Bree Collaborative Implementation Survey Results | Hospitals
Total Knee and Total Hip Replacement Bundle and Warranty

This report summarizes adoption of the Bree Collaborative Total Knee and Total Hip Replacement Recommendations, completed by Washington State hospitals in 2016. We measured adoption of specific recommendations using 0-3 point scale, self-assessed by each hospital.

Results: 11 Hospitals Responding

0 -No action taken; **1** -Actively considering adoption; **2** -Some/similar adoption; **3** -Full adoption

	AVERAGE SCORE
I. DISABILITY DUE TO OSTEOARTHRITIS DESPITE CONSERVATIVE THERAPY	
A) Disability documented	
1. Disability documented according to Knee Osteoarthritis Outcome Score (KOOS) or Hip Osteoarthritis Outcome Score (HOOS)	*1.58*
2. Self-reported productivity loss documented related to usual activity (absenteeism and presenteeism)	*1.50*
B) Osteoarthritis documented	
1. Standard x-ray of the affected joint reviewed and interpreted according to Kellgren-Lawrence scale. Total joint replacement therapy generally requires a grade of 3 or 4	*2.42*
C) Conservative therapy for at least three months documented unless symptoms are severe and x-ray findings show advanced osteoarthritis	
1. Patient-customized conservative treatments carried out for at least three months, focusing on improving functionality and helping patients adapt to persisting functional limitations	*2.42*
2. One or more of the following physical measures conducted: a) Strengthening exercises; b) Activity modification; c) Assistive devices; d) Bracing if judged appropriate; e) Weight loss, if indicated	*2.00*
3. Trial of one or more of the following medications conducted: a) Acetaminophen; b) Oral non-steroidal anti-inflammatory drugs; c) Topical non-steroidal anti-inflammatory drugs; d) Intra-articular injection of corticosteroids	*2.67*
D) Failure of conservative therapy documented	
1. Lack of improvement in pain and/or function documented as indicated by re-measurement of HOOS/KOOS scores	*1.58*
2. X-ray findings supporting need for surgery documented: a) Grade 3 or 4 on Kellgren-Lawrence scale, if not previously documented; b) Avascular necrosis of subchondral bone with or without collapse; c) Angular deformity of limb with threatened stress fracture	*2.42*
3. Informed decision making documented after maximal effort and benefit of conservative treatment	*2.00*

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II. FITNESS FOR SURGERY	
A) Requirements related to patient safety documented	
Patient meets the following minimum requirements prior to surgery:	
a) Body Mass Index less than 40;	*2.17*
b) Hemoglobin A1c less than 8% in patients with diabetes;	*2.25*
c) Adequate peripheral circulation to ensure healing;	*2.42*
d) Adequate nutritional status to ensure healing;	*1.83*
e) Sufficient liver function to ensure healing;	*1.83*
f) Control of opioid dependency, if present;	*1.92*
g) Avoidance of smoking for at least four weeks pre-operatively;	*2.08*
h) Absence of an active, life-limiting condition that would likely cause death before recovery from surgery;	*2.50*
i) Absence of severe disability from a condition unrelated to osteoarthritis that would severely limit the benefits of surgery	*2.50*
j) Absence of dementia that would interfere with recovery – performing TKR/THR surgery for a patient with such dementia requires preauthorization, informed consent of a person with Durable Power of Attorney, and a contract with the patient's care provider	*2.50*
B) Patient engagement documented	
1. Patient participates in Shared Decision-making with WA State-approved Decision Aid	*1.42*
2. Patient designates a personal Care Partner	*2.00*
3. Patient and Care Partner actively participate in the following:	
a) Surgical consultation;	*2.25*
b) Pre-operative evaluation;	*2.25*
c) Joint replacement class and/or required surgical and anesthesia educational programs;	*2.50*
d) In-hospital care;	*2.58*
e) Post-operative care teaching;	*2.58*
f) Patient's home care and exercise program	*2.58*
4. Patient participates in end of life planning, including completion of an Advance Directive and designation of Durable Power of Attorney	*1.67*
C) Optimal preparation for surgery documented	
1. Pre-operative history, physical, and screening lab tests based on review of systems:	

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a) Evaluate for cardiac and pulmonary fitness;	*2.42*
b) Obtain basic lab profile, plasma glucose, prothrombin time, complete blood count, urinalysis with culture, if indicated;	*2.67*
c) Culture nasal passages to identify staphylococcal carrier state;	*2.58*
d) Ensure A1c 8% or less in patients with diabetes;	*2.50*
e) Perform x-rays of knee or hip, if not performed within previous 12 months;	*2.67*
f) Screen for predictors of delirium	*1.83*
2. Relevant consultations obtained	
a) Evaluate for good dental hygiene with dental consultation as necessary;	*2.17*
b) Refer to Anesthesia for pre-operative assessment;	*2.50*
c) Consult Physical Therapy to instruct in strengthening of upper and lower extremities;	*1.83*
d) Request additional consults as necessary	*2.58*
3. Patient-reported measures collected:	
a) General health questionnaire completed: Patient Reported Outcomes Measurement Information System-10 (PROMIS-10);	*1.17*
b) HOOS/KOOS survey completed	*1.64*
III. REPAIR OF THE OSTEOARTHRITIC JOINT	
A) General standards for a surgical team performing TKR/THR surgery are followed:	
1. The surgeon performs at least 50 joint replacements a year	*2.75*
2. Members of the surgical team have documented credentials, training and experience; the roster of the surgical team is consistent	*2.67*
3. Elective joint arthroplasty is scheduled to begin before 5:00 pm	*2.33*
4. Facilities in which surgery is performed have policies that align with the American College of Surgeons Statement on Health Care Industry Representatives in the Operating Room	*2.75*
B) Elements of optimal surgical process	
1. Pain management and anesthesia optimized:	
a) Multimodal pain management format used to minimize sedation and encourage early ambulation	*2.75*
b) Opioid use minimized	*2.75*
c) Other anesthesia-related risk factors such as sleep apnea and pulmonary hypertension are assessed and managed	*2.67*
2. Infection avoided:	

