How to invent artificial abscess model for OSCE in 6th year medical students

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Background: Incision and drainage of superficial abscess is an essential clinical skill for health care practitioners. Medical students should be well trained for this procedural skill.

Summary of Work: We developed artificial abscess for Objective Structured Clinical Examination (OSCE) in 6th year medical students. The artificial abscess model composed with three parts, forearm model, skin part and abscess part. Skin part was made of rubber and yellow food colorant was mixed with flour and water then wrapped with plastic sheet for abscess part. The final step was done by taking all three parts together to make artificial abscess model. This model was evaluated by twenty 6th year medical students in term of comparing realistic sensation between the artificial abscess model and the real abscess, the usefulness of this model as an educational tool.

Summary of Results: Twenty 6th year medical students completed the questionnaires. Nineteen of them had experiences of incision and drainage procedural skill. Eighty-five percent had experiences of incision and drainage in the real patients at least 3 cases. Seventy-five percent commented that the model was looked like the real abscess. They felt like doing procedure in real patients. Eighty-five percent strongly agreed that this artificial abscess model is appropriate and benefit for 4th and 5th year medical students to practice before doing incision and drainage in real patients.

Discussion and Conclusions: The artificial abscess model is easy to develop and we can use this model for OSCE in medical students.

Take-home messages: The artificial abscess model is cheap and easy to develop by yourself. We can use this model for training incision and drainage abscess in medical students.

Comparisons between performance in standardized patients with or without actor backgrounds in Taiwan National OSCE

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Background: The purpose of this study is to clarify performance variations between standardized patients (SPs) with or without actor backgrounds in National Defense Medical Centre for joining the high-stakes National Joint Objective Structured Clinical Examination (OSCE) in Taiwan. This result will be applied into the policy for selecting SPs in our medical school.

Summary of Work: Initially, our institution has started to recruit retired or part-time actors/actresses for being trained as SPs, who practice clinical skills in the educational programs for undergraduate students in our school of medicine. However, they could not match all the roles with different ages and genders in the high-stakes Taiwan National OSCE (beginning from 2013), and we began to recruit SPs without actor backgrounds. In 2013 and 2014, totally 36 SPs (14 SPs with no actor backgrounds) participated in two times of the high-stakes National Joint OSCE in Taiwan. We studied performance of the SPs with or without actor backgrounds, based on the global performance from 95 examinees’ views, as well as eight dimensions of performances from 42 examiners’ views.

Summary of Results: The results show that there is no significant difference in global performance from examinee’s views in this two-year study. Nevertheless, performance in the group of SPs with actor backgrounds is a little better than the other, in terms of reliability and consistency, without statistical significance. Otherwise, the performance of the dimensions does not show significant difference between the two groups.

Discussion and Conclusions: Our study resolved the problem; with regard to the performance of SPs without actor backgrounds, which might be inferior to that of SPs with actor background. It gives us the correct answer; the training program for SPs is the most important issue in their performance, regardless of their backgrounds.

Take-home messages: Well trained and experienced SPs are essential requirement for participating in high-stake OSCE, even the SPs without ever being actors.
Testing Procedural Skills and Communication Skill after Graduation by OSCE

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Background: Thai Medical Council set standard technical and procedural skills for medical graduates into 4 levels starting from level 1 in undergraduate which they have to pass national OSCE in order to get medical license. Level 2 is complicated skills and level 3 can be done in emergency situation after graduation. Level 4 can be practiced under supervision. However, workplace assessment and logbook for medical graduates (interns) may not be enough to assess competency.

Summary of Work: Cross-sectional study was conducted using seven stations OSCE selected from level 1-3 in medicine, pediatrics, surgery, obstetrics, orthopedics, emergency medicine and communication skill in 307 interns from 21 hospitals.

Summary of Results: 44.63% of examinees passed all 7 stations while 35.5% and 12.7% passed 6 and 5 stations respectively. The rest (7.17%) passed 1-4 stations. The stations that examinees could pass more than 90% were thoracentesis, long arm slab, trauma, FAST and communication skill. 83.39% passed newborn resuscitation and the least passing station (62.86%) was emergency breech delivery which is level 3 procedural skill but they have to practice while working in community hospitals after internship. The reliability coefficients for 7 stations is 0.5453.

