg whenever he "moves wrong." The leg pain is 9/10 intensity. Sitting is much more painful for him than standing. In the morning, the symptoms are worse. He has trouble sleeping at night because of the pain. No change in bowel or bladder. No fevers, chills, night sweats, or recent unintended weight loss. No numbness, tingling, or weakness.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No smoking. Social EtOH.

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. R is pleasant but in apparent moderate distress. BP: 142/88, P: 64, RR: 14. He has significant pain with trunk flexion and at 30 degrees of flexion, the pain begins to radiate down the posterior leg. Trunk extension does not reproduce symptoms. He is able to do single plantar flexion leg raises bilaterally and has 5/5 strength throughout his lower extremities, as well as 2+ patella and Achilles reflexes, and intact sensation in the bilateral lower extremities. No pathologic reflexes are elicited. He has a positive slump test on the left and positive SLR. SLR on the right reproduces symptoms on the left. He has a negative FABER test and his SI joint is not tender. He has tenderness over the left paraspinals. There is no bony tenderness elicited. Passive maximal simultaneous hip and knee flexion is not possible secondary to pain. 2+ distal pulses are palpated bilaterally.

Impression

Acute lumbar radiculitis secondary to likely L5-S1 disc herniation.

Plan

1. MRI L-S spine
2. Medrol dose pack
3. C/W Skelaxin and Vicodin prn
4. Physical therapy

PHYSICAL THERAPY

The patient is a 39-year-old male who presents with shooting pain down his left leg that started × 1 week ago after wrestling with his son. The patient went to the ER secondary to the intensity of the pain. The patient was referred to physical therapy to address symptoms.
Scale: 4/10 in low back and 9/10 down the leg
Increase pain: sleeping at night; sidebending left; sitting; forward bending; sneezing
Decrease pain: lying sideline; lumbar extension

Range of Motion

Lumbar spine
Flexion: 25% with reproduction of symptoms
Extension: 75% but decreases symptoms
Left sidebending: 25% with reproduction of symptoms
Right sidebending: 75%
Left rotation: 75%
Right rotation: 75%
Thoracic spine
T/S rotation left: 75%
T/S rotation right: WNL
T/S flexion: WNL
T/S extension: WNL

Hip
Left hip extension: –5 degrees
Right hip extension: –5 degrees
Joint play
L/S: L1-5 empty end feel
Special tests
SLR + left
Well SLR +
Slump test +
Manual muscle testing
Core: 3/5 throughout with pain
Psoas: 3/5 bilateral with pain
Quadratus lumborum: 3/5 bilateral with pain
Neurodynamic assessment
Left side sciatic
Tight tender points/soft tissue restrictions
Bilateral psoas; iliacus; piriformis; quadratus lumborum—trigger points
Bilateral psoas; piriformis—myofascial restrictions
Posture
Right lateral shift
Ergonomics
Poor

ASSESSMENT

The patient presents with signs and symptoms consistent with spinal acute lumbar radiculitis secondary to L5-S1 disc herniation. The patient presents with an increase in symptoms with sitting, sneezing, and forward bending. A positive slump test, straight leg raise test, and well leg raise test were noted in the lumbar spine. Trigger points in bilateral psoas; iliacus, piriformis, and quadratus lumborum. Myofascial restrictions noted in bilateral psoas and piriformis. Core weakness was noted along with weakness in bilateral psoas and quadratus lumborum.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities.

Self–Myofascial Release

FIGURE 22.1. Tennis ball: bilateral piriformis.

Corrective Flexibility

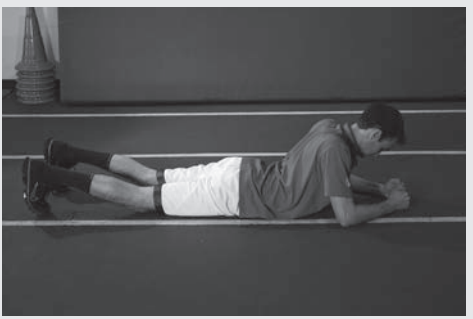


FIGURE 22.2A. Static: prone on elbows.

FIGURE 22.2B. Active: prone press-up.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 22.2C. Active: hip flexor stretch in three directions.

Corrective Exercise

FIGURE 22.3A. Prone alternate limb extensions.

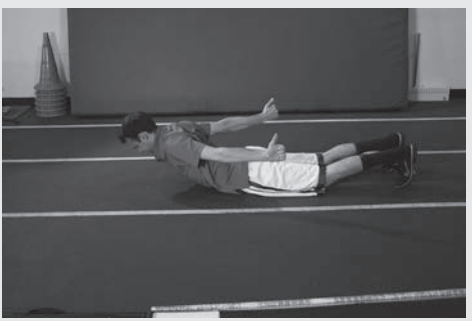
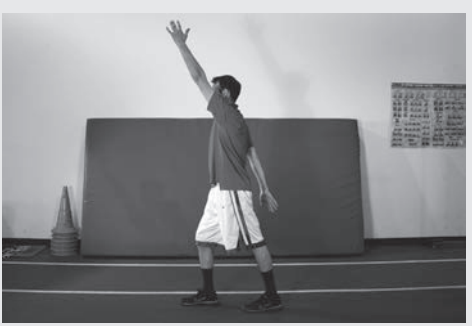


FIGURE 22.3B. Prone cobras.

FIGURE 22.3C. Walk matrix.



(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: bilateral gluteus maximus and quadratus lumborum
2. Inhibitory technique: bilateral psoas and quadratus lumborum
3. Elongation technique: bilateral psoas
4. PA mobilizations to L1-S1
5. PA mobilizations to L1-S1 with prone press-up

Modalities: prn

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Prone press-up

Orthopedic and Rehabilitation Associates
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Fax. (666) 666-7777

PATIENT: Mr. R
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Lumbar Radiculitis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP____ DBP____ HR____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: NO ULTRASOUND
☐ E-STIM TO: lumbar paraspinals x 7 min

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☒ ICE TO: 10 min to lumbar paraspinals

☒ HOTPACKS TO: 10 min to lumbar paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☒ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 23

LUMBAR RADICULOPATHY

CC: Leg pain and weakness

HPI: Mr. H is 54 years old and complains of pain, numbness, and general weakness in his right leg. He says the pain began about 8 months ago. The pain began in the lower back and then started shooting down the lateral aspect of the thigh and lower leg. Four months ago, the left lateral lower leg and left big toe became numb. He also complains of tingling in this same distribution. "The whole leg just feels weak," he says. No falls while walking. The symptoms are worse when going for a long walk and better with sitting and rest. The pain in the lower back is 3/10, and the pain that shoots down the leg is 5/10. He went to his PMD 7 months ago who took x-rays and told him he has "arthritis." He was sent to physical therapy for 4 weeks but did not notice any improvement. He has not had any MRIs or injections. Mr. H has taken Advil prn, which has not helped. He says the pain is not as bothersome to him as the numbness and sense of weakness. No change in bowel or bladder.

PMHx: BPH

PSHx: None

Meds: Flomax, Advil prn

Allergies: NKDA

Social: No smoking. Social EtOH.

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. H is pleasant and in no acute distress. He looks his stated age. BP: 128/66, P: 66, RR: 14. Trunk extension increases the pain. Trunk flexion does not reproduce any pain. He has 5/5 strength in his lower extremities bilaterally, except that he has 4/5 strength in his left ankle dorsiflexor and 4–/5 left EHL strength. Sensation is intact except that decreased sensation is noted over the dorsal aspect of the left first digit and lower lateral leg. He has 2+ patella and Achilles reflexes. No pathologic reflexes are elicited. He has a positive slump and SLR test on the left. He has a negative FABER test and his SI joint is not tender. He has tenderness over the bilateral paraspinals. There is no bony tenderness elicited. Passive maximal simultaneous hip and knee flexion does not reproduce pain. 2+ distal pulses are palpated bilaterally.

