FRONT RANGE
ORTHOPAEDICS & SPINE TEAM

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COMPREHENSIVE ADULT SPINE, ADULT TOTAL HIP AND KNEE RECONSTRUCTION, AND ORTHOPAEDIC TRAUMATOLOGY/FRACTURE MANAGEMENT

Patient Name:_____

Diagnosis: _____

Sacroiliac Joint Fusion Physical Therapy Prescription

The intent of this protocol is to provide guidelines for rehab. It is not intended to be used as a substitute for clinical decision-making.

If any of the following occur, contact Dr. Anderson and hold off on physical therapy:

- Any signs of infection
- Worsening of radicular symptoms, including progressive weakness
- Unexpected high self-reports of pain in comparison to presurgical state

Goals

- Pain control and promote healing
- Emphasize weightbearing limitations
- Adherence to cautious mid range of hip Range of Motion

Precautions

- Avoid hip abduction across midline
- Do not perform repetitive Open Chain Quad Set/Straight Leg Raise Flexion motions
- Avoid maximum hip flexion, adduction, and internal rotation
- 5 to 10 pound lifting restrictions
- Limit weightbearing to less than 25% of patients body weight on the operative side
- Avoid stairs if possible

Phase I (0-3 Weeks): Protective Phase

Therapy

- First visit at 1-2 weeks postoperatively as an outpatient.
- 2-4 visits during first 3 weeks postoperatively.
- Use crutches or walker
- Range of Motion within comfortable range
- Review SI BELT brace wear with patient.
- Evaluate gait, and walking aid progression.
- Ambulate per PT discretion, lead with dominant leg
- Limit ambulation to less than 1 hour/day for 4 days postoperatively

- Review Indications for Initiation of Bone Growth Stimulation Therapy.
    - If Indicated, Confirm Patient's receipt of/order placed for therapy

Indication of External Bone Growth Stimulator:

☐ Failed Fusion/Non-Union	☐ EtOH Abuse/Alcoholism
☐ History of Chemotherapy	☐ Diabetes
☐ Obesity	☐ Osteoporosis
☐ Renal Disease	☐ Tobacco use - Current
☐ Steroid use	☐ Bone Depleting Medications

Exercises

- **Walking Program:** Begin 1-2 times a day for 10 minutes, progress as tolerated **Begin Week 2**
- **Transversus Abdominis Bracing:** 10 second isometrics with normal breathing (without pelvic tilt) in supine position.
- **Multifidus:** 10 second isometrics with normal breathing in prone position (if able).
- **Glute sets:** 10 second isometrics with emphasis on proper gluteal muscle group firing in prone position (bilateral and unilateral).
- **Schedule Phase II outpatient therapy to begin at week 3 postoperatively.**

Phase II (3-6 Weeks)

Therapy

- Starting at week 3, 2-3 times per week, 4-6+ weeks

Precautions

- Keep spine in neutral and good posture for strengthening with focus on proper neuromuscular control, do not progress without good neuromuscular control.
- Avoid reaching limit of hip adduction, flexion and internal rotation.
- Avoid bending, lifting, and twisting (**No BLT**). No pushing and pulling. Nothing heavier than 10 lbs until after 6 weeks postoperatively.
- After 6 weeks postoperatively, continued avoidance of bending, lifting, and twisting (**No BLT**). No pushing and pulling. Nothing heavier than 15 lbs until after 12 weeks postoperatively.
- Limit sitting, including in the car, to no more than 30 minutes at a time (standing/walking breaks - at least 50-100 feet at a time).
- Minimize hip adduction, flexion, and internal rotation exercises at the end range of range of motion.

- **Driving:** When off narcotic pain medications, and patient feels that they are safe enough to drive, able to react to avoid accidents/drive defensively without hesitation. Dr. Anderson does not clear patients to drive, this is an individual decision for each patient.

Goals:

- Diminish pain/inflammation and minimize lower extremity radiating symptoms (ice, modalities as needed).
- Demonstrate hip extension, abduction, and flexion strength ≥ 4/5
- Minimize scar tissue formation through glutes and deep external rotators; perform scar tissue mobilizations. Address layer II-III piriformis releases as needed.
- Unrestricted ambulation with use of an assistive device (walker/crutch)

- Learn correct posture, body mechanics, transfers, and positioning.
- Achieve proper muscle firing for transversus abdominis, multifidus, and gluteal motor groups
- Focus on walking program, increasing tolerance to 10 minutes, 2 times a day.

Education

- **Posture Education:** Upright sitting posture with Lumbar Roll at all times; Frequent changes in positions, and sleeping positions. Teach how different body positions and postures affect the spine.
- **Body Mechanics:** Light lifting, transfers (include logrolling), positioning, etc.

