

# R<sup>3</sup> Report | Requirement, Rationale, Reference

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Published for Joint Commission-accredited organizations and interested health care professionals, *R3 Report* provides the rationale and references that The Joint Commission employs in the development of new requirements. While the standards manuals also may provide a rationale, *R3 Report* goes into more depth, providing a rationale statement for each element of performance (EP). The references provide the evidence that supports the requirement. *R3 Report* may be reproduced if credited to The Joint Commission. Sign up for [email delivery](#).

## Advanced Total Hip and Total Knee Replacement Certification Standards

Effective July 1, 2020, 11 new and 11 revised elements of performance (EPs) will be applicable to all Joint Commission-accredited **hospitals, critical access hospitals, and ambulatory surgery centers** that participate in the advanced total hip and total knee replacement certification program.

### Engagement with stakeholders, customers, and experts

In addition to an extensive literature review and public field review, The Joint Commission obtained expert guidance from the following groups:

- Standards workgroup comprised of clinicians with expertise in total joint replacement from The Joint Commission and the American Academy of Orthopaedic Surgeons.
- Standards review panel (SRP) consisted of representatives from organizations or professional associations who provide a “boots on the ground” point of view and insights into the practical application of the proposed standards.

The prepublication version of the standards is available on the Prepublication Standards section of the Joint Commission website. After July 1, 2020, the standards can be accessed in the E-dition or standards manual.

The rationale and references relate to new language only, not the entire standard. Some minor standards changes did not include a literature review but were recommended by the standards workgroup and then presented to the standards review panel and submitted for public field review.

### Program Management chapter

#### Standard DSPR.1: The program defines its leadership roles.

<b>Requirement</b>	EP 3: The program leader(s) guides the program in meeting the mission, goals, and objectives.  <i>Requirements specific to total hip and total knee replacement:</i> b. The program uses transfer protocols with standardized handoffs to support the continuity of care.
<b>Rationale</b>	Patient handovers, defined as “the transfer of information and professional responsibility and accountability between individuals and teams,” are high-risk, error-prone patient care episodes. A number of research reports have documented that communication lapses among physicians are a key factor in medical errors and significant contributors of inefficiency, cost, and adverse patient consequences. A patient location change increases the demand for effective information transfer to optimize the quality of patient care. In order to prevent breakdown of information,

	programs should have defined triggers that mandate communication with the surgeon, structured handoffs, and transfer protocols.
<b>References*</b>	<p>Williams RG, Silverman R, Schwind C, Fortune J, Sutyak J, Horvath K, Van Eaton E, Azzie G, Potts, J, Boehler M, Dunnington G. (2007) "Surgeon Information Transfer and Communication: Factors Affecting Quality and Efficiency of Inpatient Care." <i>Annals of Surgery</i>, 245(2):159-169. doi:10.1097/01.sla.0000242709.28760.56</p> <p>Greenberg CC, Regenbogen SE, Studdert DM, Lipsitz SR, Rogers SO, Zinner MJ, Gawande AA. (2007) "Patterns of Communication Breakdowns Resulting in Injury to Surgical Patients." <i>Journal of the American College of Surgeons</i>, 204(4):533-540. doi.org/10.1016/j.jamcollsurg.2007.01.010</p> <p>Segall N, Bonifacio AS, Schroeder RA, Barbeito A, Rogers D, Thornlow DK, Emery J, Kellum S, Wright MC, Mark JB. (2012) "Can We Make Postoperative Patient Handovers Safer? A Systematic Review of the Literature." <i>Anesthesia and Analgesia</i>, 115(1):102-115. doi:10.1213/ANE.0b013e318253af4b</p>