Impression

Lumbar radiculopathy secondary to spinal stenosis

Plan

1. MRI L-S spine
2. Physical therapy

PHYSICAL THERAPY

The patient is a 54-year-old male who presents with pain, numbness, and general weakness in his right leg. The symptoms started 8 months ago. The symptoms travel down the lateral aspect of the thigh and lower leg. The patient was referred to physical therapy to address symptoms.
Scale: 3/10 in low back and 5/10 down the leg
Increase pain: sleeping at night; long walks; spinal extension;
Decrease pain: sitting; rest

Range of Motion

Lumbar spine
Flexion: 100%
Extension: 50% with reproduction of symptoms
Left sidebending: 75%
Right sidebending: 50% with reproduction of symptoms
Left rotation: 100%
Right rotation: 100%
Thoracic spine
T/S rotation left: WNL
T/S rotation right: WNL
T/S flexion: WNL
T/S extension: WNL
Hip
Left hip extension: WNL
Right hip extension: WNL

Joint play
L/S: L3-4 PA joint plays reproduced symptoms
Special tests
SLR + right
Spurling's + right
Slump test + right
Manual muscle testing
Core: 3/5 throughout with pain
Psoas: 3/5 right with pain
Quadratus lumborum: 3/5 right with pain
Neurodynamic assessment
Right side sciatic
Tight tender points/soft tissue restrictions
Bilateral psoas; iliacus; piriformis; quadratus lumborum—trigger points
Bilateral psoas; piriformis; quadratus lumborum right—myofascial restrictions
Ergonomics: poor

ASSESSMENT

The patient presents with signs and symptoms consistent with lumbar radiculopathy. The patient presents with an increase in symptoms with walking, prolonged standing, and lumbar extension. A positive slump test, straight leg raise test, and Spurling test were noted on the right side. Trigger points in bilateral psoas; iliacus, piriformis, and quadratus lumborum. Myofascial restrictions noted in right psoas and piriformis. Core weakness was noted along with weakness in right psoas and quadratus lumborum.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 23.1A. Tennis ball: bilateral piriformis.

FIGURE 23.1B. Foam roll: ITB.

Corrective Flexibility

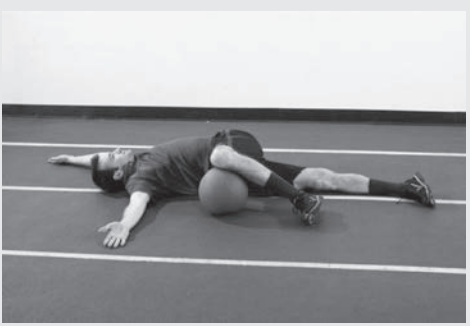

FIGURE 23.2A. Static: quadratus lumborum left sideline with right L/S rotation.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 23.2B. Static: piriformis bilaterally foot on bench.

FIGURE 23.2C. Active: single knee to chest bilateral.

Corrective Exercise

FIGURE 23.3A. Quadruped alternate limb extensions.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 23.3B. Wall push with knee to chest.

FIGURE 23.3C. Push up incline.

FIGURE 23.3D. Split stance anterior reach down.

Manual Therapy

1. Warming technique: bilateral gluteus maximus and quadratus lumborum
2. Inhibitory technique: right psoas and quadratus lumborum
3. Elongation technique: right quadratus lumborum in left sideline

Modalities: prn

Home Exercise Program

1. Tennis ball: bilateral piriformis
2. Static: quadratus lumborum stretch in left sideline with right L/S rotation

Orthopedic and Rehabilitation Associates
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PATIENT: Mr. H
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Lumbar Radiculopathy
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☐ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: NO ULTRASOUND
☐ E-STIM TO: lumbar paraspinals x 7 minutes

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☒ ICE TO: 10 min to lumbar paraspinals

☒ HOTPACKS TO: 10 min to lumbar paraspinals
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: BL L/E
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: BL L/E
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☒ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☐ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

PART 7

THIGH PAIN

CASE 24

HAMSTRING STRAIN

CC: "I pulled my hamstring."

HPI: Mr. C is 24 years old and was playing flag football with his friends 1 week ago when he felt something "pull" in his left hamstring. He stopped playing and has been resting and icing it over the last week. He did not notice any significant bruising or swelling. The pain is a little better but he is still unable to run. He wants to make sure that nothing is "torn" and he wants to get back to sport as soon as possible. Denies any back pain. No radiating symptoms. No numbness, tingling, or burning. The pain is in the proximal posterior thigh. At rest there is 1/10 pain, but walking or trying to run increases the pain quickly to 5/10 or higher if he tries to push through it.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. C is a well-developed male who looks his stated age. BP: 116/80, P: 64, RR: 14. He is able to toe and heel walk. Trunk flexion creates a pulling sensation that is painful in his left hamstring. Trunk

extension is not painful. He has a negative SLR and slump test bilaterally. He has 5/5 strength in his bilateral lower extremities, but the exam is limited because left knee flexion and left hip extension could not be fully tested secondary to pain. He has full passive range of motion of his lower extremities bilaterally. No swelling or ecchymosis is present. He has intact sensation, and 2+ patella and Achilles reflexes bilaterally. His left hamstring is tender near its insertion at the ischial tuberosity. 2+ distal pulses are palpated bilaterally.

Impression

Left hamstring strain

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 24-year-old male who presents with left hamstring pain that started while playing flag football × 1 week ago. The patient went to his physician who referred him to physical therapy to treat a proximal hamstring strain.

Scale: 1/10 at rest; 5/10

Increase pain: walking; climbing stairs; walking up hill; transitioning from sit to stand

Decrease pain: sitting; rest

Range of Motion

Lumbar spine

Flexion: 50% with pain left proximal hamstring
Extension: WNL
Left sidebending: WNL
Right sidebending: WNL
Left rotation: WNL
Right rotation: WNL

Hip

Left hip extension: WNL
Right hip extension: WNL
Left hip flexion with knee bent: 100 degrees with pain
Right hip flexion with knee bent: WNL
Left hip flexion with knee extension: 30 degrees with pain
Right hip flexion with knee extension: WNL

Joint play

WNL

Special tests

SLR—left but pain to 30 degrees

Manual muscle testing

Core: 3/5 throughout
Psoas: 3/5 left

Piriformis: 3/5 left
Proximal hamstring: 3/5 with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left psoas; iliacus; piriformis; proximal hamstring—trigger points
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with a proximal hamstring strain. The patient presents with an increase in symptoms with walking, climbing stairs, walking up hill, and transitioning from sit to stand position. Trigger points in left psoas; iliacus, piriformis, and proximal hamstring. Core weakness was noted along with weakness in left psoas and proximal hamstring.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 24.1A. Tennis ball: left piriformis and left gatroc.

(*continued*)

Self–Myofascial Release (*continued*)

FIGURE 24.1B. Foam roll: left hamstring.

Corrective Flexibility

Early stretching to the hamstring is not recommended. Start introducing low intensity stretching in the second week of rehabilitation.

FIGURE 24.2A. Active: bilateral psoas.

(*continued*)

Corrective Exercise

FIGURE 24.2B. Wall push with knee to chest.

FIGURE 24.2C. Push up incline.

FIGURE 24.2D. Walkouts within a painless range.

Manual Therapy

1. Warming technique: bilateral lumbar erector spinae left hamstring; piriformis; and gastroc
2. Inhibitory technique: left hamstring; piriformis; and gastroc
3. Activation technique: left proximal proximal rectus femoris

Modalities

1. Ice

Home Exercise Program

1. Tennis ball: left piriformis, hamstring, and gastroc
2. Ice: prn

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PATIENT: Mr. C
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Left Hamstring Strain
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Left thigh x 7 min
☐ E-STIM TO: Left thigh hand x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to L thigh

☐ HOTPACKS TO: 10 min to L thigh
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 25

QUADRICEPS STRAIN

CC: "I pulled my thigh muscle."

HPI: Ms. K is 20 years old and was playing softball 1 week ago when she felt something "pull" in her left thigh muscle. She stopped playing and has been resting and icing it over the last week. She did not notice any significant bruising or swelling. The pain is a little better but she is still unable to run. She wants to make sure that nothing is "torn" and wants to return to sport as soon as possible. Denies any back pain. No radiating symptoms. No numbness, tingling, or burning. The pain is in the proximal anterior thigh. At rest there is 3/10 pain, but walking or trying to run increases the pain quickly to 5/10 or higher if she tries to push through it.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: She smokes 1 ppd. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. K is a well-developed female who looks her stated age. BP: 110/70, P: 66, RR: 14. She is able to toe and heel walk. Trunk flexion and extension are not painful. She has a negative SLR and slump test bilaterally. She has 5/5 strength in his bilateral lower extremities, but the

exam is limited because left knee extension and hip flexion could not be fully tested secondary to pain. She has full passive range of motion of her lower extremities bilaterally, except that knee flexion is limited to 120 degrees secondary to pain. She has a positive Thomas test on the left. No swelling or ecchymosis is present. She has intact sensation, and 2+ patella and Achilles reflexes bilaterally. Her left quadriceps are tender along the proximal portion. 2+ distal pulses are palpated bilaterally.

