

# **SUPERVISED TRAINING OF PRACTICAL PROCEDURES IN THE INTERNAL MEDICINE RESIDENCY**

Pages with reference to book, From 301 To 303

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## **ABSTRACT**

In order to get feedback whether the medical residents are getting adequate supervised training to perform practical procedures, a questionnaire was distributed among the residents asking their involvement in sixteen frequently performed procedures in the medical unit of the Aga Khan University Medical Centre. Though the residents were satisfied about their training in doing lumbar punctures, pleural and peritoneal aspirations, bone marrow aspiration and trephine and chest tubes placement, they showed their concern about training in putting central lines, venous cut downs, cardiac pacing and biopsies. A better schedule training programme, organized subspecialty rotation, continuous evaluation of resident's skill, credentialing procedures and willingness on the part of faculty to teach and residents to learn may improve the training (JPMA 41: 301,1991).

## **INTRODUCTION**

Little attention has been given in the medical residency programmes to teach residents practical procedures and to judge their procedural skills. This has increased anxiety and concern among residents. They usually get only informal instructions and minimum guidance regarding a procedural technique and are not able to perform even some common procedures very well. This "hit and miss" system is dangerous for the patients as it fails to impart enough confidence in the residents. We surveyed our residents to get feedback about the supervised training in procedural skills.

## **MATERIAL AND METHODS**

Sixteen commonly performed procedures at the Aga Khan University Medical Unit were selected and residents were asked to give their opinion regarding the supervised training they had received so far. The residents ticked the procedure where they were involved at least once and gained some experience in any one of the following capacities: (1) Procedure done independently, (2) Procedure done under supervision, (3) Assisting the procedure and (4) Just watched the procedure. Residents were asked to score their supervised training as good = 3, satisfactory = 2 and poor = 1. In the last the residents gave their comments to improve the prevailing situation. The questionnaire did not include cardio pulmonary resuscitation about which they had completed a training course. It also excluded interpretation of ECG, X-ray chest and body fluid examination and analysis.

## **RESULTS**

A total of 28 residents responded, of these, 16 were in their first year training, 6 in second year and 6 in third year. Most of the residents had performed lumbar punctures, pleural fluid aspirations, abdominal paracentesis, chest tube placement and bone marrow aspiration and trephine biopsy and they were contented about the training. Good training in the later two procedures was due to compulsory oncology-hematology rotation. Though many of the residents were putting central venous lines and

