

ASSESSMENT OF RYLES TUBE INSERTION SKILL IN SURGICAL INTERNS USING DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS) METHOD

M Aparna¹, Gadula Vamshi Yadav², A Laxmi Padma Priya³, K Jeevan⁴

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Corresponding Author:

Dr. Gadula Vamshi Yadav,
Email: v.y.gadula@gmail.com

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¹Associate Professor, Department of General Surgery, Osmania Medical College and Hospital, Hyderabad, Telangana, India.

²Assistant Professor, Department of General Surgery, Government Medical College and Hospital, Mahabubnagar, Telangana, India.

³Associate Professor, Department of Gynaecology & Obstetrics, Government Medical College and Hospital, Mahabubnagar, Telangana, India.

⁴Professor, Department of General Surgery, Osmania Medical College and Hospital, Hyderabad, Telangana, India.

Abstract

Background: Direct Observation of Procedural Skills (DOPS) is an effective workplace-based assessment method aimed at enhancing the surgical skills of intern doctors. This study evaluates the effectiveness of DOPS in improving the Ryles tube insertion skills of surgical interns. **Aims and Objectives:** 1. To assess the effectiveness of DOPS as a tool for evaluating medical interns in the Department of General Surgery. 2. To analyze the improvement in performance levels after the introduction of DOPS. 3. To obtain feedback on the perception of DOPS as an assessment method from both interns and assessors. **Materials and Methods:** Sixty surgical interns participated in a workshop on Ryles tube insertion and received hands-on training. They were divided into three groups, each with 20 interns. Each intern performed the procedure three times under observation using a structured checklist. Feedback was provided after each attempt. The study included 180 observations in total. Data were analyzed to compare performance improvement across attempts and assess feedback from participants. **Results:** • There was a significant improvement in mean scores from the first to the third attempt, with the paired t-test showing highly significant p-values. • Feedback indicated high levels of agreement that DOPS improved self-confidence and communication skills, with most interns supporting its routine use as an assessment tool. **Conclusion:** DOPS significantly enhances the competency and confidence of surgical interns in performing Ryles tube insertion. It is recommended for routine use to ensure the effective training of medical interns.

INTRODUCTION

Direct Observation of Procedural Skills (DOPS) is a workplace-based assessment method designed to enhance the surgical skills of intern doctors through structured, real-time feedback. Medical interns aim to develop fundamental medical and surgical competencies during their internships, making effective assessment methods crucial.^[1-4]

DOPS involves an assessor observing the intern performing a procedure in the workplace using a structured checklist, followed by immediate feedback. This method is proven to improve the knowledge and skills of interns, fostering better clinical competence and confidence.^[5]

This study evaluates the use of DOPS in assessing and improving the Ryles tube insertion skills of

surgical interns. By analyzing the performance changes over multiple attempts and collecting feedback from both interns and assessors, the study aims to determine the effectiveness of DOPS in enhancing procedural skills.

MATERIALS AND METHODS

This study was conducted in the Department of General Surgery at Government Medical College and Hospital, Mahabubnagar, Telangana. Ethical approval was obtained, and all participating interns provided informed consent.

Study Design and Setting

The study utilized a randomized controlled design involving 60 surgical interns. Each intern attended a workshop on Ryles tube insertion and received

hands-on training using manikins. Interns were divided into three groups of 20.

Participants

Inclusion Criteria

- Surgical interns posted in the Department of General Surgery during their internship.

Exclusion Criteria

- Interns who did not consent to participate in the study.

Procedure

1. **Workshop and Training:** Interns attended a basic workshop on Ryles tube insertion skills.
2. **Group Division:** Interns were divided into three groups of 20, each assessed by a different assessor.
3. **DOPS Assessment:** Each intern performed the Ryles tube insertion three times under observation. Assessors used a structured checklist to evaluate performance and provided feedback after each attempt.

Data Collection and Analysis

- **Performance Scores:** Mean scores for each attempt were recorded and analyzed.
- **Feedback:** Interns and assessors provided feedback on the DOPS method using a Likert scale.

