

BRONCHOSCOPY ORIENTATION FOR FELLOWS

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HOW TO ORDER BRONCHOSCOPY IN EPIC

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- 2 types of Order in EPIC:
 - Bronchoscopy-Pulmonary Medicine
 - To be used for simple bronchoscopies (airway exam, BAL, TBBx)
 - Bronchoscopy is done by ANY general pulmonologist (NOT by IP physician necessarily)
 - If you have any doubts, discuss it with your staff before ordering
 - Bronchoscopy Interventional-Pulmonary Medicine
 - To be used for COMPLEX bronchoscopies that required an IP physician
 - Examples: lung nodule for cancer, EBUS, navigational bronchoscopy, robotic bronchoscopy
 - If you have any doubts, discuss it with your staff before ordering

HOW TO ORDER BRONCHOSCOPY in EPIC

- Under “Comments”: put as much information as possible:
 - approximate date to be done
 - anticoagulation? What type?
 - Location of sampling (RUL vs LLL, etc)
 - Testing needed (cultures, AFB, fungal, etc)
 - Any other relevant information (eg patient on dialysis MWF, etc)

Bronchoscopy in ICU

- You DO NOT NEED to put an order in EPIC
- Arrange TIME with Respiratory Therapy, RN and Staff
- ASA and MALLAMPATI **MUST BE DONE** before sedation starts
- **MUST** do H and P in Epic AFTER ASA and Mallampati. Use smartphrase **“.BRONCHPRE”**

BRONCHOSCOPY ROTATION FOR FELLOWS

MUST DO BEFORE Bronchoscopy rotation starts

- Read “Bronchoscopy Curriculum” for fellows (version 2021)
 - Find it at: <https://ipulm.com/bronch-edu/>
- Read “Bronchoscopy Boot Camp Presentations”
 - Find them at: <https://ipulm.com/bronch-edu/>
- Take “Fellow Test” for your corresponding year
 - Find it at: <https://ipulm.com/bronch-edu/>
 - Fill out answers on “Answer Sheet” and send it to:
 - Sharron Mcdougall-Dey (smcdoug1@hfhs.org) and Javier Diaz-Mendoza (jdiaz1@hfhs.org)

MUST DO BEFORE Bronchoscopy rotation starts

- Practice on Bronchoscopy Mini-Sim Lab (located in Bronchoscopy Suite I-4)
- MUST complete the number of Simulation procedures established in the Bronchoscopy Curriculum

BRONCHOSCOPY PRACTICE

- Bronchoscopy High-Fidelity Simulator (Simbionix)
 - Username: same as first part of HFH email account (example: jsmith2)
 - Password: same as Username (example: jsmith2)
- Bronchoscopy Low-Fidelity Simulator (Zavala Model or Bronch Boy)
- See procedure requirement in “Bronchoscopy Curriculum”

BRONCHOSCOPY CURRICULUM

- Read BEFORE Bronchoscopy rotation starts (<https://ipulm.com/bronch-edu/>)
- You will be evaluated during the entire rotation by the proceduralist attending
- You **MUST TURN IN** at the end of rotation (every year):
 - Checklist (appendix B,C,D,E depending on year of training)
 - Bronchoscopy Pharmacology (appendix I)
 - Bronchoscopy skills and task assessment (appendix R)
 - Bronchoscopy self assessment (appendix S)

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- Appendix A: ACGME and ABIM req...
- Patient Care:
- Medical Knowledge:
- Systems-based Practice:
- IV.A.5.g) Systems-based Practice
- IV.A.5.g).(4) advocate for quality pati...
- Professionalism:
- IV.A.5.f).(1) compassion, integrity, a...
- IV.A.5.f).(2) responsiveness to patien...
- IV.A.5.f).(3) respect for patient privac...
- IV.A.5.f).(4) accountability to patient...
- Practice-based Learning and Improv...
- a. Analyze practice experience and...
- b. Locate, appraise, and assimilate e...
- c. Obtain and use information abo...
- d. Apply knowledge of study desig...
- e. Use information technology to...
- f. Facilitate the learning of students...
- IV.A.5.d) Practice-based Learning an...
- IV.A.5.d).(2) set learning and improv...
- IV.A.5.d).(3) identify and perform ap...
- IV.A.5.d).(5) incorporate formative e...
- IV.A.5.d).(7) use information technol...
- Communication and Interpersonal S...
- To be completed prior to beginning...
- To be completed during bronchosc...
- To be completed upon conclusion o...
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- To be completed during bronchosc...
- To be completed upon conclusion o...
- Performance of EBUS-TBNA Bronch...
- Sample record

