

How to set up an OSCE

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The use of OSCEs for assessing clinical competence has become widespread

This article is not meant to be an exhaustive or in-depth analysis of OSCEs (Objective Structured Clinical Examinations) but rather a collection of useful advice, pointers and tips, gleaned from running OSCEs over many years. The use of OSCEs in the quantitative assessment of competence has become widespread in the field of undergraduate and postgraduate medical education since they were originally described¹, mainly due to the improved reliability of this assessment format. It offers in a fairer test of candidates' clinical abilities as all the candidates are presented with the same test.

WHAT IS AN OSCE?

This is an assessment format in which the candidates rotate around a circuit of stations, at each of which specific tasks have to be performed, usually involving

a clinical skill, such as history taking or examination of a patient. The marking scheme for each station is structured and determined in advance.

HOW TO SET UP AN OSCE

The first step in setting up an OSCE is to determine what should be assessed. It should be remembered that OSCEs are not suitable for testing all aspects of clinical competence: knowledge, for example is best tested using written formats² while some aspects of professional behaviour, such as team working, are better assessed in the workplace setting³.

DETERMINING THE CONTENT: BLUEPRINTING

The clinical tasks chosen for the OSCE should map onto the learning objectives of the course and the candidates' level of learning.

It is only reasonable to test candidates on what they have been taught; thus some tasks may be appropriate for postgraduate learners while others are more suitable for the undergraduate level. The feasibility of testing a particular task also needs to be considered. Real patients can be used to test clinical examination skills, while simulated patients (SPs) are best for testing communication skills. SPs can also simulate a number of clinical signs (e.g. loss of visual field, localised abdominal pain). Healthy volunteers can be also be utilised when testing the process of clinical examination.

It is essential to use a blueprint to plan the content of an OSCE, as this helps to ensure that different domains of skill are tested equitably and that the balance of subject areas tested is fairly decided.

STATION WRITING

It is important to write the station material well in advance of the examination date so that the stations can be reviewed and tried out prior to the actual assessment. Sometimes stations that seem a good idea at the time of writing may turn out to be unfeasible in practice. It is extremely useful to have several parts to any one station:

- Clear instructions for the candidates: to inform the candidates exactly what task they should perform in that station
- Clear instructions for the examiners: to assist the examiners at each station to understand their role and conduct the station properly
- List of equipment required
- Whether the station requires a real patient or a simulated patient (SP) and the details of such individuals (age, gender, ethnicity)
- Simulated patient scenario if the station requires a particular role to be played
- Marking schedule: this should include all the important aspects of the skill being tested
- How long the station should last

PRACTICAL ARRANGEMENTS

The smooth running of OSCEs is very dependent on the detail of the practical arrangements made in advance and it is worth putting some effort into this to ensure a tolerable day of examinations. There are many aspects to consider:

PRIOR TO THE OSCE

- **Suitable venue:** depending on the number of stations and candidates, more than one circuit may need to be con-



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ducted simultaneously. There are advantages (less noise, more privacy for patients) to conducting each station in a separate room (e.g. in an outpatients department) but larger halls divided up with soundproofed partitions can also be suitable. Venues may need to be booked well in advance of examination dates. Appropriate adjacent rooms to the OSCE circuits are required for the gathering of the students, where they can be registered and briefed prior to the examination. Rooms may be required for patients to rest in between being examined.

- **Recruitment of examiners:** busy clinicians and other

teachers will need advance notice to enable them to attend and play the vital role of assessors in each station. It is helpful to send out a grid of dates and times so people can tick what sessions they wish to attend. This involves central co-ordination.

- **Recruitment of SPs:** once the OSCE has been blueprinted, the SPs required should be listed and actors contacted to engage them for the dates of the exam.
- **Running order of the stations:** stations should be numbered so as to avoid confusion over mark sheets, equipment and people

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A typical OSCE circuit: students rotate around a number of stations.

involved. Rest stations should be provided: usually one rest per 40 minutes in a circuit is suitable.