Discussion and Conclusions: Procedural skill assessment of graduates must be improved by close supervision, direct observation and feedback. Take-home messages: Patient safety is significant issue that every medical school and postgraduate training should more concern to successfully reach medical council standard.

We take "Mock OSCE" seriously: Reliability and Quality of Borderline Regression Standard Setting Method

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Background: Mock objective structured clinical examination (OSCE) was administered to the final year medical students to prepare for National License part III. Borderline regression method (BRM), based on the actual performance of the examinees, was used as standard setting procedure for this OSCE. The objective of this study is to assess the reliability and quality of BRM and compare pass-fail rate of BRM to modified borderline method (mBM) and holistic standard setting methods.

Summary of Work: The mock OSCE included 28 stations (10 disciplines) and was taken by 31, 6th year medical students. By direct observation the examiners gave each student a checklist score and global score in all stations. In each station, the checklist score cut-off on regression equation was calculated for the global scale cut off at 3.0. Average of all station’s standard defined the pass-fail standard for OSCE. Root mean square error (RMSE) and Cronbach’s alpha reliability coefficient were calculated to determine reliability, R2 coefficient and inter-grader discrimination for quality of OSCE, and Chi-square for comparison of pass-fail rate.

Summary of Results: The OSCE pass-fail standard and RMSE were 63.10 and 0.06 respectively (α= 0.99). The R2 coefficient ranged from 0.09 to 0.95 and inter-grade discrimination varied from 2.64 to 16.56. Pass-fail rate for BRM, mBM and holistic method were 58.4%, 64.52% and 67.74%, respectively (χ² =1.01, df = 2, P=0.55).

Discussion and Conclusions: BRM should be utilized for standard setting in OSCE because of its reliability indicated by very low RMSE of the pass-fail standard and pass-fail rate was not related to methods used. Examiner scoring skill should be improved because of low R2 coefficient in some stations. Take-home messages: BRM should be routinely used in setting pass-score for OSCEs. Training of examiner is required to achieve better OSCE quality.
A mock OSCE for Anaesthetists in training: a novel approach to examiner selection

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Background: A pilot, mock OSCE course for Anaesthetists in training was facilitated by an interdisciplinary, multilevel team of examiners at the Whittington Hospital in London in January 2015 one week prior to the Primary FRCA examination. Candidates were invited to attend free of charge.

Summary of Work: 17 volunteer faculty members comprised 4th year Medical Students, Anaesthetics Nurses, Foundation doctors in Emergency Medicine, recent exam candidates and Anaesthetics Registrars. Each examiner was allocated an exam station, provided with a pre-written mark scheme and asked to give written feedback on the course content at the end. The candidates also provided written feedback.

Summary of Results: The feedback from the faculty was positive. The candidates found the experience authentic and a valuable rehearsal. Examiners found it a novel experience during which they could reflect on their own clinical skills, gain a deeper insight into the challenges associated with postgraduate training and cement plans to pursue a career in Anaesthesia.

Discussion and Conclusions: The OSCE examines competency in procedural technique, communication, history taking, physical examination and resuscitation. These skills form the basis of the curricula for all doctors and healthcare professionals allied to Anaesthesia. Participation therefore provides a valuable educational resource for both candidates and examiners. The course ran smoothly but further work is needed on tailored examiner preparation and input from experienced examiners. Suggestions were made to offer pre-course material for examiners.

Take-home messages: Examination of objective skills can be done successfully by postgraduates and undergraduates and still provide candidates with a real-life examination experience.

Value of Trained SP as an OSCE assessor

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Background: Using standardized patients (SP) is growing worldwide and they are used in various situations in medical education for example OSCE. Recently studies revealed satisfaction in using trained SPs as formative OSCE assessors. But SP never have an important role in summative OSCE. This study aims to evaluate SPs as summative assessors.

Summary of Work: Scoring of assessor on the same student under same condition given by trained SP and the medical assessors were compared in 4 different categories including communication skill, history taking, physical examination and procedural skill by using Pearson’s correlation coefficient.

Summary of Results: Unfortunately there is not any correlation between well trained SP’s and medical assessor’s scoring. Thus the in-depth interview of trained SP and medical assessors were performed to describe their points of view in scoring. The interview revealed that trained SP were more likely to make their decision under their feeling of “hospitality, comfortable, safety, admirable”, in contrast to medical doctors’ focus on “completeness, correctness, well performed, professional”.

