

SI Joint Fusion Rehabilitation Protocol

Phase 1	0-6 Weeks Post-op
Rehabilitation Goals	<ul style="list-style-type: none"> • Proper healing of the incision • Educate the patient in minimizing pain • Independence in ambulation and ADLs • Increased patient's aerobic tolerance • Good sitting and standing posture • Good motor control and body mechanics for all transitional and functional activities • Good setting of all pelvic ring musculature • Minimal pain and inflammation
Appointments	<ul style="list-style-type: none"> • Every 1 to 2 weeks to advance home exercise program or more as indicated by re-assessment
Weight Bearing	<ul style="list-style-type: none"> • Toe-touch weightbearing
Precautions	<ul style="list-style-type: none"> • Limit hip flexion to 90 degrees (use a toilet seat extender) • No end range lumbar or hip motions • Avoid lifting, twisting or excessive bending from the lumbar spine, pelvis and/or hips
Treatment Strategies	<ul style="list-style-type: none"> • Instruct patient in protecting and promoting healing for their incision • Gait training as needed with maintenance of proper weightbearing restrictions. • Stair training as indicated with proper weightbearing restrictions. • Transfer training with good motor control and proper weightbearing restriction • Bed mobility training with good motor control • Instruction in proper sitting and standing posture. • ADL training with maintenance of a neutral spine/pelvis and correct body mechanics • Instructed in icing to control pain and inflammation

Therapeutic Exercises	<ul style="list-style-type: none"> • Instruct in Phase 1 postoperative SI joint fusion exercises: <ul style="list-style-type: none"> ○ Diaphragmatic/abdominal breathing ○ Transversus abdominis and multifidus setting ○ Pelvic floor setting ○ Gluteal setting (bilateral/simultaneous) ○ Latissimus dorsi setting (bilateral/simultaneous) ○ Quadricep setting (bilateral/simultaneous) ○ Hamstring setting (bilateral/simultaneous)
Advancement Criteria	<ul style="list-style-type: none"> • No increase in SI joint pain or reproduction of lower extremity pain with therapy and/or home exercise program • Independence in phase 1 postoperative SI joint fusion exercises • Tolerance of 15 minutes of exercise and walking with an assistive device • Independence in ADLs for dressing, self-care and hygiene

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Phase 2	6-8 Weeks Post-op
Rehabilitation Goals	<ul style="list-style-type: none"> • A fully healed scar with good mobility • No gait deviations with weightbearing as tolerated • Good sitting and standing posture • Good body mechanics and motor control with maintenance of a neutral spine/pelvis during transitional activities • Progression to phase 2 postoperative SI joint fusion stabilization exercises • Fair to good static and dynamic standing balance • Good pain control and no significant inflammation
Appointments	<ul style="list-style-type: none"> • Every 1 to 2 weeks to advance home exercise program or more as indicated by re-assessment
Weight Bearing	<ul style="list-style-type: none"> • Weightbearing as tolerated
Precautions	<ul style="list-style-type: none"> • Avoid excessive SI joint loading • Avoid twisting and end range movements of the lumbar spine and hips • Follow lifting restrictions as established by physician
Treatment Strategies	<ul style="list-style-type: none"> • Monitor incision for proper healing and scar tissue mobility (instructed in scar tissue mobilization as indicated) • Instruct in progressive weightbearing during ambulation weaning off the assistive device as tolerated and as ordered by surgeon • Reinstruct in maintaining good posture, motor control and body mechanics during activities of daily living