Impression

Left quadriceps strain.

Plan

1. Physical therapy
2. Counseled to quit smoking. Educated as to multiple health risks of continuing.

PHYSICAL THERAPY

The patient is a 20-year-old female who presents with left anterior thigh pain that started while playing softball × 1 week ago. The patient went to the physician who referred her to physical therapy to treat left quadriceps strain.
Scale: 3/10 at rest; 5/10 at most
Increase pain: walking; climbing stairs; running; taking a long stride
Decrease pain: sitting; rest

Range of Motion

Lumbar spine
Flexion: WNL
Extension: WNL
Left sidebending: WNL
Right sidebending: WNL
Left rotation: WNL
Right rotation: WNL
Hip
Left hip extension: –10 degrees with pain
Right hip extension: WNL
Left hip flexion with knee bent: 120 degrees with pain
Right hip flexion with knee bent: WNL
Joint play
WNL
Special tests
Thomas + left
Manual muscle testing
Core: 3/5 throughout
Psoas: 3/5 left with pain
Rectus femoris: 3/5 left with pain

Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left psoas; iliacus; proximal rectus femoris—trigger points
Left psoas; iliacus—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with a proximal rectus femoris strain. The patient presents with an increase in symptoms with walking, climbing stairs, taking a long stride, and pushing off to run. Trigger points in left psoas; iliacus, and rectus femoris. Soft tissue restrictions noted in left psoas and iliacus. Core weakness was noted along with weakness in left psoas and rectus femoris.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 25.1. Tennis ball: left rectus femoris.

Corrective Flexibility

Early stretching to the rectus femoris is not recommended. Start introducing low intensity stretching in the second week of rehabilitation.

FIGURE 25.2. Active: bilateral hamstring.

Corrective Exercise

FIGURE 25.3A. Bridge: two legs.

FIGURE 25.3B. Bridge: leg lock with knee bent.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 25.3C. Bridge: leg lock with knee straight on foam roll.

Manual Therapy

1. Warming technique: left rectus femoris
2. Inhibitory technique: left rectus femoris, psoas, and iliacus
3. Activation technique: left rectus femoris
4. Elongation technique: left psoas and iliacus

Modalities

1. Ice

Home Exercise Program

1. Tennis ball: left rectus femoris
2. Ice: prn

Orthopedic and Rehabilitation Associates
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Omaha, OH
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PATIENT: Ms. K
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Left Quadriceps Strain
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Left thigh x 7 min
☐ E-STIM TO: Left thigh hand x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to L thigh

☐ HOTPACKS TO: 10 min to L thigh
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

PART 8

KNEE PAIN

CASE 26

MENISCUS TEAR

HPI: Mr. O is 32 years old and was playing soccer 2 weeks ago when he felt a sudden pain in his right medial knee as he made a cutting movement. He did not hear a "pop" and there was no swelling. He sat out the rest of the game and the pain has not gone away in the subsequent 2 weeks. He has been resting and icing it. No locking, catching, or giving way of the knee. The pain is 5/10 intensity and feels "very stiff and tight." Mr. O is concerned that the pain has persisted for so long and wants to return to sport. No numbness, tingling, or burning.

PMHx: None
PSHx: None
Meds: None
Allergies: NKDA
Social: No tobacco. Social EtOH
ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. O is a well-developed male who looks his stated age. BP: 126/70, P: 66, RR: 14. He has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in his bilateral lower extremities. Negative J-sign bilaterally. No swelling or ecchymosis is present. In the right knee he has medial joint line tenderness. No peripatellar tenderness. No crepitus. No instability is noted. McMurray's is positive on the right. Apley compression test is positive on the right. The left knee is within normal limits. 2+ distal pulses are palpated bilaterally.

Impression

Right knee meniscus tear

Plan

1. MRI right knee
2. Physical therapy

PHYSICAL THERAPY

The patient is a 32-year-old male who presents with right knee pain that started × 2 weeks ago while playing soccer. The patient was referred to physical therapy with a diagnosis of right meniscus tear.
Scale: 5/10 complaints of stiffness
Increase pain: walking; climbing stairs; first thing in the morning; prolonged sit to stand
Decrease pain: sitting; rest

Range of Motion

Hip
Left hip extension: WNL
Right hip extension: –10 degrees
Left hip flexion with knee bent: WNL
Right hip flexion with knee bent: WNL
Knee
Right knee flexion: pain at end range
Right knee extension: pain at end range
Right knee tibial internal rotation: 20 degrees (left is 40 degrees)
Ankle
Right ankle dorsiflexion: –10 degrees (left is +5 degrees)
Joint play
Empty
Special tests
Thomas + right; McMurray's + right
Manual muscle testing
Core: WNL
Psoas: 3/5 right with pain
Popliteus: 3/5 right with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Right: psoas; iliacus; gastroc—trigger points
Right: psoas; iliacus; sartorius; popliteus; gastroc—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with a meniscus tear. The patient presents with an increase in symptoms with walking, climbing stairs, prolonged sit to stand, and stiffness first thing in the morning. Trigger points in right psoas; iliacus, and gastroc. Soft tissue restrictions noted in right sartorius, gastroc, psoas, and iliacus. Popliteus weakness was noted along with weakness in psoas with pain. Decreased range of motion in right tibial internal rotation, ankle dorsiflexion, and hip extension.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

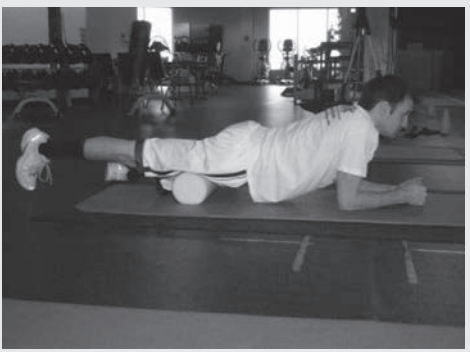

FIGURE 26.1A. Foam roll: right rectus femoris, gastroc.

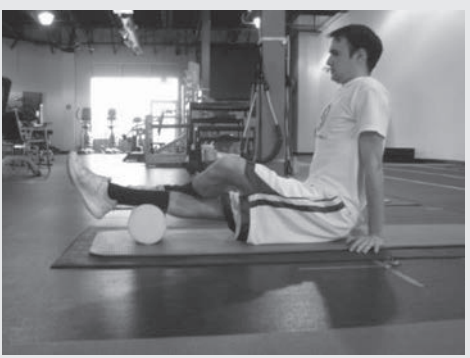

FIGURE 26.1B. Foam roll: right gastroc.

(*continued*)

Self–Myofascial Release (*continued*)

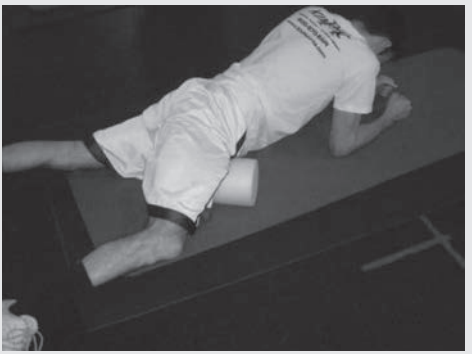

FIGURE 26.1C. Foam roll: right adductors.

Corrective Flexibility

FIGURE 26.2A. Static: right gastroc.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 26.2B. Static: right hip flexors.

FIGURE 26.2C. Active: bilateral iastroc.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 26.2D. Active: bilateral hip flexors.

Corrective Exercise

FIGURE 26.3A. Split stance: anterior knee drive.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 26.3B. Bridge: leg lock bridge (right 2:1).

FIGURE 26.3C. Bridge: leg lock with knee straight on foam roll (right 2:1).

