A COMPREHENSIVE TRAINING PROGRAM FOR NURSE ENDOSCOPIST ON PERFORMING FLEXIBLE SIGMOIDOSCOPY IN HONG KONG

SHUM NGA FAN
A.P.N.
DEPARTMENT OF SURGERY
QUEEN MARY HOSPITAL
Introduction

Hong Kong Cancer Registry 2005
- 3,706 new cases
- 1,614 deaths
- Colorectal cancer: 2nd cancer killer

Colorectal cancer will surpass lung cancer as the commonest cancer in Hong Kong in the next 10 years!
Introduction

Colorectal cancer screening is one of the strategies to combat this deadly disease.

Flexible sigmoidoscopy is one of the recommended modalities for colorectal cancer screening in the general population.
Introduction

Nurses have been reported to perform sigmoidoscopy since the early 1970s

Spencer & Winkels Mayo Clin Proc 1978

Sigmoidoscopy is a technical skill that has been successfully performed by suitably trained colorectal nurse practitioners in the United States of America

Duthies et al Gut 1998

Nurse endoscopist is an established post in the United Kingdom

Pathmakanthan et al J Adv Nursing 2001
Background

Keep pace with advances in the health care system
Face local challenges of medical staff shortage

Pilot program to expand the role of a colorectal nurse
and to train a colorectal nurse clinician

One of the training components was the performance
of flexible sigmoidoscopy
Comprehensive Training Program
Aim

To explore the feasibility of advancing the role of a nurse & to train the nurse to perform flexible sigmoidoscopy.
Method

1 year structured program consisting of both theory & practical components

Weekly session

Trainers

3-stage training process

Final assessment
Training process

3 stages
(1) Theory & Procedural Observation
(2) Supervised Hands-on Practice
(3) Supervised Procedural Performance

Final assessment
Stage 1
Theory & Procedural Observation

Tutorials
- Anatomy & physiology of large bowel
- Common colorectal pathologies including colorectal neoplasia
- Management principles on various large bowel pathologies

Theory on endoscopy
- Self-study of relevant textbooks
Stage 1
Theory & Procedural Observation

Observed the procedure
- Performed by experienced endoscopist

Taught to recognize
- Normal anatomy
- Endoscopic landmarks
- Colorectal pathologies (polyps, cancers & colitis)

Observed 75 cases over 3 months
Stage 2
Supervised Hands-On Practice

Withdrawal of the endoscope

Manipulation of the endoscope

Intubation of the endoscope

Withdrew 36 cases & inserted 35 cases over 3 months
Stage 3
Supervised Procedural Performance

Performed the entire procedure in the presence of the trainer on EVERY CASE.

Refined the skills.

Verified the results.

Prepared the endoscopic report in C.M.S.

Performed 88 cases over 6 months.
Final Assessment

Completion of 3 stages

Satisfaction of trainers

Final assessment on skill competency

Allowed to perform independently
Trained Nurse Endoscopist

Every Wednesday afternoon session from August 2007

Elective diagnostic procedures on outpatients

Designated medical endoscopist

Fibreoptic flexible sigmoidoscope
Initial Endoscopic Results
( From August 2007 to January 2008 )
Patient Profile

52 patients (26 female & 26 male)
Mean age: 57.9 ± 16.5 years (range 18-82 yrs)
Patients Underwent Flexible Sigmoidoscopy by Nurse Endoscopist

52 patients

38 completed

14 failed

Reasons:
1. tumour obstruction
5. poor bowel preparation
4. previous pelvic surgery
4. looping of bowel
Endoscopy Finding

18 abnormal and 34 normal
Endoscopy Finding

Colorectal Pathology

- 88% (16) Polyp
- 6% (1) Tumour
- 6% (1) Diverticulum
16 (30.77%) patients had colorectal polyps

<table>
<thead>
<tr>
<th>Patient number</th>
<th>Pathology report</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Adenomatous polyp</td>
</tr>
<tr>
<td>5</td>
<td>Hyperplastic polyp</td>
</tr>
<tr>
<td>1</td>
<td>Well differentiated adenocarcinoma</td>
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</tbody>
</table>
Polyp

| ID No. | Sex | Age | D. O. Birth:
|-------|-----|-----|----------------
|       |     |     | 17/10/2007     |
|       |     |     | 14:14:17       |
| SCV   | 1   |     |               |
|       |     |     |               |
|       |     |     |               |

CT: N
E: A1
C: 0

Physician
Comment:
Polyp

ID No. 1
Sex Age
D.O.Birth: 24/10/2007 14:54 27
SCV 1
Cr N E4 A1
Cf 0

Physician Comment:
Obstructing tumour at 6cm from anal verge
#### Depth of insertion

Mean depth of insertion: 51.9 ±15.4 cm (range 6-60cm)

<table>
<thead>
<tr>
<th>Depth of insertion</th>
<th>No. of patients</th>
<th>Reasons</th>
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</thead>
<tbody>
<tr>
<td>60cm</td>
<td>38</td>
<td>2 Poor bowel preparation</td>
</tr>
<tr>
<td>30cm to 59cm</td>
<td>10</td>
<td>4 Patient intolerance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Looping of bowel</td>
</tr>
<tr>
<td>0cm to 29cm</td>
<td>4</td>
<td>3 Poor bowel preparation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Tumour obstruction</td>
</tr>
</tbody>
</table>
# Procedure Time

Mean procedural time: \(8.8 \pm 2.9\) minutes (range 4 - 14 minutes)

<table>
<thead>
<tr>
<th>Time required for procedure</th>
<th>Patient number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within 10 minutes</td>
<td>38 (73.08%)</td>
</tr>
<tr>
<td>11 - 20 minutes</td>
<td>14 (26.92%)</td>
</tr>
</tbody>
</table>
Procedural-Related Complication

No unplanned hospital admission after sigmoidoscopy

No perforation

No bleeding

No abdominal pain
Conclusion

 Appropriately trained nurses can perform flexible sigmoidoscopy in a safe & effective manner.
Acknowledgement

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Ms. Anna Tang (N.O. / B5)
Nursing staffs of B5 (Endoscopy Unit)