Appendix

1. Direct Observation of Procedural Skills Formative Assessment Form
2. Physician characteristics associated with proximal adenoma detection
3. Physician characteristics associated with distal adenoma detection
4. Physician characteristics associated with distal SSL detection
Formative DOPS Assessment Form
Colonoscopy and Flexible Sigmoidoscopy

Adapted from Joint Advisory Group on GI Endoscopy

| Colonoscopist |  |
|----------------|---|
| Trainer / Peer |  |
| Date (DD/MM/YYYY) |  |

## Criteria

### Assessment, consent, communication
- Obtains informed consent using a structured approach
  - Satisfactory procedural information
  - Risk and complications explained
  - Co-morbidity
  - Sedation
  - Opportunity for questions
- Demonstrates respect for patient's views and dignity during the procedure
- Communicates clearly with patient, including outcome of procedure with appropriate management and follow up plan. Full endoscopy report.

### Safety and sedation
- Safe and secure IV access
- Gives appropriate dose of anaesthesia and sedation and ensures adequate oxygenation and monitoring of patient
- Demonstrates good communication with the nursing staff, including dosages and vital signs

### Endoscopic skills during insertion and procedure
- Checks endoscope function before intubation
- Performs PR
- Maintains luminal view / inserts in luminal direction
- Demonstrates awareness of patient's consciousness and pain during the procedure and takes appropriate action
- Uses torque steering and control knobs appropriately
- Uses distension, suction and lens washing appropriately
- Recognises and logically resolves loop formation
- Uses position change and abdominal pressure to aid luminal views
- Completes procedure in reasonable time

### Diagnostic and therapeutic ability
- Adequate mucosal visualisation
- Recognises caecal/desc. colon landmarks or incomplete examination
- Accurate identification and management of pathology
- Uses diathermy and therapeutic techniques appropriately and safely
- Recognises and manages complications appropriately

### Case Difficulty

| Extremely easy | Fairly easy | Average | Fairly difficult | Very challenging |
|----------------|-------------|---------|------------------|------------------|
| 1              | 2           | 3       | 4                | 5                |

### Scale and Criteria Key

- 4: Highly skilled performance
- 3: Competent and safe throughout procedure, no uncorrected errors
- 2: Some standards not yet met, aspects to be improved, some errors uncorrected
- 1: Accepted standards not yet met, frequent errors uncorrected
- n/a: Not applicable

## Learning Objectives for Next Cases

---

Telford J, et al. BMJ Open Gastro 2021; 8:e000677. doi: 10.1136/bmjgast-2021-000677
Physician characteristics associated with proximal adenoma detection

| Variable                                      | OR*  | 95% CI* | p-value |
|-----------------------------------------------|------|---------|---------|
| Male Physician                                | 1.06 | 0.93-1.20 | 0.377   |
| Specialty Training                            |      |         |         |
| Gastroenterology                              | Reference |       |         |
| General surgery                               | 0.92 | 0.83-1.02 | 0.128   |
| Internal medicine                             | 0.76 | 0.55-1.04 | 0.084   |
| Year of Medicine Graduation                   |      |         |         |
| < 1980                                        | Reference |     |         |
| 1980 - 1990                                   | 1.11 | 0.93-1.32 | 0.245   |
| 1990 - 2000                                   | 1.20 | 1.02-1.42 | 0.027   |
| After 2000                                     | 1.07 | 0.91-1.26 | 0.430   |
| North American Medical School                 | 0.99 | 0.85-1.15 | 0.898   |
| Colonoscopy Volume                            | 1.00 | 0.94-1.07 | 0.929   |
| DOPS                                          |      |         |         |
| Achieved 3 or 4 on all major criteria         | Reference |     |         |
| Achieved a 2 on any major criteria            | 1.02 | 0.91-1.15 | 0.731   |
| Achieved a 1 on any major criteria            | 0.82 | 0.61-1.12 | 0.214   |
| No DOPS                                       | 1.00 | 0.88-1.14 | 0.978   |
| Patient Age                                   | 1.18 | 1.16-1.19 | <0.001  |
| Patient Male Gender                           | 1.52 | 1.47-1.57 | <0.001  |
| First FIT                                     | 1.37 | 1.34-1.39 | <0.001  |
| FIT Value                                     |      |         |         |
| FIT 10-15 mcg/gram                            | Reference |     |         |
| FIT 15-20 mcg/gram                            | 1.25 | 1.19-1.31 | <0.001  |
| FIT 20-40 mcg/gram                            | 1.40 | 1.34-1.46 | <0.001  |
| FIT ≥ 40 mcg/gram                             | 1.69 | 1.63-1.76 | <0.001  |