Manual Therapy

1. Warming technique: gastroc, popliteus
2. Inhibitory technique: right, psoas, and iliacus
3. Elongation technique: right psoas and iliacus; gastroc; popliteus

Modalities

1. Ice prn

Home Exercise Program

1. Foam roll: right rectus femoris and gastroc
2. Ice: prn

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Mr. O
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Meniscus tear
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: RLE x 7 min
☐ E-STIM TO: RLE x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to R knee

☐ HOTPACKS TO: 10 min to R knee
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: BL L/E
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L cervicalparaspinals

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 27

PATELLOFEMORAL SYNDROME

CC: Knee pain

HPI: Ms. R is 28 years old and an avid runner. She has been training for the New York City marathon and increasing her mileage slowly. Her right knee began hurting 6 weeks ago. The more she ignores it, the more it hurts. The knee is now painful when running, or even walking for prolonged periods of time. If sitting for more than 15 minutes, her knee becomes achy and she needs to straighten it. The pain is primarily in the front of the knee. She has not taken any pain medications or had any x-rays. No locking, catching, or giving way of the knees.

PMHx: None

PSHx: None

Meds: None

Allergies: PCN but she is not sure what happens when she takes it.

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. R is a well-developed female who looks her stated age. BP: 110/64, P: 58, RR: 14. She has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. No swelling or ecchymosis is present. No joint line tenderness bilaterally. Peripatellar tenderness of the right knee is noted. Positive J-sign bilaterally. No crepitus. No instability is noted. McMurray and Apley compression

and distraction tests are negative. The left knee exam is within normal limits. 2+ distal pulses are palpated bilaterally.

Impression

Right patellofemoral syndrome.

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 28-year-old female who injured her right knee × 6 weeks ago while training for the New York City marathon. The patient went to the medical doctor who referred her to physical therapy. Pain is in the right inferior lateral patella.
Scale: 2/10 pain at rest; 6–7/10 with running
Increase pain: running; climbing stairs; squatting
Decrease pain: sitting; rest

Range of Motion

Hip
Left hip extension: WNL
Right hip extension: –10 degrees
Left hip flexion with knee bent: WNL
Right hip flexion with knee bent: WNL
Right hip IR: 15 degrees (left 30 degrees)
Knee
Right knee flexion: WNL
Right knee extension: WNL
Ankle
Right ankle dorsiflexion: WNL
Joint play
WNL
Special tests
Thomas + right; Ober's + right
Manual muscle testing
Core: WNL
Psoas: 3/5 right
Tensor fascia latae: 3/5 right with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Right: psoas; iliacus; vastus lateralis—trigger points
Right: psoas; iliacus; vastus lateralis; iliotibial band—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with patella-femoral syndrome. The patient presents with an increase in symptoms with running, climbing stairs, and squatting. Trigger points in right psoas; iliacus, and vastus lateralis. Soft tissue restrictions noted in right vastus lateralis and iliotibial band, psoas, and iliacus. Tensor fascia latae weakness was noted along with weakness in psoas. Decreased range of motion in right femoral internal rotation and hip extension noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 27.1A. Foam roll: right rectus femoris.

FIGURE 27.1B. Foam roll: right vastus lateralis.

(*continued*)

Self–Myofascial Release (*continued*)

FIGURE 27.1C. Foam roll: right iliotibial band.

Corrective Flexibility

FIGURE 27.2A. Static: right iliotibial band in hooklying.

FIGURE 27.2B. Static: right rectus femoris.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 27.2C. Active: bilateral gastroc.

FIGURE 27.2D. Active: bilateral hip flexors.

Corrective Exercise

FIGURE 27.3A. Bridge: leg lock bridge (right 2:1).

FIGURE 27.3B. Bridge: leg lock with knee straight on foam roll (right 2:1).

FIGURE 27.3(A-B). Single leg runner's technique.

Manual Therapy

1. Warming technique: right rectus femoris, iliotibial band
2. Inhibitory technique: right psoas and iliacus
3. Activation technique: right vastus lateralis
4. Elongation technique: right psoas and iliacus; vastus lateralis and iliotibial band

Modalities

None

Home Exercise Program

1. Tennis ball: right rectus femoris, iliotibial band
2. Static: right iliotibial band

PATIENT: Ms. R
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☐ NEW DIAGNOSIS ☒ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Left quadriceps strain
ICD

DIAGNOSIS2
ICD

PREGNANT? ☐ YES ☒ NO PERTINENT MEDICAL HISTORY:

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP____ DBP____ HR____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: Left thigh x 7 min
☐ E-STIM TO: Left thigh hand x 7 min B/L
B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:
☐ ICE TO: 10 min to L thigh
B/L
☐ HOTPACKS TO: 10 min to L thigh
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO:
☐ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT
TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOFAS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER:

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait,
☒ improve transfers,
Other
PHYSICIAN'S SIGNATURE DATE

CASE 28

KNEE OSTEOARTHRITIS

CC: Knee pain

HPI: Mr. T is 62 years old and complains of a 6 week history of dull, aching left knee pain. The pain is worse with stair climbing and better with lying flat. When sitting for a prolonged period of time, the knee bothers him until he straightens it. Long distance walking also makes the pain worse. He takes an occasional Tylenol for the pain, which helps a little. On average, the pain is 4/10 intensity. He has not had any imaging studies of his knees. No locking, catching, or giving way of the knees.

PMHx: HTN

PSHx: None

Meds: HCTZ

Allergies: NKDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. T is a muscular male who looks his stated age. BP: 128/82, P: 64, RR: 14. He has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. No swelling or ecchymosis is present. No joint line or peripatellar tenderness bilaterally. Negative J-sign bilaterally. Positive crepitus in the knees, left more than right. No instability is noted. McMurray and Apley compression and distraction tests are negative. 2+ distal pulses are palpated bilaterally.

Impression

Right knee osteoarthritis

Plan

1. X-ray B/L knees
2. Physical therapy

PHYSICAL THERAPY

The patient is a 62-year-old male who complains of right knee pain that started 6 weeks ago. The patient says it is an insidious onset. The patient went to the physician who referred the patient to physical therapy to treat for knee osteoarthritis.

Scale: 4/10 pain at rest
Increase pain: climbing stairs; squatting; prolonged sitting and walking
Decrease pain: sitting; rest with knee straight

Range of Motion

Hip
Left hip extension: WNL
Right hip extension: –10 degrees
Left hip flexion with knee bent: WNL
Right hip flexion with knee bent: WNL
Right hip IR: 0 degree (left 25 degrees)
Knee
Right knee flexion: 115 degrees with pain
Right knee extension: WNL
Ankle
Right ankle dorsiflexion: WNL
Joint play
Right anterior knee glide is 2/6
Special tests
Thomas + right
Manual muscle testing
Core: WNL
Psoas: 3/5 right
Medial hamstring: 3/5 right with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Right: psoas; iliacus; vastus lateralis rectus femoris—trigger points
Right: psoas; iliacus; vastus lateralis; medial hamstring—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with right knee osteoarthritis. The patient presents with an increase in symptoms with prolonged sitting and walking, climbing stairs, and squatting. Trigger points in right psoas; iliacus, rectus femoris, and vastus lateralis. Soft tissue restrictions noted in right vastus lateralis, medial hamstring, psoas, and iliacus. Medial hamstring weakness was noted along with weakness in psoas. Decreased range of motion in right femoral internal rotation and hip extension noted.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

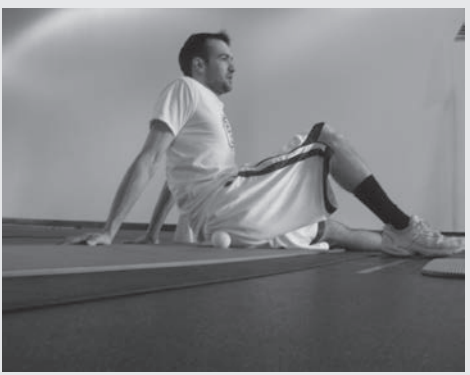

FIGURE 28.1A. Tennis ball: right piriformis.

FIGURE 28.1B. Foam roll: right rectus femoris.

(*continued*)

Self–Myofascial Release (*continued*)

FIGURE 28.1C. Foam roll: right vastus lateralis.

