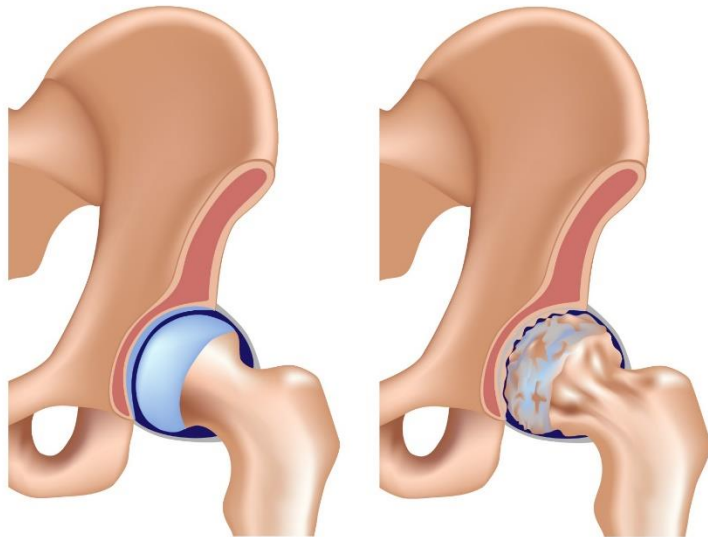


Artificial Hip Joint Replacement

Guidebook



China Medical University
Hospital Orthopedics Ward
Cares About Your Health

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Introduction to Artificial Hip Joint Replacement

About Hip Joint

The hip joint is constituted by one sphere (Os femoris) and cup-shape (acetabulum), a joint formed by the leg bone (femur) and the pelvis. Hip joint is surrounded by robust joint capsule and muscle ligament, which is the largest weight-bearing joint in the human body.

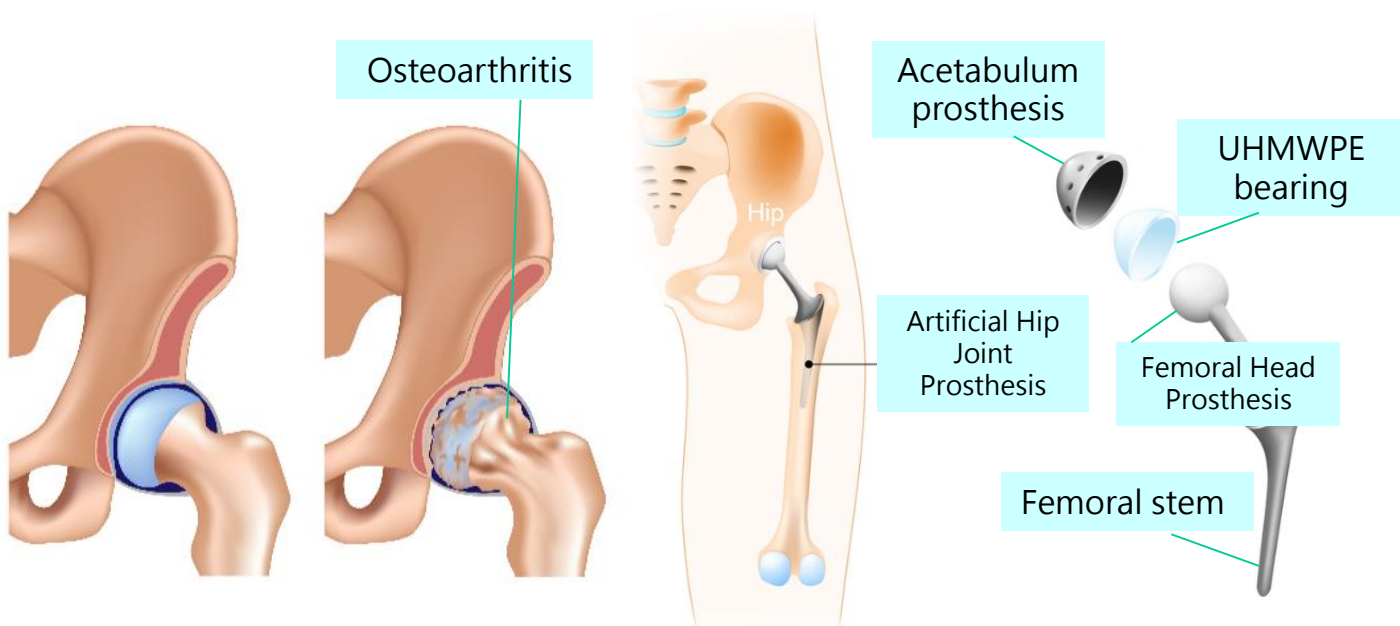
Why does a patient need to replace with artificial hip joint?