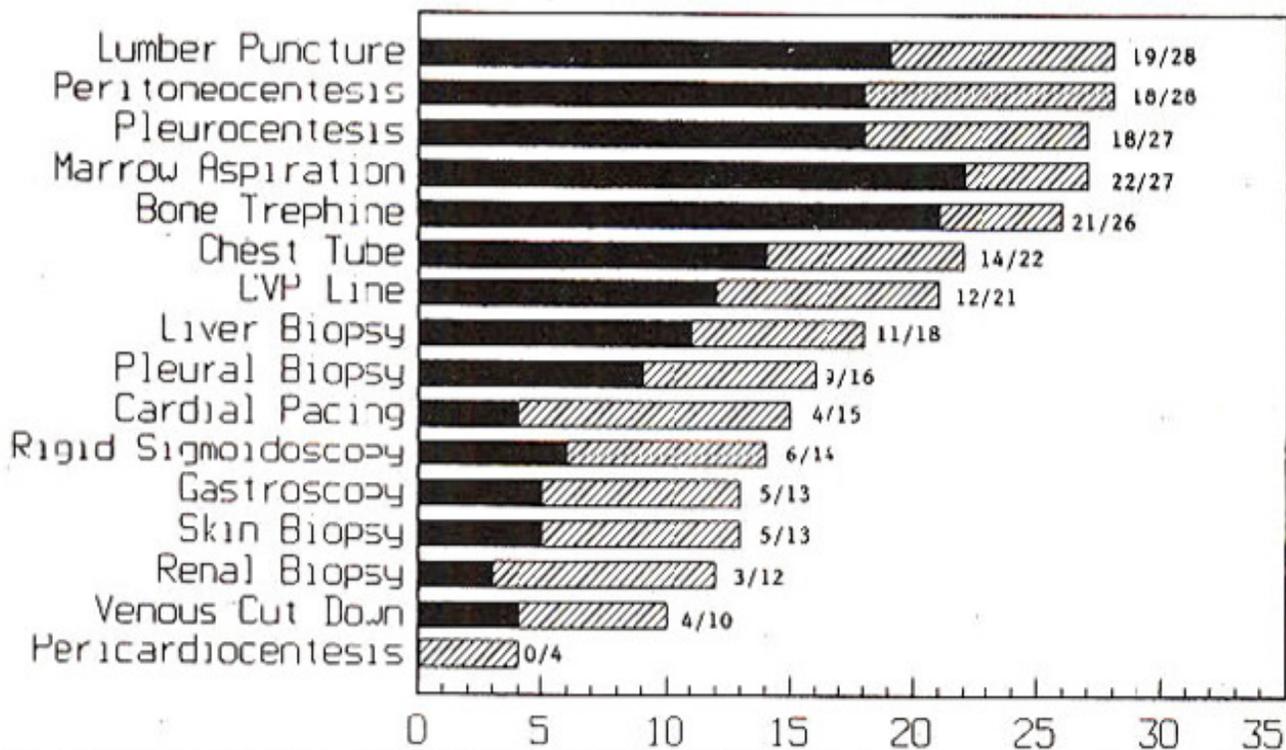
doing liver biopsies, they were less satisfied about their supervision in this regard. They thought that training in emergency cardiac pacing, pericardiocentesis, endoscopies and renal biopsies was inadequate. Even not a single third year resident had put a cardiac pacer, did a renal biopsy or performed a gastroscopy independently though quite a few had performed above procedures under supervision (Figure and Table).

**TABLE. Table showing number of residents involved in different capacities for a practical procedure and the supervised training score.**

Name of procedure	No. of resident responded and percentage	Res. WHO have done independent procedure	Res. WHO have done procedures under supervision	Res. WHO have assisted	Watched the procedure	Mean Supervised trainin score
Lumber puncture	28(100)	26	16	10	12	2.1
Peritoneocentesis	28(100)	18	8	8	6	1.9
Pleurocentesis	27(96)	26	14	8	8	2.0
Marrow aspiration	27(96)	25	16	10	9	2.2
Bone trephine	26(93)	23	15	10	11	2.3
Chest tube	22(79)	12	14	12	12	1.9
CVP line	21(75)	10	14	12	13	1.7
Liver biopsy	18(64)	7	10	6	10	1.7
Pleural biopsy	16(57)	4	10	6	8	1.6
Cardiac pacing	15(54)	0	2	4	12	1.3
Rigid sigmoidoscopy	14(50)	3	3	6	11	1.5
Gastroscopy	13(46)	0	2	6	12	1.4
Skin biopsy	13(46)	6	4	5	7	1.4
Renal biopsy	12(43)	0	2	3	8	1.3
Venous cut down	10(36)	0	3	4	9	1.3
Pericardiocentesis	4(14)	1	1	0	3	1.0

CVP = Central venous pressure.

Training score: Good = 3, Satisfactory = 2, Poor = 1.



**Figure. Mastery of procedural skills. Total length of each bar represents the number of residents for each procedure and the solid section represents the residents who scored good (3) or satisfactory (2) for their training.**

Most of these procedures were being performed by the sub-specialty faculty persons and residents could not attend the procedure either because they were busy with their patients or attendings, or they were not informed and summoned at that time. Even when present at times, they only assisted or

simply watched the procedure.

