

OSCEs are a useful way to assess competence at pre-registration and postgraduate levels. Students and lecturers should be well prepared to make the most of them

# The objective structured clinical examination

## In this article...

- Why objective structured clinical examinations are used
- Checklists to assess competence
- Practical points for students

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**Abstract** Liddle C (2014) The objective structured clinical examination. *Nursing Times*; online issue.

The objective structured clinical examination is used increasingly in nurse education, to assess clinical skill proficiency at pre-registration and postgraduate level. Good preparation for an OSCE is vital for both those running the assessments and for students. Used effectively, OSCEs can help students gain confidence to use their skills in their clinical work.

The objective structured clinical examination, first used in the 1970s, is an assessment of competence carried out in a well-planned, structured and objective way (Harden and Gleeson, 1979). It is well established within medicine and is used increasingly in nurse education (Nulty et al, 2011).

The assessment of knowledge and skills plays an important part in student nurses' progression though pre-registration programmes because they need to demonstrate competency and confidence in the

performance of clinical skills (Nursing and Midwifery Council, 2007).

OSCEs are used to assess clinical skills in both pre-registration and postgraduate programmes (Rushforth, 2007; Major, 2005). The NMC (2007) published essential skills clusters in response to the poor acquisition of clinical skills within nursing, and recommended using OSCEs for assessing student nurses for medicines administration in particular.

## Evidence for OSCE

The pyramid of competence (Miller, 1990) is a framework that identifies the stages of skills students should achieve (Fig 1). In progressing up the pyramid to "shows how", students demonstrate their knowledge and understanding by performing in a simulated setting such as an OSCE.

OSCEs may be used as a summative or formative assessment and on their own or with another form of assessment. Summative OSCEs are frequently used at the end of courses or programmes, or on completion of a module to test students against set objectives and learning outcomes. Where they are used as a formative assessment, the feedback provided helps students to

## 5 key points

**1** According to Miller's pyramid of learning, students need to be able to "show how" to use what they have learnt

**2** Students need to demonstrate competence in clinical skills at pre-registration and postgraduate levels

**3** The NMC recommends OSCEs for assessing student nurses, particularly for medicines administration

**4** OSCEs can be used for summative (end-point) and formative (ongoing) assessment

**5** Good preparation for OSCEs is essential

progress (Taras, 2005; Alinier, 2003). Formative OSCEs also help to prepare students for placements, encourage them to engage with their learning and help them to achieve their learning outcomes (Nulty et al, 2011).

The NMC (2010) says programme providers for pre-registration nurse education must ensure "the outcomes, competencies and proficiencies of the approved programme are tested using valid and reliable assessment methods". OSCEs assess students' psychomotor, cognitive and affective skills in a simulated environment and various tools score their performance.

## The OSCE environment

An OSCE can consist of one station where students perform one or a variety of skills and are tested on the underpinning clinical and theoretical knowledge, or multiple stations, each testing a different skill or piece of underpinning knowledge (Mitchell et al, 2009).

Examples of practical skills include performing vital signs on a patient and using an aseptic non-touch technique to perform a simple dressing change; an assessor is present during the procedure to mark each student on their skills. The underpinning knowledge, including anatomy and physiology, can be assessed as a

## BOX 1. PRACTICAL POINTS FOR STUDENTS

During your OSCE:

- Pay attention to verbal and written instructions and clarify any queries with the assessor before you start;
- Check all the equipment you will need is present at the station;
- Stay calm and focused;
- Inform the assessor if you forget to do

something, as you may still have time to do it;

- Keep an eye on the time;
- Communicate with the patient/carer;
- On completion, take a moment to run through in your mind what you were asked to do and check that you have completed the task.

paper-based or verbal exercise at a staffed or unstaffed station and marked afterwards. Verbal questions, multiple-choice or short-answer questions might be used.

OSCEs should be managed in universities' simulated clinical skills area so all students are exposed to the same environment (Rushforth, 2007; Major, 2005). Scenarios, case studies or simulations are commonly used and students are expected to perform specific skills, interpret information, make clinical decisions and communicate with patients and other team or family members.