1. To eliminate the pain resulted from hip joint related diseases (such as arthritis).
2. Avascular necrosis of femoral head (caused by long-term taking of steroid medicines and heaving drinking).
3. Femoral head and femoral neck fracture caused by trauma.
4. Increase mobility of hip joint.
5. Improve and boost hip joint function.

※When your hip joint is aching and stiff, it will restrict you from engaging in daily activities. If the medicinal treatment fails and you could not even walk, you will need to discuss with the orthopedic surgeon for artificial hip joint replacement.

Structure of Artificial Hip Joint

The structure of artificial hip joint is identical to that of human body. Usually, the artificial hip joint consists of a cup made of plastic (PE) and an alloy ball stem. The ball stem is consisted of the part from the ball on the top to the extension (stem). The stem is inserted to the femur medullary cavity to attain stability.



Admission and Post-Operative Notice

Purpose

To carry out the surgery with success and quickly recover the health, the meticulous pre-operative preparation can reduce the operative risks and promote the post-operative recovery and prevent occurrence of complications.

The following examinations are required when you are admitted to the hospital.

1. Chest X-Ray
2. Hip X-Ray
3. Blood Test
4. ECG
5. Diagnosis and Physical Examination

Pre-operative Preparation and Notice

1. After discussing with the doctor and explanations, complete the surgery and anesthesia consent.
2. If you are currently take other medicine, please inform your doctor and he/she will determine if you need to take the original medicine.
3. Do not take OTC medicines. Do not smoke or drink.
4. Drink water to prevent urinary tract infection.
5. Do not inject or scratch the affected area.
6. Wash the body and hair well before sleep to prevent infection.
7. Those with chronic constipation can ask the nurse to help with glycerin enema.
8. There will nurses who will teach you and practice using the bedpan and urinal in bed, deep breathing and coughing as well as knee exercise.
9. Do not drink liquid or eat any food after 12AM for anesthesia and surgery.
10. On the day of surgery, and venous catheter (IV injection) will be inserted in you.
11. You must remove removable dentures, glasses, necklace, rings, and other ornaments. Remove nail polish, if any, which allows the medical staff to check the blood circulation in your extremities.
12. The nurse anesthetists will visit you before the surgery, depending on your situations.

Post-Operative Notice

Post-Operative Care in the Recovery Room

When you complete the surgery and wake up in the recovery room, you will first feel the chills, weak, and lightheaded. Then you will slowly feel the wound pain. The nurse in the recovery room will provide the following care:

1. Measure blood pressure, breath and pulses.
2. Encourage you to take a deep breath and cough.
3. The nurse will administer painkiller per doctor instruction when you feel wound pain.
4. Please notify the nurse if you feel nausea and vomiting.
5. After your conditions are stabilized, the staff and family will accompany you back to the ward.

