Quarantining OSCE participants; reflections on the Glasgow experience

Zoe Noonan, James Graham Boyle, Lindsey Pope, Carol Ditchfield, John Paul Leach and Suzanne McDowall

University of Glasgow, Glasgow, UK

The Objective Structured Clinical Examination (OSCE) is considered the gold standard in performance-based assessment of clinical competence. OSCEs often require the use of multiple circuits across different sites on sequential days. This format, alongside the desire for standardization, leads to a potential opportunity for the transfer of examination information between candidates beyond that occurring in other forms of assessment. The impact of information transfer on student examination performance is debatable[1,2,3], but may confer advantage to students undertaking OSCE stations later in an exam diet. Weaker students in particular seem to be advantaged by prior knowledge of station content[4].

Various strategies may be employed by schools to minimise student collusion. One option is to utilise different stations for each session of an OSCE examination. This is a resource-heavy option and may not achieve the desired assessment standardization between students. An alternate strategy is to quarantine students, which prevents students who have undertaken their OSCE being able to liaise with candidates who have not yet taken the OSCE. This paper reviews the experience of introducing quarantining at Glasgow University and reflects on the unanticipated increase in student feedback about the exam process. This offered the Glasgow assessment team an opportunity for enhanced scrutiny of the OSCE experience and standardisation between students.

The quarantining of students for OSCEs at Glasgow was instigated in response to the outcomes of OSCE data analysis from six consecutive final year cohorts[4]. This found that

students taking OSCE stations later in an examination period had higher chances of passing compared to their peers. The case for quarantining was further strengthened by a highly publicised instance of student collusion identified in the 2016/17 examination diet at Glasgow[5]. The Year 5 OSCE was subsequently re-run under quarantine conditions in 2016/17, and the Glasgow OSCEs for Years 2, 3 and 5 have been quarantined from the 2017/18 academic year.

There were logistical, financial and administrational challenges posed by quarantining our cohort of nearly 300 medical students. Students allocated to a morning OSCE circuit were quarantined after they had completed their OSCE until approximately 13:00h. At 12.45h, all afternoon candidates arrived for their examination, and morning candidates were allowed to leave. Afternoon candidates left on completing the examination. The maximum period of time any student was quarantined for was 3 hours and 15 minutes. Full electronic isolation (i.e. no access to any electronic or internet-enabled device) was imposed for all quarantine periods, which were supervised by at least two invigilators per site.

The morning quarantine period offered students time to undertake a detailed and immediate examination debrief with their peers. The opportunities for reflection on the OSCE experience are usually restricted by the logistics of time (and hence recall of exam specifics) and the geographically disparate nature of student locations afterwards. Having all students contained in one area immediately post-OSCE allowed them to discuss their OSCE experiences with their peers straight away. Small discrepancies in the wording of the question given by the examiner, the number of questions asked or minor variations in station set-up were therefore easily detected by students, and subsequently this led to an unprecedented number of complaints about the OSCE. Table 1 details the number of OSCE complaints received by year group for the last three academic years; the exam diets for which quarantining was in place are highlighted.

Number of OSCE complaints (% of student cohort)	Year 2	Year 3	Year 5
2017/18	21 (9%)	31 (11%)	21 (8%)
2016/17	0 (0%)	8 (3%)	18 (7%)
2015/16	4 (2%)	0 (0%)	3 (1%)

Table 1: Number of OSCE complaints received by year group and academic year.

The fundamental premise underpinning the investigation of a student complaint is that the student should not be disadvantaged by an error in OSCE process or procedure. The volume of queries received after introducing quarantining at Glasgow this year prompted the assessment team to develop a protocol to help streamline the investigation of such complaints (Figure 1). In the future the team anticipates that this will help to quickly identify and rectify potential issues with the OSCE, and will enable a fair and consistent approach to dealing with any discrepancies. Although the review and analysis of the issues identified by students was a challenging and time consuming process, it did reveal hitherto unsuspected areas where OSCE standardisation could be improved. Examples of these are detailed in Figure 2.

