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Physical Therapy Protocol: Total Knee Arthroplasty

Philosophy:

Total knee arthroplasty is meant to relieve pain and restore function to a joint with end-stage arthritis. The knee is the largest joint in the body, and replacing it is major surgery. This procedure can yield predictable results only with good pre-operative planning and integrated patient participation in rehab. Physical therapy is important prior to undertaking surgery as well as throughout the recovery phase. Pre-operative strength and range-of-motion need to be maximized and are crucial to a good result. Prevention of infection via antibiotic prophylaxis for all dental procedures is necessary. The following are guidelines for successful recovery from total knee arthroplasty.

Post-Op 0-2 Weeks

OSMS Appointments:

Medical appointment at 2 weeks

Physical therapy will begin as directed by your physician and as indicated on your physical therapy order

Rehabilitation Goals:

Full weight-bearing unless otherwise specified.

Full extension and 90° flexion by two weeks.

Formal PT initiated during the hospital stay. Physical therapy attendance is 2-3 times a week for 3-6 months.

Acute pain management

Reduce swelling using ice packs or cryotherapy.

Precautions:

Avoid kneeling for 6 months

Avoid jarring/twisting movements while weight-bearing

DC assistive device when appropriate LE motor control is achieved (no quad lag with SLR and no signs of quad inhibition)

Do not get incision wet for 7-10 days

ROM Exercises:

90° flexion by two weeks

PROM/AAROM/AROM

Suggested Therapeutic Exercises:

ROM to begin immediately post-op at 0-60 degrees and advanced 10 degrees daily.

Quad activation

Hip/glute open chain strengthening



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Crutch/gait training

Weight-shifting/single leg balance, NMES to quadriceps

Ice is used liberally to diminish swelling.

Weight-bearing is begun immediately unless restricted by the orthopedist.

Ankle dorsiflexion while supine

Cardiovascular Exercises:

Stationary bicycle for ROM (No resistance).

Rocking chair for knee flexion.

Progression Criteria:

Once 90° flexion achieved, incision is well-healed, quad control is achieved and pain is tolerable

Phase II, (after Phase I criteria met, usually 2-6 Weeks)

OSMS Appointments:

Medical appointment at 6 weeks, with films

Physical therapy continues twice weekly

Rehabilitation Goals:

Independent ambulation with assistive device prn.

120° motion expected by six weeks.

Continue quad/hamstring strengthening.

Increase functional exercise, balance, coordination, and endurance

Maintenance of uninvolved side

Suggested Therapeutic Exercises:

Transition from oral narcotics to NSAIDs (Celebrex, Advil, Tramadol, Meloxicam, etc.)

Mini-squats, modified step-ups and leg presses

Ankle/hip and upper extremity strengthening

After 6 weeks, ok to begin using heat modalities

Cardiovascular Exercises:

Stationary bike with resistance, swimming, Nu-step, Elliptical, Stairmaster, Nordic track

Phase III, (after Phase II criteria met, usually 6+ weeks)

OSMS Appointments:

Medical appointment at 12 weeks, with films

Physical therapy continues weekly until goals are completed

Rehabilitation Goals:



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Full, symmetric knee extension.

Lifelong preservation of knee function.

Suggested Therapeutic Exercises:

Preserve range-of-motion using stationary bicycle. OK to begin outdoor as weather permits.
Advance aerobic training as tolerated (walking, swimming, golf, hiking, Stairmaster, weight training, elliptical trainer)

Advanced plyometrics

Progression Criteria:

Return to sports is allowed after 4 months

Experienced cross-country skiing, doubles tennis, gardening and downhill skiing allowed.

Swelling in the knee is common for up to 18 months post-op and should be treated aggressively with ice/rest

Antibiotic prophylaxis for any dental procedures.

Return to high impact exercises such as running and jumping is discouraged.

A lifelong commitment to exercise is encouraged for maintenance of joint arthroplasty