Post-Operative Care in Ward

1. After returning to the ward, the nurse will measure your blood pressure, body temperature, pulses, and other vital signs.
2. If the patient does not feel nausea and uncomfortable upon returning to the ward, the patient can drink some water and may take progressive diet if no vomiting in 30 minutes.
3. The elastic bandage around the affected limb prevents oozing blood from the wound and blood clot blocking.
4. Wound drainage will be placed for 2~3 days.
5. The patient can engage in simple rehabilitation exercises on the first day after the surgery.
6. The nurse will observe the skin color, temperature and pain on the tip of your surgical area at all times.
7. Keep the wound clean and dry after the surgery. Stitches will be removed in about 10-14 days.
8. The nurse or family will help the patient turn over once every 2 hours.
9. Avoid compressing or twisting the urinary catheter to prevent bladder distention.



Intravenous Therapy Care

Avoid Compression

1. Do not take or hang heavy objects using the arm with vascular access.
2. Do not use the arm as pillow.
3. Do not wear watches or ornaments on wrist with vascular access.
4. Do not measure blood pressure, draw blood or inject IV in wrist with vascular access.

Prevent Infection

1. Keep forearm with vascular access dry and avoid water contact.
2. Treat skin rash, redness and swelling early.
3. Do not scratch the forearm with vascular access to prevent wound formation.
4. If the gauze bandage is wet, contaminated and with blood, please notify the nurse to replace new gauze and tape.

Blocking Signs

1. Minor pain, swelling surrounding skin, firm sensation, feeling different.
2. If the patient discovers signs of blood vessel blocking, please consult with the nurse and the nurse may stop the infusion and replace the IV injection when necessary.



Wound the Drainage Tube Care

You will have some drainage tubes on your body after the surgery, understand and carefully take care of the drainage tube as it will affect the results of surgery. The purpose of installing drainage tubes and treatment of various anomalies are introduced as follows:

Purpose

1. Drainage: Avoid formation of hematoma as excess blood clot will be unfavorable for wound healing and could cause infection.
2. Observation: The secretion from the wound drainage could be used to determine any blood oozing from the wound.
3. Reduce post-operative swelling and discomfort to facilitate rehabilitation.

Precautions After Therapy (Examination)

1. Observe if the drainage tube is secured and unobstructed.
2. Avoid compression or bending that cause clotting.
3. Observe the color, quantity, property (generally from dark to light color, from more liquid to less liquid) of the drainage fluid. If there is any change, notify the nurse immediately.

Removal Time

- Usually when the drainage fluid falls under 50c.c./day, the doctor will consider removing the tube.



Hanging by the bedside

Wound Care

1. Infection prevention should be prioritized.
2. Note if there is any red swelling and pain on the skin surround the wound.
3. Note if there is any fever. If so, it could be sign of infection and please return to the hospital for treatment immediately.
4. You can restore normal diet after the surgery with more consumption of high-protein food such as egg, fish, and meat. Fish soup can boost wound healing.
5. Most people would not move because of the drainage tubes on their bodies. There is not too much restriction and the patient can get off the bed and walk around to boost wound healing and help with drainage. Simply avoid pulling the tube.

Pain Treatment

Effective pain control can alleviate the discomfort after the surgery and promote recovery from the illness.

Purpose

1. Patients can get off the bed to move around, which will promote wound healing and reduce complications.
2. Patients can receive adequate sleep, restore physical strength early and reduce the time for hospitalization.

Method

1. Slowly inhale and exhale to relax.
2. Use the pillow to support and elevate the affected leg, which can reduce swelling and pain.
3. Read newspapers and magazines or listen to the music to divert attention from pain.
4. Massage the legs to relax the muscles.
5. Use the hand to secure the affected area and prevent wound puling when turning over or moving the body.
6. Ask the doctor to prescribe painkiller if necessary.
7. Use the ice pillow as ice compress to reduce swelling and pain. Take a break for 30~60 minutes after using the ice pillow for 20~30 minutes. If the skin feels dumb, painful and becomes grey-white color, stop using ice compress.