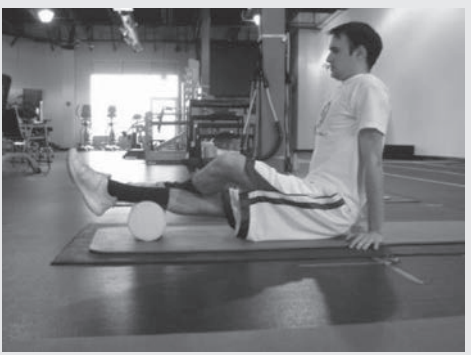

FIGURE 28.1D. Foam roll: right gastroc.

Corrective Flexibility

FIGURE 28.2A. Static: right rectus femoris prone on table.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 28.2B. Static: right piriformis leg on table.

FIGURE 28.2C. Static medial hamstring on table in sitting position.

FIGURE 28.2D. Active: bilateral gastroc.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 28.2E. Active: bilateral hip flexors.

Corrective Exercise

FIGURE 28.3A. Wall push: knee to chest.

FIGURE 28.3B. Squat technique.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 28.3C. Single balance reach: 3D.

Manual Therapy

1. Warming technique: right rectus femoris, iliotibial band, vastus lateralis
2. Inhibitory technique: right psoas and iliacus
3. Activation technique: right vastus lateralis, vastus medialis oblique
4. Elongation technique: right psoas and iliacus, vastus lateralis, iliotibial band, medial hamstring
5. Hip mobilizations to improve internal rotation
6. Anterior tibial mobilizations to improve knee flexion

Modalities

1. Heat prn

Home Exercise Program

1. Tennis ball: right rectus femoris, iliotibial band, gastroc
2. Static: right rectus femoris prone on bed
3. Heat prn

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Mr. T
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Knee Osteoarthritis
ICD

DIAGNOSIS2
ICD

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: HTN

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP 20 DBP 10 HR 20
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: LLE x 7 min
☐ E-STIM TO: LLE x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:
☐ ICE TO: 10 min to L knee

☐ HOTPACKS TO: 10 min to L knee
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: BL L/E
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: BL L/E
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER:

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other

PHYSICIAN'S SIGNATURE DATE

CASE 29

DEGENERATIVE MENISCUS TEAR

CC: Left knee pain

HPI: Mr. E is 66 years old and complains of 4 months of left knee pain. He has always had an "aching" in the knees, but 4 months ago the left knee got worse. No inciting event. Two months ago, the left knee "locked" and it took about 5 minutes of massaging it for the knee to unlock. Since then, no locking incidents. No giving way of the knee. Sitting is more painful. Climbing stairs is also painful. The pain is 3/10 while sitting and 6–7/10 while going down stairs. Rest makes the pain better. He has not noted any bruising or swelling of the knee.

PMHx: High cholesterol

PSHx: None

Meds: Niacin

Allergies: NKDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. E is an overweight male who looks his stated age. BP: 136/88, P: 70, RR: 14. He has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. A small effusion is noted over the left knee. No ecchymosis is present. Medial joint line tenderness is noted over the left knee. No peripatellar tenderness is noted. Negative

J-sign bilaterally. Positive crepitus in the knees bilaterally. No instability is noted bilaterally. McMurray and Apley compression tests are positive on the left but not on the right. 2+ distal pulses are palpated bilaterally.

Impression

Degenerative meniscus tear

Plan

1. MRI left knee
2. Physical therapy

PHYSICAL THERAPY

The patient is 66 years old who presents with left knee pain that started 4 months ago. Pain has gotten progressively worse with an insidious onset. The patient went to the physician who referred the patient to physical therapy. The patient currently reports that feeling of locking in his left knee.
Scale: 3/10 pain at rest; 6–7/10 while descending stairs
Increase pain: climbing/descending stairs; squatting; prolonged sitting
Decrease pain: sitting;

Range of Motion

Hip
WNL
Knee
Left knee flexion: 125 degrees with pain
Left knee extension: WNL
Ankle
Right ankle dorsiflexion: WNL
Joint play
Empty
Special tests
Apley compression: + left
Manual muscle testing
Core: WNL
Psoas: WNL
Medial hamstring: 3/5 left with pain
Popliteus: 3/5 left with pain
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left: popliteus; sartorius; adductor longus—trigger points
Left: medial hamstring; popliteus—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with left knee medial meniscus tear. The patient presents with an increase in symptoms with squatting; ascending/descending stairs, and prolonged sitting. Trigger points in left popliteus, sartorius, and adductor longus. Soft tissue restrictions noted in left medial hamstring and popliteus. Medial hamstring and popliteus weakness was noted. Decreased range of motion in left knee flexion noted with pain.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

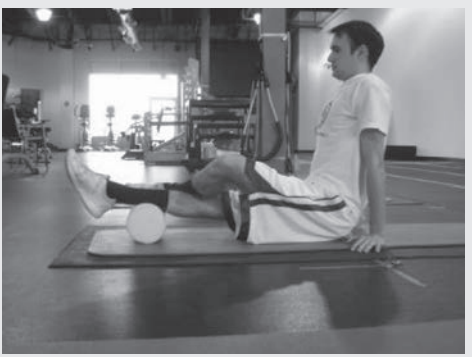

FIGURE 29.1A. Foam roll: left medial gastroc.

FIGURE 29.1B. Foam roll: left adductors and medial hamstrings.

(*continued*)

Self Myofascial Release (*continued*)

FIGURE 29.1C. Foam roll: left medial hamstring.

Corrective Flexibility

FIGURE 29.2A. Static: left medial hamstring on table.

FIGURE 29.2B. Static: left gastroc.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 29.2C. Active: bilateral gastroc.

FIGURE 29.2D. Active: bilateral hamstrings 3D on chair.

(*continued*)

Corrective Flexibility (*continued*)

Corrective Exercise

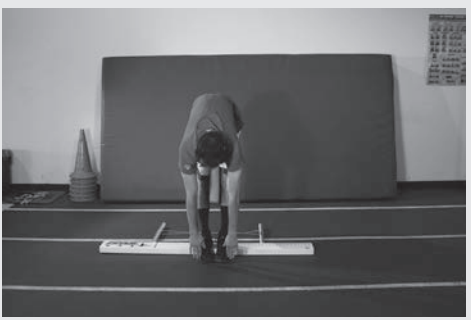

FIGURE 29.3A. Progressive hamstring.

FIGURE 29.3B. SLR with core activation.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 29.3C. Squat with adduction.

Manual Therapy

1. Warming technique: left medial hamstring. Adductors, medial gastroc
2. Inhibitory technique: left popliteus
3. Activation technique: left medial hamstring at distal attachment
4. Elongation technique: left medial hamstring, sartorius, and popliteus

Modalities: prn

Home Exercise Program

1. Tennis ball: left medial gastroc
2. Foam roll: left adductors
3. Static: left medial hamstring on bed

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PATIENT: Mr. E
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Degenerative Meniscus Tear
ICD

DIAGNOSIS2
ICD

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: LLE x 7 min
☐ E-STIM TO: LLE x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:
☐ ICE TO: 10 min to L knee

☐ HOTPACKS TO: 10 min to L knee
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ SOMETRICS ☐ SOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☒ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER:

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other

PHYSICIAN'S SIGNATURE DATE

PART 9

LOWER LEG PAIN

CASE 30

COMPARTMENT SYNDROME

CC: Left anterior-lateral calf pain

HPI: Mr. F is a 32-year-old amateur marathon runner. He had been training for the Philadelphia marathon and noticed that after 10 miles, he would develop a severe pain in his left anterior-lateral calf. The pain would get worse until he rested. As soon as he stopped running, the pain would subside. If he tried running again, the pain would quickly return. He kept training, but in the last week, the pain started after only 2 miles. The marathon is in 1 month and he is concerned that he will not be able to participate. He denies any numbness, tingling, or burning. No weakness. He has never had a problem like this before and he has been running since high school.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. F is a well-developed, fit male who looks his stated age. BP: 114/74, P: 60, RR: 14. He has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. 2+ distal pulses are palpated bilaterally. There is no swelling or ecchymosis in his

lower extremities bilaterally. No tenderness over his calves. No bony tenderness.