**Standard DSPR.5: The program determines the care, treatment, and services it provides.**

<b>Requirement</b>	<p>EP 2: The program communicates to the patient the care, treatment, and services it provides.</p> <p><b>Requirements specific to total hip and total knee replacement:</b></p> <ul style="list-style-type: none"> <li>a. The program provides an overview of total hip and total knee replacement to the patient, family, and caregivers (for example, classes, video, brochure).</li> <li>b. The program identifies key learning goals based on the patient's needs.</li> <li>c. The program confirms understanding by having patients repeat back key information or demonstrate self-care activities ("teach back" and "show-me").</li> <li>d. The program provides the patient with information related to indications for surgery (for example, pain relief and degeneration).</li> </ul>
<b>Rationale</b>	<p>The majority of patient education materials from implant manufacturers are written at a level too high to be comprehended by the average patient. The Institute of Medicine Committee on Health Literacy reported that many patients are reluctant to admit that they do not understand what has been communicated to them. Studies have shown that 40-80% of the medical information patients are told during office visits is forgotten immediately, and nearly half of the information retained is incorrect. Regardless of a patient's health literacy level, it is important that staff ensure that patients understand the information they have been given. Using a teach-back or show-me method or other health literacy tool can immediately confirm patients/families/ caregivers understanding of what has been taught. The teach-back method is a way of checking understanding by asking patients to state in their own words what they need to know or do about their health. The related show-me method allows staff to confirm that patients are able to follow specific instructions (e.g., how to use an inhaler). Research supports the use of teach-back to engage patients in the learning process, thereby reducing hospital readmissions, and improving self-management, safety, patient satisfaction, and patient outcomes.</p>
<b>References*</b>	<p>Yi MM, Yi PH, Hussein KI, Cross MB, Della Valle CJ. (2017) "Readability of Patient Education Materials From the Web Sites of Orthopedic Implant Manufacturers." <i>The Journal of Arthroplasty</i>, 32(12):3568-3572. doi:10.1016/j.arth.2017.07.003</p> <p>Caplin M and Saunders T. "Utilizing Teach-Back to Reinforce Patient Education A Step-by-Step Approach." <i>Orthopaedic Nursing</i>. 2015;34(6):365-368. doi:10.1097/NOR.0000000000000197</p> <p>"R.E.A.C.H. to Teach Making Patient and Family Education 'Stick.'" (2016) <i>Orthopaedic Nursing</i>, 35(4):253-254. doi:10.1097/NOR.0000000000000267</p>

**Delivering or Facilitating Clinical Care chapter**

**Standard DSDF.1: Practitioners are qualified and competent.**

<b>Requirement</b>	<p>EP 4: Orientation provides information and necessary training pertinent to the practitioner’s responsibilities. Completion of the orientation is documented.</p> <p><i>Requirements specific to total hip and total knee replacement:</i></p> <p>a. The organization provides program-specific orientation for staff who are caring for patients undergoing hip and knee replacements.</p>
<b>Rationale</b>	<p>In recent years, there are more acutely ill patients who at the same time have shorter lengths of stay. As a result, greater demands are placed on nurses who must demonstrate competency in caring for increasingly complex patients in a continually changing healthcare environment. Competencies are an important part of the work world and help ensure that the organization provides high-quality care to its patients.</p>
<b>References*</b>	<p>Whelan L. (2006) “Competency Assessment of Nursing Staff.” <i>Orthopaedic Nursing</i>, 25(3)198-202.</p>

**Standard DSDF.2: The program develops a standardized process originating in clinical practice guidelines (CPGs) or evidence-based practice to deliver or facilitate the delivery of clinical care.**

<b>Requirement</b>	<p>EP 3: The program leader(s) and practitioners review and approve clinical practice guidelines prior to implementation</p> <p><i>Requirements specific to total hip and total knee replacement:</i></p> <p>b: Care pathways to promote standardized care delivery include at least the following:</p> <p>Preoperative:</p> <ul style="list-style-type: none"> <li>- Identification, evaluation, and mitigation of risk factors that might compromise treatment or recovery prior to surgery</li> </ul> <p>Intraoperative:</p> <ul style="list-style-type: none"> <li>- Blood loss management that looks at preoperative blood counts, strict normothermia during anesthesia, and the use of tranexamic acid</li> <li>- Prevention of surgical-site infections and venous thromboembolic disease</li> </ul> <p>Postoperative:</p> <ul style="list-style-type: none"> <li>- Maximizing early mobilization</li> <li>- Issues to address prior to discharge and what milestones determine when a patient is ready for discharge</li> <li>- Post-discharge therapy, wound monitoring, venous thromboembolism prophylaxis, and surgical and medical follow-up</li> <li>- Discharge criteria when transferring to acute rehabilitation, skilled nursing, or home health</li> </ul>
<b>Rationale</b>	<p>Despite the high volume of total joint arthroplasties, there is substantial variation across facilities in adherence to evidence-based care processes, operative times, length of stay, discharge disposition, complication rates, patient-reported outcomes, and episode costs. Clinical care pathways (CCPs) use systematic tools, which standardize, organize, and improve the quality and efficiency of patient care. Numerous studies have reported that implementation of CCPs can improve patient-reported outcomes, promote early mobilization, and reduce lengths of stay. One study demonstrated a significant reduction in hospital costs after implementing a CCP.</p>
<b>References*</b>	<p>Van Citters D, Fahlman C, Goldmann DA, Lieberman JR, Koenig KM, DiGioia AM 3<sup>rd</sup>, O’Donnell B, Martin J, Federico FA, Bankowitz RA, Nelson EC, Bozic KJ. (2014) “Developing a Pathway for High-value, Patient-Centered Total Joint Arthroplasty.” <i>Clinical Orthopaedics and Related Research</i>, 472(5):1619-1635. doi:10.1007/s11999-013-3398-4</p>
<b>Requirement</b>	<p>EP 5: The program demonstrates evidence that it is following the clinical practice</p>