Figure 1: Protocol for investigation of student complaints

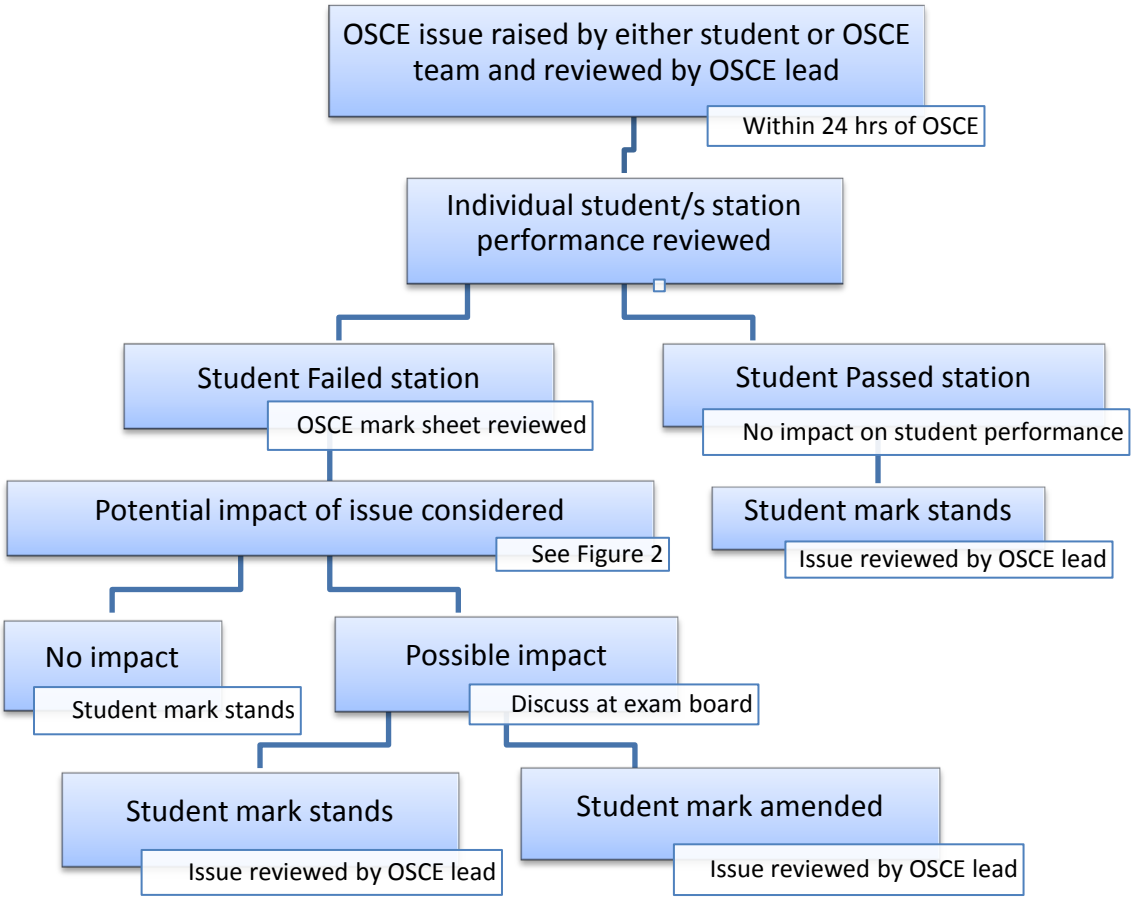
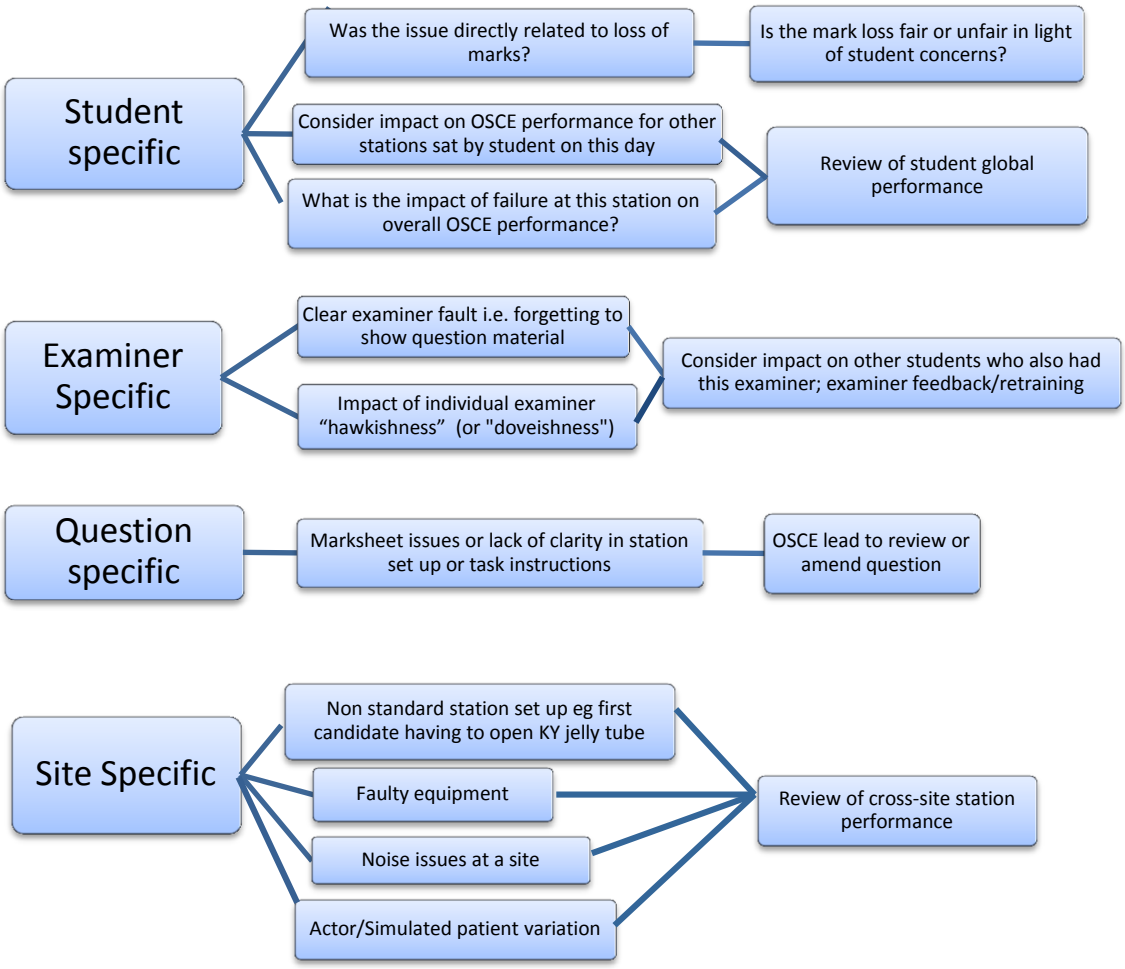