Discussion and Conclusions: The in-depth interview showed another important opinion in evaluating medical students. During the era of patient safety, the SP’s point of view may be helpful to improve the students’ professionalism in their context and behavior. Thus SP scoring should be included in OSCE assessment in order to accomplish 360° evaluation.

Take-home messages: Trained SPs should be counted as a valued assessor in order to make a 360° OSCE evaluation.
Perception of clinical tasks evaluated by OSCE in UPAEP Medicine students

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Background: From the description given by Dr Harden in 1975, the OSCE has been spread throughout the world. In Mexico, Medicine Faculty of the Universidad Popular Autonoma del Estado de Puebla (UPAEP) began the process of implementing the OSCE in 2011.

Summary of Work: The objective of the research was to determine the perception of students regarding clinical tasks evaluated by OSCE.

161 students were evaluated in the Medicine Faculty in December 2014. A poll obtained information related with the learning of the medical interview, the physical examination, the diagnosis and the treatment, and another poll was used about their clinic experience. Learning was favored in real situations and/or a simulated one without objective clinical assessment.

Summary of Results:

From learning process 96.1% have done an interview, 98% have examined someone, 91% have diagnosed and 80.5% average has given a therapeutic process. From the perception “being able to do” a real patient task: 25% realize interviews, 25.9% explore, 15.2% diagnose and 8.42% give treatment.

Discussion and Conclusions: The perception “being able to do” is lower compared with the rates of learning and experience gained. Therefore, we must investigate which factors determine the perceived “being able to do” in the OSCE.

Take-home messages: Self-perception of students can improve their performance in the OSCE.
An Investigation of students’ perceptions on learning clinical skills from both the classroom and clinical contexts and its impact on OSCE performance

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Background: The OSCE assessment is the main tool adopted in medical schools to assess the competencies of their medical students, in regards to clinical skills. However, there appears to be a disparity with the clinical skills teaching and what is being assessed in the exam.

Summary of Work: This study aimed to look at how students feel about the clinical skills teaching they receive and whether they feel the teaching, the OSCE and the real setting application of the skills conform or not. Therefore both questionnaires and interviews of clinical year students were carried out.

Summary of Results: The results showed that students find the OSCE to be a poor reflection of their performance on clinical placements. This was mainly due to the artificial nature of the OSCE as well as the high level of subjectivity of this exam. Furthermore, the students felt that the clinical teaching they received in on the wards did not reflect what they were tested on in the OSCE exam.

Discussion and Conclusions: The Students felt that they had to prepare for the OSCE separately to their clinical placements. Therefore raising questions about the validity of the OSCE.

Take-home messages: Further investigation into the OSCE and ways to improve its validity is necessary. With these improvements it can be assumed that students would be more comfortable with the OSCE as a tool to assess their competency.

A study to improve medical students' skills, knowledge, confidence and preparedness in paediatrics using an OSCE approach with limited resources

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Background: Students in the UK find pediatrics a difficult area of undergraduate training. Dundee Medical School is similar with students feeling that they lack skills, knowledge and confidence in this area at the end of their medical training. Furthermore they feel unprepared both for the exam and a job in this field.

Summary of Work: By utilising an outcome based approach we designed pediatric mock OSCE sessions with written feedback made available to students immediately after sessions. The OSCE also utilised junior medical students as simulated patients and foundation doctors as examiners. The medical school helped provide stationery, rooms and recognition for the hard work of these volunteers.

Summary of Results: There were very strong indications from preliminary results of feedback forms that these sessions have improved the skills, knowledge, confidence and their overall level of preparedness. Full results of these sessions will be made available at the time of the conference with the results of the next sessions as well as comparison.

Discussion and Conclusions: The preliminary results have been very reassuring that these sessions are effective. From written feedback from the students, examiners and simulated patients we have identified areas of improvement with the current design of sessions. However theses are minor and can be remedied easily. This will help ensure future rounds of these sessions will be even smoother and easier to run with limited resources by any coordinator.

Take-home messages: With limited resources and good planning simple sessions such as these with the cooperation of the medical school can be organised for maximum benefit to the medical students.
A peer-led paediatric mock OSCE: Medical students’ perceptions

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Background: Peer-led mock OSCEs (PLMO) are an increasingly common construct for developing medical students’ clinical skills without draining faculty resources. A novel paediatric PLMO was offered to students with opinion sought via pre- and post- PLMO questionnaire. Results demonstrated that peer-feedback and real time practice were the most significant subjective contributing factors to paediatric PLMO success.