	<p>guidelines when providing care, treatment, and services.</p> <p><b>Requirements specific to total hip and total knee replacement:</b></p> <p>a. The program follows current American Academy of Orthopaedic Surgeons (AAOS) clinical practice guidelines.</p> <p>Note 1: Individual patient needs or newly published evidence may warrant the use of additional evidence-based guidelines.</p> <p>Note 2: The National Association of Orthopaedic Nurses (NAON) and the Association of periOperative Registered Nurses (AORN) also provide evidence-based clinical practice guidelines, which can be used in conjunction with the AAOS guidelines to meet this requirement.</p>
<p><b>Rationale</b></p>	<p>In order for a program to be considered advanced, it is essential that the program is monitoring and following current scientific evidence and best practices for the care it is providing to total joint replacement patients. Clinical practice guidelines are developed using a stringent literature review process to determine the scientific validity of the clinical recommendations. The AAOS, NAON, and AORN guidelines are developed by highly regarded experts in the field of orthopedics, surgery, and nursing care.</p>

**Standard DSDF.3: The program is implemented through the use of clinical practice guidelines selected to meet the patient's needs.**

<p><b>Requirement</b></p>	<p>EP 2: The assessment(s) and reassessment(s) are completed according to the patient's needs and clinical practice guidelines.</p> <p><b>Requirements specific to total hip and total knee replacement:</b></p> <p>d. The results of a comprehensive health assessment determine the actions to optimize the patient's health condition prior to surgery,</p> <p>e. A functional assessment of the patient, as defined by the program, is completed in accordance with clinical practice guidelines or evidence-based practices in a time frame that meets the patient's needs. The functional assessment is documented in the patient's medical record. The assessment includes the results of patient-reported outcomes measures including the following:</p> <ul style="list-style-type: none"> <li>- Veterans RAND 12 Item Health Survey [VR 12], or Patient-Reported Outcomes Measurement Information System [PROMIS] Global-10</li> <li>- Hip Disability and Osteoarthritis Outcome Score Junior [HOOS Jr] or Knee Injury and Osteoarthritis Outcome Score Junior [KOOS Jr]</li> </ul> <p>f. The reassessment includes a postoperative functional assessment and risk and health status assessments as defined by the program and is completed within a time frame that meets the patient's needs. The functional reassessment includes the results of patient-reported outcomes measures including the following:</p> <ul style="list-style-type: none"> <li>- Veterans RAND 12 Item Health Survey [VR 12] or Patient-Reported Outcomes Measurement Information System [PROMIS] Global-10</li> <li>- Hip Disability and Osteoarthritis Outcome Score Junior [HOOS Jr] or Knee Injury and Osteoarthritis Outcome Score Junior [KOOS Jr]</li> </ul>
<p><b>Rationale</b></p>	<p>When considering an outpatient procedure for patients undergoing hip or knee arthroplasty, the program assesses patients to determine if they are in the best possible (optimal) health state, so as to increase the chances of a successful outcome and return to their home environment. Studies suggest that readmissions are often attributable to patient factors and medical causes unrelated to surgery. Programs should establish a plan to identify, evaluate, and mitigate risks associated with comorbid conditions (e.g., pulmonary, cardiac, diabetes, renal, anticoagulation, uncontrolled/undiagnosed depression, or infection) and characteristics that may increase risk for complications, extended lengths of stay, or discharge to a stepdown facility (e.g., older age, obesity, lower preoperative function). Physical function outcomes after joint replacement should be assessed/measured with a patient-reported outcome to determine if post-surgical goals are being achieved.</p>
<p><b>References*</b></p>	<p>Kurtz SM, Lau EC, Ong KL, Adler EM, Kolisek FR, Manley MT. (2016) "Hospital, Patient,</p>

