Bree Collaborative Implementation Survey Results | Hospitals
Lumbar Fusion Surgical Bundle and Warranty

This report summarizes adoption of the Bree Collaborative's Lumbar Fusion Bundled Payment Model and Warranty, completed by Washington State hospitals in 2016. We measured adoption of specific recommendations using 0-3 point scale, self-assessed by each hospital.

Results: 12 Hospitals Responding

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

	AVERAGE SCORE
I. DISABILITY DESPITE NON-SURGICAL THERAPY	
A) Documentation made of disability due to either neurologic symptoms and/or signs of back pain with without neurological findings	
1. Disability according to standard outcome score: Oswestry Disability Index (ODI) documented	*1.50*
2. Self-reported loss of function documented with Patient Reported Outcome Measuring System-10® (PROMIS-10®) or other validated scale	*1.25*
3. Standardized baseline physical function documented by physical therapist using the Therapeutic Associates Outcome Score	*1.75*
B) Documentation made of imaging findings of lumbar instability on a standard scale that correlates with symptoms and signs	
1. Adequate standing flexion/extension views are taken utilizing techniques that minimize the potential contribution of hip motion to perceived lumbar flexion or extension	*2.00*
2. At least 4mm of anterior/posterior translation at L3-4 and L4-5, or 5mm of translation at L5-S1 or 11 degrees greater end plate angular change at a single level, compared to an adjacent level	*1.75*
3. A departure from these guidelines requires discussion and resolution by the collaborative care team as defined below	*1.00*
C) Documentation made of at least three months of structured non-surgical therapy, as delivered by a collaborative team (a physiatrist, an appropriate spine surgeon, the primary care provider, physical therapist, care partner, and others as needed)	
1. Trial of the following non-surgical measures conducted: a) Patient education; b) Active physical therapy; c) Behavioral therapies aimed at improving self-efficacy with an emphasis on effectively addressing important psychosocial elements such as fear avoidance, catastrophizing, and low expectations of recovery; d) Identification and management of associated anxiety and depression	*1.50*
2. Trial of one or more of the following medications conducted if not contraindicated: a) Acetaminophen; b) Oral non-steroidal anti-inflammatory drugs; c) Tricyclic antidepressants; d) Other appropriate and evidence-based medications, as indicated	*2.00*
3. Spinal manipulation or other evidence-based non-surgical therapies used at the discretion of the collaborative care team	*1.75*

Read the bundle here: www.breecollaborative.org/wp-content/uploads/Lumbar-Fusion-Bundle-Final-14-09.pdf

D) Documentation of persistent disability despite non-surgical therapy	
1. Formal consultation with collaborative team led by board certified physiatrist to confirm appropriateness, adequacy, completeness, and active participation in non-surgical therapy and need for lumbar fusion; at least two of the following should be considered in defining persistent disability: a) Greater than 20% disability as defined by the Oswestry Disability Index; b) Persistent disability according to PROMIS indicators; c) Persistent disability on baseline physical function by physical therapist using the Therapeutic Associates Outcome Score, defined as equal to or greater than 20% disability	*0.88*
2. Confirmation made that the degree and location of pain and/or physical impairment matches the anatomic location of imaging abnormalities	*2.13*
3. Departures from these standards are reviewed by the collaborative care team	*0.88*
II. FITNESS FOR SURGERY	
A) Documentation of requirements related to patient safety	
Patient should meet the following minimum requirements prior to surgery:	
1. Body Mass Index less than 40	*1.38*
2. Hemoglobin A1c less than 8% in patients with diabetes	*1.38*
3. Adequate nutritional status to ensure healing	*1.38*
4. Sufficient liver function to ensure healing	*1.88*
5. Pre-operative plan for management of opioid dependency, if patient has taken opioids for more than three months	*1.75*
6. Avoidance of smoking for a minimum of four weeks pre-operatively with six to eight weeks preferred	*2.00*
7. Screen for alcohol abuse; manage if screen is positive	*2.13*
8. Absence of an active, life-limiting condition that would likely cause death before recovery from surgery	*2.13*
9. Absence of severe disability from an unrelated condition that would severely limit the benefits of surgery such as severe osteoporosis	*2.13*
10. Absence of dementia that would interfere with recovery – performing surgery for a patient with such dementia requires preauthorization, informed consent of a person with Durable Power of Attorney for Health Care, and a contract with the patient's care provider	*1.50*
11. Screen for untreated depression or psychiatric disorder; manage if screen is positive	*1.63*
12. Complete a pre-operative plan for post-operative return to function	*1.63*
13. Screen for osteoporosis in high-risk individuals; manage if screen is positive	*1.75*
B) Documentation of patient engagement	