Summary of work: An 8 station PLMO was delivered to final year medical students at University of Glasgow 3 weeks before summative paediatric OSCE. Post-PLMO verbal feedback addressed problems encountered at individual stations. Pre- and post-PLMO questionnaires explored students’ views on reflecting and perceived benefits of PLMO respectively. Answers on a Likert scale were quantified, open answer responses coded and statistical analysis performed in Excel.

Summary of results: Thirty-eight (86%) and 42 (95%) of 44 candidates completed pre- and post-PLMO questionnaires respectively. Responders stated the PLMO increased OSCE confidence (98%) and clinical skill (90%). ‘Practice in real-time’ and ‘personal feedback’ comprised >94% of post-PLMO open response candidate feedback. All responders valued the post-PLMO feedback session. Responders perceived personal peer-feedback as more useful than marking schemes as reflection tools for improving both clinical competency (9.11 vs 8.28, P=0.012) and OSCE performance (9.31 vs 8.31, P=0.004).

Conclusions: A paediatric PLMO subjectively improves paediatric clinical skill and OSCE-confidence. Real-time practice and personalised feedback, particularly post-PLMO verbal feedback session, were convincingly described as benefits of our PLMO. A preference for peer-feedback over rote learning underlines the dynamic nature of PLMO.

Take-home message: Real-time practice and personalised feedback are the two key factors contributing to paediatric PLMO success.

Setting up mock OSCEs for medical students in a small island hospital

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Background: Final year medical students from Southampton University are sent to Jersey for clinical placements. They give good feedback on the placements as it allows them to gain a breadth of experience. As they are far removed from their university and education centre however, studying for exams can be difficult. This project therefore aimed to set up mock OSCEs for students in Jersey.

Summary of work: Students were informed at the start of their placement that they would be undertaking a mock OSCE at the end that could include any topic from their curriculum. Patients with signs were identified from wards and clinics and consultants were approached to be examiners. The OSCEs consisted of 7-8 stations with mainly consultant examiners. Verbal feedback was given for 1 minute at the end of each station to the students and they were given written feedback on their performance for each station. The students were asked to complete a feedback form at the end of the OSCE.

Summary of results: All 4 OSCEs throughout the year ran very smoothly. Students gave very good feedback; they were impressed at the calibre of examiners and the fact there were patients with signs for them to elicit.

Discussion and conclusions: The project was a huge success and was handed over to the newly incoming junior doctors to manage, via a meeting and an information pack, to enable further medical students on placement in Jersey to benefit from it.

Take-home messages: Despite being a small hospital, with commitment and enthusiasm, it is possible to develop invaluable educational experiences.
Socially formative evaluation of the performance of competences of undergraduate internal physicians

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Background: The competences performance evaluation through OSCE is lacking when it does not use reliable instruments. The objective is presenting a socially formative evaluation strategy that allows for an accurate evaluation of the competences performance levels of undergraduate internal physicians (UIP).

Summary of Work: An objective structured clinical examination (OSCE) was applied to a sample of 43 UIP to be evaluated with simulated patients, the competences of their profile through 18 stations with cases of: Pediatrics, Gynecology, Internal Medicine, Family Medicine, Surgery and Emergencies. The evaluation instruments previously evaluated with 0.81 Cronbach alpha are learning maps that integrate four levels: receptive (5), resolution (6-7), autonomous (8-9) and strategic (10). Information was processed by descriptive statistics.

Summary of Results: The UIP reached autonomy in interpersonal communication (8.43) and in showing respect values (8.01). On the other hand they reached a receptive level when showing the follow-up with the patient (6.91) and when informing of their condition (6.99). This indicates they are resolutive and they require coaching by the clinical tutor. The station with the highest average (8.48) was pneumonia (Rx and Dx interpretation) of the internal medicine area. The performance levels vary in each station depending on the complexity of the clinical case.

Discussion and Conclusions: The learning maps in the OSCE are a reliable evaluation instrument that, from the socially formative approach, allow for the determination of the performance levels as well as the aspects that require improvement.

Take-home messages: The evaluation of competences contributes to continuous improvement when performance levels are determined objectively and have the support of the clinical tutor.

