

WHY PILATES

A Practitioner of Pilates may have several clients a week in their schedule with a hip or knee syndrome or replacement. More than 2 million hip and knee replacements are performed worldwide, annually and that number is increasing. [8] 7.5 million Americans are living with hip and knee replacements.[9]

So, why is Pilates an ideal form of rehabilitation and fitness conditioning for individuals with a hip or knee syndrome? What are the preconditioning and post-operative rehabilitation needs of someone facing a joint replacement? These were a few of my questions that I had to ask myself when I was diagnosed with a bilateral hip syndrome called slipped capital femoral epiphysis, a childhood disorder that can manifest into arthritis as an adult.

In 1997, while vacationing with my husband, we completed a ten- mile hike, climbing a fairly steep mountainous terrain. I made it up but came down with a consistent, ongoing, nagging pain in my right hip. I thought over time the pain would go away but it didn't. I had no choice but to visit an orthopedic doctor to investigate my treatment options.

As a nurse and personal fitness trainer I believed my level headed and logical approach to the reality of injuries, prevention and treatment. I was not ready to hear that the only treatment available to relieve me of my pain and limp of my right hip was a replacement joint, known as an arthroplasty surgery.

I had been an equestrian enthusiast and fitness trainer who loved dancing and teaching aerobics. Did joint replacement mean that I would have to stop doing what I loved and needed for my own health and well-being? Shock and despair drove me to seek out the right surgeon.

I met Dr William Jaffe, Clinical Professor and Orthopedic Surgeon of New York University Hospital for Joint Disease and I knew I was trusting my surgery to the right hands. In 2001, I had my right hip replaced.

Within the first post-operative year, I took my first-ever Pilates mat class. My search for the perfect form of low impact exercise that could be adapted for my needs brought me to Pilates; it worked! I studied the method and enrolled into a training program. During a follow-up appointment with Dr Jaffe, he noted my good progress toward recovery and restored range of motion (ROM) in the replacement hip but he was also quite impressed with the flexibility and ROM of my left hip. I attribute my success with faithfully practicing Pilates mat and equipment movements four days a week.

Although it is very easy just to say Pilates works let's look at some facts.

The Pilates method is full body conditioning integrating the body, mind and spirit as a coordinated whole. It is a unique system of stretching and strengthening exercises originally developed over 90 years ago. Mat work is the backbone of the method. Today, Pilates can be performed on the mat as well as specialty designed equipment.

It is an ideal form of exercise regardless of a client's physical limitations, restrictions or current fitness level. It can be modified to meet the needs of the individual making it a perfect form of movement for clients with a hip or knee syndrome or joint replacement. Average post-operative Physical Therapy time spent for recovery from a knee or hip arthroplasty may be as short as one week for a hip or as long as two months for a knee depending on age, fitness level, ability, motivation and insurance coverage.

Pre-Pilates and Pilates mat exercises are similar to Physical Therapy training, making Pilates the ideal transition from assisted to active movements, and to increase range of motion, core stability and muscle memory.

Where does one find as an ideal fitness activity after Physical Therapy is completed? Most individuals walk, use the elliptical or bike at the gym but finding movement that will re-build core strength, range of motion, and flexibility of the joints is important for continued rehabilitation and to maintain the proper function and longevity of the prosthesis.

Individuals with hip or knee conditions must work to strengthen the muscles surrounding the joint. This removes the unnecessary loads from the joint, resulting in decreased pain and increased mobility. Pilates exercise is best known for it's ability to improve core stability and alignment of the body with the ultimate outcome of improving the quality of life. Pilates does all this and much more. We are a population that is aging and at the same time demanding that we maintain independence and continue our activities of daily living.

Take a look at some of the facts behind the worldwide rise in prevalence rates for knee and hip syndromes and arthroplasties, and the need for a targeted post-rehabilitation program.

- Orthopaedic physicians are seeing an increase in annual visits for hip and knee arthritis, joint aches, muscle, tendon and bursal pains. [7]
- Osteoarthritis is one of the most debilitating diseases in developing countries worldwide: 9.6% of men, 18% of women over age 60 with moderate to severe osteoarthritis [2]
 - Knees are the most common joint affected by OA

- OA is the most common cause of joint replacements
- The average treatment for acute and chronic arthritis, bursal pains, inflammation and muscle aches can encompass many modalities including ice, rest, nutritional supplements, physical therapy and exercise. The most common treatment is the use of NSAID's (Non-steroidal anti-inflammatory drugs), over the counter and prescription medications.
 - A recent report from the FDA is warning consumers to be more diligent and understand the risks of their use of NSAIDs. “ The FDA is strengthening an existing warning in prescription drug labels and over-the-counter (OTC) Drug Facts labels to indicate that non- steroidal anti-inflammatory drugs (NSAIDs) can increase the chance of a heart attack or stroke, either of which can lead to death. Those serious side effects can occur as early as the first few weeks of using an NSAID, and the risk might rise the longer people take NSAIDs. [10] “There is no period of use shown to be without risk,” says Judy Racoosin, M.D., M.P.H., deputy director of FDA’s Division of Anesthesia, Analgesia, and Addiction Products. [10]
- When the pain, discomfort and loss of ROM, strength and flexibility can no longer be endured by and individual then a Total Joint Replacement is considered.[7]
- It is estimated that over 1 million total hip replacements are preformed worldwide each year. This rate increased by 25% between 2000-2009 and this trend is expected to continue in the next decade due to an aging population and decreasing average age of a primary hip replacement. [3,]
- Among OECD (Organization for Economic Cooperation and Development) countries there are discrepancies between the exact number of total hip and knee replacement procedures

executed per 100,000 habitants per year due to differences in population structure and other variations. [3,8]

