

Bronchoscopy Stepwise Evaluation Tool

Student's Name: _____ Date: _____

This competency evaluation is comprised of two elements:

- The first is a Bronchoscopy Global Rating Scale (BGRS) that measures the ability to apply basic principles that assure a safe, comfortable and efficient procedure.
- The second is a Bronchoscopy Exercises Rating Scale (BERS) that measures the ability to perform specific maneuvers that are required to identify and access relevant airway anatomy. Maneuvers include exercises from Bronchoscopy Step by Step[®]
- The maximum total number of points obtainable is 100 (39 for the BGRS, 61 for the BERS).

RESULTS

TOTAL BGRS _____/39 TOTAL BERS _____/61

GRAND TOTAL _____/100

Comments:

Bronchoscopy Global Rating Scale: Ability to apply basic principles

Points for each section are allotted based on the degree of importance of that section to the safety and efficiency of the procedure. Maximum obtainable score is 39. The principle of patient and operator safety warrants that the ability to manipulate the bronchoscope without causing trauma or discomfort to the patient, or injury to the operator, is at least as important as the ability to perform the bronchoscopic task. The BGRS is divided into 4 sections:

- Identify segmental anatomy: 15 points
- Scope manipulation: 10 points
- Ability to perform tasks: 10 points
- Posture and hand positions: 4 points

The standard for satisfactory and unsatisfactory performance for each section is defined under each column; an intermediate performance scores half the allotted points.

<u>BGRS</u>	Unsatisfactory (0 Pts)	Needs Improvement (1/2 Max Pts)	Satisfactory (Max Pts)
<u>Scope manipulation (10 pts):</u> Scope centered and without episodes of trauma; less than 5 occurrences satisfactory, more than 10 occurrences unsatisfactory.			
<u>Posture and hand positions (4 pts):</u> Arm tucked no excessive body language, good hand-scope-patient alignment; less than 5 occurrences satisfactory, more than 10 occurrences unsatisfactory.			
<u>Identify segmental anatomy (15 pts):</u> All correct satisfactory, 5 or more incorrect unsatisfactory.			
<u>Ability to perform tasks (10 pts):</u> Number of interventions by examiner necessary; none satisfactory, 3 or more unsatisfactory.			
Subtotal points			

TIME _____ minutes

Total BGRS score _____/39

Bronchoscopy Exercises Rating Scale: Ability to perform specific exercises

The scoring system for BERS is as follows:

1. **Satisfactory**: Exercise completed smoothly with the bronchoscope in midline position, with good posture and hand positioning.
2. **Needs Improvement**: Exercise completed, yet with one or more of following problems: reorientation necessary, bronchoscope off midline position, or with poor posture or incorrect hand positions
3. **Unsatisfactory**: exercise not completed (no anatomy recognition regardless of the bronchoscope position, hand position, or posture)

Points for each exercise are allotted based on degree of difficulty. Maximum total obtainable score is 61.

The rationale for the number of points allotted per exercise is as follows:

- 1 Point for upper and central airway maneuvers.
- 2 Points for lobar anatomy.
- 3 or 4 Points for segmental anatomy: 3 Points for the ability to identify and enter up to 3 segments in the same lobe; 4 Points for more than 3 segments in the same lobe.
- 4 Points for exercises starting at the larynx and ending in the lower lobes.
- 5 Points for segmental anatomy: the ability to identify and enter segments from different lobes.
- 6 points for complete nose to larynx exercise (includes administration of topical anesthesia).

<u>Group 1 Exercises</u> Upper and Central Airway	Unsatisfactory (0 Pts)	Needs Improvement (1/2 Max Pts)	Satisfactory (Max Pts)
Nose to larynx (6 pts)			
Larynx enter to subglottis (1pt)			
Follow curve to carina (1pt)			
Carina to LMB (1pt)			
Carina to RMB (1pt)			
LMB to RMB to neutral (1pt)			
Down into LMB (1pt)			
Down into RMB (1pt)			
Subtotal points			

TIME _____ minutes

Total BERS Group 1 Exercises _____/13

<u>Group 2 Exercises</u> Lobar Anatomy	Unsatisfactory (0 Pts)	Needs Improvement (1/2 Max Pts)	Satisfactory (Max Pts)
LMB to LLL (2pts)			
LMB to LUL (2pts)			
RMB to RLL (2pts)			
RMB to BI (2pts)			
RMB to RUL (2pts)			
Larynx to RLL (4pts)			
Larynx to LLL (4pts)			
Subtotal points			

TIME _____ minutes

Total BERS Group 2 Exercises _____/18

<u>Group 3 Exercises</u> Segmental Anatomy	Unsatisfactory (0 Pts)	Needs Improvement (1/2 Max Pts)	Satisfactory (Max Pts)
LLL p-p-p (3p)			
LUL uno-dos (3p)			
LLL B6-8910 (4p)			
L B456 (5p)			
R B456 (5p)			
R B7 (3p)			
RLL d'Aart (4p)			
RUL u-d-t (3p)			
Subtotal points			

TIME _____ minutes

Total BERS Group 3 Exercises _____/30

Total BERS Score (Sum of 3 Groups) _____/61