OSCE programs for both resident doctors and nurse specialists

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Background: From 2011 through 2014, Taipei City Hospital has introduced a practice, formative three- to five-station Observed Structured Clinical Examination (OSCE) for both post graduate year 1 (PGY1) resident doctors and Nurse Specialists (NSP).

Summary of Work: A total of 148 PGY1 and 42 NSP had participated the OSCE in the past four years. Senior NSPs acted as simulated patients (SPs).Our OSCE clinical scenario included a wide variety of topics, such as urinary catheter insertion, operation wound suture, and how to tell patient of diagnosis. The participants filled a questionnaire on satisfaction after joining the OSCE. The satisfaction questionnaire contained two part: examination environment (space, materials, SP) and time-controlling (time in waiting, exam and each station). Higher scores (with 5 in full score) represented better satisfaction.

Summary of Results: Most of the participants responded moderate to high scores in the satisfaction questionnaire. In the aspect of environment, NP participants showed higher degree of satisfaction as compared to PGY1 participants. (4.65±0.46 in NP v.s 4.51±0.43 in PGY1). In the aspect of time-controlling, NP participants still revealed higher degree of satisfaction as compared to PGY1 participants. (3.25±0.28 in NP v.s 3.16±0.27 in PGY1). Fail in passing one or two stations does not influence the degree of satisfaction.

Discussion and Conclusions: For both NP and PGY1 who participated in our OSCE, most participants satisfied in joining the OSCE and learned much.

Take-home messages: OSCE for NP responded higher satisfaction as compared to PGY1. The main function of OSCE is teaching and learning.
A study to assess the effect of simulated long case OSCE teaching on medical student confidence, in preparation for summative medical school examinations

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Background: Final medical school summative examinations often include long case OSCE stations that assess core principles of history taking, clinical examination, prescribing and communication skills. This study aims to assess whether simulated OSCE teaching increases medical student confidence in core elements of examination technique.

Summary of Work: A prospective study of 72 final year medical students attended 6 simulated OSCE teaching courses. Each course was staffed by Junior Doctors who had sat and passed summative long case OSCE examinations. Each scenario included one Junior Doctor simulating the patient, and one acting as the examiner. Students completed a confidence questionnaire before and after the session, which assessed confidence in 6 areas of the OSCE process; clinical examination skills, timing, eliciting clinical signs, fluent examination, formulating differential diagnosis and summarizing and presenting.

Summary of Results: 57 questionnaires were collected before the teaching sessions, and 49 collected after. There was a significant (p = <0.05) increase in students confidence in timing during an OSCE, fluency of examination skills, eliciting clinical signs, formulating differential diagnosis and summarizing and presenting. There was not a significant improvement in confidence in clinical examination skills.

Discussion and Conclusions: This study demonstrates that simulated long case OSCE teaching is a helpful formative assessment of the process of examination, but not as a test of clinical examination skills. Teaching sessions with surrogate patients are most beneficial in areas involving time management, formulating differential diagnosis and summarizing and presenting.

Take-home messages: Simulated long case OSCE teaching sessions may be beneficial for medical students within their formal medical education program, in addition to real patient interaction.

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Peer Led Mock OSCE in medical education - a Single Group’s Experience

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Background: Development of a student’s teaching skills, as well as the increased popularity of peer led teaching initiatives in medical school education led a group of final year students and foundation doctors to design a Peer Led Mock OSCE for second year students at the University of Glasgow. This abstract aims to describe how it was designed.

Summary of Work: The Mock OSCE was designed and carried out in six phases. The first phase was Recruitment. This involved actively seeking interested medical students and foundation doctors who believed themselves to have the necessary teaching skills. The second phase involved Focus Group and design of marking schemes. The third phase involved advertising and registering interest. The fourth phase involved detailed planning of the circuit and dividing the groups. The fifth phase was the mock OSCE day itself. The sixth phase involved Feedback and Reflection from both students and peer tutors.

Summary of Results: Feedback was collected from students in the form of a questionnaire. Data was collected covering overall rating, knowledge covered, visual material, enthusiasm, interactivity, communication and structure. Students were asked to rate the tutor on the above categories from 1-6 (6 being the best and 1 being poorest). The mean satisfaction rating across the board was 5.68. Tutor feedback was gained verbally.

Discussion and Conclusions: Students and tutors were highly satisfied with our structured Peer Led Mock OSCE in terms of improving student performance and improving tutor teaching skills.

