Patient Education: Teaching the Postoperative Patient about Total Hip Arthroplasty

What Is Teaching Postoperative Patients about Total Hip Arthroplasty?

› Total hip arthroplasty (THA; also known as total hip replacement) is the surgical replacement of a damaged and/or malformed ball (i.e., the femur head) and socket (i.e., the acetabulum) of the hip joint. (For information about THA, see the series of related Nursing Practice & Skills)
  • **What**: Teaching postoperative patients about THA is the process of educating patients and their family members, as appropriate, to increase their knowledge of THA and improve their skills in performing self-care during the postoperative period after discharge to home. During the educational session, the patient and family members are given the opportunity to ask questions and to practice certain skills they are expected to perform as part of the patient’s care at home. Important elements of patient education about THA include assisting with making arrangements for supplies and/or other support necessary for care of the patient after discharge to home, discussing the importance of making changes to promote in-home safety and increased patient independence in performing activities of daily living (ADLs), and educating about strategies for caring for the surgical incision, reducing pain, and reducing risk of complications
  – Patients who have undergone THA are discharged from the surgical facility directly to home or are discharged to a rehabilitation facility if additional specialized care (e.g., intensive physical therapy) is required. The information that follows focuses on patient/family education when the patient is discharged to home
  • **How**: A variety of learning and motivational activities (e.g., face-to-face instruction, written materials, DVDs, computerized learning, telephone conversations) can be utilized when teaching patients
    – The most effective teaching/learning strategies involve a combination of activities that include individualized instruction and some level of personal involvement by the healthcare provider
  • **Where**: Education about THA is initiated before discharge from the hospital and reinforced during subsequently scheduled clinician office visits and during in-home nursing visits, as appropriate
    – Providing consistent information throughout the continuum of care is important
  • **Who**: Postoperative education about care after THA is performed by registered nurses, usually in collaboration with physical therapists. The role of the nurse is to educate about how to maintain a safe home environment for the patient, effectively manage pain, and identify signs and symptoms that can indicate developing complications related to THA. The role of the physical therapist involves educating about and supervising the performance of exercises that are designed to increase muscle strength and promote normal balance and gait. These responsibilities cannot be delegated to assistive staff members. It is essential for family members and/or other caregivers to be present during patient education about THA
What is the Desired Outcome When Teaching Postoperative Patients about Total Hip Arthroplasty?

› Effective education about THA can empower patient and family members and allow them to
  • better understand what to expect during recovery from THA
  • understand how to self-perform postoperative care after discharge to home and its importance in recovery following THA
  • identify signs and symptoms of postoperative complications that should be reported to the treating clinician

Why Is Teaching Postoperative Patients about Total Hip Arthroplasty Important?

› Education about THA is provided to increase the patient’s knowledge of THA, improve skills in providing postoperative care, increase the likelihood that the patient will be able to perform ADLs independently during recovery from THA, and reduce the risk of morbidity or hospital readmission after discharge to home

› Patient education is required by The Joint Commission (TJC). In 2004, TJC integrated the required patient education elements and standards throughout their accreditation manual instead of in a designated chapter (TJC, 2016)

Facts and Figures

› Approximately 332,000 THA procedures are performed in the United States every year (Centers for Disease Control and Prevention, 2016)

› For the past decade, minimally invasive THA has been associated with accelerated postoperative rehabilitation. In a comparative study involving 590 patients who underwent minimally invasive THA, those who were mobilized on the day of surgery (compared with standard mobilization on postoperative day 1) were discharged sooner at 2.06 vs. 3.38 days, had fewer readmissions within 30 days at 0.52% vs. 4.72%, and were discharged to home at 96% vs. 62% (Robbins et al., 2014)

› THA involves replacing the entire hip joint with a prosthesis. Resurfacing arthroplasty, a newer technique, involves replacing the joint surface of the femoral head with a metal surface covering. The authors of a systematic review of 2,469 records concluded that, compared with THA, resurfacing arthroplasty had higher revision rates and costs and lower quality-adjusted-life-years (Clarke et al., 2015)

› Authors of a retrospective study of 239,000 patient records reported that THA revision rates at 10 years were less than 5%. Cemented prostheses with ceramic-on-polyethylene bearing surfaces had the lowest revision rates at 1.88–2.11% and cementless prostheses had the highest revision rates at 3.93–4.33%. Men were more likely to require revisions than women (Kandala et al., 2015)