Figure 2: Consideration of the potential impact of OSCE issue on student performance:



Post-OSCE complaints offer an opportunity to evaluate the quality of OSCE content, and/or enable feedback on examiner performance. Both of these outcomes will ultimately enhance the overall reliability and validity of the OSCE. So, rather than being discouraged by the sheer volume of complaints received this year, the Glasgow assessment team saw this as an opportunity to review the quality and consistency of the question, and to identify and rectify any examiner inconsistencies or errors. By listening to our students, positive outcomes have been achieved in terms of development of our examiner training and pre-OSCE briefing material. We anticipate that with each OSCE diet the volume of student complaints will be reduced, and we hope that by being able to learn from our students' experiences we can strive to improve the consistency of examinations in the future.

References:

1. Rutala PJ, Witzke DB, Leko EO, Fulginiti JV, Taylor PJ. Sharing of information by Students in an Objective Structured Clinical Examination. *Arch Intern Med*. 1991;151:141-44
2. Wilkinson T, Fontaine S, Egan T. Was breach of examination security unfair in an objective structured clinical examination? A critical incident. *Med Teacher*. 2009;25(1):42-46
3. Gotzmann A, De Champlain A, Homayra F, Fotheringham A, De Vries I, Forgie M, Pugh D. Cheating in OSCEs: The impact of Simulated Security Breaches on OSCE performance. *Teach Learn Med.* 2016;29(1):52-58
4. Ghouri A, Boachie C, McDowall S, Parle J, Ditchfield CA, McConnachie A, Walters MR, Ghouri N. Gaining an advantage by sitting an OSCE after your peers: A retrospective study. *Med Teach*. 2018; Apr 24:1-7. Available from DOI: 10.1080/0142159X.2018.1458085
5. Bodkin H. Medical students at University of Glasgow told to resit exam after "collusion uncovered." *Telegraph* 2017. Available from: www.telegraph.co.uk/news/2017/03/27/medical-students-atuniversity-glasgow-told-resit-exam-collusion/. [Accessed 18th July 2018]