- **A list of all the equipment required:** detailed by station, is vital for the preparations to be successful. Arrange to go round the circuit the day before the OSCE and check that all the equipment is correctly set up.
- **Production and processing of mark sheets:** calculate the numbers required for each station and allow extra for spoilage. Allow time for proof-reading. If the numbers of candidates are large, it may be worth looking into using sheets which can be processed by electronically scanning after the OSCE. Alternatively, marking by hand will require the organisation of people to mark and ensure that results are entered correctly.

- **Liaison with clinical skills centre staff:** if you are lucky enough to have a clinical skills centre, with technical and teaching staff, it is vital to include them in planning. In any case, it is useful to draw up a circuit plan to indicate the layout required and for the numbering of the stations to be agreed.

ON THE DAY OF THE OSCE

- **Signs:** it is very helpful to have signs indicating the rooms for the students, the patients and the examination so that people unfamiliar with the venue can find their way easily. All the stations should be numbered on large signs to assist the candidates to follow the circuit successfully.
- **Timing:** ideally, the use of an electronic timing programme is most helpful but a reliable

stop watch and loud manual bell is an acceptable alternative. It is important to ensure that all the candidates and examiners can hear the bells so the candidates move onto the next station promptly.

- **Helpers/marshals:** a vital part of the smooth running of OSCEs depends on having a small army of helpers to direct the candidates, examiners, SPs and patients to ensure everyone is in the right place at the right time. This needs to include looking after the welfare of all the people involved on the day.
- **Catering:** examining, acting, being examined and helping at OSCEs can be tiring and sometimes stressful work. The very least one can do is to provide refreshments for all participants – water for the candidates at rest stations, drinks for all other staff and

	History	Explanation	Examination	Procedure
CVS	Chest pain	Discharge drugs	Cardiac	BP
RS	Haemoptysis	Smoking	Resp	Peak flow
GIS	Abdo pain	Gastroscopy	Abdo	PR
Repro	Amenorrhoea	Abnormal smear	Cervical smear	
NS	Headache		Eyes	Ophthalmoscopy
MS	Backache		Hip	
Generic	Pre-op assess	Consent for post mortem		IV cannulation Blood transfusion reaction

An example of an OSCE blueprint for an integrated Finals examination.

lunch for those who spend the whole day assisting or being examined.

- **Briefing:** it is helpful for the candidates to be gathered in a room, registered and briefed about the practical arrangements for the day. Similarly the examiners, even if they have attended a training session, should be reminded to switch off mobile phones, how to score the mark sheets and conduct the stations appropriately.

AFTER THE OSCE

- **Collection of mark sheets:** meticulous collection should be organised as missing sheets can be very prejudicial to a candidate's overall score. It is also helpful to check the sheets for completeness of scoring and to ask examiners to check they have completed the sheets before leaving.
- **Care of Patients/SPs:** a system to ensure that patients have transport to take them home is always well appreciated. Arrangements to ensure the SPs are paid are also welcome and encourage future participation.
- **Thank you letters:** patients, examiners and helpers are much more likely to come to

examine again if they receive acknowledgement of their contribution to the examination process

SIMULATED PATIENTS (SPs)

It is best to use well-trained SPs for consistent performances in communication skills stations. Depending on one's location, it may be possible to organise a database of actors who assist in the teaching as well as assessment of communication skills. It is desirable to have people across a range of ages and ethnicities as well as a balanced gender mix. Training the SPs contributes greatly to the reliability of the examination, as consistent performances ensure that all the students are presented with the same challenge. The SPs should be sent their scenarios in advance and then asked to go through their roles with other SPs playing the same role, while supervised by a communication skills teacher and/or a clinician, to develop the role to a suitable standard.

EXAMINERS

OSCEs require large numbers of examiners: this can be a strength, as candidates are observed and scored by clinicians, but also one of its potential weaknesses, as

inconsistency between examiners will reduce the fairness and reliability of an OSCE.

