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ORTHOPEDIC HIP & KNEE
SPORTS MEDICINE | JOINT REPLACEMENT

Hip Resurfacing Arthroplasty

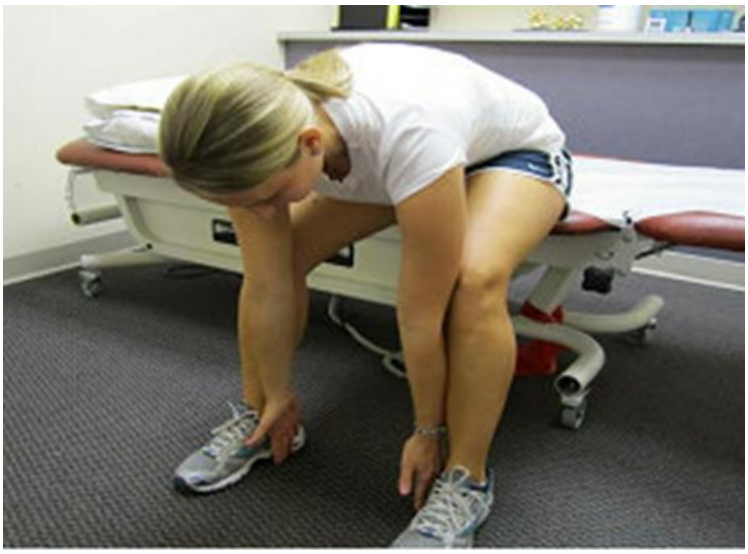
Core Rehabilitation Guidelines

- 75% weight bearing for 6 weeks with assistive devices
  - First 3 weeks with a walker or 2 crutches, then try walking with 1 crutch or cane (placed on the opposite side of the resurfaced hip) for the subsequent 3 weeks
- No hip brace
- No active hip abduction or internal rotation the first 6 weeks
- No passive hip adduction or external rotation the first 6 weeks
- Gait training first 6 weeks, then can begin home rehabilitation program or a formal rehabilitation program
- Anterior hip precautions for first 6 weeks
  - No precautions thereafter – unique to resurfacing and the surgical approach
- Post-op appointments with Dr. Ramkumar: 2 weeks, 6 weeks, 12 weeks, 6 months, 1 year
- Everyone will progress through the guidelines at their own pace.

Specific Timeline: Weeks 0-6

- Precautions:
  - 75% weight bearing with assistive device (crutches or walker)
  - NO active hip abduction or internal rotation
  - NO passive hip adduction or external rotation
  - Monitor for hip flexor tendonitis, trochanteric bursitis and anterior knee pain
  - For one year to ensure implant to femoral neck integration/healing:
    - Do not lift more than 40-50 pounds unless seated
    - Do not run, jump, or lift heavy objects
    - No leg presses, no stairmaster, no strenuous exercise
    - Take: Calcium 2000 mg daily, Vitamin D 2000 IU daily
- Wound care
- Assessment:
  - Precaution awareness, as listed above
  - Gait pattern with assistive device
- Bed mobility and transfers
  - Understanding of continuous passive motion machine
  - Activity modification inside and outside of the home
  - Patient and family education
- Treatment Recommendations:
  - No formal physical therapy until after 6 week follow up
  - Gait training with weaning off assist devices and progression to full weight bearing by 6 weeks
- Can break up the sessions into 1 hour increments
- Home Exercise Program
  - Ankle pumps
  - Quadriceps sets
  - Pelvic tilts

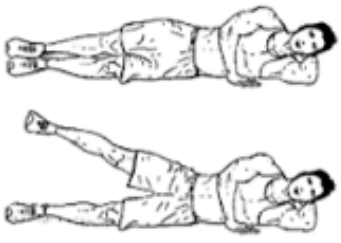
- Stationary bike is okay with no resistance for a maximum of 30 minutes
- Dangles for stretching: Find a stool or lower chair. Place your knees at shoulder width. Bring your hands down towards your ankles and hold when you feel the stretch. Don't bounce or continue if you have a lot of pain. Repeat for a set of 10. Pictured below:



- Patient Education
  - Rehabilitation timeline
  - Ensure patient is taking the Indomethacin then Naproxen as prescribed for first 6 weeks
- Activity modification
  - Icing, frequently during the day in 20-30minute increments
- Advancement Criteria:
  - 6 week follow up with Dr. Ramkumar
  - Progress weight bearing, wean off assistive device, after clearance from Dr. Ramkumar at 2 week visit
  - Initiate formal home rehabilitation program or outpatient physical therapy