Exercises (Let pain be the guide, exercise only in pain-free range)
Only initiate Phase II strength conditioning once patient can complete Phase I exercises. Then begin light resistance and slowly progress. Emphasize achieving proper neuromuscular control of the transversus abdominis and multifidus muscle groups without compensation (use stabilizer biofeedback cuff if available).

- **Transversus Abdominis/Multifidus Progression:** 10-20 second isometrics with normal breathing (without pelvic tilt) in supine, quadruped and prone. Must maintain neutral spine.
  - Progress with upper extremity/lower extremity movements (example marches, straight leg raises, upper extremity lift and lowers, planks, etc.)
  - **Supine:** Add upper extremity/lower extremity movements (example: Marches, straight leg raises, upper extremity lift and lowers, etc.)
  - **Quadruped:** Alternating upper extremity, alternating lower extremity, alternating upper extremity/lower extremity (bird-dog)
  - **Bridging:** Bridges, Side Leg Bridges, on Swiss ball, etc.
  - **Balance:** Static (example: Single-Leg Stance, Tandem, etc.)
  - **Swiss ball:** No Sit Ups, No Twisting (example wall squats, seated exercises, bridges, bird-dog, etc.)
  - **Multifidus:** 10-20 second isometrics with normal breathing in prone position.
- **Glute Activation Exercises:** 10-20 second isometrics with emphasis on proper gluteal muscle group firing in prone position (bilateral and unilateral).
  - **Prone:** Hip extensions, alternating upper extremity/lower extremity lifts (avoid hyperextension)
  - **Side-lying:** Clams, hip abduction, etc
  - 90/90 leg lifts, side-lying abduction, quadruped hip extension, bird-dog
  - **Bridging:** Bridges, Side Leg Bridges, on Swiss ball, etc.
- **Upper Extremity/Lower Extremity Strength Training**
  - **Step ups, leg press, wall squats, body weight squats, etc.**
  - **Balance:** With transversus abdominis bracing): Single-leg stance, tandem, foam, etc.
  - **Upper extremity light resistive exercises** (machines, Thera-Band, free weights).

Cardiovascular (as long as it does not aggravate or increase symptoms, let pain be your guide)

- Walking Progression: Gradually progress to 30 minutes a day.
- Biking – Recumbent Stationary Bike (avoid road bikes) initiate at 2 weeks postop
- Stationary Bike Upright - Can initiate at 4 weeks (no resistance), 6 weeks (resistance)

Phase III (6-8 Weeks):

Weightbearing Parameters:

- Weightbearing as tolerated

- Wean off of assistive devices (walker/crutches) as long as pain-free.
- Normalize gait mechanics

Precautions

- Keep spine in neutral and good posture for strengthening with focus on proper neuromuscular control, do not progress without good neuromuscular control.
- Avoid end range squatting and bending
- Avoid step aerobic activities
- Full healing may take 6 to 12 months. Patients are cautioned not to overdo their activities prior to being cleared by Dr. Anderson.

- **Driving:** When off narcotic pain medications, and patient feels that they are safe enough to drive, able to react to avoid accidents/drive defensively without hesitation. Dr. Anderson does not clear patients to drive, this is an individual decision for each patient.

Goals:

- Normalize gait mechanics and safety with stairs/transfers.
- Achieve endrange hip mobility
- Progress towards lumbar mobility Flexion/Extension.
- Initiate to leg Closed Kinetic Chain lower extremity strengthening protocol.
- Add proprioceptive training
- Progress core strengthening
- Demonstrate hip extension, abduction, and flexion strength ≥ 4/5
- Minimize scar tissue formation through glutes and deep external rotators; perform scar tissue mobilizations. Address layer II-III piriformis releases as needed.
- Unrestricted ambulation with use of an assistive device (walker/crutch)
- Learn correct posture, body mechanics, transfers, and positioning.
- Achieve proper muscle firing for transversus abdominis, multifidus, and gluteal motor groups
- Focus on walking program, increasing tolerance to 30 minutes a day.

Education

- **Posture Education:** Upright sitting posture with Lumbar Roll at all times; Frequent changes in positions, and sleeping positions. Teach how different body positions and postures affect the spine.
- **Body Mechanics:** Light lifting, transfers (include logrolling), positioning, etc.

Exercises (Let pain be the guide, exercise only in pain-free range)
Only initiate Phase II strength conditioning once patient can complete Phase I exercises. Then begin light resistance and slowly progress. Emphasize achieving proper neuromuscular control of the transversus abdominis and multifidus muscle groups without compensation (use stabilizer biofeedback cuff if available).