	<p>and Clinical Factors Influence 30- and 90-Day Readmission After Primary Total Hip Arthroplasty.” <i>The Journal of Arthroplasty</i>, 31(10):2130-2138.</p> <p>Kim KY, Anoushiravani AA, Chen KK, Li R, Bosco JA, Slover JD, Iorio R. (2017) “Perioperative Orthopedic Surgical Home: Optimizing Total Joint Arthroplasty Candidates and Preventing Readmission.” <i>The Journal of Arthroplasty</i>, 34(7S):S91-S96. doi:org/10.1016/j.arth.2019.01.020</p> <p>Imada A, Nelms N, Halsey D, Blankenstein M. (2017) “Physical Therapists Collect Different Outcome Measures After Total Joint Arthroplasty as Compared to Most Orthopaedic Surgeons: A New England Study.” <i>Arthroplasty Today</i>, 4(1):113-117. doi:10.1016/j.artd.2017.08.003</p>
<p><b>Requirement</b></p>	<p>EP 3: The program implements care, treatment, and services based on the patient's assessed needs.</p> <p><b><i>Requirements specific to total hip and total knee replacement:</i></b></p> <p>c. Based on priority and risk, the interdisciplinary team implements evidence-based interventions that include at least the following:</p> <ul style="list-style-type: none"> <li>- Assistance with self-management activities</li> <li>- Symptom management</li> <li>- Pain management</li> <li>- Urinary catheter management</li> <li>- Blood management</li> <li>- Post-operative respiratory management</li> <li>- Therapy/exercise (for example, mobility assessment, flexion, extension)</li> <li>- Medication (for example, anticoagulation therapy)</li> <li>- Risk reduction</li> <li>- Nutrition/diet</li> </ul>
<p><b>Rationale</b></p>	<p>Blood loss during and after total knee arthroplasty or total hip arthroplasty can be substantial. A multimodal blood loss management program should be applied with preoperative identification and treatment of anemia, strict normothermia during anesthesia, and the use of tranexamic acid either intravenously or topically or both.</p> <p>Anesthesia, fluid administration, the surgical procedure, medications, pain, anxiety, and medical conditions can potentially affect the normal physiology of micturition after surgery. Postoperative urinary retention (POUR) can lead to complications including pain, hypertension, cardiac dysrhythmias, and urinary tract infection (UTI). Although catheterization, even a single brief use, to treat POUR can increase the risk of UTI, urethral trauma, and discomfort, it should remain the discretion of the physician regarding who, when, and which approach to catheterize based on assessed patient risk factors. However, the incidence of UTI increases by 5-7% for each day the urethral catheter is in. Therefore, urinary catheters should be managed appropriately, and indwelling catheters should be removed as soon as possible.</p> <p>Pneumonia is one of the most common complications after total hip and total knee arthroplasties. It is the major cause of readmission and death after surgery. Therefore, respiratory function should be monitored post-operatively to determine if the patient is returning to baseline function or if interventions are required to prevent respiratory complications.</p>
<p><b>References*</b></p>	<p>Argenson JN, Husted H, Lombardi A, Booth R, Thienpont E. (2016) “Global Forum: An International Perspective on Outpatient Surgical Procedures for Adult Hip and Knee Reconstruction.” <i>The Journal of Bone and Joint Surgery</i>, 98(13). doi:10.2106/JBJS.15.00998</p> <p>Agrawal K, Majhi, S, and Garg, R. (2019) “Post-operative Urinary Retention: Review of Literature.” <i>World Journal of Anesthesiology</i>, 8(1):1-12. doi:10.5313/wja.v8.i1.1</p> <p>Song K, Rong Z, Yang X, Yao Y, Shen Y, Shi D, Xu Z, Chen D, Zheng M, Jiang Q. (2016)</p>

	<p>“Early Pulmonary Complications following Total Knee Arthroplasty under General Anesthesia: A Prospective Cohort Study Using CT Scan.” <i>BioMed Research International</i>, doi:10.1155/2016/4062043</p>
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**Standard DSDF.6** The program initiates discharge planning and facilitates arrangements for subsequent care, treatment, and services to achieve mutually agreed upon patient goals.