Home Rehabilitation Regimen (Week 6 and Beyond)

- Abductor exercises
  - Laying on your non-operative side with a slight bend in the bottom leg, keep your toes pointed forward and keep your knees straight. Then, bring your leg up in a



scissor motion. Perform this 90 times a day (30 in the morning, afternoon, evening). This will help maintain your balance and get you walking straight

- Walking
    - Dr. Ramkumar recommends you walk as much as your feel comfortable (at least 2-3 times a day), trying to walk a little further each time. You may walk inside or outside as you feel comfortable. As a rough guideline, patients can walk up to 1 mile at a time by 2 weeks after surgery. My best advice to you during your recovery is to listen to your body. That means that if you feel pain during an exercise or afterwards, you have probably overdone it
- Precaution adherence
    - Dr. Ramkumar needs you to be aware of the things you cannot do, specifically:
        - No lifting or carrying 50 pounds or more for 1 year, unless seated
        - No squatting or straight leg raises for 1 year
        - No resisted leg exercises for 1 year
        - No leg machine exercises for 1 year, except sitting leg extensions & curls
        - No running, jogging, skiing, jumping for 1 year
        - Stationary bike with mild resistance, treadmill and elliptical are okay now
        - Abdominal crunches are okay to do now
        - Swimming and scuba diving is okay after incision is healed
        - Planks, sit-ups, pushups can only be done at 5 months postoperatively
        - Roller-skating and ice skating are okay between 3-6 months depending on how you feel
        - Golf is okay at 3 months, Doubles tennis is okay at 6 months
        - Sauna is okay now, no hot tubs until 4 months
        - Motorcyling okay at 8-12 weeks; motor cross okay at 1 year
        - Anything you want after 12 months!

Specific Timeline if you Prefer Outpatient Physical Therapy: Weeks 6-12

- Precautions:
    - Avoid premature progression of weight bearing status and activity level
    - Gait deviations
    - Perform gentle passive hip external rotation, internal rotation and abduction
    - Avoid hip adduction past neutral
    - No increase in symptoms with progressions
    - Specifically
        - No lifting or carrying 50 pounds or more for 1 year, unless seated
        - No squatting or straight leg raises for 1 year
        - No resisted leg exercises for 1 year
        - No leg machine exercises for 1 year, except sitting leg extensions & curls
        - No running, jogging, skiing, jumping for 1 year
        - Stationary bike with mild resistance, treadmill and elliptical are okay now
        - Abdominal crunches are okay to do now
        - Swimming and scuba diving is okay now
        - Planks, sit-ups, pushups can only be done at 5 months postoperatively

        - Roller-skating and ice skating are okay between 3-6 months depending on how you feel
        - Golf is okay at 3 months, Doubles tennis is okay at 6 months
        - Sauna is okay now, no hot tubs until 4 months
        - Motorcyling okay at 8-12 weeks; motor cross okay at 1 year
        - Anything you want after 12 months!
- Assessment:
    - Gait pattern with weight bearing progressions and assistive device
    - Scar and soft tissue mobility
    - Range of motion in lower extremity
    - Strength in lower extremity
    - Bed mobility and transfers
    - Functional movement patterns – control, quality, alignment
        - Bilateral leg squat
        - Single leg stance
    - Activity modification and tolerance inside and outside of the home
- Treatment Recommendations:
    - Gait training, with assistive device (crutches or walker)
    - Progress weight bearing from 75% weight bearing to WBAT over post-op weeks 8-10
    - Assistive device weaning as tolerated
    - May use cane after crutches or walker are discharged
    - Manual therapy
        - Scar massage
        - Soft tissue to hip flexors and glutes as needed and tolerated
        - Passive range of motion to hip flexion
        - Gentle hip external and internal rotation, abduction
        - Stretching of hip flexors
    - Stretching
        - Self-stretching to hip flexors and calf
        - Quad rocking - gentle
    - Balance
        - Weight shifting
        - Double leg to single leg
        - Floor, foam, board, etc
    - Functional movements
        - Mini squats for sit to stand
        - Transfers
        - Stair navigation
        - Ergonomics
    - Strengthening
        - Isometric hip adduction, hip extension and external rotation
        - Quadriceps sets to short arc quads
        - Prone gluteal squeezes and progress to bridges
        - Standing strengthening for lower extremity as tolerated
        - Calf raises, mini squats, hip extension