Take-home messages: A well structured Peer Led Mock OSCE can deliver high levels of student and tutor satisfaction and can be replicated in other centres.
Applying an established assessment method for Clinicians to Scientists: a learning process for all

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Background: The Objective Structured Clinical Examination (OSCE) is an internationally accepted method of assessing the practical skills of clinicians such as doctors, dentists, veterinary surgeons. Under the 2010 Modernising Scientific Careers initiative, which brought all Healthcare Sciences under one umbrella, the OSCE method was adopted and adapted by the National School of Healthcare Science (NSHCS) as a standardised method of final assessment for over 20 diverse specialisms such as Audiology, Histopathology, Genetics.

Summary of Work: In consultation with specialism specific professional bodies, the Objective Structured Final Assessment (OSFA) was designed and delivered for the first cohort of Clinical Scientists completing the newly implemented national Scientist Training Programme in July 2014 within a 6 month timeframe including writing and reviewing 185 individual stations, standard setting using the Angoff method, training assessors. A formative mock OSFA and a modified resit OSFA were also delivered. Real-time e-marking allowed for timely interventions and rapid turn-around of results for Exam Boards and ultimately, to Trainees.

Summary of Results: Whilst a steep learning process for all involved, assessor and trainee evaluation suggests the delivery of this high stakes exit assessment was highly successful.

Discussion and Conclusions: The management and delivery of 20 individual OSFAs in 6 days involving over 200 station writers and assessors was incredibly complex, both logistically and operationally, needing the full collaboration and commitment of all stakeholders.

Take-home messages: Against a background of many challenges to changing from established training pathways and final assessments such as the viva — the standardised OSFA is finding acceptability and even preference within the, rightly cautious, Healthcare Science community.

OSCE with demonstrated constructive feedback as the effective teaching method for blood smear interpretation skill

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Background: Blood smear interpretation is a blood test that gives information about number, shape of blood cells and provides diagnosis of diseases. This skill is essential for internal medicine resident training certificate. This procedure combines not only technical skill with microscope but also interpretation skill with blood film.

Summary of Work: Our division provided various teaching methods in this skill for residency training which included self-practicing, skill demonstration class and work place self-education. The OSCE was used for assessment this skill. Our division has developed the OSCE with demonstrated constructive feedback which can be used for both assessment and teaching method. The evaluation of this new method was assessed by the questionnaire from both teacher and resident and the point from examination.

Summary of Results: The questionnaire was answered by 8 teachers and 50 students. The OSCE with demonstrated constructive feedback was the most effective teaching method among other methods from both teacher and student. Residents had increased the level of confidence in this skill from 64.3±16.9 % to 74±15.3 % after training. This result was also confirmed by the mean points before and after examination which was increased from 65.6±20.6 to 84.3±20.

Discussion and Conclusions: OSCE with demonstrated constructive feedback was not only the good assessment tool but also could be effective teaching method in blood smear demonstrated and interpretative skill. These results were corresponded from teacher and learner questionnaire, the level of learner confidence and OSCE point.

Take-home messages: Effective assessment and constructive feedback can be used as an appropriate teaching method.
An analysis of the internal structure of clinical competence in an OSCE using multidimensional Item Response Theory

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Background: Analysis of OSCE data usually relies on generalizability theory. In this study, we used modelling in the framework of item response theory (IRT) to examine the internal structure of clinical competence in an OSCE for pediatric dentistry.

Summary of Work: Hundred-twenty fourth-year dentistry students participated in a pediatric dentistry OSCE, consisting of 18 stations of six minutes each. Stations were evaluated through 5 to 20 four-category items, with each item being an indicator of one of seven attributes of clinical competence. A hierarchical graded-response IRT model was fitted to the data, which at the lowest level assumes two sources of systematic variance, the first related to the attribute measured by the item and another related to the particular station. At the higher level, structural relations among the seven attribute factors were examined.

Summary of Results: Adequate model fit was observed. The station-specific factors generally have stronger influence on the item score than the general attributes. The structural relations among the attributes could be explained by a single overall second-order factor, interpreted as general clinical competence in pediatric dentistry.

Discussion and Conclusions: Although OSCEs commonly aim at assessing general attributes of clinical competence, the choice of the particular stations may explain a larger portion of the variance in the overall score. Advanced psychometric models can be employed to obtain unbiased estimates of the students’ clinical competence.

Take-home messages: Strategies should be considered to enhance the effect of general attributes of clinical competence over station-specific characteristics.