<b>Requirement</b>	<p>EP 4: The program provides education and serves as a resource, as needed, to practitioners who are assuming responsibility for the patient’s continued care, treatment, and services.</p> <p><b>Requirements specific to total hip and total knee replacement:</b></p> <p>a. The program provides information on best practices for the care of patients recovering from total hip or knee replacement.</p>
<b>Rationale</b>	<p>The advanced THKR program team has a responsibility to the patient to ensure his or her care is evidence-based throughout the continuum. When patients transition to other providers, the other provider’s knowledge of total joint replacement may be limited. By sharing best practices with receiving providers through either the discharge process, standardized hand-off communication, or by other educational means, the continuity of quality patient care is maintained.</p>
<b>References*</b>	<p>Segall N, et al. (2012) “Can We Make Postoperative Patient Handovers Safer? A Systematic Review of the Literature.” <i>Anesthesia and Analgesia</i>, 115(1):102-115. doi:10.1213/ANE.0b013e318253af4b</p> <p>Williams RG, et al. (2007) “Surgeon Information Transfer and Communication: Factors Affecting Quality and Efficiency of Inpatient Care.” <i>Annals of Surgery</i>, 245(2):159-169. doi:10.1097/01.sla.0000242709.28760.56</p>

**Supporting Self-Management chapter**

**Standard DSSE.1:** The program involves patients in making decisions about managing their disease or condition.

<b>Requirement</b>	<p>EP 1: The program involves patients in decisions about their care, treatment, and services.</p> <p><b>Requirements specific to total hip and total knee replacement:</b></p> <p>e. If bilateral joint surgery is offered by the program, the orthopedic surgeon discusses the risks, and benefits, and impact of performing that procedure with patients who are candidates.</p>
<b>Rationale</b>	<p>There are important differences in the risks and benefits between unilateral and bilateral joint replacement that should be addressed with patients. Although the 30-day major complication and readmission rates are similar between unilateral and bilateral hip arthroplasty, patients were more likely to be discharged to a rehabilitation facility and required significantly more perioperative transfusions when they underwent the bilateral procedure. When considering simultaneous bilateral knee arthroplasty over staged arthroplasty, the risks were lower for deep infection and respiratory complications, but risks increased for mortality, pulmonary embolism, and deep-vein thrombosis. Therefore, in order to involve the patient in all clinical decisions regarding their care, bilateral joint replacement risks and benefits must be discussed with potential candidates for this surgery.</p>
<b>References*</b>	<p>Morcos MW, Hart A, Antoniou J, Huk OL, Zukor DJ, Bergeron SG. (2018) “No Difference in Major Complication and Readmission Rates Following Simultaneous Bilateral vs Unilateral Total Hip Arthroplasty.” <i>The Journal of Arthroplasty</i>, 33(8):2541-2545. doi:10.1016/j.arth.2018.03.050</p>

	<p>Liu L, Liu H, Zhang H, Song J, Zhang L. (2019) “Bilateral Total Knee Arthroplasty Simultaneous or Staged? A Systematic Review and Meta-Analysis.” <i>Medicine</i>, 98(22):0025-7974. doi:10.1097/MD.00000000000015931</p> <p>Pietsch T, David J and Vergara F. (2018) “Integrative Review for Patients With Bilateral Total Knee Replacement: A Call for Nursing Practice Guidelines.” <i>Orthopaedic Nursing</i>, 37(4):237-243. doi:10.1097/NOR.0000000000000465</p>
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**Standard DSSE.2 The program addresses the patient's self-management plan.**

<b>Requirement</b>	<p>EP 1: The program promotes lifestyle changes that support self-management activities.</p> <p>EP 5: The program addresses the education needs of the patient regarding disease progression and health promotion.</p> <p><b><i>Requirements specific to total hip and total knee replacement:</i></b></p> <p>b. Health promotion education addresses risks that might compromise treatment or recovery; this education includes, but is not limited to, the following:</p> <ul style="list-style-type: none"> <li>- Nutrition</li> <li>- Activity and exercise</li> <li>- Maintaining a healthy weight</li> <li>- Tobacco use</li> <li>- Alcohol use</li> <li>- Drug use</li> </ul>
<b>Rationale</b>	<p>Consolidating EPs 1 and 5 combined similar topics and removed potential redundancy in program efforts. Health promotion education and lifestyle discussions can occur concurrently.</p>