APPENDIX B: Checklist for Year 1 Name: _____

To be completed prior to beginning bronchoscopy rotation

	Date completed	Signature
Year 1 Pre-test		
Read Chapter by Prakash: Airway Anatomy		
Completed 30 virtual bronchoscopies on the Symbionix Trainer: Skill Tasks Module		
Read Chapter by Chelius & Lunn: Laryngeal Anatomy		
Perform 10 exams on low-tech model(s)		

To be completed during bronchoscopy rotation

	Signature
Complete case presentation	
Right lung anatomy to segmental level (Boyden and Jackson-Huber Classifications)	
Left lung anatomy to segmental level (Boyden and Jackson-Huber Classifications)	
Demonstrate knowledge of laryngeal anatomy to staff	
Practice on Zavala airway model:	
Week 1: number of practice airway examinations ()	
Week 2: number of practice airway examinations ()	
Week 3: number of practice airway examinations ()	
Week 4: number of practice airway examinations ()	
Demonstrate knowledge of lymph node stations	
Demonstrate clinical use of Mountain-Dressler Staging system	
Read: Bronchial Washing, BAL, Brush, and EBBx Chapter	
Complete chart (Appendix H) regarding bronchoscopy pharmacology	
Complete Moderate Sedation Module on HFHS University	
Complete Radiation Safety Module on HFHS University	
Demonstrate practical knowledge of bronchoscope specifications	
Demonstrate understanding of management of chronic medications when scheduling patients	
Appropriately use the ASA Physical Classification System	
Appropriately use the Mallampati Airway Classification System	
Pre-operative, operative, and post-operative monitoring	
Tumor Board	
Week 1: Date ()	
Week 2: Date ()	
Week 3: Date ()	
Week 4: Date ()	
Case presented at Tumor Board: Date ()	

Appendix B,C,D,E (depending on Program and Year)

Clipboard Font Paragraph Styles Editing

Times New Ro 12 A^x Aa

B I U abc X₂ X² A ab A

Emphasis Heading 1 Normal Strong Subtitle Title 1 No Spac... Subtle Em... Intense E... Quote Intense Q... Subtle Ref... Intense Re... Book Title 1 List Para...

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APPENDIX H: Lymph Node Stations

Note that Mediastinal Lymph Nodes...

APPENDIX I: Bronchoscopy Pharma...

APPENDIX I:

Bronchoscopy Pharmacology

Medication	Indication	Onset of Action	Duration of Effect	Half-life	Maximal Dosage	Medical Contraindications	Method of Reversal
Lidocaine							
Meperidine							
Fentanyl							
Morphine							
Midazolam							
Propofol							
Diphenhydramine							

Appendix I

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- Appendix A: ACGME and ABIM req...
- APPENDIX P: 7th Edition TNM
- APPENDIX Q: Bronchoscopy Billing
- APPENDIX S: Bronchoscopy Self Ass...
- APPENDIX T: EBUS Anatomy
- From:
- APPENDIX U: EBUS-TBNA SKILLS A...