  • In a study of 35,140 patients, researchers reported that women had a 29% higher risk of implant failure than men within 5 years after undergoing THA. The device survival rate for men was 97.7% compared with 97.1% for women. Hazard ratios for women were 1.29 overall, 1.32 for aseptic revision, and 1.17 for septic revision (Inacio et al., 2013)

  • Although limited weight bearing of the lower extremities is commonly prescribed after THA, adherence by patients who have had a cementless THA is often inadequate (Schaefer et al., 2015)

› In a randomized, controlled trial involving 84 THA patients in the U.S., researchers studied the use of patient-controlled epidural analgesia (PCEA) with use of a multimodal pain regimen including periarticular injection (PAI). They found that PAI did not decrease the time to discharge and was associated with higher pain scores and greater opioid consumption, but lower Opioid-Related Symptom Distress Scale (ORSDS) scores. The researchers concluded that post-THA analgesia regimens should be chosen based on the patient’s threshold for pain and potential side effects (Jules-Elysee et al., 2015)

› Among 9,362 patients undergoing THA, 22.2% received a perioperative red blood cell transfusion. The researchers did not find a strong association between the transfusion and complications within 30 days such as infection, venous thromboembolism, or mortality (Hart et al., 2014)

› Danish residents with cirrhosis had a higher risk of postoperative complications following THA. Among 363 patients with cirrhosis and 109,159 reference patients all who underwent THA, patients with cirrhosis were more likely to be younger, be male, receive general anesthesia, have co-morbidities, and require more hospitalizations preoperatively. Their intraoperative risks were similar to that of the control group; however, those with cirrhosis were more likely to die during hospitalization or within 30 days of discharge, require a postoperative transfer to an ICU, require a greater number of readmissions within 30 days after discharge, and have an increased risk of deep prosthetic infection (Deleuran et al., 2015)

What You Need to Know Before Teaching Postoperative Patients about Total Hip Arthroplasty

› Hip fracture and degenerative joint disease are the most common indications for THA

  • Hip fracture typically occurs due to traumatic injury to the hip and is more common among persons with osteoporosis
Degenerative joint disease in the hip develops when cartilage that cushions the femoral head and acetabulum of the hip joint breaks down, which allows the bony surfaces of the femoral head and acetabulum to rub against one another and causes joint pain and stiffness. Degenerative joint disease develops most commonly in persons with osteoarthritis, rheumatoid arthritis, or joint trauma.

In 2011, the American Academy of Orthopaedic Surgeons (AAOS) endorsed a “zero in on zero” approach to THA care (for details, see http://www.aaos.org). Their THA targets for improvement include the following:

- No healthcare-associated methicillin-resistant Staphylococcus aureus (MRSA) infection and 0% site infection (reduced from 3%)
- No venous thromboembolism-related deaths (reduced from < 0.1%)
- 100% of postoperative patients treated with a multimodal pain management program rather than use of varying strategies and poor pain control
- No falls during recovery in the hospital (reduced from > 5%)
- No readmissions (reduced from < 2 %)
- Satisfied patients (reduced from 15% dissatisfied)
- Successful discharge handoffs (reduced from < 5% poor handoffs)
- No catheter-associated urinary tract infections (UTIs) (reduced from < 5% UTIs)

At discharge, surgical incisions are commonly left uncovered or are covered by a transparent dressing. Patients should be taught to care for the incision on the operative hip, including performing the following:

- Keeping the skin clean and dry around the surgical incision
- If applicable, the steps involved in the process of changing the dressing; the patient is given essential supplies or has a plan for obtaining them
- If sutures or staples were used to close the incision, the treating clinician’s orders regarding when bathing can be initiated by shower or sponge bath as well as precautions about immersion in water (e.g., no tub bathing or swimming for at least 2 weeks after surgery)

Potential complications in patients who have undergone THA include infection, deep vein thrombosis (DVT), pulmonary embolism (PE), dislocation, leg-length inequality, and implant loosening and wear. Patients and family members should be educated about strategies for monitoring and reporting the development of THA-related complications, including the following:

- The patient’s oral temperature should be taken twice daily and the treating clinician should be notified promptly if it is above 100.5 °F(38 °C)
- The incision and surrounding area should be assessed regularly and the treating clinician should be notified if the patient develops increased incisional pain, the area around the incision becomes red or warm, the incision begins to open, or the incision begins to drain, all of which are signs that the surgical site might be infected
- Postoperative patients should be educated to monitor for leg pain, chest pain, and/or shortness of breath because these are signs of DVT or PE; if these signs and symptoms develop, the patient/family members should immediately contact the treating clinician or call 9–1–1 for emergency care
- Dislocation can occur when the ball comes out of the socket. Patients should be educated that this risk is greatest during the first few months after surgery. Although dislocation is uncommon, the patient should seek immediate medical attention if he/she has indications that dislocation has occurred. A closed reduction can be needed to properly relocate the ball in the socket
- Dislocations are reported in 0.5–10.6% of patients after THA. In a single surgeon practice, there were 8 (1%) dislocations among 797 hips in the first 12 months after THA. On average, dislocation occurred 7.5 weeks after surgery; two of the eight dislocations occurred within the first 4 weeks. Shortening hip precautions from 6 weeks to 4 weeks after surgery did not increase risk of dislocation (Schmidt-Braekling et al., 2015)

- It is possible that one leg will be longer than the other. Use of a shoe lift can increase comfort
- If the hip prosthesis wears out or loosens, surgical revision can be necessary. This long-term complication is most likely due to normal wear and tear on the prosthesis

The medication regimen prescribed to the patient who has undergone THA typically includes antibiotics, anticoagulants, and pain medication. Patients should be educated about the importance of adhering to the following guidelines for taking medication:

- Patients should be instructed of the name, dose, route, purpose, and potential side effects of each medication
- Each medication should be taken as directed, and the dosage and/or schedule for taking medication should not be changed without consulting the treating clinician
When low molecular weight heparin is prescribed as a transition to oral anticoagulants, the patient or a family member learns how to perform a subcutaneous injection and about the importance of monitoring INR levels.

- Pain medication should be taken 30 minutes before exercising or performing physical therapy to reduce pain and increase ability and endurance; patients should be encouraged to use the facility-approved pain rating scale to self-assess pain levels and communicate concerns to the treating clinician.
- A common side effect of pain medications is constipation. During recovery after THA, patients should increase fluid intake, eat foods that are high in fiber, and take stool softeners as needed.

- Patients should plan ahead for medication refills to avoid being without medication.

Nonpharmacologic strategies for reducing pain include using ice packs, performing deep breathing exercises, using distraction, and changing position.

Postoperative dietary and other precautions to reduce risk of bleeding and other complications include the following:

- The treating clinician might prescribe iron and vitamin supplements.
- Patients receiving warfarin should avoid excessive intake of foods containing vitamin K, including broccoli, cauliflower, Brussels sprouts, liver, green beans, garbanzo beans, lentils, soybeans, soybean oil, spinach, kale, lettuce, turnip greens, cabbage, and onions. Current practices involve encouraging patients to eat a consistent amount of foods containing vitamin K; the warfarin dosage is then adjusted accordingly.
- Patients receiving warfarin should avoid taking aspirin and other medications or supplements with blood-thinning properties and should limit intake of caffeine and alcohol.
- Patients should avoid gaining weight and avoid lifting excess weight (e.g., 30 pounds), as doing so increases stress on the prosthetic joint.
- In a study of 3,893 THA patients, 73% reported no change in their body mass index (BMI) after THA. Of all total joint replacement patients studied, those who were most likely to lose weight after surgery were female patients, those with a higher preoperative BMI, and those who underwent total knee arthroplasty rather than THA (Ast et al., 2015).