- **Transversus Abdominis/Multifidus Progression:** 10-20 second isometrics with normal breathing (without pelvic tilt) in supine, quadruped and prone. Must maintain neutral spine.
  - Progress with upper extremity/lower extremity movements (example marches, straight leg raises, upper extremity lift and lowers, planks, etc.)
  - **Supine:** Add upper extremity/lower extremity movements (example: Marches, straight leg raises, upper extremity lift and lowers, etc.)
  - **Quadruped:** Alternating upper extremity, alternating lower extremity, alternating upper extremity/lower extremity (bird-dog)

        - **Bridging:** Bridges, Side Leg Bridges, on Swiss ball, etc.
        - **Balance:** Static (example: Single-Leg Stance, Tandem, etc.)
        - **Swiss ball:** No Sit Ups, No Twisting (example wall squats, seated exercises, bridges, bird-dog, etc.)
        - **Multifidus:** 10-20 second isometrics with normal breathing in prone position.
    - **Glute Activation Exercises:** 10-20 second isometrics with emphasis on proper gluteal muscle group firing in prone position (bilateral and unilateral).
        - **Prone:** Hip extensions, alternating upper extremity/lower extremity lifts (avoid hyperextension)
        - **Side-lying:** Clams, hip abduction, etc
        - 90/90 leg lifts, side-lying abduction, quadruped hip extension, bird-dog
        - **Bridging:** Bridges, Side Leg Bridges, on Swiss ball, etc.
    - **Upper Extremity/Lower Extremity Strength Training**
        - **Step ups, leg press, wall squats, body weight squats, etc.**
        - **Balance:** With transversus abdominis bracing): Single-leg stance, tandem, foam, etc.
        - **Upper extremity light resistive exercises** (machines, Thera-Band, free weights).

Aquatic Physical Therapy (At 6 weeks if available once incision is healed)

- Emphasize transversus abdominis bracing during all exercises
- Walking all directions, balance, upper extremity/lower extremity strengthening

Cardiovascular (as long as it does not aggravate or increase symptoms, let pain be your guide)

- Walking Progression: Gradually progress to 30 minutes a day.
- Biking – Recumbent Stationary Bike (avoid road bikes) initiate at 2 weeks postop
- Stationary Bike Upright - Can initiate at 4 weeks (no resistance), 6 weeks (resistance)

Phase IV (8-12 Weeks)

Weightbearing and Range Of Motion Parameters:

- Full weightbearing
- Full Range of Motion

Therapy

- 1-2 times a week (as needed for return to sport or work)
- Functional drills/sport drills/drop drills may begin with supervision
- Begin advanced 2 leg progressing to 1 leg Close Kinetic Chain strengthening activities
- Advanced Core Strength, Proprioception, and Stabilization Exercises:
    - **Highly Recommend Pilates**
    - Progress to weightbearing, balance, Swiss Ball, reformer, etc.
    - Progressed to multiplanar exercises with upper and lower extremities
- Progress lower extremity/upper extremity strengthening
- Possible referral to Work Hardening/Work Reconditioning program

Precautions

- Keep spine in neutral and good posture for strengthening with focus on proper neuromuscular control, do not progress without good neuromuscular control.
- Avoid end range squatting and bending

- Avoid step aerobic activities
- No running or plyometric activity until after 12 weeks postop

Goals:

- Restore core and lower extremity strength to full levels.
- Progress Closed Kinetic Chain lower extremity strengthening activities.
- Improve Closed Kinetic Chain multidirectional control and strengthening
- Progress therapy to Advanced Core and Advanced Proprioceptive Training.
- Progress Cardiovascular Training
- Initiate weight room return to fitness objective
- Review and assess occupational demands, and return to work activity.

Cardiovascular (as long as it does not aggravate or increase symptoms, let pain be your guide)

- Walking Progression: Gradually progress to 30 minutes a day.
- Biking – Recumbent Stationary Bike (avoid road bikes) initiate at 2 weeks postop
- Stationary Bike Upright - Can initiate at 4 weeks (no resistance), 6 weeks (resistance)
- Swimming
- Elliptical
- Hiking
- Pilates
- Emphasize correct form and equipment set up (example: Elliptical, bike, walking training, etc.)
- Preference of Pilates or yoga, if returning to yoga, and sure it is with an experienced instructor. Same goes for Pilates.
- When initiating running and sports below, slowly increase in the 8 to 12-week timeframe.
- Time frames may vary per patient, and based upon the sport/activity, consult with Dr. Anderson if you have questions.

	No Earlier Than:
Walking Progression	At least 30 mins/day, continue progress
Stationary Bike	Gradual increase in resistance at 4 weeks
Pilates (neutral spine)	3 months, minimize rotation exercises
Outdoor Biking	2 to 3 months
Hiking	3 to 4 months
Elliptical	3 months
Skiing	1 year

	No Earlier Than:
Yoga	4 months
Swimming	2 months
Running	4 months
Soccer	6 months
Basketball	6 months
Golf	6 months