

# Introduction of Objective Structured Practical Examination for Osteology

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## Research Article

**Abstract: Background:** The objective structured practical examination is a new concept to assess the students. The traditional method of examination had many drawbacks. **Objectives:** To introduce OSPE as a method of evaluation and to eliminate the possible component of bias. Material and method-The first MBBS hundred students of 2011-2012 batch of B. J. Govt. Medical College Pune were the subjects for the study. OSPE was conducted on Osteology part of Anatomy, where 4 stations were designed. And a separate feedback questionnaire was given to the students and staff. And the data was analyzed statistically. **Results:** 90%students suggested that OSPE should be used as assessment tool and 90%students were confident about elimination of bias by the OSPE system.100%faculty suggested that traditional method and OSPE both should be practiced together. **Conclusion:** OSPE is acceptable to our students and faculty owing to its advantages over traditional practical examination as far as practical examination in Anatomy is concerned.

**Keywords:** osteology, Anatomy, evaluation, Objective Structured Practical Examination.

## Introduction

Traditional practical examination makes it very difficult to access the student's knowledge to the satisfaction. In an objective structured practical examination (OSPE) multiple stations are designed and each examinee (student) gets circulated through a series of stations. OSPE is a new concept in practical assessment of basic medical sciences. OSPE is more objective, reliable and a valid method of assessment. Validity and reliability of OSPE is improved by preventing examiner variability. Organization of OSPE requires lot of time, effort and team work on the part of examiners. We believe it is motivating, inspiring, and interesting. A large number of students can be examined in a short time. All students are exposed to same standardized questions. It is well known that conventional practical examination has several problems<sup>1-3</sup>. Problems in communication significantly affect the outcome. Further, the subjectivity involved in this examination also affects the correlation negatively between marks awarded by different examiners and

performance of the same candidate<sup>4</sup>. To minimize subjective bias a questioner is prepared, time limit 4 minutes for each station and fixed checklists are directly observed and scored by observers. Students and staff feedback are taken.

## Objectives

1. Introduction of objective structured practical examination for osteology to first MBBS students.
2. To bring uniformity in the system of evaluation
3. To eliminate the possible component of bias.

## Material and Method

OSPE is an extended form of OSCE which was described in 1975 and in greater detail in 1979 by Harder's and his group from Dundee. OSPE was first introduced as a teaching and evaluation total in 1986 by Nayer and colleagues to assess the practical skills of students in a physiology course. The pilot study was conducted in March 2013 on 100, 1<sup>st</sup> year MBBS students and 10 faculty members. The students were explained about OSPE and the syllabus was declared to the students one month prior to the study. In this, permission to conduct OSPE was taken. 100 first year MBBS students were exposed to Traditional Practical Examination (TPE) for osteology of head, neck and face system. Same group of students were subjected to OSPE. Faculty members were also trained. In the present study 4 stations were designed. In each station, the students solved objectively structured questions on osteology topic in 4 minutes. All the students and examiner's opinion regarding both examination system was taken and the data was analyzed statistically. A separate designed feedback questionnaire was given to the students and staff who participated in the procedure.

## Results

The total no of students participated were 100. The data obtained from the feedback filled by the students was analyzed and tabulated.

**Table 1:** showing students and faculty rating for various features of OSPE.

Sr. No.	Features of OSPE	Students Rating	Faculty Rating
1	Whether sufficient time was given for each station?	85%	100%
2	Were the questions given clear?	95%	100%
3	Were the questions given objective?	50%	94%
4	Transparency provided	80%	80%
5	Were the questions asked taught earlier?	90%	100%
6	Effect of mood of examiner on students score	20%	0%
7	Ability to rule out 'carry over effect'	70%	80%

About 90% students suggested that OSPE should get implemented as an assessment tool for all exams. 20% students felt that OSPE was not helpful in development of communication skill but they mentioned that OSPE is good as an assessment tool. 80% students opined that along with osteology most of the syllabus [other fields]

should be covered in OSPE. Majority felt that time allotted for each station was sufficient. 90% of the students were confident about elimination of bias by the OSPE system and it induces more self confidence and it is stressed free than the other method of evaluation they were exposed.