Ice pillow preparation

- 1) Fill the ice cubes to $\frac{1}{2}$ - $\frac{1}{3}$ of capacity and add moderate amount of water to melt the sharp edges of ice cubes into smooth corners.
- 2) Place the ice pillow flat and gently press the ice pillow to let the air out, which will prevent ice cube from melting too fast and secure the ice cubes.
- 3) Clamp tight the opening of ice pillow. Lift the ice pillow upside down with the opening facing down to check for any water leakage.
- 4) Use a plastic bag for the ice pillow and put on the ice pillowcase.
- 5) Replace the ice cubes once every 2 hours.



Ice Pillow



Storing Ice Pillow

Urinary Catheter Care

Precautions After Inserting Urinary Catheter

1. Drink adequate water daily to maintain 2,000c,c, of urine and reduce the likelihood of infection and inflammation with urinary tract.
2. Keep the urinary catheter unobstructed and prevent the catheter from compression or folding.
3. Keep the UCD lower than the waist to prevent urine reflux and infection.
4. If the patient feels pain, the body temperature rises, urine becomes muddy, or carries blood with stench, it could be because the urinary system is infected, notify the nurses immediately.
5. In every 8 hours or if the urine bag has accumulated enough urine, discharge to prevent the urine from reflux and infection.
6. Clean and disinfect the urinary catheter twice a day. Clean the catheter anytime when there is foreign object.



Do not touch the ground

How to care Urinary Catheter

- Female: Rinse the perineum at least twice. Fill the rinsing bottle with lukewarm water and rinse bottom-up from the urethral orifice. Use a cotton swab to wipe top-down and then inside-out. Do not wipe back and fourth repeatedly.
- Male: Use a cotton swab to sterilize the urethral orifice and the urinary catheter every day, wiping in circular motion from the inserted area.

Bladder Training

1. Purpose: Retrain bladder reflex and muscle tension.
2. Method:
 - 1) Empty the bladder.
 - 2) Tighten the middle section of the urinary catheter with a rubber band and loosen the rubber band every 2 hours or when the patient has the urge to urinate.
 - 3) Patients are encouraged to drink 3,000c.c. of water daily.
 - 4) If the patient has the urge to urinate or has distention of bladder, notify the nurse before removing the urinary catheter.