1. Patient must participate in shared decision-making validated decision aid such as those approved by Washington State; this requirement is in addition to informed consent	*1.25*
2. Patient must designate a personal Care Partner; patient and Care Partner must actively participate in the following: a) Surgical consultation; b) Pre-operative evaluation; c) Pre-surgical class and/or required surgical and anesthesia educational programs; d) In-hospital care; e) Post-operative care teaching; f) Patient's home care and exercise program	*1.25*
3. Patient must participate in end of life planning, including completion of an advance directive and designation of durable power of attorney for health care	*1.25*
4. Patient agrees to participate in a registry with two years follow-up data collection	*1.25*
C) Documentation of optimal preparation for surgery	
1. Pre-operative history, physical, and screening lab tests performed based on review of systems:	
a) Cardiac and pulmonary fitness evaluated;	*2.25*
b) Basic lab profile, plasma glucose, prothrombin time, complete blood count, and/or urinalysis with culture obtained, if indicated;	*2.50*
c) Nasal passages cultured to identify staphylococcal carrier state;	*2.00*
d) A1c less than 8% ensured in patients with diabetes;	*1.25*
e) Relevant imaging performed if not performed within previous six months;	*2.63*
f) Predictors of delirium screened for	*1.25*
2. Relevant consultations obtained:	
a) Good dental hygiene evaluated for with dental consultation as necessary;	*2.00*
b) Anesthesia referred to for pre-operative assessment including identification and management of such conditions such as sleep apnea and pulmonary hypertension;	*2.13*
c) Physical therapist(s) consulted to instruct in improving return to function;	*1.63*
d) Additional consults requested as necessary	*2.13*
3. Patient-reported measures collected to confirm lack of significant response to nonsurgical treatments using:	
a) General health questionnaire: PROMIS-10 collected;	*1.50*
b) Standardized disability survey: ODI collected	*1.63*
III. SPINAL FUSION PROCEDURE	
A) General standards for a surgical team performing surgery followed:	
1. The spine surgeon has performed a minimum of twenty lumbar fusion surgeries in the previous twelve months; neurosurgeons are board certified or board eligible; orthopedic surgeons have successfully completed a spine fellowship	*2.38*

2. Members of the surgical team have documented credentials, training, and experience; the roster of the surgical team is consistent	*2.63*
3. Surgical team may include two attending surgeons to reduce anesthesia time and blood loss particularly in complex cases	*1.50*
4. Elective spine surgery is scheduled to begin before 5:00 pm	*1.38*
5. Surgery is performed in an inpatient facility	*2.63*
6. 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	*1.88*
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	*2.25*
b) Use of opioids minimized	*2.50*
2. Infection avoided:	
a) Appropriate peri-operative course of antibiotics administered according to guidelines set forth in the Surgical Care Improvement Project (SCIP);	*3.00*
b) Use of urinary catheter restricted to less than 48 hours per SCIP guidelines;	*2.75*
c) Chlorhexidine skin prep used by patient prior to surgery if no contraindication	*2.38*
3. Bleeding and low blood pressure avoided:	
a) Standardized protocols administered using appropriate medications to limit blood loss;	*2.13*
b) Standardized IV fluid protocols used including those implemented by RNs postoperatively with appropriate supervision and monitoring.	*2.38*
4. Deep venous thrombosis and embolism avoided according to guidelines set forth in the SCIP	*1.83*
5. Hyperglycemia avoided: Standardized protocol used to maintain optimal glucose control	*2.13*
6. Bone morphogenic protein: If bone morphogenic protein is used it is in accordance with Washington Health Technology Program policy: http://www.hca.wa.gov/hta/Documents/findings_decision_bmp.pdf	*1.83*
C) Participation in registries	
1. Hospital participates in the Spine SCOAP registry with results available to purchasers	*2.75*
2. Providers maintain a registry of patients undergoing lumbar fusion and collect prospective patient reported outcome measures as specified elsewhere in this document	*1.83*

IV. POST-OPERATIVE CARE AND RETURN TO FUNCTION	
A) Standard process for post-operative care	
1. Standardized and rapid recovery track utilized to mobilize patients following surgery:	
a) Accelerated physical therapy and mobilization provided if regional pain control is acceptable;	*1.88*
b) Patient-oriented visual cue provided to record progress on functional milestones required for discharge;	*1.38*
c) Patients are instructed in home exercise, use of walking aids, and precautions;	*2.38*
d) Care Partners are instructed to assist with home exercise regimen	*1.25*
2. Patients that meet CMS standards for placement in a skilled nursing facility have their post-operative nursing and rehabilitative needs addressed	*2.25*
3. Hospitalists or appropriate medical consultants are available for consultation to assist with complex or unstable medical problems in the post-operative period	*2.38*
B) Standardized hospital discharge process used, aligned with Washington State Hospital Association (WSHA) toolkit	
1. Follow up arranged with care team according to WSHA toolkit and Bree Collaborative Potentially Avoidable Hospital Readmissions Report and Recommendations	*1.88*
2. Social and resource barriers evaluated based on WSHA toolkit	*1.88*
3. Medications reconciled	*2.75*
4. Patient and family/caregiver provided education with plan of care regarding:	
a) Signs or symptoms that warrant follow up with provider;	*2.13*
b) Guidelines for emergency care and alternatives to emergency care;	*2.13*
c) Contact information for the spine surgeon and primary care provider	*2.13*
5. Post-discharge phone call ensured to patient by care team to check progress, with timing of call aligned with Bree Collaborative Potentially Avoidable Hospital Readmissions Report and Recommendations	*2.13*
6. Post-discharge summary sent to primary care provider or after care provider within three business days of discharge	*2.13*
C. Home health services arranged	
1. Patient and Care Partner provided with information about medically recommended home exercises	*1.63*
2. Arrange additional home health services as necessary	*2.13*
D. Follow up appointments scheduled	
1. Return visits scheduled as appropriate	*2.63*

2. Patient-reported functional outcomes measured with standard instrument	*1.75*
3. If opioid use exceeds six weeks, a formal plan for opioid management is developed	*1.75*

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

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