- Patients who have undergone THA should be taught about prescribed activity and activity restrictions, which typically include the following:
  - Do not bend the operative hip greater than a 90° angle, as doing so places excessive pressure on the hip joint prosthesis and can cause joint dislocation.
  - Remain physically active but adhere to the prescribed restrictions.
    - If the prosthetic joint is not cemented, use crutches or a walker and avoid weight bearing on the operative side until ordered by the treating clinician. Delaying weight bearing allows time for the bone to grow into the porous coating of the prosthesis. Supported weight bearing on the operative side is typically ordered by the eighth postoperative week.
    - If the prosthetic joint is cemented or the patient has a hybrid hip prosthesis, weight bearing on the operative leg can be initiated immediately using a cane or walker. Continued use of a cane or walker for 4–6 weeks is important to allow for recovery of the muscles surrounding the hip prosthesis.
    - Driving a car with an automatic shift is approved in 4–8 weeks if narcotic pain medication has been discontinued, although driving might be delayed for patients who have undergone THA of the right hip.
    - Sleeping positions should be limited to a supine or side-lying position with an abduction pillow placed between the knees. The pillow should be used for at least 6 weeks or until the treating clinician orders its discontinuance. (For information about using an abduction pillow, see Nursing Practice & Skill … Abduction Pillow: Applying and Removing)
    - Long-distance road trips and air travel are generally not recommended during recovery. Travel plans should be discussed with the treating clinician to maximize safety. After recovery, patients are encouraged to limit travel to 1–2 hours, get out of the vehicle frequently and move around, and then resume travel.
  - Perform activities that reduce risk for thrombus formation, including:
    - getting up and moving around at least once every hour
    - avoiding crossing the legs at the knees.
  - Do not sit in low chairs, low stools, or reclining chairs because it can be difficult to arise, which increases fall risk.
  - Perform the following activities when approved by the treating clinician:
    - Stair climbing
    - Walking for exercise
    - Swimming
  - Perform other activities that do not put excessive stress on the prosthetic joint and are likely to be approved by the treating clinician, including:
    - dancing
    - golfing wearing shoes without spikes and being transported in a cart.
bicycling on level surfaces
• Returning to work is appropriate when approved by the treating clinician
• Joint replacement cards are often provided to alert airport personnel of metal implanted in the body; extra scanning can be expected at airports
• Avoid activities that cause impact stress on the prosthetic joint, including tennis, badminton, contact sports (e.g., football), baseball, squash, racquetball, jumping, and jogging
• Do not carry heavy, awkward objects because doing so can cause loss of balance and falling, especially when ascending or descending stairs or slopes

Swelling of the operative leg is normal for the first 3–6 months after undergoing THA, although swelling can be prevented or reduced by elevating the operative leg slightly and applying an ice pack to the hip for 15–20 minutes several times a day

Patients with a prosthetic joint should take prophylactic antibiotics as prescribed before scheduled dental, ophthalmic, and certain other procedures that can cause bacteria to be released in the bloodstream
• Patients should be taught that taking antibiotics reduces risk for bacterial infection of the prosthetic joint
• For more information about recommendations for antibiotic prophylaxis, refer the patient to http://www.aaos.org/search/?srchtext=antibiotics+prophylaxis or provide a written copy of the information, if available

The nurse clinician should assist the family in making arrangements for the following before the patient is discharged from the hospital:
• Transportation to home (e.g., by a responsible adult family member or friend)
• Crutches or a walker to reduce pressure on the artificial joint during ambulation, which are typically available for rent at medical supply stores
• Supportive stockings to prevent blood clots from forming in the operative leg, which can be provided by the hospital or purchased by the family at medical supply stores; patients or family members should be instructed how to safely apply them
• Materials for dressing changes, as appropriate, which might initially be provided by the hospital and are available at a medical supply store

In-home safety is important to promote independence in performing ADLs and recovery. Patients should be asked what the physical environment of the home is like to evaluate if there is enough room to maneuver using crutches or a walker and other safety factors. In some healthcare facilities, physical therapists visit and evaluate the home environment and recommend adaptations. As appropriate, the patient/family should be educated about strategies for changing the home environment to improve patient safety and increase independence, including the following:
• Clearing a wide path (e.g., moving furniture, area rugs, and other items) so the patient can safely and easily navigate to the bathroom, bedroom, kitchen/dining room, and living room, as appropriate
• Fastening electrical cords securely around the perimeter of the room to reduce fall risk
• Placing frequently used items (e.g., telephone, television remote control, tissues, wastebasket, water pitcher and glass, reading material, pain medication) within easy reach so the patient can avoid reaching up or bending down
• Using/purchasing a chair with a firm and higher than average seat so the patient will not need to bend the operative hip joint more than 90° and to reduce effort getting in and out of the chair
• Changing the rooms in which the patient sleeps and/or spends the majority of time to avoid the need to climb stairs
• Installing a shower chair, grab bars, and raised toilet seat in the bathroom to decrease fall risk during performance of ADLs in the bathroom
• Purchasing assistive devices such as a long-handled shoehorn, sponge, and grabbing tool to help the patient perform activities without bending his/her hip joint more than 90°

