

Rehabilitation Protocol for Core Muscle Repair

This protocol is designed to assist clinicians in managing the post-operative recovery following a Core Muscle Repair. The protocol is both time-dependent (based on tissue healing) and criterion-based. Interventions should be tailored to each patient’s specific needs, incorporating examination results and clinical judgment. The expected timeframes for outcomes may vary depending on the surgeon’s preferences, additional procedures, and any complications. Clinicians needing guidance on advancing a patient’s post-operative care should consult with the referring surgeon.

The interventions outlined in this protocol do not represent a comprehensive list of exercises. Therapeutic approaches should be adapted and modified according to the patient’s progress and the clinician’s judgment.

Considerations for Post-operative Core Muscle Repair

Several factors impact the rehabilitation outcomes following a Core Muscle Repair, including the complexity of the surgical procedure, the specific structures involved, the duration of the injury before surgery, and the patient’s condition prior to the operation. Close collaboration with the referring physician is recommended to address these factors effectively.

PHASE I: IMMEDIATE POST-OP (WEEKS 0-1 AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> • Pain control • Reduce swelling • Improve muscle length of pelvic girdle musculature • Improve Lumbar and hip range of motion (ROM)
Precautions	<ul style="list-style-type: none"> • Avoid lifting or other activities that increase intra-abdominal pressure (Valsalva)
Interventions	<p><i>Manual Therapy</i></p> <ul style="list-style-type: none"> • Peri incisional mobilization • Soft tissue mobilization (STM) along the adductor muscle group and associated pelvic musculature as needed • Passive range of motion (PROM) of the hip • Grade I-II lumbar and hip joint mobilizations as needed <p><i>Stretching</i></p> <ul style="list-style-type: none"> • Lumbar: trunk rotations • Adductor: figure 4 • Hip flexor: Thomas • Hip rotator: cross body • Hamstring: supine <p><i>Therapeutic Exercise</i></p> <ul style="list-style-type: none"> • Gluteal and quad sets • Ankle pumps <p><i>Cardiovascular:</i></p> <ul style="list-style-type: none"> • Walking (15 min, 2x/day at an easy pace) • Upper body ergometer (UBE)
Criteria to Progress	<ul style="list-style-type: none"> • 2 weeks post op • Minimal pain with activities of daily living (ADLs) and gait

PHASE II: INTERMEDIATE POST-OP
(WEEKS 2-3 AFTER SURGERY)

<p>Rehabilitation Goals</p>	<ul style="list-style-type: none"> • Pain control • Reduce swelling • Introduce core strengthening progressions • Introduce proprioceptive progressions • Normalize muscle length of pelvic girdle musculature • Normalize lumbar and hip PROM
<p>Precautions</p>	<ul style="list-style-type: none"> • Avoid lifting or other activities that increase intra-abdominal pressure (Valsalva)
<p>Interventions</p>	<p><i>Manual Therapy</i></p> <ul style="list-style-type: none"> • Peri incisional mobilization • STM along the adductor muscle group and associated pelvic musculature as needed • PROM of the hip as needed • Grade III-IV lumbar and hip joint mobilizations as needed <p><i>Stretching</i></p> <ul style="list-style-type: none"> • Gentle stretching: Continue from previous phase or until ROM in normalized <p><i>Therapeutic Exercise</i></p> <ul style="list-style-type: none"> • Isometrics of the adductors: ball squeeze hip extended and hook lying • Transverse Abdominus (TrA) progressions • Quadruped Progressions • Bridge progressions • Side lying hip abduction • Straight leg raises (SLR) • Prone hip extension • Proprioception: Single leg balance progressions • Functional: squat, step up <p><i>Cardiovascular:</i></p> <ul style="list-style-type: none"> • Walking 30 minutes at moderate pace 1x/wk • Bike • Aquatic Treadmill (if available)
<p>Criteria to Progress</p>	<ul style="list-style-type: none"> • Full lumbar and hip ROM • Full adductor muscle length • Normal and pain-free gait • Pain-free ADLs • Pain-free therapeutic exercises

PHASE III: LATE POST-OP
(WEEKS 4-5 AFTER SURGERY)