**Standard DSSE.3 The program addresses the patient's education needs.**

<b>Requirement</b>	<p>EP 5: The program addresses the education needs of the patient regarding his or her disease or condition and care, treatment, and services.</p> <p><b><i>Requirements specific to total hip and total knee replacement:</i></b></p> <p>a. The program provides the patient with initial and ongoing education on complication prevention and risk reduction, medications provided (including pre- and post-discharge dosing), pain management, activity and weight-bearing status, treatments, and incision care.</p>
<b>Rationale</b>	<p>It is often confusing to patients when they are overloaded with the information presented to them during the discharge process. Often patients are transitioning to different medications, or dosing, or routines. In order to reduce the risk of medication error, it is good practice to specifically address the dosing regimen they were following while under the surgeon’s direct care and the dosing regimen after transitioning to another health care setting or to home.</p>

**Clinical Information Management chapter**

**Standard DSCT.4: The program shares information with relevant practitioners and/or health care organizations about the patient's disease or condition across the continuum of care.**

<b>Requirement</b>	<p>EP 2: The program shares information with relevant practitioners and/or health care organizations to facilitate continuation of patient care.</p> <p><b><i>Requirements specific to total hip and total knee replacement:</i></b></p> <p>a. The interdisciplinary team has a consistent communication process during each care transition that includes the following:</p>
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	<ul style="list-style-type: none"> <li>- Established methods and timelines for communication and information exchange between sender and receiver, including communication prior to a patient’s transition</li> <li>- Collaboration between sender and receiver</li> <li>- The plan of care is included in the information exchange along with the program’s expectations for providing care.</li> <li>b. Upon discharge, the orthopedic surgeon, hospitalist, or primary care physician provides a report to the receiving organization’s physician that includes criteria for when to contact the orthopedic surgeon.</li> <li>d. The following information from the medical record will be included to support coordination of care and the transfer of information between the sending and receiving organizations:             <ul style="list-style-type: none"> <li>- Any diagnostic tests performed and their results</li> <li>- Any laboratory tests performed and their results</li> <li>- Any procedures performed and their outcomes, including the reason for performing the procedure(s) and interventions used to optimize the patient’s health condition prior to surgery</li> <li>- Any medications ordered, changed, or discontinued, and any new prescriptions</li> <li>- Any findings from history and physical data relevant to the patient’s condition</li> <li>- Any information on pending results of diagnostic tests, laboratory tests, and medical procedures</li> <li>- Physical therapy reports including current weight-bearing status, limitations, and goals</li> <li>- Occupational therapy reports (if applicable)</li> <li>- Pain management history and care</li> <li>- Wound/incision history and care</li> <li>- Patient goals</li> <li>- Identification of family members or others serving as the patient’s caregiver and, where present, the patient’s support system</li> </ul> </li> </ul>
<b>Rationale</b>	Sources of information should be documented to increase the likelihood that providers have access to key information when needed. Information includes the medical chart, sign-out system notes, nurses, and patients. Hand-off communication should be standardized and clearly indicate assigned responsibilities (who is responsible for what tasks). Documentation should include reasons for an action, description of the action, and what follow through is needed.
<b>References*</b>	<p>Feng JE, Novikov D, Anoushiravani AA, Schwarzkopf R. (2018) “Total Knee Arthroplasty: Improving Outcomes with a Multidisciplinary Approach.” <i>Journal of Multidisciplinary Healthcare</i>, 11:63-73. doi:10.2147/JMDH.S140550</p> <p>Segall N, et al. (2012) “Can We Make Postoperative Patient Handovers Safer? A Systematic Review of the Literature.” <i>Anesthesia and Analgesia</i>, 115(1):102-115. doi:10.1213/ANE.0b013e318253af4b</p>