<p>Therapeutic Exercises</p>	<ul style="list-style-type: none"> • Instruct in Phase 2 postoperative SI joint fusion exercises: <ul style="list-style-type: none"> ○ Reinstruct in co-contraction of the transversus abdominis, multifidus and pelvic floor as indicated by reassessment ○ Supine bilateral arm lifts ○ Supine or sitting isometric hip abduction, adduction, internal rotation and external rotation ○ Side-lying bent knee hip abduction ○ Prone bilateral shoulder horizontal abduction and extension ○ Sitting upper extremity AROM progressing to light isotonic and Thera-Band strengthening ○ Initiate standing balance exercises in bilateral stance progressing to step stance, depending on weightbearing restrictions established by surgeon
<p>Advancement Criteria</p>	<ul style="list-style-type: none"> • No increase in SI joint pain or reproduction of referred pain with therapy and/or home exercise program. • Independent in-home exercise program for phase 2 • Able to hold a co-contraction of the multifidus, transversus abdominis and pelvic floor muscles during all transitional activity and home exercises • Fair to good static and dynamic standing balance without an assistive device • Independent in postural correction in sitting, standing and lying • Dynamic sitting and standing tolerance of 15 to 20 minutes • Able to ambulate 20 minutes at a moderate pace

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Phase 3	8-12 Weeks Post-op
Rehabilitation Goals	<ul style="list-style-type: none"> • Normal scar tissue mobility • Independence in a progressive walking program/cardiovascular exercise program • Normal sitting and standing posture without verbal cues • Able to progress to unsupported SI joint stabilization exercises • Able to progress to advanced balance training exercises in standing • Pain and inflammation under control
Appointments	<ul style="list-style-type: none"> • Every 1 to 2 weeks to advance home exercise program or more as indicated by re-assessment
Weight Bearing	<ul style="list-style-type: none"> • Full weightbearing during all transitional activities, functional activities and gait
Precautions	<ul style="list-style-type: none"> • Avoid reproduction of any SI joint or lower extremity pain • Avoid pre-loading the spine in a posterior pelvic tilt (maintain a neutral spine/pelvis). • Avoid lumbar flexion or lifting exercises in the early a.m., secondary to diurnal variations in fluid level in the intervertebral disc (more hydrated in the early a.m.). • Focus on low load high repetitions to improve endurance, rather than high load low repetitions for strength. • Adherence to weight lifting restrictions as indicated by surgeon.
Treatment Strategies	<ul style="list-style-type: none"> • Manage scar tissue development and mobility • Instruct in a progressive walking program at a moderate rate, correcting any gait deviations identified during the gait assessment • Reinstruct in postural correction and proper body mechanics for ADLs and functional activities as needed.

<p>Therapeutic Exercises</p>	<ul style="list-style-type: none"> • Instruct in Phase 3 postoperative SI joint fusion progressive exercises in unloaded and in loaded positions: <ul style="list-style-type: none"> ○ Supine unilateral arm lifts ○ Supine double leg bridges with upper extremity assist progressing to no upper extremity assist ○ Supine bent leg raises, progressing to straight leg raises ○ Side-lying bent leg hip abduction progressing to straight leg hip abduction ○ Prone or quadruped unilateral shoulder flexion progressing to unilateral hip extension, then simultaneous shoulder flexion with opposite hip extension ○ Upper/lower extremity strengthening exercises sitting on an exercise ball or stool with a neutral pelvis/spine position ○ Squatting to 45 degrees, progressing to 60 degrees and then to 90 degrees ○ Single-leg balance training, progressing to single leg standing hip exercises and single leg step taps ○ Mobilization and stretching of tight tissues above and below the fusion site
<p>Advancement Criteria</p>	<ul style="list-style-type: none"> • No increase in SI joint pain or reproduction of any lower extremity pain with therapy and/or home exercise program. • Independence in home exercise program for phase 3 • Able to perform squats with the maintenance of a neutral pelvis and no hip internal rotation. • Able to demonstrate proper breathing technique along with a neutral pelvis during all home strengthening exercises. • Good static and dynamic standing balance • Demonstrate good dynamic sitting and standing tolerance of 20 to 30 minutes. • Able to tolerate walking and/or a cardiovascular exercise for 30 minutes, demonstrating no gait deviations

