

Work sheet

Bree work group on total joint replacement, August 6, 2021

1. Individual review of full working draft of bundle. Bring attention to defects in draft to meeting.
2. Cycle II/B: per input from full Bree meeting add: "If infectious disease precautions prevent direct participation of Care Partner, include them in an alternative such as a telemedicine visit."
3. Cycle II/C/1: specify 2014 ACC/AHA Guideline on Perioperative Cardiovascular Evaluation and Management of Patients Undergoing Noncardiac Surgery

<https://www.ahajournals.org/doi/10.1161/CIR.000000000000106>

3. Main Topic: The Bree bundle and same day surgery
Goal: Decide whether to specify explicit standards for discharge.

Problem statement

As part of our work in Bree's total joint bundle, the Health Care Authority has asked us to consider standards determining need for a post-operative overnight hospital stay.

Same day discharge for selected patients reduces utilization of hospital resources. This approach has been facilitated by advances in clinical care by providers, by market pressure from purchasers, by providers who use outpatient surgical facilities, and by health plans that have required preauthorization. The proportion of same-day discharges following TKA is increasing rapidly (Johnson).

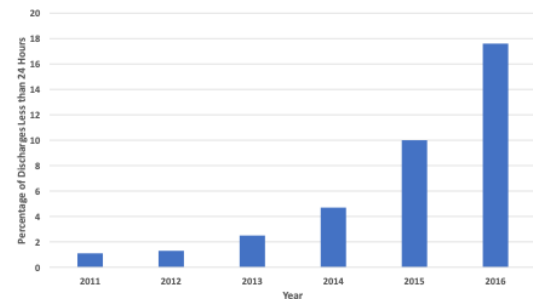


Fig. 2. Percentage of discharges within 24 hours by year.

Current state

Application of Bree standards for joint replacement has achieved a high level of safety, quality, and patient satisfaction while lowering cost of care, a component of which includes hospital stay. Current Bree standards rely on providers and patients to decide the timing of discharge but require addressing important factors that include as a minimum:

- Comorbidities of the patient
- Shared decision-making
- Capable on-site patient care companion
- "Home environment that is both safe and provides adequate support including assistive devices." (Bree language)

Does application of the Bree bundle avoid overutilization of hospital resources?

We currently have no data bearing on this question. We have asked two health plans to provide preauthorization denial rates for overnight hospital stay, but not received responses to date.

What does the medical literature say concerning same-day surgery?

We were able to review fourteen studies, many of which supported the conclusion that providers can apply selection standards for patients and site of care that support same-day surgery for some patients. Citations address patient characteristics associated with positive or negative outcomes following same day surgery but do not report shared decision-making, the care companion, or the home environment.

Mundi: “it would be ... appropriate to conclude that the risk of readmission after same-day discharge in TJA is not increased under the circumstances of appropriate patient selection and support.”

Lan: “differences in patient characteristics between outpatient and inpatient arthroplasties may ultimately reflect a successful attempt by surgeons to select patients who may tolerate outpatient procedures well, in order to reduce the risk for their patients.”

Additional comments on literature review

1. The National Surgical Quality Improvement Program (NSQIP) registry is the largest source of data bearing on the issue of safety of same-day access following total joint replacement. The database is retrospective. NSQIP does not include selection criteria for surgery, facility, discharge, psychosocial factors, patient education, or patient support following discharge.

2. When providers select from a cohort of TJR patients, a subgroup that is younger and with fewer comorbidities, same-day discharge generally does not result in complication or readmission rates greater than the population of older, sicker patients receiving post-op care in the hospital.

3. Among the factors associated with adverse outcome are age, ASA grade (3-4), smoking, diabetes, BMI (>30) hypertension, CHF, black race, COPD, bleeding disorder, corticosteroid use, and dependent functional status.

4. In the Feder study, patients were required to have a personal coach (friend or relative) who would attend the preoperative education session (a one-on-one encounter with a clinical care coordinator and physical and occupational therapists for 2 hours before the surgical date) and be present on the day of surgery and at their home for the first night after discharge.

5. Kraus reported that when patients were discharged one day after surgery, 84% percent (641 of 759) received no medical interventions during their overnight hospital stay. He reported:

- 66 of 100 treatments in 90 patients were intravenous fluids for oliguria or hypotension.
- All procedures were in and out catheterizations for urinary retention.

6. Sershon's study illustrates application of selection rules.

Prospective 90-day observational study of 3063 THA patients treated by a two-surgeon group between 2013-18); 965/3063 (32%) used ASC or HOP; of the 965, 10.9% treated in ASC.

Patients were scheduled at either the ASC or HOP based on the patient comorbidities, social support, patient preference, and insurance coverage. Patients were excluded from undergoing outpatient THA if ongoing medical comorbidities unable to be optimized were present, including congestive heart failure, myocardial infarction within 6 months of surgery, valvular heart disease, chronic obstructive pulmonary disease, untreated obstructive sleep apnea, body mass index (BMI) > 40 kg/m², hemoglobin < 12.5 g/dL, hemodialysis or end-stage renal disease, or dementia, federally funded insurance, or lacking a social support system or reliable assistance at home.

ASC patients were younger, had lower ASA scores, were not Medicare beneficiaries and preferred outpatient surgery. Overall complication rate was 3.8% with no difference between groups.

My take

1. The issue of timing of discharge is complex, related to patient safety, and includes factors well beyond the patient's physical attributes; providers and patients should be the decision-maker on this item. Bundle is a fixed price model with a warranty against avoidable complications, thus providers have a strong incentive to manage length of stay.
2. There is no current data to bear on issue of overutilization of hospital with Bree bundle and no data to support pre-authorization.
3. Bree could add a provider-to-purchaser reporting standard, tabulating ASA 1 and 2 patients.