a) Application of chlorhexidine skin prep by patient required at bedtime and morning prior to surgery;	*2.75*
b) Surgical hoods or laminar flow technique used with closed or limited access to operating room;	*2.33*
c) Appropriate peri-operative course of antibiotics administered according to Centers for Medicare and Medicaid Services (CMS) guidelines set forth in the Surgical Care Improvement Project;	*2.75*
d) Use of urinary catheter restrict to less than 48 hours	*2.75*
3. Bleeding and low blood pressure avoided:	
a) Standardized protocols administered using appropriate medications to limit blood loss;	*2.75*
b) Standardized IV fluid protocols used including those implemented by RNs postoperatively with appropriate supervision and monitoring;	*2.42*
4. Deep venous thrombosis and embolism avoided according to CMS guidelines set forth in the Surgical Care Improvement Project	*2.75*
5. Hyperglycemia avoided: Standardized protocol used to maintain optimal glucose control	*2.42*
C) Selection of the surgical implant	
1. Providers select an implant that has a <5% failure rate at ten years	*2.58*
2. To track outcomes, all implants are registered with a national joint registry such as the American Joint Replacement Registry	*2.58*
3. Informed consent includes the experience level of the surgeon with the device	*1.75*
IV. POST-OPERATIVE CARE AND RETURN TO FUNCTION	
A) Standard process for post-operative care	
1. A rapid recovery track is utilized to mobilize patients on the day of surgery:	
a) Accelerated physical therapy and mobilization provided if regional pain control is acceptable;	*2.58*
b) Patient-oriented visual cue provided to record progress on functional milestones required for discharge;	*2.17*
c) Patients instructed in home exercise, use of walking aids and precautions;	*2.67*
d) "Care partner" instructed to assist with home exercise regimen	*2.33*
2. Patients that meet Medicare standards for placement in a skilled nursing facility have their post-operative nursing and rehabilitative needs addressed.	*2.42*
3. Access to hospitalists or appropriate medical consultants provided for consultation to assist with complex or unstable medical problems in the post-operative period	*2.67*
B) Standardized hospital discharge process used is aligned with Washington State Hospital Association (WSHA) toolkit	

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1. Follow up with care team arranged according to WSHA toolkit	*2.08*
2. Social and resource barriers evaluated based on WSHA toolkit	*2.08*
3. Medications reconciled	*2.67*
4. Patient and family/caregiver educated with plan of care regarding:	
a) Signs or symptoms that warrant follow up with provider;	*2.50*
b) Guidelines for emergency care and alternatives to emergency care;	*2.42*
c) Contact information for orthopedist and primary care provider	*2.67*
5. Post-discharge phone call to patient done by care team to check progress, with timing of call aligned with WSHA toolkit	*2.25*
6. Hospital discharge kit provided upon discharge according to WSHA toolkit	*2.08*
C) Home health services arranged	
1. The patient and Care Partner are provided with information about home exercises that should be done three times daily	*2.67*
2. Additional home health services are arranged as necessary	*2.67*
D) Follow up appointments scheduled	
1. Return visits scheduled as appropriate	*2.75*
2. Patient-reported functional outcomes are measured with KOOS/HOOS instrument	*1.58*
3. If opioid use exceeds six weeks, a formal plan is developed for opioid management	*1.58*

Scale

We measured adoption of specific recommendations using 0-3 point scale, self-assessed by each hospital.

0 - No action taken	• No leadership awareness of Bree Collaborative Topics • No team formed
1 - Actively considering adoption	• Bree topics, aims and components have been discussed • Education, assessment, information gathering • Changes planned but not tested • Information gathering and baseline measurement begun
2 - Some/similar adoption	• Initial test cycles completed for more than one element • Quality metrics and data available demonstrating adoption/effectiveness • Other similar (Bree-like) changes adopted for this topic
3 - Full adoption	• Changes implemented in all areas • All components integrated into care process (i.e. orders, etc.) • Partial or complete closure of gap between baseline & target outcomes

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Participating Hospitals

CHI Franciscan Health
- Highline Medical Center
- St. Elizabeth Hospital
- St. Francis Hospital
- St. Joseph Medical Center
- Harrison Medical Center

Confluence Health-Central Washington Hospital

The Everett Clinic (surgical bundle topics)

MultiCare
- Tacoma General Hospital
- Good Samaritan Hospital
- Auburn Medical Center
- Covington Hospital
- Mary Bridge Children's Hospital

University of Washington
- Harborview
- Valley Medical Center
- Northwest Hospital
- University of Washington Medical Center

Swedish
- First Hill
- Cherry Hill
- Issaquah
- Ballard
- Edmonds

Virginia Mason Medical Center

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