- In 2012, Germany, Austria, Sweden, Finland and Belgium had the highest rates of hip replacement among EU countries. Hip replacement rates were also very high in Switzerland. These countries were also those that had the highest rates of knee replacement. Germany and Switzerland reach nearly twice the OECD average in 2012 for hip replacement at nearly 300 out of 100,000 population. [8]
- THA (Total Hip Arthroplasty) has now become so successful that it has been referred to as **“the operation of the century”** and is the main surgical procedure in orthopedics. [5,6]

In the US

- 16.7% of adults 45 years or older have clinical osteoarthritis of the knee and 9.2% of adults 45 years or older have clinical osteoarthritis of the hip [1]
- It is estimated that 1.4 million knee replacements and 600,000 hips will be done annually in 2015, and if that trend continues there will be 3 million knee replacements and 1 million hip replacements conducted annually by 2030 [4,7]
- The average age range of an individual having a hip or knee replacement is 45-65 years old. These clients are demanding a more rapid and complete return to function compared to traditional candidates for total joint replacement [4,7]
- A recent (2014) prevalence study released by the Mayo clinic showed; An estimated 4.7 million Americans have undergone total knee arthroplasty (TKA) and 2.5 million have undergone total hip arthroplasty (THA) and are living with implants. [9]

- Dr Daniel Berry, lead investigator explains: "Individuals with joint replacement constitute a special population with distinct needs that extend beyond the immediate hospitalization course and the postoperative period." His colleague on the study, Mayo epidemiologist Hilal Maradit Kremers, M.D. adds, "This prevalence study helps start to fill in an important knowledge gap. For perspective on future planning of health care services, there are approximately 1.5 times more people living in the U.S. with a knee or hip replacement as there are people living with heart failure. [9]"
- It is currently unclear from the literature which therapeutic exercises performed over what period of time are either effective or necessary to improve muscle strength or ensure optimal return of patient function. Programs appear to be based upon clinical experience and surgeon preference.[11] "Some studies show that the exercise protocol used emphasizing mobility during the acute phase of recovery is not enough showing functional limitations including reduced range of motion and reduced muscle strength persisting one year post-operative". [12] "The importance of a late stage exercise program is important for increasing muscle strength, stability and function employing weight-bearing exercises performed slowly and with good form in a home program should be initiated and supervised by a qualified therapist" [13]
- In a survey of the members of the Hip Society and the American Association of Hip and Knee Surgeons (AAHKS); 37 sports activities were rated as to what a surgeon would allow their clients to perform as an exercise activity post-operatively. Pilates was rated as a sports activity that patients are allowed to engage in post-operatively; (58% of surgeons allowed Pilates

without previous Pilates experience and an additional 24% recommended Pilates as long as the client had previous experience with the activity). [14]

- In “Pilates Training for Use in Rehabilitation after Total Hip and Knee Arthroplasty: A Preliminary Report; the office notes of Dr. William Jaffe for over a period 36 months were reviewed in which 38 patients were noted to use Pilates for their rehabilitation after total joint arthroplasty. A patient-driven interest in the use of Pilates for postoperative rehabilitation led to the development of programs following total hip or knee arthroplasty. In reviewing the observations of a small series of patients, it appears this technique can be utilized without early complications. At one year follow up, review of patient charts and follow up telephone calls revealed; 25 patients were extremely satisfied and 13 were satisfied with their outcome and use of Pilates in their rehabilitation. There were no patients who ranked their experience or outcome as somewhat satisfied or not satisfied. [15]

Pilates bridges the gaps between rehabilitation and fitness, we refer to it as post-rehabilitation. Pilates instructors can have up to 2-3 clients per week in their schedule with a hip and knee condition and that number is rising. People with hip and knee concerns are finding that Pilates offers a way to maintain function and alignment in the form of low impact movements. Physical Therapists and Pilates Instructors are finding the exercises are readily adaptable and offer progressions to meet their client’s individual needs and target specific syndromes. It is a method that allows a qualified instructor to over see and create a home program that will increase the ROM, strength, stability, flexibility and balance of a client with a post-operative total hip or knee arthroplasty.

For an individual preparing for a replacement, a well-designed Pilates pre-operative exercise regime will give a sense of wellbeing and decrease rehabilitation time and facilitate the transition back to complete function.

Having a total hip or knee replacement marks the new beginning, not the end of treatment.

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