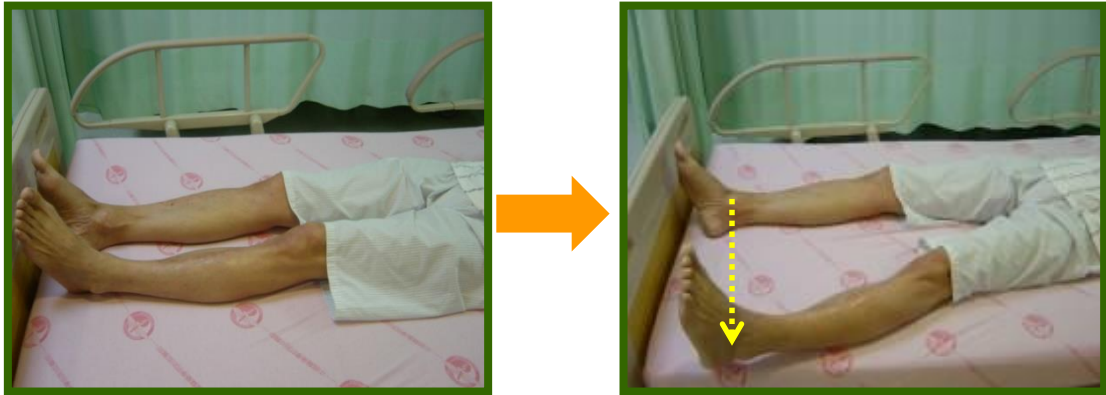
Post-Operative Rehabilitation Exercises



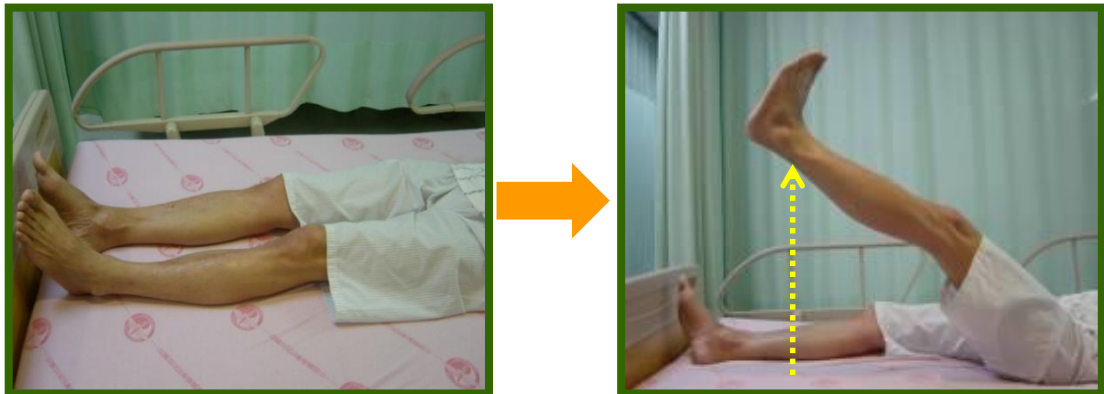
Early Rehabilitation
Exercise Film for
Post-Artificial Hip
Joint Replacement

Post-Operative rehabilitation exercises can help you get off the bed easily and enhance rehabilitation.

Hip Abduction Exercise



Straight Leg Raise Exercise



Hip Stretching Exercise



Post-Operative Rehabilitation Exercises

Post-Operative rehabilitation exercises can help you get off the bed easily and enhance rehabilitation.

Heel Slide Exercise



Bedpan Exercise



Lateral Position Leg Lifting Exercise



Post-Operative Rehabilitation Exercises

Post-Operative rehabilitation exercises can help you get off the bed easily and enhance rehabilitation.

Leg Swinging Exercise



Turnover and Position



Lying Flat and Position



Proper Posture & Prohibited Postures

Pick up items on the ground



Please bend the knees of healthy leg and stretching affected leg backward.



Bend the hip joint over 90 degree

Standing up



Keep legs separate when standing up or sitting down.



Cross two feet with external rotation of hip joint.

Sitting down



Stretch affected leg front, enough height of chair and preferably with armrest.



Chair too low without armrest.

Proper Posture & Prohibited Postures

Toilette



Stretch affected leg front when sitting down and add cushion to the toilette when necessary.



Incorrect posture due to low toilette.

Sleeping



Make the bed before to the bed.



Stretching the body to pull the blanket.

Turnover



Put one pillow between the legs on lateral lying position.



Inward hip joint and no pillow between the two legs when lying lateral position.

Use of Walking Sticks and Precautions

Purpose of using walking sticks

Prevent adding range of mobility to the affected leg.

Choice of walking stick length

1. Height minus 16" .
2. Standing up- additional 4~6 inches from the underarm to the sole of feet.

Pose

1. Straighten the back.
2. The top of walking sticks should be the height of 2 fingers flat from the underarm.
3. Preferably 30 degree bent on the elbow joint.



Gait

Three-point gait pattern.



Healthy leg supporting the weight and use two walking sticks.



Affected leg to the front.



Two walking stick supporting the weight and walk with healthy leg front.

Use of Walking Sticks and Precautions

Going upstairs



Stand still and use the two walking sticks to support the weight.



Move the healthy leg (good leg) first to go up the stairs.



Support the weight with healthy leg (good leg) while the affected leg (injured leg) catches up.

Going downstairs (Keep weight in balance)



Support the weight with the healthy leg (good leg) and go down stairs with the two walking sticks first.



Go downstairs with the affected leg (injured leg) first.



Support the weight with the two walking sticks and use the health leg (good leg) to go downstairs.

Use of Walking Sticks and Precautions

Chair Sitting – Sitting on a chair.