EXAMINER TRAINING

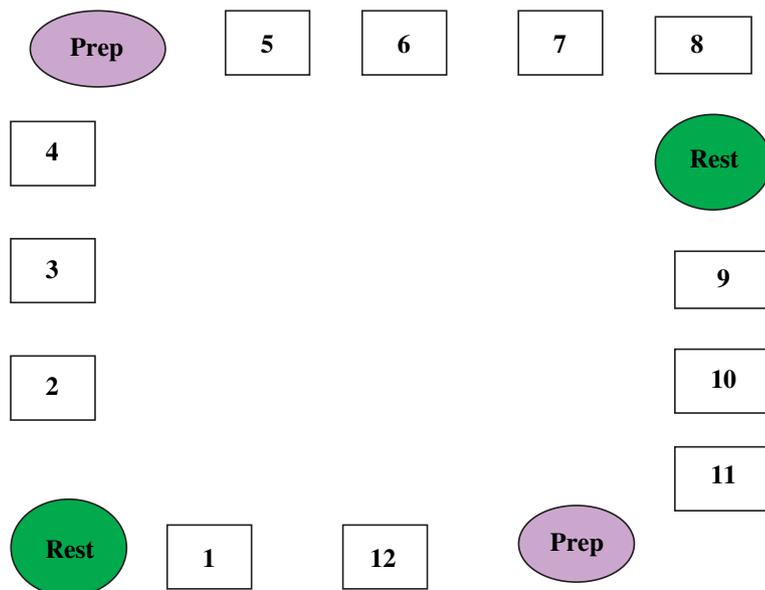
We have found that that training assessors is a very worthwhile investment. In our own institutions we offer structured half day training sessions: the programme for these events is interactive and very much acknowledges the inherent expertise that experienced clinicians bring to the assessment process. These training sessions cover

- principles of OSCEs
- role of examiners (i.e. no teaching, conducting vivas, altering marking schedules, interfering with the (role) of the simulated patient!)
- marking videoed OSCE stations, after which we go through the marking with the clinicians and get them to think through their mark allocation. This is usually the most popular part of the session.
- marking 'live stations' with group members playing the candidate, the assessor and the simulated patient: this demonstrates how stressful this assessment is for the candidate and how difficult it can be to play the part like a good SP.
- standard setting procedure used. This can often be crucial when using a student centred approach and all the examiners are integral to the standard setting process. The more the assessors understand their vital role in this process the more likely they are to do it in a satisfactory way.

PATIENTS

Patients do not give the same history many times over, they get tired, can become unwell and inconveniently develop new signs

Using 'real' patients in OSCEs adds greatly to the validity of the assessment



Example of a floor plan for an OSCE in a large room.

and symptoms from the ones you were told about or even lose old clinical findings; however they are your most valuable resource and need to be treated as such. Using 'real' patients in OSCEs adds greatly to the validity of the assessment. Ideally patients should be used to assess the detection of common chronic clinical signs. For each clinical sign assessed you will need several patients and even the most stoical patient should not be expected to be examined by more than 10 students. Ideally patients should be swapped in and out of the station to allow them to have sufficient rest time.

THINGS THAT HAVE HAPPENED TO US ON THE DAY AND WHAT WE DID ABOUT THEM...!

- Examiners not turning up: reminders sent out the week before and having reserve examiners available

- SPs not turning up: having reserve SPs available
- Patients not turning up: ring them the day before to remind them, provide taxis, plan for more patients than you need – they can take turns
- Heating breaking down: locate mobile heaters
- Sweltering hot day: mobilise fans
- Incorrect equipment: checking the circuits the day before to ensure all equipment is correct. Having extra equipment available and/or accessible on the day in case of breakages, failure of batteries, etc.
- Patients taken ill: have medical and nursing staff (and Resuscitation trolley) on hand
- Candidate taken ill: take to nearest place they can sit/lie down to recover. If he/she has only missed one station, this can be done at the end of the

circuit, by asking the patient/ SP and examiner to stay behind for that candidate.

CONCLUSION

OSCEs are much more popular with candidates (and even some examiners) than long and short cases as they are perceived to be fairer. However they do require considerable investment in terms of finance and time and effort of staff. Don't panic and good luck!

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