

Total knee arthroplasty has become a reliable surgical procedure to treat painful degenerative arthritis. Pain relief and functional improvement is excellent and can allow patients to maintain an active lifestyle. Criteria for the type of prostheses selected should include diagnosis, age, functional level, severity of the disease, and patient expectations. Improved instrumentation, attention to surgical detail, including soft tissue balancing of the knee, and the use of polyethylene inserts greater than 8 mm have led to excellent long-term results and low failure rates. Recent improvements in revision total knee systems should significantly improve the long-term results of revision knee arthroplasty. The addition of modular implants has greatly increased the versatility of most systems and allows the surgeon to custom tailor the implant, contingent upon the amount of bony and ligamentous deficiency of the knee. The future goals of total knee arthroplasty include the development of knee systems that mimic normal joint kinematics with improved fixation and decreased polyethylene wear rates. (Scott David Martin, Richard D. Scott, Thomas S. Thornhill. J Orthop Sports Phys Ther. Current Concepts of Total Knee Arthroplasty 1998;28(4):252-261.)

The primary impairments related to osteoarthritis and post-operative total knee arthroplasty (TKA) include a decrease in knee range of motion and loss of strength. One study by Mizner, Petterson, and Snyder-Mackler concluded that there is a high correlation between quadriceps strength and functional performance. This suggests that improved postoperative quadriceps strengthening is important to enhance the potential benefits of TKA. Moreover, intensive rehabilitation should be promoted in the subacute recovery period after TKA to optimize functional outcomes in the first year post surgery. As physical therapists, Josh and I have seen great results in our TKA patients through education, exercise, and manual therapy. We emphasize knee strength and stability, proprioception (where your body thinks you are in space), and knee extension (straightening). Lacking total knee extension could lead to altered gait patterns resulting in low back pain or hip pain. Although rehabilitation is a bit painful, it is a relatively short period of time of discomfort for such long term benefits.

New research out of the University of Delaware (UD) indicates that women, more than men, may wait too long to pursue knee-replacement surgery. "By postponing surgery until they can no longer stand the pain, these women also may risk putting their mobility-and their quality of life-on hold indefinitely," says Lynn Snyder-Mackler, PT, ScD, SCS, ATC, FAPTA, distinguished alumni professor in UD's Department of Physical Therapy and a certified sports physical therapist and athletic trainer. "Physicians typically tell patients to wait to have knee replacements until they just can't stand the pain any longer," Snyder-Mackler said. "Our research shows that may be bad advice-and worse for women than it is for men-because your level of function going into surgery generally dictates your level of function after surgery," she noted. "Osteoarthritis of the knee is the most common cause of disability among Americans. It's a disease of age that affects more women than men on a 60-40 basis," Snyder-Mackler said. "Physicians generally have advised patients to wait as

long as they can before pursuing knee replacements, with the thinking that it is a once-in-a-lifetime surgery that should last an average of 20 years.”

In consideration of revision arthroplasty, a study in the July issue of Journal of Rheumatology (Vol 31, No 7) explained that physical activity does not appear to be a risk factor. Therefore, individuals undergoing primary total knee arthroplasty (TKA) should be encouraged to remain active after surgery. We have recently attended a seminar on TKA by Dr. Colorito who encouraged candidates for surgery not to wait for new technology, because it could be a very long wait...especially when in considerable pain.

Physical therapists are health care professionals who diagnose and manage individuals of all ages who have medical problems or other health-related conditions that limit their abilities to move and perform functional activities in their daily lives. Physical therapists examine each individual and develop a plan of care using treatment techniques to promote the ability to move, reduce pain, restore function, and prevent disability. Physical therapists also work with individuals to prevent the loss of mobility by developing fitness- and wellness-oriented programs for healthier and more active lifestyles.