Statistical Analysis

Descriptive statistics summarized performance scores. The paired t-test evaluated changes in performance between attempts. A p-value of <0.05 was considered statistically significant. Data were analyzed using SPSS software.

RESULTS

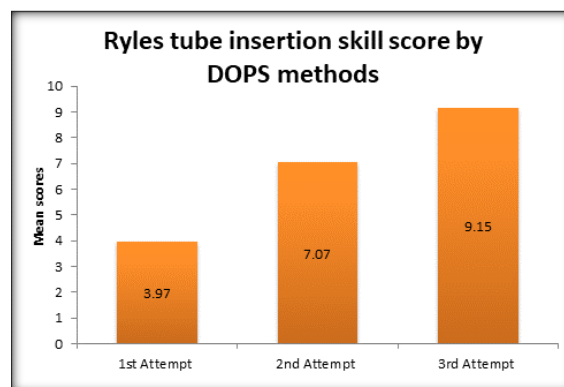


Figure 1: Ryles Tube Insertion score

Table 1: Comparison of Ryles Tube Insertion Skill from 1st to 2nd Attempt

Attempt	Mean ± SD	Percentage Increase in Score	Paired T-Test (p-value)
1st Attempt	8.6 ± 0.93	43.84%	t = 29.38, p = 0.000
2nd Attempt	7.07 ± 0.98	Highly significant	

Table 2: Comparison of Ryles Tube Insertion Skill from 2nd to 3rd Attempt

Attempt	Mean ± SD	Percentage Increase in Score	Paired T-Test (p-value)
2nd Attempt	7.07 ± 0.98	22.73%	t = 18.56, p = 0.000
3rd Attempt	9.15 ± 5.1	Highly significant	

Table 3: Feedback on DOPS as an Assessment Tool

Feedback Question	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)
Assessment drives learning	40	23	-	-	-
DOPS is better than traditional assessment methods	52	11	-	-	-
DOPS improves self-confidence and communication skills	30	29	4	-	-
Felt anxious and nervous during DOPS	Yes: 45	No: 18	-	-	-
Support routine use of DOPS as an assessment tool	32	28	3	-	-

DISCUSSION

The results of this study demonstrate that DOPS is an effective method for enhancing the Ryles tube insertion skills of surgical interns. The significant improvement in mean scores from the first to the third attempt indicates that interns benefited from the structured feedback and multiple practice opportunities.^[6]

Performance Improvement

The marked increase in scores between the first and subsequent attempts suggests that repeated practice and immediate feedback are crucial for skill acquisition. The high significance in paired t-tests

further validates the effectiveness of the DOPS method.^[7-9]

Feedback and Perception

Feedback from interns indicated strong support for DOPS as a superior assessment tool compared to traditional methods. The majority agreed that DOPS improved their self-confidence and communication skills, essential components of clinical competence. The reported anxiety and nervousness highlight the need for ongoing support and training to help interns acclimate to assessment environments.^[7,9]

Clinical Implications

The use of DOPS in surgical training can significantly enhance the procedural skills and confidence of interns. This method provides a

structured approach to skill assessment, ensuring that interns receive comprehensive feedback and guidance. Routine implementation of DOPS could improve the overall quality of surgical training programs, leading to better-prepared and more competent healthcare professionals.^[8-11]

Strengths and Limitations

A major strength of this study is its structured assessment approach, which provided clear guidelines for both assessors and interns. However, the study's limitation includes its focus on a single procedure and the potential for variability in assessor feedback. Future research should explore the application of DOPS to a wider range of procedures and include multiple assessors to reduce bias.

Future Research

Future studies should investigate the long-term impact of DOPS on skill retention and clinical performance. Additionally, exploring the use of DOPS in other medical specialties and comparing it with other assessment methods could provide further insights into its effectiveness.

CONCLUSION

This study demonstrates that Direct Observation of Procedural Skills (DOPS) is an effective assessment method for improving the Ryles tube insertion skills of surgical interns. DOPS significantly enhances competency and confidence, making it a valuable tool for medical education. The positive feedback from interns and assessors supports the routine use of DOPS in surgical training programs. Further research is needed to explore its application across different procedures and specialties.

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