Impression

Chronic compartment syndrome

Plan

1. Schedule compartment pressure test
2. Physical therapy

PHYSICAL THERAPY

The patient is a 32-year-old male runner who presents with left anterior-lateral calf pain that started a week ago. The patient noticed while training for a marathon that after the 10th mile he started to feel severe pain. The patient was referred to physical therapy with a diagnosis of chronic compartment syndrome.
Scale: 10/10 pain
Increase pain: running >2 miles
Decrease pain: not running

Range of Motion

Hip
Hip extension: left 10 degrees
Hip extension: right 0 degree
Knee
Left knee flexion: WNL
Left knee extension: WNL
Ankle
Right ankle dorsiflexion: WNL
Left ankle dorsiflexion: –5 degrees
Manual muscle testing
WNL
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left: gastroc, anterior tibialis, vastus lateralis—trigger points
Left: anterior tibialis, biceps femoris, vastus lateralis—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with left compartment syndrome. The patient presents with an increase in symptoms with running. Trigger points in left gastroc, anterior tibialis, and vastus lateralis. Soft tissue restrictions noted in left anterior tibialis, biceps femoris, and vastus lateralis.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 30.1A. Tennis ball: left anterior tibialis.

FIGURE 30.1B. Foam roll: peroneus longus.

(*continued*)

Self–Myofascial Release (*continued*)

FIGURE 30.1C. Foam roll: iliotibial band.

FIGURE 30.1D. Foam roll: vastus lateralis.

Corrective Flexibility

FIGURE 30.2A. Static: left rectus femoris in kneeling.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 30.2B. Static: left gastroc.

FIGURE 30.2C. Static: left lateral hamstring in sitting.

FIGURE 30.2D. Active: bilateral gastroc.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 30.2E. Active: bilateral hamstrings 3D on chair.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 30.2F. Active: bilateral hip flexor 3D on chair.

Corrective Exercise

FIGURE 30.3(A–B). Running techniques on single leg.

FIGURE 30.4(A–D). Balance reach: BD.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 30.5(A–B). Step up technique.

Manual Therapy

1. Warming technique: left vastus lateralis, iliotibial band, biceps femoris, anterior tibialis
2. Inhibitory technique: left anterior tibialis
3. Activation technique: left anterior tibialis proximal attachment
4. Elongation technique: left vastus lateralis, biceps femoris, anterior tibialis

Modalities

Home Exercise Program

1. Tennis ball: left anterior tibialis, vastus lateralis, iliotibial band
2. Static: left bicep femoris in sitting on table
3. Static: left iliotibial band in hooklying

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PATIENT: Mr. F
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Chronic Compartment Syndrome
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP _____ DBP _____ HR _____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: LLE x 7 min
☐ E-STIM TO: LLE x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to LLE

☐ HOTPACKS TO: 10 min to LLE
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE
OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 31

MEDIAL TIBIAL STRESS SYNDROME ("SHIN SPLINTS")

CC: Left shin pain

HPI: Ms. R is 43 years old and enjoys going for long walks. She complains of left anterior shin pain that hurts when she starts walking, and then feels better if she continues to "push through the pain." After she finishes her walk, however, the shin aches for about 30 minutes. This has been happening for a month. She is healthy and wants to continue walking, but the pain is making this very difficult. No numbness, tingling, or burning. No weakness.

PMHx: None

PSHx: None

Meds: None

Allergies: KDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. R. is a well-developed female who appears younger than her stated age. BP: 110/60, P: 68, RR: 14. She has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. 2+ distal pulses are palpated bilaterally. There is no swelling or ecchymosis in the lower extremities bilaterally. Tenderness is noted along the medial aspect of the left tibia. Bilateral hyperpronation of the feet is noted.

Impression

Medial tibial stress syndrome

Plan

1. X-ray left tibia
2. Orthotics
3. Physical therapy

PHYSICAL THERAPY

The patient is a 43-year-old female who presents with left medial shin pain that started several weeks ago while walking. The patient went to the physician who found that she has a medial stress fracture to the tibia and was referred to physical therapy.
Scale: 6–7/10 pain
Increase pain: walking >30 minutes
Decrease pain: rest

RANGE OF MOTION

Hip
Hip extension: WNL
Knee
Left knee flexion: WNL
Left knee extension: WNL
Ankle
Right ankle dorsiflexion: WNL
Left ankle dorsiflexion: –15 degrees
Joint play
Talocrural 2/6 left side
Special tests
Anterior impingement + to left talocrural
Manual muscle testing
WNL
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left: gastroc, anterior tibialis, posterior tibialis, flexor hallucis longus, flexor digitorum longus—trigger points
Left: extensor retinaculum, anterior tibialis, flexor retinaculum—soft tissue restrictions
Posture
Pes planus foot left greater than right
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with left medial shin pain consistent with medial tibial stress fracture. The patient presents with an increase in symptoms with walking >30 minutes. Trigger points in left gastroc, anterior tibialis, posterior tibialis, flexor hallucis longus, and flexor digitorum longus. Soft tissue restrictions noted in left anterior tibialis, extensor, and flexor retinaculum.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

FIGURE 31.1A. Tennis ball: left anterior tibialis

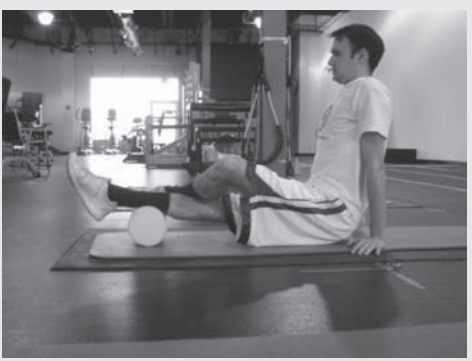

FIGURE 31.1B. Foam roll: left gastroc

Corrective Flexibility

FIGURE 31.2A. Static: left gastroc

FIGURE 31.2B. Active: bilateral gastroc

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 31.3(A–C). Active: bilateral hamstrings 3D on chair

FIGURE 31.4(A–C). Active: bilateral hip flexor 3D on chair

(*continued*)

Corrective Flexibility (*continued*)

Corrective Exercise

FIGURE 31.5A. BAPS: clockwise/counter clockwise

(*continued*)

Corrective Exercise (*continued*)

FIGURE 31.5B. Running techniques on single leg

FIGURE 31.5C. Balance reach: 3D

(*continued*)

Corrective Exercise (*continued*)

FIGURE 31.5D. Step-up technique

(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: left gastroc, anterior tibialis,
2. Inhibitory technique: left flexor digitorum longus, flexor hallucis longus, and posterior tibialis
3. Activation technique: left anterior tibialis proximal attachment and medial gastroc
4. Elongation technique: left flexor and extensor retinaculum, anterior tibialis

Modalities

1. Ice medial shin prn

Home Exercise Program

1. Tennis ball: left anterior tibialis
2. Foam roll: left gastroc
3. Static: anterior tibialis left
4. Static: gastroc left
5. Active: hamstring left

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Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Ms. R
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Medial Tibial Stress Syndrome
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: LLE x 7 min
☐ E-STIM TO: LLE x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to LLE

☐ HOTPACKS TO: 10 min to LLE
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

PART 10

ANKLE AND FOOT

CASE 32

ACHILLES TENDONITIS

CC: Achilles pain

HPI: Ms. B is 34 years old and plays soccer on the weekends. Over the last 3 weeks she has noted increasing pain in her left Achilles tendon when she tries to run. Sometimes the pain is also present when she walks. The pain is close to the heel. No numbness, tingling, or burning. No weakness. She has not noted this sort of pain before. The pain is 8/10 when she runs and 0/10 when she is sitting.

PMHx: None

PSHx: None

Meds: None

Allergies: NKDA

Social: No tobacco; social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Ms. B is a well-developed female who appears her stated age. BP: 100/62, P: 68, RR: 14. She has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. 2+ distal pulses are palpated bilaterally. She has her typical pain when performing single leg toe raises on the left. Tenderness is noted over the distal portion of the Achilles tendon as it inserts into the calcaneus. Negative Thompson test bilaterally. Ms. B does not exhibit hyperpronation on either foot.