## **OBSERVATIONS AND SUGGESTIONS**

### **The observations and suggestions made by the residents were that:**

1. All residents possess enough stimulation and motivation. Their energies should not be wasted but be channeled for more constructive work by providing a better scheduled training programme.
2. Junior doctors should be encouraged more and involved in all the procedures more emphatically.
3. The over-cautious attitude of the faculty is hampering to learn procedural skills. Safety precautions are a must, but should not be overbearing.
4. Many faculty members do the specialized procedures themselves and don't give a chance to residents. Sub-speciality rotations should be made compulsory, useful! and procedure oriented. They should take personal interest to teach the skill to residents. They should also be readily accessible and willing to help.
5. Sub-speciality rotations should be made more compulsory, more organized and useful and procedure oriented. Most of the procedures where residents lack adequate skills are related to these rotations i.e., cardiac pacing, renal biopsy and endoscopies. Third year residents must possess enough skill and courage to do emergency pacing and endoscopy instead of wasting valuable time in search of a faculty person.
6. Residents should be rotated through intensive care unit and coronary care unit to get trained in procedures like intubation, ventilatory support, arterial cannula placement, central venous access and cardiac pacing.
7. Arrangements may be made with the department of radiology to help medical residents to do ultrasound guided procedures and biopsies where indicated.
8. Instructors and consultants should take tutorials on techniques and show procedures on patients. Junior Clerkship Phase III (final year) students should also attend these teaching sessions so that when they come for internship they already would have removed their fears and scares.
9. Some way of continuous evaluation of procedural skills should be devised. Residents must do certain number of procedures and keep the records for their future references.
10. To maintain standard, residents should evaluate their consultants, just like their consultants do at the end of each rotation. Such evaluation should also include supervised procedural training (the student of the Aga Khan Medical University are already doing such evaluation about their faculty members).

## **DISCUSSION**

Some guidelines are needed to address the issues of training and credentialing procedures in the internal medicine<sup>1</sup>. The College of Physicians and Surgeons Pakistan asks its candidates of the fellowship examinations to submit a certificate at the end of each year of residency training. In the part II of the prescribed form the resident provides the list of procedures performed independently under supervision or assisted and their numbers. No list has been given of the "essential procedures" and it is not clear what minimum number is required and how a candidate be evaluated for a single procedural skill. Attempts have been made to reach a consensus about the "essential procedures" resident should master and the minimum number to attain and maintain the skill in a particular procedure<sup>2-4</sup>. Many workers would not consider gastroscopy, sigmoidoscopy, renal and pleural biopsy as a part of internal medicine residency training programme. In our setting where training in the sub-specialities is not much developed and at the same time we expect our residents or registrars to go to the district level hospitals as an independent consultant physician after post graduation, it would be unjust if we don't train them in the above procedures. More over many medical wards of the major teaching hospitals do

have their own facilities which are being utilized by the senior faculty persons without much emphasis on the resident training. There is now a growing need to reach a consensus about the procedural skills in our own setting and to provide guidelines and develop teaching curricula for the practical procedures. Stress should be on the supervised training as quantity alone cannot be a substitute of the quality. What should be the method of documentation of these procedural skills? Residents may be provided with printed folded pocket cards or booklets listing common procedures with columns for entering patients' names, medical record numbers and observers signature<sup>5</sup>. Observer should be a faculty person or a senior resident previously qualified in the procedure. This would make the presence of 'instructors' compulsory and help in the supervised training. Junior Clerkship Phase III (final year) students should also be exposed to the practical procedures to remove any fear and introductory courses be arranged both for students and residents. Periodic multiple choice examinations may brush up the residents knowledge about the theoretical aspects of the procedures. It has also been observed that junior doctors don't call their seniors for help when doing procedures either through over confidence or through reluctance to disturb their seniors<sup>6</sup>. This problem is compounded if seniors fail to attend when summoned. On the other hand many procedures done by the senior staff are not scheduled and so residents are not called but in all except extreme emergencies it is possible to contact residents interested in learning technique<sup>7</sup>. The College of Physicians and Surgeons Pakistan may play an active role in the training of its prospective fellows by devising methods to get feedback from the consultants and trainees and take necessary steps whenever needed.

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