

Bringing Education & Service Together (BEST) Teaching Procedures

Learning objective: At the end of this session, participating residents will be able to teach a learner how to perform a procedure.

Agenda:

- 12:00 Welcome
- 12:10 Review techniques for teaching procedures
- How do you teach a procedure in a simple manner with a step-wise format?
 - When teaching a procedure, how do you avoid overwhelming the learner with too much information?
- 12:20 Practice procedure cases, with feedback
- 12:20 First resident teaches procedure
- 12:30 Resident observer fills out checklist
 Feedback using checklist
- 12:35 Second resident teaches procedure
- 12:45 Resident observer fills out checklist
 Feedback using checklist
- 12:50 Introduction to bedside teaching: slides
 Evaluation of session
 Brief assignment:
- Review how to perform a cranial nerve exam and a newborn exam,
 using your own resources or the following web sites:
- http://rad.usuhs.mil/cranial_nerves/timrad.html
- <http://www.fammed.washington.edu/network/sfm/NewbornExam/Newbornexam.htm>

Residents' Self-Reported Learning Needs For This Session

Algorithmic approaches

“Step wise instruction”

“How to teach simple procedure in simple manner, step-wise format.”

“Not to be critical, and go step-by-step”

Knowledge base

“All the indications, contraindications, and complications of procedures”

“Patience, knowledge about the procedure, risks and benefits to inform those you're teaching”

“Review of the procedure”

“Opportunity to review how to do certain procedures!”

Other teaching issues

“Practical teaching”

“I would like to learn how or the correct manner in teaching medical students or residents on procedures, how to or when to show them, how much should you get involved.”

“How to not overwhelm learner with useless info”

“I'm not sure”

Case 1: Teaching procedures – drawing blood cultures

Information for the resident teacher

You are the night float resident on your inpatient service. A third-year medical student who you've never met before has asked you to teach how to draw blood cultures. You have heard that the student is performing well during the rotation. The student is going to meet with you for the next 10 minutes to learn from you how to draw blood cultures. You can let the student practice on your arm (without the needle, of course). There are blood-drawing supplies as well as newsprint and markers. There is also a brief information sheet (below):

DRAWING BLOOD CULTURES

1. Take outer caps off blood culture bottles (aerobic + anaerobic)
2. Prepare 2 separate venipuncture sites with povidone iodine (preferably on limbs, not central lines, at least for routine cultures)
3. Perform sterile venipuncture and collect ~20 cc per site for adults, ~5-10 cc per site for children (less for neonates)
4. Without changing needles, split sample between the two bottles, then invert bottles to mix samples with culture medium.
5. Use a new needle for each venipuncture. Two separate sets of cultures are generally drawn, sometimes more in adults.

Case 1: Teaching procedures – drawing blood cultures

Information for the “student”

You are a third-year medical student on an inpatient primary care rotation. In general, you are doing well in the rotation. You have never gotten to draw blood cultures before and you would like to learn so you can help out with a real patient later in the rotation. So you asked if the night float resident, who you've never met, could teach you tonight because it is a quiet night on call for both of you. At the start of the session, you wait for the resident to say how the session will run. You do not volunteer any other information except to answer any specific questions the resident may ask.

- If the resident asks what you know about drawing blood cultures, you say that you know they must be performed in a sterile manner but you don't know the exact procedure. You do know how to draw blood pretty well.
- If the resident asks what your goal is for this session (or what you want to get out of the session), you say that you hope that by the end of the session you will be ready to draw blood cultures from a real patient next time it's needed.
- If the resident shows you on his or her arm how to draw blood cultures, you participate enthusiastically.
- During practice, you do most things right but 1-2 things wrong (e.g., you show problems with sterile technique).
- If the resident asks if you have any questions, you ask whether it is still worth drawing blood cultures if the patient is no longer febrile.

Case 2: Teaching procedures – I & D of an abscess

Information for the resident teacher

You are supervising a third-year medical student in urgent care clinic. You and the student are about to go see an afebrile, well-appearing patient whom you know has a moderately small skin abscess on the forearm that will require incision and drainage. While the medical assistant gets the patient ready to be put in the room and collects the supplies you asked for, you have 10 minutes to go over with the student how s/he is going to do this procedure. Right now, you have an opened sample I & D tray which is kept in the clinic for teaching purposes.

INCISING AND DRAINING AN ABSCESS

1. After informed consent, examine patient and clean area with iodine.
2. With sterile technique, use needle and syringe to aspirate pus and verify abscess. The aspirate can be sent to laboratory for microbiology testing.
3. Open abscess with scalpel and express contents, exploring abscess with cotton-tipped swab or blunt forceps to be sure all pus is expressed.
4. If abscess cavity is large, can pack with thin iodoform gauze strip.
5. Clean area and apply dressing, applying antibiotic ointment if desired.