The most successful strategies for teaching postoperative patients about THA are individualized educational interventions
• Patient education and teaching tools (e.g., handouts, books, DVDs) should be tailored to the patient’s specific needs and priorities
• Visually-oriented informational handouts (i.e., those with diagrams and limited wording) should be appealing and easy-to-read
• All teaching should be patient-centered and evidence-based
• Educational information should be delivered in a culturally-sensitive manner and in a language and at a level that can be easily understood by the patient
• Professional certified medical interpreters, either in person or via phone, should be used when there are language barriers
• Simple, nonmedical language should be used for all patients, but especially when low literacy levels are assessed

Preliminary steps that should be performed before teaching a postoperative patient about THA include the following:
• Review facility protocols specific to THA and patient education
- Become familiar with organization-wide and unit-specific practices for teaching postoperative patients about THA
- Identify acceptable patient teaching resources that are available onsite or via the Internet (e.g., www.webmd.com/arthritis/surgery-hip-replacement)

Verify availability of necessary supplies prior to initiating the educational session noting that supplies will vary based on patient assessment, below). Supplies can include
- a teaching guideline or documentation form outlining key content areas such as postoperative care after discharge to home for patients who have undergone THA
- corresponding written materials, including key points about signs and symptoms that should be reported to the treating clinician
- information about Internet and community resources that are available to assist patients in learning about recovery following THA (e.g., http://orthoinfo.aaos.org/main.cfm)
- information on how to contact the healthcare team for questions or concerns

How to Teach Postoperative Patients about Total Hip Arthroplasty

Assess patients for
- readiness to learn
  - Listen for cues that the patients are asking for information about recovery from THA (e.g., “I heard that recovery from this type of surgery is really hard.”) or ask questions to help patients identify what information they need to know for optimal follow-up care (e.g., “After the surgery, you’ll need to self-monitor for signs and symptoms of complications. Do you think you can do this?”)
  - Patients can be at different stages of readiness; it is important to individualize your approach based on each individual learner’s readiness
- preferred learning style
  - Individuals are auditory, visual, or tactile learners, and learn by hearing (e.g., listening to other patients talk about performing self-care following THA), by seeing (e.g., observing a nurse demonstrate how to change dressings), and by doing (e.g., performing a return demonstration of the procedure for changing surgical dressings)
- Patient-identified learning priorities
  - When there is incongruence between the patient’s priorities and the healthcare provider’s goals, all will need to explore why the incongruence exists
- learning barriers
  - Barriers can include impaired memory or cognitive difficulties; learning disabilities; physical limitations; language; low literacy; impaired hearing, sight, and/or speech; financial issues; and cultural, psychosocial, and/or emotional concerns
  - Barriers to learning should be assessed through patient interview and on an ongoing basis
- learning needs and desires
  - Many patients are preoccupied with the challenges of performing postoperative care following THA and need to be encouraged to learn more about the topic

Plan for timely delivery of relevant information
- The overall plan for teaching patients about THA should be comprehensive, but tailored to meet the patient’s specific learning needs; it should be divided into information segments that are scheduled at intervals to avoid overwhelming the patient
- High-quality teaching tools (e.g., clear, concise print materials written at a 5th grade reading level; a DVD about importance of following postoperative instructions) should be identified in advance to support teaching and learning
  - The assessment of the patient’s learning characteristics should guide the selection of appropriate teaching tools
- When appropriate, patient education should be scheduled when family members or caregivers are available to support the patient in learning