As students progress to a higher level of study, the stations become more complex (Mitchell et al, 2009; Zaidi, 2006). Unlike OSCEs in medicine, where real patients are frequently used, nursing tends to use role players (actors or academic staff) or manikins as the patient. The move away from using OSCEs to assess skills in isolation to a more holistic approach where the skills are more integrated into the assessment is intended to make the assessment more realistic (Major, 2005).

Filming students' performance in formative and summative OSCEs is common practice. The film can be used to identify areas where students need to improve, or by assessors to resolve a query regarding a student's performance and also as a form of moderation. This should take place for summative OSCEs to avoid any subjectivity, and external examiners should be involved in reviewing the content of the stations, checklists and marking criteria.

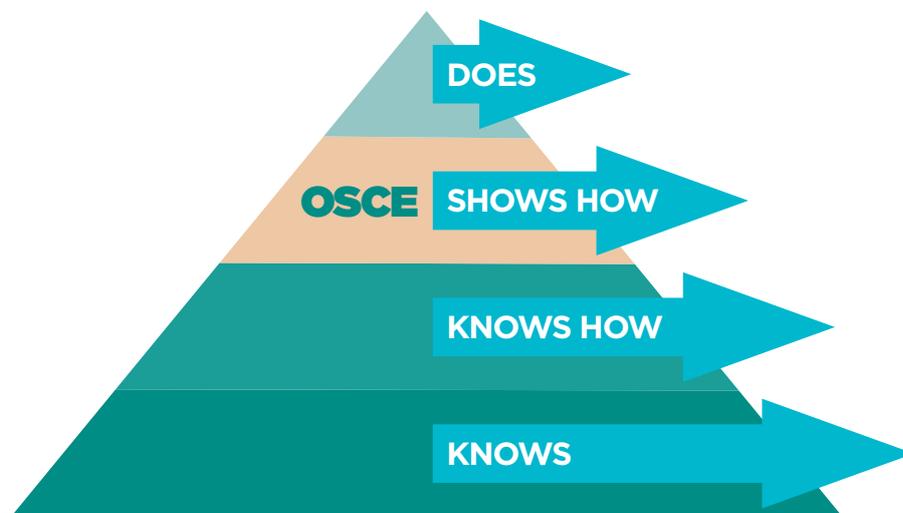
### Student preparation

Preparation is vital and increases students' confidence in performing skills during the OSCE and in clinical areas (Street and Hamilton, 2010). Formative or mock OSCEs also increase confidence and competence (Alinier, 2003).

Students preparing for an OSCE should:

- » Be psychologically prepared;
- » Be familiar with how equipment works;
- » Know which procedures/guidelines are

FIG 1. THE OSCE WITHIN MILLER'S PYRAMID



- to be used in the OSCE;
- » Be familiar with checklist/marking criteria;
- » Rehearse skills;
- » Know the timing of the OSCE;
- » Develop skills on clinical placement;
- » Revise the underpinning theory of skills;
- » Use feedback from mock/formative OSCEs;
- » Use available resources such as guided study, quizzes and videos;
- » Check whether they should wear uniforms;
- » Confirm the date, time, venue and allow enough time to get there;
- » Practise answering questions verbally.

Box 1 contains some practical points for students during their OSCE.

### Assessor/role player preparation

The assessor and patient need clear guidelines about their roles and how much interaction is allowed with the student – the student must also be made aware of this.

The assessor must be totally familiar with and have a good understanding of the marking criteria and guidelines. It is useful for first-time assessors to observe some OSCEs to gain insight into the process.

### Marking OSCEs

A checklist is frequently used to mark OSCEs to increase the objectivity and reliability of the assessment, especially when several assessors are required. This consists of the skill broken down into steps, which are marked using a binary rating ("achieved" or "not achieved"). Tables 1 and 2 contain samples of checklists from a year 1 (level 4) pre-registration nursing OSCE.

The complete OSCE assesses professional behaviour, communication, consent, handwashing, temperature, pulse, respiratory rate and manual blood pressure. Two lecturers are present, one as the patient (unless an actor is used) and one leading the assessment, with both contributing towards the final mark. The student stays in the same room and performs the skills in any order, but must cleanse their hands before and after contact with the patient.