Case 2: Teaching procedures – I & D of an abscess

Information for the “student”

You are a third-year medical student just starting an outpatient primary care rotation. It's the first week of the rotation so you are still getting accustomed to how the clinic works. You have heard that the first patient in urgent care clinic today has a skin abscess that requires incision and drainage. You have never seen this procedure performed before but you like procedures and you would really like to try doing the I&D “hands on” today. You ask if the resident can go over the procedure with you beforehand.

- If the resident asks what you know about doing an incision and drainage of an abscess, you say that you have read the section about this procedure in the procedures textbook kept in the residents' room. (So your knowledge base is fairly good for this procedure, although you have no real-life experience with it.)
- You're happy if you get to start applying what you've read right away, but if the resident starts with a mini-lecture, you feel impatient and want to start practicing.
- If the resident asks what your goal is for this teaching session, you say that you hope that by the time you go in to see the patient together that you will be ready to do most of the I&D under the resident's supervision.
- If asked about your learning style, you're a visual, “hands on” type of learner. You appreciate it if the resident asks you to say aloud all steps of the procedure.
- If the resident shows you how to do the I&D (e.g., practicing on his or her arm, without sharps, of course!), you participate enthusiastically.
- During practice, you do most things right but after you incise the “abscess” you stop there and forget to probe the abscess or express the pus from it.
- If the resident asks if you have any questions, you ask what the role is for systemic antibiotics in skin abscesses.

Checklist for Giving Feedback on Teaching Cases: Teaching Procedures

The 3-step model for teaching procedures

Cognitive phase/"why":

1. Did the resident ask about your prior experience with this procedure?

_____ No _____ Somewhat _____ Yes

2. Did s/he evaluate what you already knew about the procedure (including indications, contraindications, risks, benefits, alternatives)?

_____ No _____ Somewhat _____ Yes

3. Did s/he help you bring up any past problems you were having with the procedure, if you've done the procedure before?

_____ No _____ Yes _____ Not applicable

4. Did s/he explain why learning this procedure will help you in your training?

_____ No _____ Somewhat _____ Yes

Cognitive phase/"how":

5. Did the resident effectively explain and demonstrate how to do the entire procedure?

_____ No _____ Somewhat _____ Yes

6. Did s/he explain how this procedure is similar to and different from other procedures?

_____ No _____ Somewhat _____ Yes

7. Did s/he use his or her arm as a model, or write on the newsprint?

_____ No _____ Somewhat _____ Yes

Developmental phase:

8. Did the resident watch while you demonstrated the procedure?

_____ No _____ Somewhat _____ Yes

9. Did s/he provide specific positive feedback that showed what you did right?

_____ No _____ Somewhat _____ Yes

10. Did s/he provide corrective feedback that showed what you need to change?

_____ No

_____ Somewhat

_____ Yes

Getting ready for the automated phase:

11. Did the resident offer suggestions for improvement and explicitly encourage further learning?

_____ No

_____ Somewhat

_____ Yes

12. Did s/he ask you to define your own learning needs and ways you would like to address them?

_____ No

_____ Somewhat

_____ Yes

13. Did s/he arrange for a follow-up session with you?

_____ No

_____ Somewhat

_____ Yes

Other teaching skills

14. Did the resident teacher listen to you and look at you without interrupting or dominating the discussion?

_____ No

_____ Somewhat

_____ Yes

15. Did s/he treat you with respect, introduce him/herself, use your name?

_____ No

_____ Somewhat

_____ Yes

16. Was the session paced well without dragging out or seeming rushed?

_____ No

_____ Somewhat

_____ Yes

17. Did the resident teacher state the goals of this session, and discuss what your future goals should be?

_____ No

_____ Somewhat

_____ Yes

Evaluation: Procedures Module

Please rate the quality of your learning experience for each part of this module, using the key below. A score of 4 indicates an average learning experience compared with the rest of your residency training.

	1	2	3	4	5	6	7
	Not acceptable	Needs some improvement	Fair	Good	Very good	Excellent	Wow!
1. Mini-lecture on teaching procedures (at end of feedback session)	1	2	3	4	5	6	7
2. Brainstorming about teaching procedures	1	2	3	4	5	6	7
3. Practicing procedures cases	1	2	3	4	5	6	7
4. Procedures module as a whole	1	2	3	4	5	6	7

What did you like best about this module?

What could be improved about it?

What will you do differently after having participated?

Thanks!