Impression

Achilles tendonitis

Plan

1. Physical therapy

PHYSICAL THERAPY

The patient is a 34-year-old female who presents with left Achilles pain that started 3 weeks ago while running. The patient is a soccer player and the pain progressively got worse. The patient went to her medical doctor who referred her to physical therapy,
Scale: 8/10 pain
Increase pain: running and prolonged walking
Decrease pain: sitting

Range of Motion

Hip
Hip extension: WNL
Knee
Left knee flexion: WNL
Left knee extension: WNL
Ankle
Right ankle dorsiflexion: WNL
Left ankle dorsiflexion: –10 degrees with pain
Joint play
WNL
Special tests
SLR – (but restricted hamstrings noted)
Manual muscle testing
WNL
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left: gastroc, posterior tibialis, flexor hallucis longus, flexor digitorum longus—trigger points
Left: gastroc, flexor digitorum longus, plantar fascia, hamstrings, flexor retinaculum—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with Achilles tendonitis. She presents with an increase in symptoms with running and

prolonged walking. Trigger points in left gastroc, posterior tibialis, flexor hallucis longus, and flexor digitorum longus. Soft tissue restrictions noted in gastroc, flexor digitorum longus, plantar fascia, hamstrings, and flexor retinaculum.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

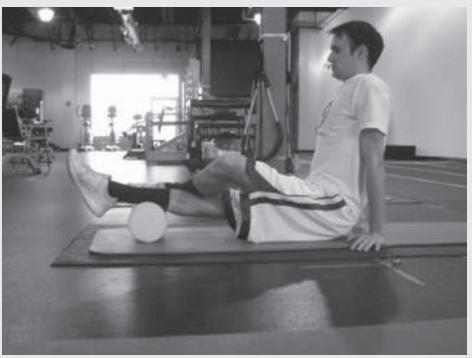

FIGURE 32.1. Tennis ball: left gastroc.

Corrective Flexibility

FIGURE 32.2A. Static: left gastroc.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 32.2B. Static: left hamstring on the table.

FIGURE 32.2C. Active: bilateral gastroc.

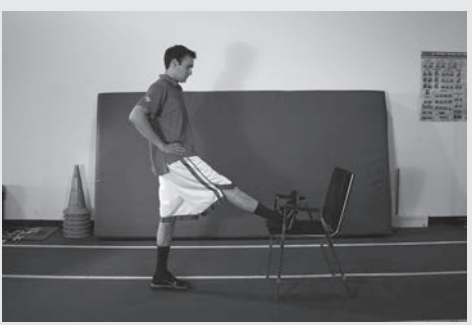

FIGURE 32.2D. Active: bilateral hamstrings 3D on chair.

(*continued*)

Corrective Flexibility (*continued*)

Corrective Exercise

FIGURE 32.3(A–B). Progressive hamstring.

(*continued*)

Corrective Exercise (*continued*)

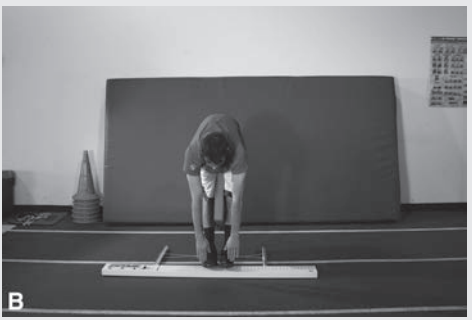

FIGURE 32.4. Straight leg raise with core activation.

FIGURE 32.5. Walkouts

FIGURE 32.6(A–B). Step-up technique.

(*continued*)

Corrective Exercise (*continued*)

Manual Therapy

1. Warming technique: left gastroc, hamstring
2. Inhibitory technique: left flexor digitorum longus, flexor hallucis longus, and posterior tibialis
3. Elongation technique: left flexor retinaculum, flexor digitorum longus, flexor hallucis longus, plantar fascia, hamstring, and posterior tibialis

Modalities

1. Ice to the Achilles attachment prn

Home Exercise Program

1. Tennis ball: left gastroc
2. Static: hamstring left on table

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PATIENT: Ms. B
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 2
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Achilles Tendonitis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: DM

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: RLE x 7 min
☐ E-STIM TO: RLE x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to LLE

☐ HOTPACKS TO: 10 min to LLE
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☐ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER: _____

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
SBP-SYSTOLIC BLOOD PRESSURE HR-HEART RATE HEP-HOME EXERCISE PROGRAM
NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other _____

PHYSICIAN'S SIGNATURE _____ DATE _____

CASE 33

ANKLE SPRAIN

CC: "I sprained my ankle."

HPI: Mr. U is 44 years old and was stepping off the curb 2 days ago and "fell over" his right ankle. The lateral aspect of the ankle has been painful ever since. He is able to place weight on the ankle and has been ambulating with a limp since the accident. He denies any locking or catching of the ankle. The pain is 4/10 intensity and is more painful with weight-bearing. He did not go to the ER, but is coming to the office because the pain has not gotten better. No numbness, tingling, or burning.

PMHx: DM type II

PSHx: None

Meds: Glucophage

Allergies: NKDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. U is an overweight male who appears his stated age. BP: 142/88, P: 77, RR: 14. He has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. 2+ distal pulses are palpated bilaterally. He has an antalgic gait, favoring his left side. Tenderness is noted along his right ATFL. Anterior drawer test and talar tilt

tests are negative bilaterally. Minimal swelling is noted in the right ankle. No bony tenderness is found. No hyperpronation is noted bilaterally.

Impression

Grade I ankle sprain

Plan

1. PRICE
2. Physical therapy

PHYSICAL THERAPY

The patient is a 44-year-old male who sprained his right ankle while stepping off a curb last week. The patient went to the physician who did a physical exam and referred the patient to physical therapy.
Scale: 4/10 pain
Increase pain: weight bearing; ankle inversion and plantar flexion
Decrease pain: sitting

Range of Motion

Hip
Hip extension: WNL
Knee
Left knee flexion: WNL
Left knee extension: WNL
Ankle
Left ankle dorsiflexion: WNL
Right ankle dorsiflexion: –10 degrees with pain
Right ankle inversion: 15 degrees with pain
Right ankle plantar flexion: WNL with pain
Joint play
Empty
Special tests
Anterior draw +
Manual muscle testing
WNL
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Right gastroc, peroneus longus/brevis—trigger points
Right: gastroc, flexor digitorum longus, plantar fascia, psoas, gluteus medius, extensor retinaculum—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with right ankle sprain. The patient presents with an increase in symptoms with weight bearing, plantar flexion, and inversion. Trigger points in right gastroc, peroneus longus/brevis. Soft tissue restrictions noted in gastroc, flexor digitorum longus, plantar fascia, psoas, gluteus medius, and flexor retinaculum.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

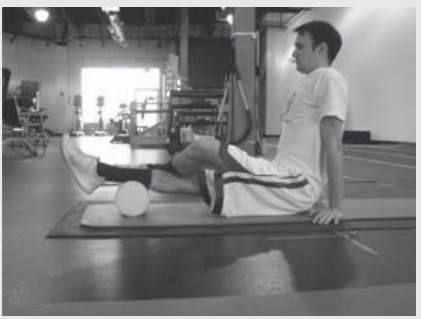

FIGURE 33.1 Tennis ball: right gastroc.

Corrective Flexibility

FIGURE 33.2 Active: soleus.

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 33.3(A–C). Active: hamstring 3D.

FIGURE 33.4(A–C). Active: hip flexor 3D.

(*continued*)

Corrective Flexibility (*continued*)

Corrective Exercise

FIGURE 33.5A. Squat: parallel stance.

(*continued*)

Corrective Exercise (*continued*)

FIGURE 33.5B. BAPS clockwise/counter clockwise.

FIGURE 33.5C. Resisted dorsiflexion/eversion/inversion/plantar flexion—fast and short ROM.