**Table 2:** Showing Students' feedback about given item

Sr. No.	Item	Student feedback	Faculty feedback
1	OSPE should be used as an assessment tool	90%	90%
2	Communication skill is not developed in OSPE	20%	90%
3	Most of the other syllabus along with osteology should be covered	80%	100%
4	Elimination of bias in OSPE	90%	90%
5	General impression in favour of OSPE	77%	90%

It was observed that 77% of the students preferred the OSPE as a assessment tool over the traditional method and if they would have given a choice they would choose to be evaluated by the OSPE. Very few students i.e. 10% students gave the advantages of OSPE but still opined that for development of communication skills and confidence to face the stress full situation, if they would have given a choice they will prefer traditional Method. 20% of the students felt that examiner can be moody and 50% expressed that examiners tend to give less time to later students. All the 100% examiners (faculty) suggested that traditional method and OSPE both should be practiced together. Some of the teachers felt that there is no interaction between student and teacher. They also expressed that this method is more transparent with less anxiety about exams. In traditional method there is oral examination and which is subjective therefore there are high chances of bias and judgment being influenced by various factors. So to overcome these drawbacks of traditional method the examination should be objective, standardized and well structured. So this study shows the need for introducing OSPE for objectivity thus providing the student a fair chance of assessment and removing component of bias by the examiners. The study helped not only to develop a questionnaire but also to systematically assess the osteological aspect of the

anatomy and an anatomical perspective.

## Discussion

We recommend that other departments of all different courses of medical sciences should incorporate the OSPE as an assessment tool for examination. We feel that an elaborate OSPE bank may be needed and that has to be validated. Till that is done, in anatomy practical examination we can utilize different techniques in order to increase the validity of the examination 90% students suggested that OSPE should get implemented as an assessment tool for all exams as most of the students opined that in OSPE they felt less anxiety than in traditional Method. And were more comfortable during such type of an evaluation and were more confident. There is uniform and equal opportunity to all the students and is more transparent. Most of the other syllabus along with osteology should be covered. They even felt that OSPE is more unbiased. They were getting more time to recollect as sufficient time was available for each question and examiner's fear was ruled out. And so increase in score is possible. Thus maximum students (90%) suggested OSPE should be used as an assessment tool OSPE has been tried in various medical subjects, Physiology (Malik et.al 1988<sup>8</sup> Sandila et.al2001<sup>9</sup>, Abraham et al 2009<sup>10</sup>), Biochemistry (Aarti Sood et.al<sup>11</sup>), Pathology (Firoj and Jacob 2002<sup>12</sup>). 20% students felt that

OSPE was not helpful in development of communication skill but they mentioned that OSPE is good as an assessment tool. Few of them expressed traditional method is good if examiners are friendly, as they felt that there were no optional questions to attempt, also no hints from the examiners which they got in case of traditional method. So they (very few i.e. 20 %) felt traditional method is better than OSPE. However, Malik S et.al<sup>8</sup> reported the higher score of traditional practical examination as compared to OSPE saying that structured nature of the newer evaluation system does not give any advantage to memory and luck. Some of the teachers felt that there is no interaction between student and teacher and they can't judge the students from overall point of view. They also expressed that this method is more transparent with less anxiety about exams. However with OSPE vast portion cannot be covered as here selective few questions are set. And it requires additional paper work and more space. So they all (100%) felt that both, traditional method and OSPE, should be practiced together. Also Aarti Sood, Mahajan et.al<sup>11</sup> is of the opinion that traditional method allows in depth analysis of the subject with more interaction between the examiner and the student. It can supplement but not replace the conventional method. To replace it would require an elaborate and structured OSPE bank. Only 50% students mentioned that the questions were objective in contrast to 94% faculty indicate that for majority of the students the idea of subjective and objective questions is not clear. We couldn't compare our findings as we did not find any similar study in India and abroad.

### Conclusion

In conclusion, our study shows that OSPE is a useful assessment tool to evaluate the student's knowledge effectively, bringing uniformity in the system of evaluation without any bias or avoiding the subjectivity in the examination which is possible in traditional method. Our faculty feels that as far as practical examination in Anatomy is concerned the OSPE should be combined with traditional practical examination.

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