A case-based, interactive method for teaching prescribing for final-year OSCEs

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Background: From personal experience and peer discussion, the prescribing element of medical finals is a realm in which medical students feel under-confident. The prescribing teaching offered at King’s College London is considered to be of limited value due to its infrequency and lack of correlation to the exam situation.

Summary of Work: A six-week prescribing course was designed to include all likely OSCE scenarios. The KCL students were informed in advance of the two or three scenarios which would be covered in the coming week, for example “urosepsis, hyperkalaemia and diabetic ketoacidosis”. A scenario would be presented via PowerPoint and the students were given the time-frame of their OSCE station to complete the drug chart under exam conditions. Each section of the chart was then discussed, with the students leading, followed by the teacher presenting a model example and further discussion. An emphasis was placed on simplicity of drug choice and dosing. Themes such as ‘analgesia’ were dealt with as they arose. A final ‘mock exam’ session involved unexpected stations.

Summary of Results: The feedback from the students was overwhelmingly positive, with the teaching scoring highly across all domains and comments that the teaching would enable them to prescribe in the OSCE with confidence, and to be safer and better doctors.

Discussion and Conclusions: Unlike the university teaching, the course empowered students with little or no experience to prescribe by offering simple explanations and presenting example charts from which to learn.

Take-home messages: Prescribing can be taught in a clear and helpful way by using exam-oriented scenarios, a limited range of drugs and demonstration drug charts for those new to prescribing.
The relation between a first impression and a station rating when examinee performance changes

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**Background:** There is evidence that OSCE examiners form impressions of examinees within seconds and these impressions can be predictive of final station scores. This study explored whether or not this relationship is influenced by a change in examinee performance during the station.

**Summary of Work:** Physician examiners (n=25) viewed seven videos of examinees (i.e., actors) performing a physical exam an OSCE station. They rated the examinees’ clinical abilities on a six-point global rating scale after 60 seconds (first impression rating) and again at the end of the station (final rating). For three of the videos, examinee performance remained consistent throughout. For two videos, examinee performance changed from initially strong to weak and for two videos, performance changed from initially weak to strong.

**Summary of Results:** In the consistent condition, the correlation between the examiners’ first impression (M=4.76) and their final rating (M=4.04) was $r = .48$ ($p = .02$). In the strong to weak condition, the correlation between the first impression (M=4.88) and the final rating (M=2.84) was $r = .47$ ($p = .02$) and $r = -.22$ ($p = .30$) in the weak to strong condition (M=3.54 and 4.80).

**Discussion and Conclusions:** The results suggest that examiners are willing to change their first impression rating of an examinee when performance changes but the predictive relationship only changes when examinee ability improves. When performance is consistent or declines over time, examiners are less willing to provide a rating that differs from their first impression.

**Take-home messages:** Final station scores are related to a first impression but that relationship is influenced by a change in examinee performance from weak to strong.

Nurse Specialist OSCE programs for preparation of license exam

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**Background:** From 2009 through 2014, ZhongXing Branch of Taipei City Hospital has introduced a practice, formative three- to five-station Observed Structured Clinical Examination (OSCE) for Nurse Specialists (NSPs), as a pretest for their license examination.

**Summary of Work:** A total of 35 NSPs have participated the OSCE in the past five years. Senior NSPs acted as simulated patients (SPs). The participants were scored by clinical advisers and SPs in each station. Checklists scored by clinical advisor included history taking, physical examinations, differential diagnosis and initial management, with a total score 100. SPs also marked each participant with checklists on physician-patient communication, time spent in listening, satisfaction on clinical service, with a total score 72.

**Summary of Results:** 74.1% participants passed their NSP license exam at the year after they practiced in pretest OSCE, another 14.8% participants passed the license exam the following year. The OSCE score from clinical advisors showed negative predictability for the license exam pass rate (0.93, 95%CI: 0.77-1.13). However, the OSCE score marked by SPs showed positive predictability for the license exam pass rate (1.08, 95%CI:0.84-1.40). The senior SPs observed participants from their point of view, which is different from the clinical advisors.

**Discussion and Conclusions:** Scoring from senior NSP for the participants provided positive predictability in passing their license exam. Reasons for this phenomenon could be that senior NSP had experienced in passing the license exam and were familiar with the detailed key points of the exam.

