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# Enhancing Intern'sCompetency for Urethral Catheterization by Directly Observed Procedural Skills (DOPS)

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**Abstract**

**Background**: During the teaching process for undergraduates, the assessment of clinical skills is an integral part. Many of the procedures that a house surgeon (CRRI) is allowed to perform during their clinical training need to be supervised adequately. In spite of all observations, some minor procedures could also turn out with a negative outcome if the required skill were not properly imbibed into them. During the surgical rotation, catheterization of the urinary bladder via the urethra is a simple regularly done procedure which can have devastating consequences if performed incorrectly. This evaluation of workplace-based assessment study was done to assess whether directly observed procedural skill (DOPS) enhances the competency of medical interns (CRRI) to perform urethral catheterization procedure correctly and independently. **Methods**: In this study, the competency of 30 interns posted in the department of general surgery to perform the urethral catheterization was tested initially using a mannequin. The protocol of training included issue of a pre-test checklist to the interns, demonstration of the procedure on a mannequin in small groups, assessment of interns performing on the mannequin followed by demonstration of the procedure on a consented patient in small groups that ended in Directly observed procedural skill (DOPS) assessment (Post-test) for each intern on an individual patient under the direct supervision of a skilled general surgeon.**Results**: The results of this study showed a definite improvement in the competency of the interns in performing the skill of urethral catheterization following the training with the DOPS program.**Conclusion:** The analysis of the observations during this study showed that there is a definite improvement in the level of competency of the interns while performing urethral catheterization after undergoing the directly observed procedural skills (DOPS) training programme.

Key Words – Directly Observed Procedural Skills (DOPS), Skills Lab, Workplace Based Assessment (WBA).

## INTRODUCTION

During the undergraduate training process, sufficient teaching and assessment of clinical skills becomes a vital part.[1]In the emergency department or the wards, urethral catheterization is one of the most common procedures. Though the procedure is comparatively simple, it can have devastating consequences if performed incorrectly and may be associated with significant morbidity.[2]Even thou the medical students

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are routinely taught about the skills of MBBS, only a few may receive practical instructions regarding this during their internship.[3] This study was conducted to assess whether (DOPS) Directly observed procedural skills enhances the competency of the medical interns to perform correctly and independently, the procedure of urethral catheterization.

## MATERIALS AND METHODS

This study was conducted at Sri Muthukumaran Medical College, hospital & Research institute, near mangadu, Chennai.It is a multispecialty private teaching hospital that caters to a wide range of public residing around the western suburbs of greater Chennai. After obtaining the clearance from the institutional ethics committee and getting written consent from all the patients and 30 interns involved in the study, the data was collected for a period of2 months during the surgical rotation posting. The competencies of the 30 interns to perform a urethral catheterization was initially tested using a mannequin after providing each intern a checklist (Pretest)(Figure 1).[4] A protocol of training was framed including a video demo lecture of urethral catheterization, a small group (6 students) demonstration of the procedure on a mannequin followed by a step-by-step small group demonstration of urethral catheterization on a consented patient.[5]

The directly observed procedural skills (DOPS) assessment (Post-test) was done for each intern separately on individual patients depending on the time of patient availability under direct supervision of a skilled general surgeon. The pre-test and post-test scores were entered in excel sheets and analyzed by a statistician for the test of significance using the Statistical Package for Social Sciences (SPSS) 20 software.

## RESULTS& DISCUSSION

The mean scores of the pre-test were 3.3 and the mean scores of the post-test were 9.2. The over all mean scores show a highly significant improvement in post-test scores (Table 1). Although both male and female interns showed significantly improved post-test scores, analyzing the collected data further reveled that the female interns showed more significant improvement in the post-test scores comparatively. (Figure 2)

**Figure 1:** Interns performing the urethral catheterization on a mannequin in small groups (Pre-test)

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**Table 1:** Comparison of the intern's scores in the pre-test and post-test

| Total (n=30) | Pre-test | | Post-test | | Improvement | | `t` | d.f | `p` value |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | Mean | S.D | | | |
| | 3.3 | 0.9 | 9.2 | 1.0 | 5.9 | 1.2 | 28.193 | 29 | P,0.001* |

Results are expressed as mean and standard deviation of the total scores obtained in the pre-test and post-test. Significance (p value) was obtained using a paired `t` test. *Highly significant.

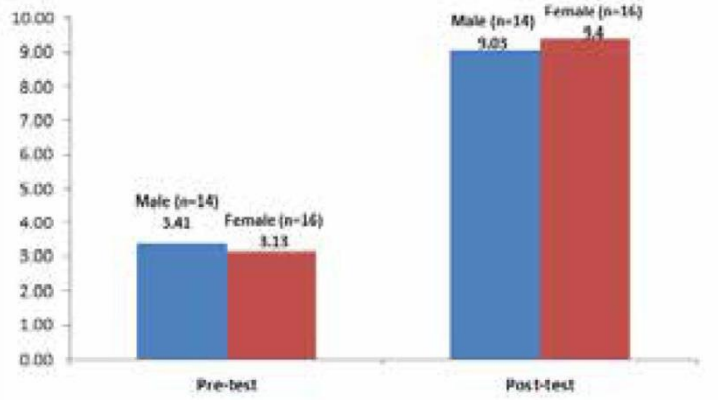


**Figure 2:** Comparison of the improvement in Scores between male and female interns

## CONCLUSION

The analysis of the observations during this study showed that there is a definite improvement in the level of competency of the interns while performing urethral catheterization after undergoing the directly observed procedural skills (DOPS) training programme. We can summarize that this study has shown that DOPS is an efficient method for teaching skills to interns.[6]

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