*OR = Odds Ratio
*CI = Confidence Interval
## Physician characteristics associated with distal adenoma detection

| Variable                                      | OR  | 95% CI      | p-value |
|-----------------------------------------------|-----|-------------|---------|
| Male Physician                                | 1.07| 0.93-1.24   | 0.360   |
| Specialty Training                            |     |             |         |
| Gastroenterology                              |     | Reference   |         |
| General surgery                               | 0.92| 0.82-1.04   | 0.209   |
| Internal/family medicine                      | 0.70| 0.50-0.99   | 0.042   |
| Year of Medicine Graduation                   |     |             |         |
| < 1980                                        |     | Reference   |         |
| 1980 - 1990                                   | 1.02| 0.84-1.24   | 0.846   |
| 1990 - 2000                                   | 1.11| 0.92-1.34   | 0.267   |
| After 2000                                    | 0.95| 0.79-1.15   | 0.612   |
| North American Medical School                 | 0.95| 0.80-1.12   | 0.535   |
| Colonoscopy Volume                            | 1.03| 0.96-1.11   | 0.402   |
| DOPS                                          |     |             |         |
| Achieved 3 or 4 on all major criteria         |     | Reference   |         |
| Achieved a 2 on any major criteria            | 1.03| 0.90-1.18   | 0.666   |
| Achieved a 1 on any major criteria            | 0.85| 0.60-1.20   | 0.347   |
| No DOPS                                       | 0.97| 0.83-1.12   | 0.657   |
| Patient Age                                   | 1.20| 1.18-1.21   | <0.001  |
| Patient Male Gender                           | 1.57| 1.52-1.62   | <0.001  |
| First FIT                                     | 1.40| 1.38-1.42   | <0.001  |
| FIT Value                                     |     |             |         |
| FIT 10-15 mcg/gram                            |     | Reference   |         |
| FIT 15-20 mcg/gram                            | 1.23| 1.18-1.29   | <0.001  |
| FIT 20-40 mcg/gram                            | 1.36| 1.31-1.42   | <0.001  |
| FIT ≥ 40 mcg/gram                             | 1.63| 1.57-1.69   | <0.001  |

*OR = Odds Ratio  
*CI = Confidence Interval
**Physician characteristics associated with distal SSL detection**

| Variable                      | OR* | 95%CI* | p-value |
|-------------------------------|-----|--------|---------|
| Male Physician                | 0.96| 0.79 – 1.16 | 0.646  |
| Specialty Training           |     |        |         |
| Gastroenterology              |     |        | Reference|
| General surgery               | 0.90| 0.78 – 1.04 | 0.155  |
| Internal/family medicine      | 0.56| 0.31 – 1.00 | **0.050**|
| Year of Medicine Graduation   |     |        |         |
| < 1980                        |     |        | Reference|
| 1980 - 1990                   | 0.90| 0.70 – 1.17 | 0.449  |
| 1990 - 2000                   | 1.04| 0.81 – 1.32 | 0.767  |
| After 2000                    | 0.92| 0.72 – 1.18 | 0.524  |
| North American Medical School | 0.98| 0.78 – 1.24 | 0.882  |
| Colonoscopy Volume            | 1.00| 0.93 – 1.08 | 0.931  |
| DOPS                          |     |        |         |
| Achieved 3 or 4 on all major criteria |     |        | Reference|
| Achieved a 2 on any major criteria | 1.00| 0.85 – 1.18 | 0.969  |
| Achieved a 1 on any major criteria | 0.66| 0.36 – 1.20 | 0.170  |
| No DOPS                       | 1.11| 0.92 – 1.34 | 0.268  |
| Advanced adenoma              | 1.81| 1.56–2.09  | **<0.001**|
| Patient Age                   | 1.10| 1.03 – 1.17 | **0.005**|
| Male Patient                  | 1.43| 1.25 – 1.63 | **<0.001**|
| First FIT                     | 1.27| 1.15–1.38   | **<0.001**|
| FIT Value                     |     |        |         |
| FIT 10-15 mcg/gram            |     |        | Reference|
| FIT 15-20 mcg/gram            | 1.29| 1.06 – 1.56 | **0.012**|
| FIT 20-40 mcg/gram            | 1.29| 1.08 – 1.55 | **0.006**|
| FIT ≥ 40 mcg/gram             | 1.49| 1.27 – 1.74 | **<0.001**|

*OR = Odds Ratio
*CI = Confidence Interval