PILATES FOR HIP REPLACEMENTS, PRE AND POST OP

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ABSTRACT

Hip replacement surgery (hip arthroplasty) is becoming one of the most common orthopedic procedures performed. Younger people are opting for the procedure as a way to improve their quality of life as opposed to dealing with the limitations that accompany arthritis. The objective of this paper is to show how a Pilates exercise program can benefit a patient pre and post operative.
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ANATOMY

The hip joint is a ball and socket synovial joint, formed by an articulation between pelvic acetabulum (socket) and the head of the femur (ball). It forms a connection between the lower limb and the pelvic girdle, therefore making the joint weight bearing and providing stability. A large range of movement is permitted with a healthy hip joint.

There are several movements associated with the hip joint, these movements are associated with everyday activities such as walking, bending over, sitting down, etc.
The movements that carry out these functions along with the accompanying muscle group are listed below.

FLEXION… iliopsoas, rectus femoris, Sartorius

EXTENSION… gluteus maximus, semimembranosus, semitendinosus and biceps femoris

ABDUCTION… gluteus medius, gluteus minimus and the deep gluteals

ADDUCTION… adductors longus, brevis and magnus, pectineus and gracillis

LATERAL ROTATION… biceps femoris, gluteus maximus, and the deep gluteals

MEDIAL ROTATION… gluteus medius and minimus, semitendinosus and semimembranosus

Hip replacement is a surgical procedure in which the hip joint is replaced with a prosthetic implant. There are many reasons for an implant, damaged from arthritis, a fracture, or wear and tear. Once any of these conditions affect a hip joint simple movements can become very difficult and painful. Once the decision has been made to undergo a hip replacement the surgeon will remove the damaged sections of the hip and replace with artificial parts usually made of metal, ceramic and hard plastic.
CASE STUDY

Kelly is a 56 year old female who sustained an injury in her early 20’s which led to arthritis at an early age. Kelly is a flight attendant and a very active person. Her job duties were becoming extremely difficult to perform and she was not able to enjoy some of her favorite activities. She made the decision to have a full hip replacement in hopes of regaining her quality of life.

Kelly and I began working together a few months before her surgery. It was important to do Pilates before surgery to assist in maintaining range of motion and strengthening the muscles around the hip. We also wanted to strengthen her core to aid in her balance and confidence. Using the BASI Block System I came up with a workout program that was beneficial not only physically, but mentally as well. Kelly had been so limited for so long that she also was dealing with some depression, she loved being able to move.

PRE-OP WORKOUT

FUNDAMENTAL WARM-UP

FOOTWORK…Reformer or Cadillac. Kelly’s right leg was slightly shorter so we focused a lot on single leg work.

ABDOMINALS… hundred prep, hundreds

HIP WORK… Cadillac, single leg supine series

SPINAL ARTICULATION…Reformer, bottom lift

STRETCH…Reformer, standing lunge

FULL BODY INTEGRATION… Reformer, reverse knee stretch

ARM WORK… Reformer, supine arm series

LEG WORK… Reformer, hamstring curl or jumping
LATERAL FLEXION…Reformer, mermaid

BACK EXTENSION…Reformer, pulling straps 1 and 2

Once the physical therapist gave Kelly the ok to begin Pilates we started meeting again. The surgeon performed a posterior hip replacement so there were some limitations, no bending past 90 degrees, no crossing the midline of the body and no internal rotation.

POST-OP WORKOUT

FUNDAMENTAL WARM-UP

FOOTWORK…Reformer, used a ball to assist with parallel, light spring tension

ABDOMINALS…Reformer, hundreds **with legs in tabletop

HIP WORK… Cadillac, supine single leg series ** deleted leg circles in the beginning to make sure not to cross the midline.

SPINAL ARTICULATION…Reformer, bottom lift

STRETCH…Pole series

FULL BODY INTEGRATION…Reformer, scooter

ARM WORK…Cadillac, arms standing series

LEG WORK…Cadillac, squats

LATERAL FLEXION…Cadillac, side lift

BACK EXTENSION…Cadillac, prone 1

Kelly’s rehab was very fast and progressed very nicely. Eventually we were able to add leg circles and we started doing footwork on the Cadillac. This aided in the stretching of the hamstrings, which were pretty tight. Overall, Kelly was very pleased with the outcome of her surgery and was able to go back to work shortly thereafter.
CONCLUSION

With the advancements made in medicine and people wanting a pain-free lifestyle, hip replacement surgery is on the rise. Approaching the surgery with a laid out plan which includes Pilates is definitely beneficial. Since a Pilates workout involves no to low impact, joints and surrounding tissues can be gently worked out.

After a hip replacement surgery Pilates can help with the proper alignment of the body and added core strength is always beneficial. It was a pleasure to see Kelly on her journey to recovery. I had seen her struggling before surgery, and then on to a complete rehabilitation where she now leads a full, active life.
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