  - Core strengthening
    - Pelvic tilts
    - Hooklying marches/taps
    - Hooklying with upper extremity movements
    - Standing strengthening as tolerated
  - Stationary bicycle
  - Isometric hip abduction progression (approximately 8-10 weeks post-op)
  - Isometric bent knee fall-out
  - Supine hip abduction isometric
  - Aquatic therapy, if available
  - Home Exercise Program - dictated by your physical therapist
  - Icing – daily as needed and tolerated
- Advancement Criteria:
  - Compliance with self-care, activities of daily living and activity modification
  - Gait pattern normalized (may need cane for prolonged ambulation)
  - Range of motion within normal limits (except adduction)
  - No increased pain with increased activity
  - Single leg stance for 10 seconds with no trunk or hip deviations
  - Perform sit to stand with minimal upper extremity support
  - Follow up appointment at approximately 12 weeks with Dr. Ramkumar

Specific Timeline if you Prefer Outpatient Physical Therapy: Weeks 13 and Beyond

- Precautions:
  - Avoid premature progression of activity level and gym program (as directed)
  - Gait deviations
  - Monitor for hip flexor tendonitis and/or trochanteric bursitis
  - No increase in symptoms with progressions
  - No sports specific or impact activity
  - Specifically:
    - No lifting or carrying 50 pounds or more for 1 year, unless seated
    - No squatting or straight leg raises for 1 year
    - No resisted leg exercises for 1 year
    - No leg machine exercises for 1 year, except sitting leg extensions & curls
    - No running, jogging, skiing, jumping for 1 year
    - Stationary bike with mild resistance, treadmill and elliptical are okay now
    - Abdominal crunches are okay to do now
    - Swimming and scuba diving is okay now
    - Planks, sit-ups, pushups can only be done at 5 months postoperatively
    - Roller-skating and ice skating are okay between 3-6 months depending on how you feel
    - Golf is okay at 3 months, Doubles tennis is okay at 6 months
    - Sauna is okay now, no hot tubs until 4 months
    - Motorcyling okay at 8-12 weeks; motor cross okay at 1 year
    - Anything you want after 12 months!
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- Gait pattern
- Scar and soft tissue mobility
- Range of motion in lower extremity
- Strength in lower extremity
- Bed mobility and transfers
- Activity modification and tolerance inside and outside of the home
- Functional movement patterns – control, quality, alignment
    - Bilateral and single leg squat
    - Single leg stance
- Treatment Recommendations:
    - Continue previous treatment recommendations as needed
    - Manual therapy
    - Stretching to lower extremity as needed
    - Scar massage
    - Soft tissue to hip flexors, adductors, abductors, glutes, as needed and tolerated
    - Passive range of motion to hip
    - Stretching
        - Self stretching to hip flexors, adductors, glutes, piriformis and hamstrings
        - Foam rolling
        - Balance and proprioception
        - Double leg to single leg
        - Floor, foam, board, etc
        - Progress to include dynamic activities
    - Functional movements
        - Squats for sit to stand (no weights whatsoever)
        - Transfers
        - Stair navigation
        - Ergonomics
    - Strengthening
        - Bridges: Double leg and single leg
        - Standing strengthening for lower extremity as tolerated
            - Open chain and closed chain (hip abduction, hip extension)
            - Side stepping: no resistance and progress to include resistance
                - Progress resistance from short lever to long lever
        - Step up
            - 4” to 6” to 8”: watch for compensations
        - Step down
            - 4” to 6” to 8”: watch for compensations
        - Core strengthening
            - Cable column rotations and presses (pallof press)
            - bilateral LE → single LE (watch for stability and form)
        - Stationary bicycle
        - Elliptical (when patient can demonstrate good mechanics with 6” step up)
        - Aquatic therapy, if available
    - Patient education – may need cane for prolonged ambulation

  - Home Exercise Program - dictated by your physical therapist
  - Icing – daily as needed and tolerated
- Discharge Criteria:
  - Compliance with self-care, activities of daily living and activity modification
  - Pain free or manageable discomfort with ADLs and activity progression
  - Full active and passive range of motion
  - Perform squat with good symmetry
  - Ascend and descend 6”-8” step with good quality and control
  - Single leg stance > 20 seconds without trunk or hip deviations
  - Independent floor transfers
  - Follow up appointment at approximately 24 weeks with Dr. Ramkumar