Manual Therapy

1. Warming technique: right gastroc
2. Activation technique: right peroneus longus; anterior tibialis
3. Inhibitory technique: right psoas; gluteus medius
4. Elongation technique: right gastroc; psoas

Modalities

1. Ice to the ankle prn

Home Exercise Program

1. Tennis ball: right gastroc
2. Active: right soleus

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Ms. U
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☒ NEW DIAGNOSIS ☐ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Ankle sprain
ICD

DIAGNOSIS2
ICD

PREGNANT? ☐ YES ☒ NO PERTINENTMEDICALHISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO:

MODALITIES: ☐ ULTRASOUND TO: LLE x 7 min
☐ E-STIM TO: LLE x 7 min B/L

☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO:
☐ ICE TO: 10 min to LLE

☐ HOTPACKS TO: 10 min to LLE
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
☐ SLIDEBOARD ☐ PLYOMETRICS ☐ MODIFIED KNEE BEND
☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
☒ STRETCHING ☒ MASSAGE ☒ MYOF AS RELEASE ☒ SPRAY/STRETCH
TO: LE B/L

EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
☐ WORK HARDENING ☒ BIOMECHANICS ☐ 1 HANDED TECHNIQUES
☒ GAIT TRAINING ☐ FINE MOTOR ☐ COORD/BALANCE

OTHER:

ADL-ACTIVITIES OF DAILY LIVING AAROM-ACTIVE/ASSISTIVERANGEOFMOTION DBP-DIASTOLIC BLOOD PRESSURE
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NWB-NON-WEIGHT BEARING
PRE's-PROGRESSIVE RESISTIVE EXERCISES WBAT-WEIGHT BEARING AS TOLERATED
ROM-RANGE OF MOTION

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
☒ decrease pain, ☒ improve strength/endurance, ☒ improve balance coordination, ☒ improve gait, ☒ improve transfers,
Other

PHYSICIAN'S SIGNATURE DATE

CASE 34

PLANTAR FASCIITIS

CC: Heel pain

HPI: Mr. N is 38 years old and complains of 3-week history of left heel pain. The pain is worst when he first gets up in the morning and takes his first step. The pain is also exacerbated when he stands up after sitting for a while. As he walks, the pain dissipates at first, but if he keeps walking then the pain returns. No lower leg pain. No numbness, tingling, or weakness. No trauma. The pain began gradually.

PMHx: None

PSHx: None

Meds: Glucophage

Allergies: NKDA

Social: No tobacco. Social EtOH

ROS: Noncontributory

PHYSICAL EXAMINATION

On exam, Mr. N is in no acute distress and appears his stated age. BP: 138/78, P: 70, RR: 14. He has 5/5 strength, intact sensation, and 2+ patella and Achilles reflexes in the bilateral lower extremities. 2+ distal pulses are palpated bilaterally. He exhibits bilateral hyperpronation. Tenderness is noted on the medial aspect of his left calcaneus. Passive dorsiflexion of the left foot is uncomfortable for him. No swelling is noted. The pain is 5/10 in the morning when he takes his first few steps. He is not taking any pain medications.

Impression
Plantar fasciitis

Plan
1. X-ray bilateral feet
2. Orthotics
3. Physical therapy

PHYSICAL THERAPY

The patient is a 38-year-old male who presents with left heel pain that started 3 weeks ago. The onset of pain was insidious. He went to the physician who referred him to physical therapy.
Scale: 5/10 pain
Increase pain: mornings; walking barefoot; prolonged sitting to standing
Decrease pain: sitting

Range of Motion

Hip
Hip extension: WNL
Knee
Left knee flexion: WNL
Left knee extension: WNL
Ankle
Right ankle dorsiflexion: WNL
Left ankle dorsiflexion: –5 degrees with pain
Manual muscle testing
WNL
Neurodynamic assessment
WNL
Tight tender points/soft tissue restrictions
Left: gastroc; posterior tibialis; flexor hallucis longus/brevis; flexor digitorum longus/brevis; quadratus plantae; plantar fascia—trigger points
Left: gastroc, flexor digitorum longus/brevis, plantar fascia; flexor hallucis longus/brevis—soft tissue restrictions
Posture
WNL
Ergonomics
WNL

ASSESSMENT

The patient presents with signs and symptoms consistent with left plantar fasciitis. The patient presents with an increase in symptoms walking barefoot, first thing in the morning, and prolonged sitting to stand. Trigger points in left gastroc, posterior tibialis, flexor hallucis longus/brevis,

flexor digitorum longus/brevis, quadratus plantae, and plantar fascia. Soft tissue restrictions noted in left gastroc, flexor digitorum longus/brevis, plantar fascia, and flexor hallucis longus/brevis.

Plan

Self–myofascial release/corrective flexibility/corrective exercises/corrective manual therapy/modalities

Self–Myofascial Release

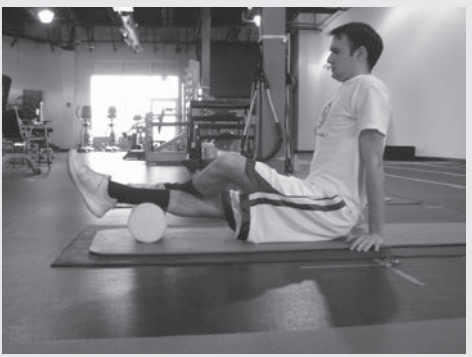

FIGURE 34.1. Foam roll: left gastroc. Golf ball: left plantar fascia.

Corrective Flexibility

FIGURE 34.2A. Static: two way: gastroc/soleus with toe dorsiflexion against wall (knee straight to knee bent).

(*continued*)

Corrective Flexibility (*continued*)

FIGURE 34.2B. Active: hamstring 3D.

(*continued*)

Corrective Flexibility

FIGURE 34.2C. Active: hip flexor 3D.

Corrective Exercise

FIGURE 34.3. Resisted dorsiflexion: theraband (fast and short range).

Manual Therapy

1. Warming technique: left gastroc
2. Activation technique: left anterior tibialis
3. Inhibitory technique: left psoas; gastroc/soleus/flexor digitorum/hallucis
4. Elongation technique: right gastroc; psoas; flexor digitorum longus/brevis and flexor hallucis longus/brevis

Modalities

1. Ice prn
2. Ultrasound to plantar fascia prn

Home Exercise Program

1. Foam roll: left gastroc
2. Golf ball: left plantar fascia

Orthopedic and Rehabilitation Associates
Orthopedic Street
Omaha, OH
(555) 555-5555
Fax. (666) 666-7777

PATIENT: Mr. N
DATE: 2009

ORTHOPAEDIC REHABILITATION PRESCRIPTION

REHAB THERAPIES ☒ PT ☐ OT ☐ SESSIONS/WK 3
TOTAL 12

☐ NEW DIAGNOSIS ☒ RE-EVALUATION ☒ OUTPATIENT

DIAGNOSIS1 Plantar Fasciitis
ICD _____

DIAGNOSIS2 _____
ICD _____

PREGNANT? ☐ YES ☒ NO PERTINENT MEDICAL HISTORY: None

GOALS:
MD/DO: ☒ INCREASE MOBILITY ☒ INCREASE ADL ☒ INCREASE STRENGTH ☒ DECREASE PAIN

PRECAUTIONS: ☐ CARDIAC MAX-SBP ____ DBP ____ HR ____
ABOVE BASELINE ☐ DIABETES: HYPER/HYPOGLYCEMIA ☐ ORTHOSTASIS
☐ OTHER _____

WEIGHT BEARING: ☐ WBAT ☐ TTWB ☐ NWB
TO: _____

MODALITIES: ☐ ULTRASOUND TO: Left foot x 7 min
☐ E-STIM TO: Left foot x 7 min B/L
B/L _____
☐ FLUID THERAPY ☐ JOBST ☐ PARAFFIN
TO: _____
☐ ICE TO: 10 min to left foot
B/L _____
☐ HOTPACKS TO: 10 min to left foot
☐ EXERCISES ☐ PROM ☐ AAROM ☐ AROM
TO: B/L LE
☒ PRE's ☐ ISOMETRICS ☐ ISOKINETICS
TO: B/L LE
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☐ STEPUPS
☐ LUMBAR STABILIZATION ☐ WILLIAM's ☐ McKENZIE ☐ CERVICAL EXERCISES
☐ RELAXATION ☐ COORDINATION

MANUAL: ☒ CONTRACT RELAX ☐ CRANIOSACRAL ☒ JONES/C-STRAIN ☒ SOFT TISSUE MOBILIZATION
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EDUCATION: ☒ MOBILITY: ☐ TRANSFERS ☒ ADL ☒ HEP ☐ ENERGY CONSERV
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OTHER: _____

The above is medically necessary to decrease debility and achieve ADL independence. Also to:
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