

APPENDIX C

Surgical Site Infection Prevention (SSI-Prevention) – Prophylactic antibiotic use prior to hip/knee surgery

Case Definition:

A primary hip or knee joint replacement surgical patient, including total, partial or hemi arthroplasty¹.

Method of calculation:

Percentage of primary hip/knee surgical patients with antibiotic administration that starts an appropriate time prior to skin incision and is fully infused before the surgery begins.

Measure from antibiotic start time to skin incision start time. If either time is missing, count as NOT obtaining prophylactic antibiotics on time.

If more than one surgical procedure is performed during a single index hospitalization, include data from the first surgical procedure only.

Denominator: Total number of patients during the reporting month who had a primary knee/hip surgical procedure.

Exclusions:

1. Patients undergoing revisions.
2. Patients who are less than 18 years of age on admission.
3. Patients who are not given antibiotics at any time from arrival in hospital through the first 24 hours post-operatively (e.g. patients on current antibiotic which may eliminate any prophylactic need).
4. Patients with an existing infectious process at the same site as the planned surgical procedure or surgeries that are classified under wound class three or four.^{2,3}

Numerator: Total number of patients included in the denominator whose antibiotic was administered within the appropriate time prior to skin incision.

Rationale³:

- Surgical site infection is the second most common type of adverse events occurring in hospitalized patients in the US.
- Surgical site infection can increase mortality, readmission rate, length of stay.
- Appropriate prophylactic antibiotic use is a key component or process measure of reliable perioperative care.

Data capture:

Ministry of Health and Long-Term Care Web-enabled Reporting System (WERS).

Reporting:

Timeframe: Initial April 30 2009 (Period 1) reporting should include data for the month of Mar 01 to Mar 31 2009. Subsequent reporting will be **quarterly** (i.e. including three months of data) following the time table below.

Administrative periods for aggregating data are defined as:

<u>Period</u>	<u>Period end date</u>	<u>WERS reporting date</u>	<u>Public website reporting date</u>
1	31-Mar-09	15-Apr-09	30-Apr-09
2	30-Jun-09	15-Jul-09	30-Jul-09
3	30-Sep-09	15-Oct-09	30-Oct-09
4	31-Dec-09	15-Jan-10	29-Jan-10

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Public Reporting:

At the end of each Period and as indicated above hospitals will report the previous three month's data (exception is the initial reporting period which will include one month of data) on their website **by hospital site** including;

(i) The percentage of primary hip/knee surgical patients with antibiotic administration within the appropriate time prior to surgery.

MOHLTC Reporting:

By the 15th of the month as indicated above hospitals will report the previous quarter's data to the MOHLTC using WERS. These data include among other administrative data such as facility number:

- Total number of patients during the reporting period who had a primary hip/knee surgery (i.e. the denominator).
- Total number of primary hip/knee surgical patients in the reporting period whose prophylactic antimicrobial consisted of vancomycin
- Total number of primary hip/knee surgical patients in the reporting period who received a prophylactic antibiotic other than vancomycin
- Total number of primary hip/knee surgical patients in the reporting period who received a prophylactic antibiotic within the appropriate time prior to surgery (i.e. the numerator)
- The percentage of primary hip/knee surgical patients in the reporting period with antibiotic administration within the appropriate time prior to surgery.

Reporting eligibility:

All hospitals that perform hip and knee joint replacement procedures.

References:

1. Refer below and to the following link for a primary hip/knee joint replacement surgery as defined by Canadian Classification of Health Interventions (CCI) Codes (Source: Canadian Institute for Health Information (CIHI):
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=codingclass_cci_e

<u>Surgery</u>	<u>CCI Codes</u>	<u>CCI Code Description</u>
Hip	*1.VA.53.^ ^	Implantation of internal device, hip joint
Hip	1.SQ.53.^ ^	Implantation of internal device, pelvis
Knee	*1.VG.53.^ ^	Implantation of internal device, knee joint
Knee	1.VP.53.^ ^	Implantation of internal device, patella

***Except 1.VA.53.LA-SL-N (cement spacer); 1.VG.53.LA-SL-N (cement spacer)**

2. Guideline for Prevention of SSI (National Nosocomial Infections Surveillance System (NNIS))

Garner, J. S. and Simmons, B. P. Horan TC, Gaynes RP. Surveillance of nosocomial infections. In: Hospital Epidemiology and Infection Control, 3rd ed., Mayhall CG, editor. Philadelphia: Lippincott Williams & Wilkins, 2004: 1659-1702.

http://www.cdc.gov/ncidod/dhqp/nnis_pubs.html

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NNIS Surgical Wound Classification

Class I Clean: An Uninfected operative wound in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tract is not entered. In addition, clean wounds are primarily closed and, if necessary, drained with closed drainage. Operative incisional wounds that follow non-penetrating (blunt) trauma should be included in this category if they meet the criteria.

Class II/Clean-Contaminate: An operative wound in which the respiratory, alimentary, genital, or urinary tracts are entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered.

Class III/Contaminated Open, fresh, accidental wounds: In addition, operations with major breaks in sterile technique (e.g., open cardiac massage) or gross spillage from the gastrointestinal tract, and incisions in which acute, non-purulent inflammation is encountered are included in this category.

Class IV/Dirty-Infected Old traumatic wounds with retained devitalized tissue and those that involve existing clinical infection or perforated viscera: This definition suggests that the organisms causing postoperative infection were present in the operative field before the operation.

3. <http://www.saferhealthcarenow.ca/Default.aspx?folderId=82&contentId=184>