Measure Information Form

Measure Set: Surgical Care Improvement Project (SCIP)

Set Measure ID#: SCIP-Inf-6

Performance Measure Name: Surgery Patients with Appropriate Hair Removal

Description: Surgery patients with appropriate surgical site hair removal. No hair removal, hair removal with clippers or depilatory is considered appropriate. Shaving is considered inappropriate.

Rationale: Studies show that shaving causes multiple skin abrasions that later may become infected. In a randomized study of 1,980 adult patients undergoing cardiopulmonary bypass surgeries, Ko, et al (1992), reported a significantly higher rate of infection among patients who were shaved with a razor than those who had hair removal by electric clippers before skin incision. In another randomized trial of 200 patients undergoing elective inguinal herniorraphy, Balthazar, et al (1982), concluded that hair removal with electric clippers immediately prior to the procedures “did not increase the risk of postoperative wound infection” (p. 799). In a systematic literature review by Kjonniksen, et al (2002), there was no strong evidence to contraindicate preoperative hair removal; however, there was strong evidence against hair removal with a razor. This review recommended depilatory or electric clippers immediately prior to surgery when hair removal was required. Alexander, et al (1983), reported that clippers, used on the morning of surgery, resulted in reduced surgical site infections and healthcare expenditures.

Type of Measure: Process

Improvement Noted As: An increase in the rate.

Numerator Statement: Surgery patients with surgical site hair removal with clippers or depilatory or with no surgical site hair removal.

Included Populations: Not applicable

Excluded Populations: None

Data Elements: Preoperative Hair Removal

Denominator Statement: All selected surgery patients.
Included Populations:
An *ICD-9-CM Principal Procedure Code* of selected surgeries (as defined in Appendix A, Table 5.10 for ICD-9-CM codes).

Excluded Populations:
- Patients less than 18 years of age
- Patients who have a length of Stay greater than 120 days
- Patients whose ICD-9-CM principal procedure was performed entirely by *Laparoscope*
- Patients enrolled in clinical trials
- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission
- Patients who performed their own hair removal

Data Elements:
- *Admission Date*
- *Anesthesia Start Date*
- *Birthdate*
- *Clinical Trial*
- *Discharge Date*
- *ICD-9-CM Principal Procedure Code*
- *Laparoscope*

Risk Adjustment: No

Data Collection Approach: Retrospective data sources for required data elements include administrative data and medical records.

Data Accuracy: Variation may exist in the assignment of ICD-9-CM codes; therefore, coding practices may require evaluation to ensure consistency.

Measure Analysis Suggestions: Surgical site hair removal should be performed within the hospital. In the course of quality improvement efforts, hospitals may find it useful to drill down to the responses for the data element *Preoperative Hair Removal*. It may be instructive to tally frequency with which each allowable value occurs. Possible quality improvement initiatives may include: instructing patients against performing their own hair removal, and instructing staff as to the appropriate methods and timing of hair removal.

Sampling: Yes, please refer to the measure set specific sampling requirements and for additional information see the Population and Sampling Specifications Section.

Data Reported As: Aggregate rate generated from count data reported as a proportion.
Selected References:

SCIP-Inf-6: Surgery Patients with Appropriate Hair Removal

Numerator: Surgery patients with surgical site hair removal with clippers or depilatory or with no surgical site hair removal.

Denominator: All selected surgery patients.

START

Run cases that are included in the SCIP Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.

Patient Age (in years) = Admission Date – Birthdate
Use the month and day portion of admission date and birthdate to yield the most accurate age.

Patient Age < 18 years

Patient Age >= 18 years

Missing

Laparoscope = 1, 3

Missing

Clinical Trial = Y, N

Missing

Anesthesia Start Date = UTD

Non-UTD Value

Surgery Days (in days) = Anesthesia Start Date – Admission Date

Surgery Days < 0

Surgery Days >= 9

Missing

Preoperative Hair Removal Any = 2, 5, 7

Missing

Preoperative Hair Removal Any = 2, 5, 7

Note: No allowable value can occur more than once. Allowable values of ‘1’ or ‘7’ cannot be combined with each other or with any of the other allowable values.

Case Will Be Rejected

Inf-6 Z

Inf-6 Z

Inf-6 D

Inf-6 Z

Inf-6 D

Inf-6 D

Inf-6 D

Stop

Variable Key:
- Patient Age
- Surgery Days

Specifications Manual for National Hospital Inpatient Quality Measures
Discharges 04-01-11 (2Q11) through 12-31-11 (4Q11)
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**Numerator:** Surgery patients with surgical site hair removal with clippers or depilatory or with no surgical site hair removal.

**Denominator:** All selected surgery patients

Variable Key: Patient Age, Surgery Days

1. Start processing. Run cases that are included in the Surgical Care Improvement Project (SCIP) Initial Patient Population and pass the edits defined in the Transmission Data Processing Flow: Clinical through this measure.

2. Calculate Patient Age. The Patient Age, in years, is equal to the Admission Date minus the Birthdate. Use the month and day portion of admission date and birthdate to yield the most accurate age.

3. Check Patient Age
   a. If Patient Age is less than 18 years, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
   b. If Patient Age is greater than or equal to 18 years, continue processing and proceed to Laparoscope.

4. Check Laparoscope
   a. If Laparoscope is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Laparoscope equals 1 or 3, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
   c. If Laparoscope equals 2, continue processing and proceed to Clinical Trial.

5. Check Clinical Trial
   a. If Clinical Trial is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Clinical Trial equals Yes, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
   c. If Clinical Trial equals No, continue processing and proceed to Anesthesia Start Date.
6. Check Anesthesia Start Date
   a. If the Anesthesia Start Date is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If the Anesthesia Start Date equals Unable To Determine, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
   c. If Anesthesia Start Date equals a Non Unable To Determine Value, continue processing and proceed to the Surgery Days calculation.

7. Calculate Surgery Days. Surgery Days, in days, is equal to the Anesthesia Start Date minus the Admission Date.

8. Check Surgery Days
   a. If the Surgery Days is less than zero, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
   b. If the Surgery Days is greater than or equal to zero, continue processing and proceed to Preoperative Hair Removal.

9. Check Preoperative Hair Removal – Note: No allowable value can occur more than once. Allowable values of ‘1’ or ‘7’ cannot be combined with each other or with any of the other allowable values.
   a. If Preoperative Hair Removal is missing, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
   b. If Any Preoperative Hair Removal equals 6, the case will proceed to a Measure Category Assignment of B and will not be in the Measure Population. Stop processing.
   c. If Any Preoperative Hair Removal equals 1, 2, 3, 4, 5, 7, or 8 and None equals 6, continue processing and recheck Preoperative Hair Removal.

10. Recheck Preoperative Hair Removal
    a. If Any Preoperative Hair Removal equals 2, 5, or 7, the case will proceed to a Measure Category Assignment of D and will be in the Measure Population. Stop processing.
    b. If Any Preoperative Hair Removal equals 1, 3, 4, or 8 and None equals 2, 5, or 7, the case will proceed to a Measure Category Assignment of E and will be in the Numerator Population.