A global rating scale can be used in combination with a checklist or on its own (Rushforth, 2007). The scale allows the overall quality of the student's performance to be assessed by an experienced and knowledgeable assessor (Rushforth, 2007). An example of a global rating score involves the assessor identifying the level of the skill performance across the range "excellent/good/satisfactory/borderline pass/borderline fail/fail". A Likert scale of "pass-borderline-fail" can be used by the assessor to judge a student's performance.

The assessor must have a sound understanding of the assessment and the marking tool.

### Student feedback

The stressful nature of OSCEs and the impact an unsuccessful outcome can have on students makes early feedback important. However, providing instant or early

TABLE 1. CHECKLIST FOR PROFESSIONAL BEHAVIOUR

Criteria	Achieved	Not achieved
Behaves in a professional manner consistent with professional standards		
Performs procedures with due respect to patient safety, privacy and dignity		
Adheres to uniform policy/dress code		
Introduces self to patient		
Asks patient whether they prefer to be called Mr/Mrs/Ms or by first name		

TABLE 2. CHECKLIST FOR PULSE MEASUREMENT

Activity	Criteria	Achieved	Not achieved
Manual measurement of the radial pulse	Checks that the patient's arm is resting comfortably		
	Locates the radial pulse and applies the appropriate amount of pressure to feel the pulse		
Examiner's reading: _____	Counts pulse for 60 seconds, using a watch with a second hand		
Student's reading: _____	Pulse rate accurate		
	Informs patient of pulse rate and explains whether it is within the normal range		
	Records pulse rate on vital signs chart		

feedback can prove difficult for staff because of student numbers, staffing levels or exam processes (Nulty et al, 2011).

OSCE areas that need improvement should be identified, as well as those that were performed well to motivate students. Some universities encourage students to reflect on their performance during OSCEs. This can be useful for those who are successful to improve their proficiency in a particular skill and also for students who are unsuccessful by identifying areas of the OSCE that require more work.

### Advantages of OSCEs

OSCEs can complement content and other forms of assessment within a programme. Byrne and Smith (2008) advocate their use throughout the nursing curriculum and Nulty et al (2011) agree, providing the clinical skills and the assessment of fitness for practice are assessed at the right level for the student at that stage in their programme.

OSCEs foster a deeper approach to learning and encourage more meaningful learning and reflection (Barry et al, 2012; Jay, 2007; Alinier, 2003). They can be used to assess a range of skills in an objective manner (Watson et al, 2002) but those skills need to be developed in parallel with what a nurse will be doing in the clinical area. Authors agree students are able to make the connection between OSCEs and clinical placements, so they give them confidence in dealing with situations in the clinical field (Barry et al, 2012; Nulty et al, 2011; Jay, 2007; Brosnan et al, 2006; Alinier, 2003).

Beckham (2013) concludes OSCEs can identify students who are weak in performing clinical skills early on in their programme. With a raised awareness of this, and the help of tutors, mentors and lecturers, students can be directed to extra sessions, resources and assistance in practice.

### Limitations of OSCEs

Research shows students find OSCEs a stressful form of assessment (Barry et al,

2012, Nulty et al, 2011; Jay, 2007).

Academic and clinical staff have the challenge of ensuring that the assessment process is valid and reliable (Martensson and Lofmark, 2013; Rushforth, 2007).

Some studies have shown that OSCEs do not always indicate students' competence (Major, 2005; Hodges, 2003). External factors can contribute towards poor performance in an OSCE and more than one attempt at a summative OSCE can allow an accurate assessment of competency (Kirton and Kravitz, 2011). Where there are large cohorts of students, OSCEs can become exhausting for staff (Humphris and Kaney, 2001). This, along with other resource and cost implications, raises the question of whether the OSCE is a viable form of assessment for some universities.

### Conclusion

The NMC (2010) states that learning outcomes should be assessed using a variety of assessments. Providing that OSCEs are used appropriately they are valuable in assessing students' performance and underpinning knowledge of clinical skills.

By assessing students in the upper two stages of Miller's pyramid we are helping to prepare them for real-life situations in the clinical area. **NT**

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### FURTHER READING

Using OSCE for mandatory training.  
[nursingtimes.net/OSCE1](http://nursingtimes.net/OSCE1)