**Take-home messages:** Senior NSP realized the detailed items and keypoints of NSP license OSCE. Therefore, they can play good teaching role as SPs.
Effects of cultural differences on the implementation and application of the objective structured clinical examinations (OSCE) in China

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Background: Western educational techniques have become widely used globally, such as the objective structured clinical examinations (OSCE) in China, as they appeal to medical leaders around the world by the advantage of facilitating students’ gaining of practical competence.

Summary of Work: This study explores the potential impact of Chinese academic culture on the transfer of the OSCE. It does so through an analysis of the differences in Chinese and Western ideas on: the purpose of education, the roles of teachers and students and the relationships between them, the process of teaching and learning, and students’ approaches to learning.

Summary of Results: Though globalization has had significant impact on medical education, some of this impact has been negative. As this study shows China experienced considerable compatibility issues with the OSCE when it was imported and used in China.

Discussion and Conclusions: There are difficulties in cross-national transfers of educational practices and techniques, because ideas of effective pedagogical practice vary from culture to culture. This does not mean that learning from other countries is impossible or improper, but before nation-wide implementation and application, educational techniques should be fully tested and evaluated – and adapted to the Chinese academic culture.

Take-home messages: The implementation and application of medical educational techniques may be significantly affected by different socio-cultural contexts. Incompatibility between Chinese academic culture and the characteristics of the OSCE may be a reason for the challenges China is facing during the process of implementation. Medical leaders and educators should be committed to adapting imported methods or devising new educational models to fit the local context.

Sex inequality in OSCE and MCQ scores in medical students rotating in the surgery clerkship

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Background: Albeit some evidence of sex inequality in medical profession, there is a paucity of data suggesting sex disparity in medical student examination results. The present study was aimed to investigate whether there were differences in OSCE and MCQ scores and grades between male and female medical students rotating in the surgical clerkship.

Summary of Work: Study population included 97 medical students rotating in the surgery clerkships at the Sunpasitthiprasong Regional Hospital during 2011-2014. MCQ and OSCE were used as student summative assessment at the end of each clerkship. MCQ and OSCE examination results of male and female medical students were compared using Man-Whitney-U test. Students’ grades were also compared across sex using chi-squared test.

Summary of Results: Overall, there was no difference in OSCE and MCQ scores between male and female students. However, in subgroup analyses, sex disparity in OSCE scores was observed in Year 4 medical students, with male students significantly performed better than their female counterpart (mean score of 57.851 and 54.471, respectively (p= 0.004). Students’ grades were not different between sexes (p= 0.209).

Discussion and Conclusions: There was sex inequality in OSCE examination results in Year 4 medical students training in the surgery clerkship. Factors associated with this inequality merits further study.
Spy glasses prove paper marking OSCE stations is faster than using tablets, the truth

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Background: Purpose of this study was to investigate whether examiners complete assessment forms faster on paper or tablet. Our hypothesis is that the use of tablets requires less time compared to paper-based solutions and therefore more time is available for observing clinical skills in OSCE stations.

Summary of Work: We recorded 10 examiners’ behaviour during the marking of three pre-recorded final year OSCE stations. Assessment scenario’s were all randomised. We measured the: observing time, time of completing the assessment form amount of head movements while assessing the student for both using a: paper based assessment method tablet based assessment method Examiners observations were recorded while wearing ‘spy glasses’ with a camera in the bridge of the frame. Station scenarios and level of student performance were randomized to prevent memorisation of assessment results. EDU-G (generalisability theory) was used for data analysis. We used Qpercoms’ OSCE MIS for data collection.

Summary of Results: The mean (SD) marking time for paper versus tablet is 110s (36s) and 117s (32s) respectively. There is a statistical significant difference (p-value=0.035) between marking time, depending on the medium that is used. The mean (min; max) amount of head movements (checking the assessment form) is 15 (1;40) for paper and 18 (7;39) for tablets (p-value=0.005). The G coefficient is 0.54 for paper and 0.66 for using a tablet.

Discussion and Conclusions: In contrast to our assumption, marking OSCE stations on paper is faster than electronic marking. This difference (7 sec) is not considered to be educationally relevant. Furthermore, transfer time of paper data was not included in the study. Moreover, examiners using a tablet look at the assessment form more often and this appears to be more reliable. In future research more examiners and cases needs to be included.

Take-home messages: Using an online OSCE management information system is not faster than paper but more reliable