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Phase 4	12-24 Weeks Post-op
Rehabilitation Goals	<ul style="list-style-type: none"> • Normal posture • Normal lumbar and hip AROM without increasing or reproducing symptoms • Manual muscle testing will reveal 5/5 strength for all trunk and bilateral lower extremity musculature • Progression to more advanced SI joint stabilization exercises • Progression to functional lift training and achieving all functional goals identified by patient • No mechanical signs or symptoms • No pain with ADLs
Appointments	<ul style="list-style-type: none"> • Every 1 to 2 weeks to advance home exercise program or more as indicated by re-assessment
Weight Bearing	<ul style="list-style-type: none"> • No weightbearing restrictions
Precautions	<ul style="list-style-type: none"> • Reproduction or increase in any symptoms with repetitive lumbar or hip motions • Avoid pre-loading the spine/pelvis in a posterior pelvic tilt • Avoid repetitive and sustained end range lumbar flexion or heavy lifting exercise in the early a.m. secondary to diurnal variations in fluid level of the inter-vertebral disc (more hydrated in the early a.m.) • Focus on low load to high resistance to improve endurance, rather than high load low resistance for strength • Adherence to weight lifting restrictions as indicated by surgeon
Treatment Strategies	<ul style="list-style-type: none"> • Instruct in a progressive walking program at a brisk rate • Instruct in cardiovascular exercises (swimming, cycling, Nordic track, elliptical, stair climber)

<p>Therapeutic Exercises</p>	<ul style="list-style-type: none"> • Instructed in Phase 4 postoperative SI joint fusion progressive exercises: <ul style="list-style-type: none"> ○ Push-ups in standing at the wall, progressing to a table, and then to the floor ○ Planks in standing, progressing to supine, prone lying and side-lying if tolerated ○ Supine stabilization exercises on the exercise ball ○ Prone stabilization exercises on the exercise ball ○ Functional lift training (ADLs and job specific) ○ Forward, lateral and backward step ups ○ Standing elastic band hip strengthening exercises ○ Elastic band resisted gait (forward, backward and lateral) ○ Lunges in all planes, adding elastic band resistance as tolerated
<p>Advancement Criteria</p>	<ul style="list-style-type: none"> • No increase in or reproduction of SI joint pain or lower extremity pain with therapy and/or home exercise program. • Independent in a home exercise program for phase 4 • Lumbar and hip AROM with in functional limits • 5/5 trunk and lower extremity strength with manual muscle testing • Demonstrate a floor to waist lift, waist to crown lift, front carry up to 30 feet, unilateral carry up to 30 feet, push/pull up to 30 feet with good body mechanics and no reproduction of pain • Demonstrate dynamic sitting and standing tolerance of greater than or equal to 30 minutes • Able to tolerate walking and/or cardiovascular exercise for greater than or equal to 30 minutes

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Phase 5	24 Weeks Post-op and Beyond
Rehabilitation Goals	<ul style="list-style-type: none"> • Patient independence in a comprehensive home exercise program • Able to participate in a full mechanical evaluation of the low back and hips without pain or increased symptoms • Functional capacity results will be suitable for employment, sports, and ADLs • Full return to activity or fully redefined activity level • Able to maintain normal posture • Normal lumbar and hip AROM • 5/5 for all trunk and hip musculature with manual muscle testing • Good cardiovascular fitness • Patient responsive to mechanical signs and symptoms
Appointments	<ul style="list-style-type: none"> • PRN
Precautions	<ul style="list-style-type: none"> • Any mechanical signs or symptoms with testing • Any neurological signs and symptoms with testing
Treatment Strategies	<ul style="list-style-type: none"> • Instruct in a comprehensive home exercise program to maintain functional status • Perform a full mechanical evaluation of the lumbar spine and bilateral hips • Set up a functional capacity evaluation (results suitable for employment, sports and ADLs) if ordered by physician • Instruct patient in returning to full activity or fully redefined activity level • Instruct in prophylaxis: <ul style="list-style-type: none"> ○ Maintenance of normal posture ○ Maintenance of functional AROM/flexibility ○ Maintenance of functional trunk/lower extremity strength ○ Maintenance of good cardiovascular fitness ○ Responsiveness to mechanical signs and symptoms ○ Being proactive to prevent future exacerbations
Advancement Criteria	<ul style="list-style-type: none"> • Achievement of all Phase 5 goals • Full understanding of prophylaxis