Endoscopy complication surveillance Program

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Introduction

- Endoscopy carries risk. Complications are not uncommon.
- It is essential:

  Trace those complications,

  Analyze the profile,

  Perform actions to minimize the risk continuously.

- Our endoscopy unit opened in mid 9/2007.
- Caters all OP OGDs and selected colonoscopy and bronchoscopy

Objectives

- (1) To collect the data of the complications after endoscopy.
- (2) To monitor the complication of the endoscopist and the unit.
- (3) To take necessary actions when there is unusual rise in complications.

Design and Methods

- This is a continuous surveillance program.
- All patients undergoing endoscopy POH.
- Endoscopy complication reporting forms to all in-patients.
- Complete the forms once complications noted.
- Discuss in the quarterly endoscopy committee meeting.
- We would look for clusters and causes of events.

Clinical Standards

- *Adverse outcomes of ERCP.* Freeman ML. Gastrointest Endosc 2002; 56(6 Suppl 2): S273-282.
- *Quality indicators for colonoscopy.* Rex DK, Petrini JL, MD, Baron TH, Chak A, Cohen J, Deal SE, Hoffman B, Jacobson BC, Mergener K, Petersen BT, Safdi MA, Faigel DO, MD. Gastrointest Endosc 2001;53:620-7.
- *Prospective evaluation of complications in outpatient GI endoscopy: a survey among German gastroenterologists.* Sieg A, Hachmoeller-Eisenbach U, Eisenbach T. Gastrointest Endosc 2001;53:620-7
- *British Thoracic Society guidelines on diagnostic flexible bronchoscopy.* Thorax 2001;56(Suppl 1): i1-21.
- *Clinical Audit on Colonosocpy in the Medical Departments.* Szeto ML.

Assessment of complications

- Breathing related,
  Bleeding,
  Perforation,
  Pancreatitis (for ERCP)
  And respiratory.
- Mild, moderate and severe, according to pre – defined standards.
- The performance of the endoscopists and the endoscopy unit would be compared with international standards.

POK OI HOSPITAL
Pok Oi Ambulatory Services Center
Endoscopy Unit

Endoscopy Complication Reporting Form

Name: _____
I.D. No.: _____
HN no.: _____
Sex/Age : _____ Ward/Bed: _____
(Please Affix Patient's Gum Label Here)

Type of Endoscopy Procedure: Bronchoscopy / Colonoscopy / OGD / Sigmoid / ERCP/

Date of Endoscopy Procedure:

Nature of Complication (Please describe and grade according to following guidelines)

Please circle the appropriate: MILD / MODERATE / SEVERE

Patient Outcome:

Name of Reporting Staff: _____(Doctor/Nurse) Date of Reporting:

	Mild: hospitalization less than 3 days	**Moderate:** hospitalization 4-10 days	**Severe:** hospitalization more than 10 days
Breathing	Transient hypoxemia requiring admission	Respiratory depression, Pneumonia, Pulmonary edema	Respiratory depression, Pneumonia, Pulmonary edema, Arrest
Bronchoscopy	Nausea and vomiting, Vasovagal reaction, Fever, Hypoxemia	Airway obstruction, Bleeding, Arrhythmia, Pneumothorax	Respiratory depression, Pneumonia, Pulmonary edema, Arrest
Bleeding	Clinical (i.e. not just endoscopic) evidence of bleeding Haemoglobin drop > 3g and no need for transfusion	Transfusion (4 units or less), no angiographic intervention or surgery	Transfusion 5 units or more, or intervention (angiographic or surgical)
Perforation	Possible, or only very slight leak of fluid or contrast, treatable by fluids and suction for 3 days or less	Any definite perforation treated medically for 4-10 days	Medical treatment for more than 10 days, or intervention (percutaneous or surgical)
Pancreatitis	Clinical pancreatitis, amylase at least three times normal at more than 24 hr after the procedure, requiring admission or prolongation of planned admission to 2-3 days.	Pancreatitis requiring hospitalization of 4-10 days	Hospitalization for more than 10 days or haemorraghagic pancreatitis, phlegmon or pseudocyst, or intervention (percutaneous drainage or surgery)
Others			

Remark: Please **COMPLETE & RETURN** this complication form to 2/F Endoscopy Unit after complication happened or after patient discharge (without complication).

Action phase

- Preventive measures once causes or relevant factors were identified.
- Include:

  Readjusting the care process,

  Rechecking the equipment,

  Reviewing the endoscopy procedure guidelines

  And even retraining of endoscopist or staff.
- We would analyze the results in the next quarter and continuously refine the whole care process.

Results in the first quarter

- 755 OGDs were done at endoscopy suite in the Q4 2007.
- 2 reported medical major complications (CVA and Acute coronary syndrome). No procedural complications.

	Complication	Causes	Predictable before procedure?	Preventable before procedure ?	Action
F/65	CVA	Did not take BP drugs	Yes	Yes	Enforce patients to take BP drugs
F/70	ACS	Did not take BP drugs	Yes	Yes	Enforce patients to take BP drugs

New measure to prevent further medical complications

New endoscopy protocol at POH.

Taking necessary medications before endoscopy

Doctor’s assessment before endoscopy if medication not taken.

Give necessary medications if not taken.

Results in the 2nd quarter

- 922 OGDs, 14 colonoscopies and 7 bronchoscopy in the 1Q2008.
- No reported medical complications.
- No reported surgical complications.
- ? Reduced complications rate.
- Further complications would be continuously monitored.

Discussion

- Endoscopy complications are not uncommon.
- Continuous monitoring of complication is feasible.
- Reporting does not carry labeling.
- Continuous refinement of the guidelines, protocol, and other remedial measures are the cornerstone for the high standard.

Limitations

- Depends on all staffs to report.

1. Thorough explanations to all staffs.
2. All staffs could report the complications.
3. Suspected but not confirmed complications can also be reported (allow over reporting) as we would investigate.
4. Forms could be returned even if no complications.

- Long term validity is pending.
- Non complication issues may not be reflected.
- ? Adding further dimensions for measurement. E.g. long term disability, further invasive procedures.