ORTHOARIZONA

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Unicondylar Knee Replacement

Unicondylar knee replacement has evolved into a minimally invasive technique in both the surgical incision and bone removal. Through this minimally invasive technique, the surgical recovery is generally quicker with patients leaving the hospital in one to two days. The majority of unicondylar knee replacements are performed on the medial compartment due to the increased incidence of wear. For optimal outcomes the patient must present with degeneration of only one of the three knee compartments to be considered for the unicondylar procedure. The surgical technique requires a 3" incision, versus the 8" incision required for a total knee replacement. Approximately 1/4" of bone on one compartment of the knee is removed to properly fit the implants. In a total knee replacement all knee surfaces lose up to 1/2" of bone on each of the three compartments. Since the implants save more bone, future total knee replacement procedures can be performed if necessary. Conceptually, the unicondylar knee replacement is to be used as a step before total knee replacement. Unicompartmental knee replacement is typically utilized to delay the need for a total knee replacement, not to replace the eventual need of knee replacement.

Recovery expectations following the unicondylar knee replacement are typically greater and achieved faster than those for a total knee replacement. Post-operative pain is generally lower and a shorter course of post-operative rehabilitation is needed. Range of motion is still a concern for rehabilitation, but the forces necessary to achieve a functional return of motion are not needed and may actually increase post-operative pain or even loosening of the components. The patient is able to weight bear as tolerated immediately and can often walk the day of surgery.

Recommendations:

Consult with the MD regarding any specific precautions for each patient. Prepare the patient mentally for ROM (flexion and extension), with the emphasis on frequency throughout the day. Instruct the patient to perform motion exercises 3-5 times per day. No driving for 2 weeks status post.

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2 days-3 weeks

- Emphasize full extension 0 /-5 degrees.
- Flexion should be 110/115 degrees by 3 weeks
- Progress to ambulating with cane as patient achieves quadriceps control

    - ROM stretching for flexion and extension – Emphasize low force with increased hold time and increased frequency (up to 5 times per day). Avoid high force PROM for extension.

- **Flexion**: PROM, chair scoots, stationary bike, prolonged static stretching (8-12" box stretch, prone quadriceps stretch with belt)
- **Extension**: Heel propping or prone hang 10 –15'. Performing Ultrasound and soft tissue massage to posterior knee will help to increase extension if deficit continues. Hamstring and gastroc stretching.
- Electrical Stimulation / Biofeedback to stimulate quad control.
- Patella mobilization and scar massage after staples are removed, emphasizing inferior glides.
- Quad sets, TKE's, 4-way straight leg raises, hamstring curls, mini-squats, calf raises.
- Leg press (range of motion to tolerance), calf exercises on leg press, hamstring machine, multi-hip for resistance.
- Closed Chain TKE's (with cable column or Theraband).
- Gait training to cane as quad control allows.
- Ice 3-4 times a day.

3-4 weeks

- Continue range of motion with goal of 0/-5 degrees of extension and 115-125 degrees of flexion or greater.
- Progress to independent ambulation without assistive devices – time frame varies based on individual patient.
- Continue patella mobilization and scar tissue massage.
- Progress to functional activities; front and lateral step-ups, lunges, balance activities.
- Advanced gait activities: side stepping, retro walking, cone walking, stairs.
- Elevation and ice for edema
- Discuss return to long term activity and recreational interests with appropriate modifications.
- Education and training for kneeling (patients have a lower perceived ability than actual ability due to fear of damaging prosthesis and scar pain.)