APPENDIX R: Bronchoscopy Skills and Task Assessment Tool

Fellow: _____ PGY: 4 5 6

Faculty: _____ Date: _____

Educational Item* Items 1-10 each scored separately	Satisfactory Yes/No
1. Identification of Right sided anatomy (2 points each, target 20 points) <input type="checkbox"/> RB1 apical <input type="checkbox"/> RB2 posterior <input type="checkbox"/> RB3 anterior <input type="checkbox"/> RB4 medial <input type="checkbox"/> RB5 lateral <input type="checkbox"/> RB6 superior <input type="checkbox"/> RB7 medial basal <input type="checkbox"/> RB8 anterior basal <input type="checkbox"/> RB9 lateral basal <input type="checkbox"/> RB10 posterior basal	Yes / No Score ____/20
2. Identification of Left sided anatomy (2 points each, target 16 points) <input type="checkbox"/> LB1+2 apical/posterior <input type="checkbox"/> LB3 anterior <input type="checkbox"/> LB4 superior <input type="checkbox"/> LB5 inferior <input type="checkbox"/> LB6 superior <input type="checkbox"/> LB8 anterior basal <input type="checkbox"/> LB9 lateral basal <input type="checkbox"/> LB10 posterior basal	Yes / No Score ____/16
3. Identify and enter RB 4+5+6 on demand (All three segments must be entered to earn 5 points, no partial points given, target 5 points) <input type="checkbox"/> RB 4+5+6	Yes / No Score ____/5
4. Identify and enter LB 8+9+10 on demand (All three segments must be entered to earn 5 points, no partial points given, target 5 points) <input type="checkbox"/> LB 8+9+10	Yes / No Score ____/5
5. Posture/Hand positions/Equipment safety (3 points each, target 9 points) <input type="checkbox"/> Body posture <input type="checkbox"/> Hand positions <input type="checkbox"/> Equipment handling	Yes / No Score ____/9
6. Scope centered and kept in midline (5 points, no partial points given) <input type="checkbox"/> Scope centered in airway lumen	Yes / No Score ____/5
7. Airway wall trauma avoided (5 points, no partial points given) <input type="checkbox"/> Airway wall trauma avoided	Yes / No Score ____/5
8. Procedures performed: <input type="checkbox"/> Airway Examination <input type="checkbox"/> BAL <input type="checkbox"/> Brushing <input type="checkbox"/> EBBX <input type="checkbox"/> TBBx <input type="checkbox"/> TBNA	Yes / No Score ____/20
9. Overall performance of procedures performed. Procedures fellow needs further instruction: <input type="checkbox"/> Airway Examination <input type="checkbox"/> BAL <input type="checkbox"/> Brushing <input type="checkbox"/> EBBX <input type="checkbox"/> TBBx <input type="checkbox"/> TBNA	Yes / No Score ____/20
10. Demonstrate appropriate screening for a pneumothorax using fluoroscopy after a transbronchial biopsy.	Yes / No Score ____/5

Final Score: _____/90

Faculty Comments:

Appendix R

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- From:
- APPENDIX U: EBUS-TBNA SKILLS A...

APPENDIX S: Bronchoscopy Self Assessment Tool

Please answer each question by writing the number that most closely represents your experience with your bronchoscopy education to date:

- | | | | | | | |
|--|-----------------|---|-------------|---|------------------|--|
| | 1 | 2 | 3 | 4 | 5 | |
| | Not Comfortable | | Comfortable | | Very Comfortable | |
1. I am able to identify airway anatomy _____
 2. I am able to identify airway mucosal abnormalities _____
 3. I am able to describe secretions and other airway abnormalities _____
 4. I am able to maneuver the flexible bronchoscope _____
 5. I am able to do a BAL through the flexible bronchoscope _____
 6. I am able to use a brush through the flexible bronchoscope _____
 7. I am able to use biopsy forceps through the scope _____
 8. I would now feel comfortable performing this case in a patient _____

I feel I would benefit from more instruction in:

- _____ Anatomy
- _____ Airway abnormalities
- _____ Technique
- _____ Interpretation of findings

- | | | | | |
|------|---------------|---------|------|-----------|
| 1 | 2 | 3 | 4 | 5 |
| Poor | Below Average | Average | Good | Excellent |

Using the above scale please rate the training received as it represents the requirements assigned. _____

Comments:

Appendix S