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Surrey Memorial Hospital (SMH)

Post-Operative Assessment of Practices Recognized to Prevent Hospital Acquired Pneumonia (HAP) for Patients Undergoing Colorectal Surgery

SQAN SURGICAL QUALITY ACTION NETWORK

ACS NSQIP PARTICIPANT

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Background

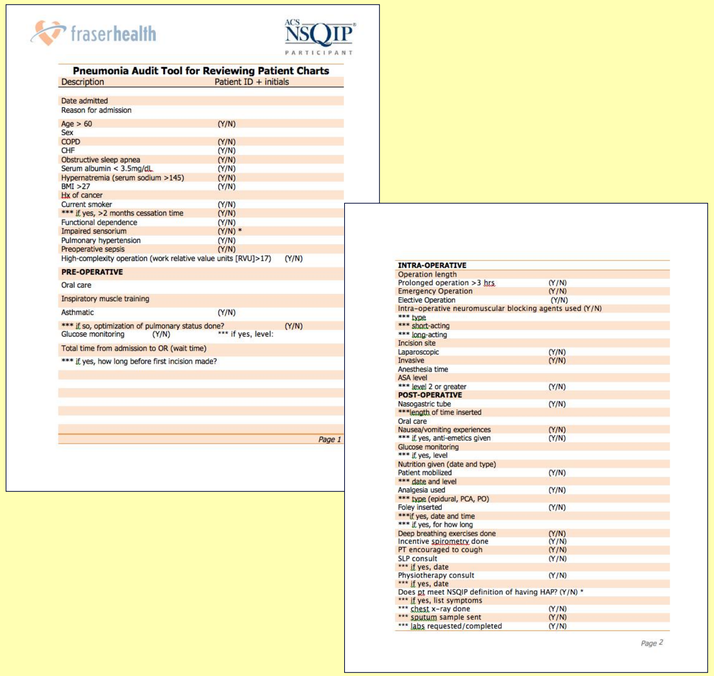
Surrey Memorial Hospital (SMH) is the largest of three regional hospitals in the Fraser Health Authority. SMH provides primary, secondary, and tertiary services for the region. Pneumonia prevention was identified for analysis within the colorectal surgery population. The audits for this study were performed on an acute care general surgical unit for admitted patients.

Team Goals / Objectives

- Identify current practices in the care of colorectal surgery patients and compare these with recognized pneumonia prevention practices in General Surgery patients
- Develop an audit tool
- Carry out audit at SMH of colorectal (pneumonia and non-pneumonia) cases from March-May 2013
- Determine areas of strength as well as areas needing improvements
- Continue to refine audit tool as necessary
- When audit tool refined to an acceptable level, carry out audits of colorectal surgeries at other Fraser Health sites
- Develop and implement plan of action in order to decrease pneumonia cases

Methods

- Literature review conducted using CINAHL, Medline
- 11 articles selected for review
- Draft audit tool developed based upon NSQIP best practices & literature
- Excel tracking database created
- Chart reviews & extraction of relevant components completed using audit tool
- Findings collated and shared with stakeholders



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Pneumonia Audit Tool for Reviewing Patient Charts

Description	Patient ID + initials
Date admitted	
Reason for admission	
Age > 60	(Y/N)
Sex	
COPD	(Y/N)
CHF	(Y/N)
Obstructive sleep apnea	(Y/N)
Serum albumin < 3.5mg/dL	(Y/N)
Hypernatremia (serum sodium >145)	(Y/N)
BMI >27	(Y/N)
Hx of cancer	
Current smoker	(Y/N)
*** if yes, >2 months cessation time	(Y/N)
Functional dependence	(Y/N)
Impaired sensorium	(Y/N) *
Pulmonary hypertension	(Y/N)
Preoperative sepsis	(Y/N)
High-complexity operation (work relative value units [RVU]>17)	(Y/N)
PRE-OPERATIVE	
Oral care	
Inspiratory muscle training	
Asthmatic	(Y/N)
*** if so, optimization of pulmonary status done?	(Y/N)
Glucose monitoring (Y/N) *** if yes, level:	
Total time from admission to OR (wait time)	
*** if yes, how long before first incision made?	

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INTRA-OPERATIVE	
Operation length	
Prolonged operation >3 hrs	(Y/N)
Emergency Operation	(Y/N)
Elective Operation	(Y/N)
Intra-operative neuromuscular blocking agents used (Y/N)	
*** type	
*** short-acting	
*** long-acting	
Incision site	
Laparoscopic	(Y/N)
Invasive	(Y/N)
Anesthesia time	
ASA level	
*** level 2 or greater	(Y/N)
POST-OPERATIVE	
Nasogastric tube	(Y/N)
***length of time inserted	
Oral care	
Nausea/vomiting experiences	(Y/N)
*** if yes, anti-emetics given	(Y/N)
Glucose monitoring	
*** if yes, level	
Nutrition given (date and type)	
Patient mobilized	(Y/N)
*** date and level	
Analgesia used	(Y/N)
*** type (epidural, PCA, PO)	
Foley inserted	(Y/N)
***if yes, date and time	
*** if yes, for how long	
Deep breathing exercises done	(Y/N)
Incentive spirometry done	(Y/N)
PT encouraged to cough	(Y/N)
SLP consult	(Y/N)
*** if yes, date	
Physiotherapy consult	(Y/N)
*** if yes, date	
Does not meet NSQIP definition of having HAP? (Y/N) *	
*** if yes, list symptoms	
*** chest x-ray done	(Y/N)
*** sputum sample sent	(Y/N)
*** labs requested/completed	(Y/N)

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Questions? Contact Lori Hughes at Lori.Hughes@fraserhealth.ca

Thank you to the Surgical Quality Action Network (SQAN) for sponsoring this project.

Findings

- All patients positively identified post-operatively for HAP by NSQIP review were emergent & highly complex
- Gaps in charting made it challenging to assess if all components of preventative care were provided to influence patient outcomes
- Opportunity identified for increased interdisciplinary collaboration (PT/OT/RT/RN/MD) in patient care planning
- Variability in proactive interventions for patients showing characteristic symptoms of pneumonia (early warning signs)
- Gaps in communication between care providers when signs and symptoms of pneumonia are present

Action Plan

- Continue audits
- Expand tool to support identification of high risk patients
- Align audit with new and existing Clinical Decision Support Tools (CDST) to support global strategies targeting key elements in pneumonia prevention and patient care
- Consider development of a CDST to support the identification of, and decision making for interventions, when warning signs/symptoms are present
- Flag/track patients who show warning signs of pneumonia development so that prophylactic actions can be administered rapidly