Implement the patient teaching plan
- Discuss and set mutually achievable goals for learning with the patient
  - Anticipate a planned approach to teaching and learning, but be prepared to be flexible and individualize information based on the patient’s changing needs and desires
- Provide timely and relevant information
  - Encourage the patients to choose a private, low-stresssetting for learning
  - Emphasize the importance of following postoperative instructions
Educate the patient about
- signs and symptoms of infection, DVT, PE, dislocation, and other potential complications and the need to contact the treating clinician if these occur
- the proper procedures for changing dressings, including strategies to minimize risk of infection
- the prescribed medication regimen and the importance of adhering to the prescribed dosage and schedule
- nonpharmacologic strategies for reducing pain
- postoperative physical activity and activity restrictions
- home modifications that can be necessary to improve patient safety and increase independence
- dietary and other precautions to reduce risk of bleeding and other complications (e.g., avoidance of aspirin, eating high fiber foods)
- the need to take prophylactic antibiotics before scheduled dental, ophthalmic, and certain other procedures that can cause bacteria to be released in the bloodstream
- sources of additional information and support, including the following:
  - OrthoInfo at http://orthoinfo.aaos.org/topic.cfm?topic=a00377
  - WebMD at www.webmd.com/arthritis/surgery-hip-replacement

Assist the family in making arrangements for transportation and acquisition of necessary supplies (e.g., assistive devices, supplies for dressing changes) before the patient is discharged from the hospital

Use a variety of teaching/learning strategies for best results
- Direct communications, such as face-to-face encounters, are fundamental to clinical care and patient education, particularly for discussions about emotional and psychosocial concerns
- Written materials (e.g., booklets, fact sheets) have received mixed reviews
  - The effectiveness of print materials varies based on comprehensibility, visual appeal, legibility, text style, size, and layout
- Internet resources are readily available to most patients undergoing THA, although healthcare professionals disagree about the value of Internet information
  - One strategy to enhance Internet use by patients is to provide a list of relevant Websites that are thought to be accurate, current, and understandable

Evaluate the patient’s response to teaching
- Continually assess learning throughout the continuum of care
- Use a teach-back method to evaluate learner understanding
  - Have the patient repeat health information and/or demonstrate a self-care skill while allowing the educator to listen, observe, and clarify the information or skill performance, as needed
  - Remember that specific information is better recalled than general information
- Use a self-efficacy (i.e., the extent to which a person believes he or she is capable of achieving a desired outcome) rating to evaluate how confident the learner is of understanding information or performing a skill. For example, ask the patients, “On a scale of 0–10, how certain are you that you will be able to adhere to the prescribed medication regimen?”
  - If the patient’s response is < 7, the plan will need to be readjusted (e.g., reiterate education until the patient response is ≥ 7, explore why the patient is not certain, initiate greater involvement of family members in teaching)

Update the patient’s plan of care, as appropriate; document the following in the patient’s medical record, and communicate any concerns with the multidisciplinary healthcare team so that information can be reinforced and the learning plan can be continued or modified accordingly:
- All education provided about THA, including specific teaching and learning strategies implemented
- Assessment findings regarding readiness to learn, preferred learning style, learning needs and desires, and learning priorities of the patient
- Any identified barriers to learning and methods used to help overcome these barriers
- Patient response to learning, including demonstrated level of understanding and/or ability to perform necessary skills
- Plan for continuation of patient education, including whether or not specific information should be reinforced or taught again using a different teaching method

What to Expect After Teaching Postoperative Patients about Total Hip Arthroplasty

Patients and family members will
- better understand what to expect during recovery at home after THA
- understand how to self-perform postoperative care after discharge to home and its importance in recovery following THA
• be able to identify signs and symptoms of postoperative complications that should be reported to the treating clinician
• experience the delivery of consistent and ongoing educational information across the healthcare system
• perceive having received information in a culturally-sensitive manner and in a language and at a level that is understandable to them

**Red Flags**

› Unless supported by the patient, the use of family members, friends, and nonprofessional staff as interpreters is a violation of the patient’s right to confidentiality.  
› At this time, scientific studies do not support the use of tall man letters (i.e., the inclusion of uppercase letters in drug names to distinguish them from other medications that have similar spelling or pronunciation) when presenting drug names to patients (ISMP, 2016)

What Do I Need to Tell the Patient/Patient’s Family?

› Based on assessed needs and desires, educate the patient about recovery at home from THA, potential complications of the surgery, how to identify signs and symptoms that should be reported to the treating clinician, and how to self-perform postoperative care at home

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**References**