**Standard DSCT.5 The program initiates, maintains, and makes accessible a medical record for every patient.**

<b>Requirement</b>	<p>EP 5: The medical record contains sufficient information to document the course and results of care, treatment, and services.</p> <p><b><i>Requirements specific to total hip and total knee replacement:</i></b></p> <ul style="list-style-type: none"> <li>b. All transitions are documented in the medical record.</li> <li>c. Information in the medical record includes orthopedic surgeon’s office notes, lab results, X-ray reports, and post-discharge documents.</li> </ul>
<b>Rationale</b>	Today’s team-based approach to care delivery places a premium on surgeon information and communication about the patient and plan of care. Serious communication breakdowns occur across the continuum of care and often involve ambiguity among communicants. A number of research reports have documented that communication lapses among physicians are a key factor in medical errors and significant contributors to inefficiency, increased cost, and adverse patient consequences. Medical record documentation should include reasons for an action,

	description of the action, and what follow through is needed.
<b>References*</b>	<p>Williams RG, et al. (2007) "Surgeon Information Transfer and Communication: Factors Affecting Quality and Efficiency of Inpatient Care." <i>Annals of Surgery</i>, 245(2):159-169. doi:10.1097/01.sla.0000242709.28760.56</p> <p>Greenberg C, et al. (2007) "Patterns of Communication Breakdowns Resulting in Injury to Surgical Patients." <i>Journal of the American College of Surgeons</i>, 204(4):533-540. doi.org/10.1016/j.jamcollsurg.2007.01.010</p> <p>Feng JE, et al. (2018) "Total Knee Arthroplasty: Improving Outcomes with a Multidisciplinary Approach." <i>Journal of Multidisciplinary Healthcare</i>, 11:63-73. doi:10.2147/JMDH.S140550</p>

**Performance Measurement chapter**

**Standard DSPM.3: The program collects measurement data to evaluate processes and outcomes.**

**Note: Measurement data must be internally trended over time and may be compared to an external data source for comparative purposes.**

<b>Requirement</b>	<p>EP 1: The program selects valid, reliable performance measures that are relevant to the target population and based on clinical practice guidelines or other evidence-based practice.</p> <p><b>Requirements specific to total hip and total knee replacement:</b></p> <p>a. Using the organization’s established performance improvement process, the program monitors, at a minimum, the following:</p> <ul style="list-style-type: none"> <li>- Infection (mechanical, wound)</li> <li>- Blood management, including interoperative blood loss, transfusion rates, blood product utilization, and blood conservation methods including the use of tranexamic acid</li> </ul>
<b>Rationale</b>	<p>Blood loss during and after total knee arthroplasty or total hip arthroplasty can be substantial. A multimodal blood loss management program should be applied with preoperative identification and treatment of anemia, strict normothermia during anesthesia, and the use of tranexamic acid either intravenously or topically or both. Patients who required blood transfusion during the primary surgery were associated with 14% greater risk of readmission. And transfusions were the most commonly performed procedure for elderly patients after hip arthroplasty.</p> <p>The National Quality Forum has removed thromboembolic complications from their post-operative measures due to issues with surveillance bias.</p>
<b>References*</b>	<p>Feng JE, et al. (2018) "Total Knee Arthroplasty: Improving Outcomes with a Multidisciplinary Approach." <i>Journal of Multidisciplinary Healthcare</i>, 11:63-73. doi:10.2147/JMDH.S140550</p> <p>Kurtz SM, et al. (2016) "Hospital, Patient, and Clinical Factors Influence 30- and 90-Day Readmission After Primary Total Hip Arthroplasty." <i>The Journal of Arthroplasty</i>, 31:2130-2138. doi.org/10.1016/j.arth.2016.03.041</p>

**Standard DSPM.4 The program collects and analyzes data to determine variance from the clinical practice guidelines.**

<b>Requirement</b>	<p>EP 2: The program evaluates variances that affect program performance and outcomes.</p> <p><b>Requirements specific to total hip and total knee replacement:</b></p> <p>a. The performance improvement program includes evaluation of care processes and all transitions of care.</p>
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<b>Rationale</b>	Requiring that “all” transitions of care are included in the performance improvement program ensures that every aspect of the program is being monitored for quality and safety. Advanced THKR programs include all aspects of patient care from the initial consult through to discharge from the surgeon’s oversight. It is important to perform a comprehensive evaluation of the program to ensure all phases of care are performing optimally.
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\*Not a complete literature review.

## Advanced Total Hip and Total Knee Replacement Standards Disease Specific Care Certification Program

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