<p>Rehabilitation Goals</p>	<ul style="list-style-type: none"> • Able to maintain good pelvic stabilization during core exercise program • Initiate Progressive resistive exercises (PRE)
<p>Additional Interventions *Continue with Phase I-II Interventions</p>	<p><i>Stretching</i></p> <ul style="list-style-type: none"> • Continue as needed <p><i>Therapeutic Exercise</i></p> <ul style="list-style-type: none"> • Core: Continue above progressions, plank progressions • Concentric hip strengthening with PRE: 4 way standing • Concentric Rectus Abdominus (RA): straight and oblique crunch and full • Functional: Squat, Stepdown, Forward lunge, RDL with PRE • Proprioceptive: continue above progressions with airex

PHASE III: LATE POST-OP
(WEEKS 4-5 AFTER SURGERY) CONTINUED

<p>Additional Interventions *Continue with Phase I-II Interventions</p>	<p>Cardiovascular:</p> <ul style="list-style-type: none"> • Elliptical
<p>Criteria to Progress</p>	<ul style="list-style-type: none"> • Pain-free exercises • 6 weeks post-operative

PHASE IV: TRANSITIONAL
(WEEKS 6-8 AFTER SURGERY)

<p>Rehabilitation Goals</p>	<ul style="list-style-type: none"> • Normalize strength • Initiate eccentric strengthening
<p>Additional Interventions *Continue with Phase I-II Interventions</p>	<p><i>Stretching</i></p> <ul style="list-style-type: none"> • Continue as needed <p><i>Therapeutic Exercise</i></p> <ul style="list-style-type: none"> • Concentric RA: Full sit up straight and oblique • Eccentric Adductor: Copenhagen adduction progressions • Functional: Lateral lunge, slide board, adductor slides with PRE • Proprioceptive: Continue above progressions with BOSU <p><i>Cardiovascular:</i></p> <ul style="list-style-type: none"> • Return to jogging program
<p>Criteria to Progress</p>	<ul style="list-style-type: none"> • Pain-free jogging • Pain-free exercises • Hip index (flexion, abduction, adduction, extension) <20%

PHASE V: EARLY RETURN TO SPORT
(WEEKS 9-12 AFTER SURGERY)

<p>Rehabilitation Goals</p>	<ul style="list-style-type: none"> • Normalize strength • Initiate plyometric program • Initiate sprinting program • Initiate agility program
<p>Additional Interventions *Continue with Phase II-IV Interventions</p>	<p><i>Therapeutic Exercise</i></p> <ul style="list-style-type: none"> • Functional: Continue with PRE as previously defined • Medicine ball routine: chest pass, side to side pass, Overhead pass • Plyometric protocol • Agility protocol • Return to sprinting protocol
<p>Criteria to Progress</p>	<ul style="list-style-type: none"> • Clearance from MD and ALL milestones met • Completion of plyometric, sprinting and agility program • Functional Assessment: <ul style="list-style-type: none"> ◦ Hip index (flexion, abduction, adduction, extension) ≥90%; HHD mean or isokinetic testing @ 60d/s ◦ Adductor/Abductor ratio >80% using HHD (values for isokinetic have not yet been determined for return to sport criteria) ◦ Hop Testing ≥90% compared to contra lateral side, demonstrating good landing mechanics • HAGOS questionnaire >90%

PHASE VI: UNRESTRICTED RETURN TO SPORT (MONTHS 3 AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none">• Return to practice
Additional Interventions *Continue with Phase II-IV Interventions	<ul style="list-style-type: none">• Return to practice/scrimmage• Multi-plane sport specific plyometrics program• Multi-plane sport specific agility program• Include hard cutting and pivoting depending on the individuals' goals• Non-contact practice > Full practice > Full play
Criteria to Progress	<ul style="list-style-type: none">• Last stage, no additional criteria

For further assistance or to schedule an appointment, please contact **iOrtho - The Orthopedic Institute** at **833-464-6784** or visit our website at **iorthomd.com** to text/email us. Our team is dedicated to providing personalized care and guidance throughout your rehabilitation journey.