Approach the chair by standing in front of the chair.



Place the two walking sticks on the back of chair, to the side of the affected leg. Stand still and hold the chair armrest with two hands.



Use the health leg as the pivot and rotate the body 180 degree towards the affected side.



Turn around and use the health leg as pivot and two hands holding to the chair armrest to sit down.

Use of Walking Sticks and Precautions

Chair Sitting – Standing up from the chair



Support the body with two hands.



Stand in front of the chair.



Rotate the body to the health leg side, hold the armrest with one hand and the walking stick with another hand.



Place the walking sticks on two sides to stand up.

Dietary Instructions for Orthopedic Patients

1. Keep a balanced daily intake of six major groups of food so that the body can fully receive various nutrients. The six groups of food include:
 - Dairies.
 - Grains
 - Beans, fish, egg, and meat
 - Vegetables
 - Fruits
 - Oils and nuts and seeds.
2. The protein tends to become quickly deficient after a surgery or injury (e.g. bone fracture). The patient should choose protein food high in biological value such as milk (non-fat or skim milk), egg, lean meat, fish, poultry (skinless) and others as supplement of nutrients. Vegetarians can choose soy beans and their products to supplement the plant proteins.
3. Calcium is the main substance constituting bones. Patients of bone fracture will lose massive calcium and should replenish in food. Milk is the main source of calcium in food. Other food rich in calcium includes: dried small fish, oyster, clams, egg yolk, soy beans, and their products (e.g. bean curd skin, and 5-spice dried bean curd), dark-green vegetables, black moss, seaweed, black sesame, white sesame, and yeast (yeast candy).
4. To speed up wound healing and boost immunity against infectious disease, food rich in vitamin C (fruit, dark-green and yellow-red vegetables) such as guava, citrus fruit, lemon, and tomato should be consumed more.
5. Vitamin D helps bone calcification and plays an important role in promoting calcium use. Food rich in vitamin D includes: egg yolk, milk, animal liver (e.g. pig liver, cow liver), cod liver oil...etc. Moreover, sunlight can activate the vitamin D in skin and getting frequent suntan is also an ideal way to obtain vitamin D.
6. Adequate water. Water can adjust the body temperature, help digestive absorption, prevent and improve constipation. Bedridden patients over long period of time should increase water consumption and drink approximately 2,000~3000c.c. of water per day (approximately 20c.c.~30c.c. per kilo weight).



Precautions for Returning Home from Hospital

1. To prevent accidental dislocation of the hip joint, please remember:
 - 1) Bend the knee of the good legs when picking up items. Keep the operated leg stretched to the back.
 - 2) Do not wear shoes that require buckling.
 - 3) Do not sit on chair too low and soft sofa. Add armrest to the two sides.
 - 4) Avoid the use of squat toilette.
 - 5) Do not cross your leg or have two legs crossed over.
2. Use of walking sticks and walkers:

The hip joint temporarily could not bear the weight of the body in 2~3 months after the surgery. It is necessary to use walking sticks or walker for walking. Add the walking distance and activities progressively under the doctor informs you that you don' t need to do so.
3. When you turn over in bed in 3 months after the surgery, keep the pillow between the two legs in order to maintain proper posture and prevent the hip joint from accidental dislocation.
4. Driving in 6 weeks after the surgery is prohibited. When entering the car, get in the car with the back first, bend the good leg to move forward, and then keep the body backward to enter the car. Carefully move the operated leg into the car and place it in the cushions in the backseat. Do the opposite when getting off the car.
5. Proper rest and exercise:

Progressively increase your mobility to prevent exhaustion. Keep proper rest after activities and keep the joint at normal posture. Try to relax and stay comfortable.
6. Revisit the hospital immediately under the following circumstances:
 - Inflammation, redness, swelling, fever, pain, and secretion with the wound.
 - Fever.
 - Intensified pain.
 - Abnormal snapping sound with hip joint.

