Peer physical examination: time to revisit?

Suzanne Outram and Balakrishnan R Nair

In peer physical examination (PPE), students act as models for each other to learn skills in physical examination and simple non-invasive procedures as a formal part of the learning process.

ABSTRACT

- Opportunities for using inpatients for learning physical examination skills have decreased.
- In peer physical examination (PPE), students act as models for each other to learn skills in physical examination and other non-invasive procedures.
- PPE is extensively used and has high acceptability, but nevertheless poses some challenges.
- PPE may be less acceptable among culturally and linguistically diverse students.
- In the light of our findings and the published literature, best practice points are described.

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Why peer physical examination?

We all know that conditions have changed within the health care system and medical schools, and among patients themselves. Shorter inpatient stays, multiple comorbidities and increased acuity of patients in hospital mean that the opportunities for using patients for learning physical examination skills have decreased.[1] The widespread changes in medical curricula championing early clinical exposure and vastly increased numbers of students (in Australia, an anticipated 81% increase between 2005 and 2012)[2] have led to even lower patient-to-student ratios. Increased awareness of patients' rights has led (correctly) to increased attention to informed consent. The patient is often not as "patient", or at least not as ready to be examined by as many students, as before. The competition among more students for fewer patients has resulted in a problem with traditional modes of clinical learning.

A number of strategies have been used to counteract this, including increased clinical attachments in ambulatory care, clinical skills laboratories and simulated patients. All these strategies are feasible, so why would medical schools want to promote PPE?

The advantages are mostly pragmatic. PPE is cheaper than simulators and trained personnel, both of which need advance booking and management. Advocates of PPE have argued other pedagogical advantages: opportunities to study normal anatomy and physiology are enhanced; patients are protected from the discomfort of early learners; and learners can practise gaining consent and are able to give and receive feedback. It has also been claimed that students will be more sensitive and humane and have greater empathy for their patients with this personal experience.

Potential problems in using PPE

Like many issues in both health care and medical education, a seemingly simple solution can hide complex problems. Ethical issues arise in relation to informed consent and duty of care. Braunack-Mayer argued that there are both ethical strengths (student has better skills before examining patients) and weaknesses (possible coercion and undue influence of faculty members in academic progress) in PPE, and concluded that we need strategies to promote free and informed consent among students, as there must be among patients.[3] The principle of non-maleficence, or doing no harm, not just physically but also emotionally through embarrassment, coercion or harassment, must be upheld. Specifically, concern has been expressed about a student finding a possible abnormality in another student.[4,5] What is the duty of care if Jane looks at Bob's eye through an ophthalmoscope and thinks she sees papilloedema? What should Jane do? The actual reported incidence of these events is, however, low, at an estimated rate of 1.5% per year.[5] At the University of Auckland medical school in New Zealand, where a standardised protocol for PPE is in place, a reporting form was used in only four instances over 2 years and three programs.[6] The reporting form is signed by student and tutor, but it is the student's responsibility to follow up the potential problem.

Is PPE acceptable practice?

To answer this question, we used three sources: peer-reviewed journals, archives of an online medical education discussion list (DR-ED) (Box 1), and a small exploratory study with Malaysian medical students at an Australian university (Box 2).

The published literature reported high acceptability (94%–98%) among medical students when genitals, rectum, inguinal area and the chest on women were excluded.[7-9] Not only were these students comfortable with the practice, but they reported that it enhanced their learning. There were, however, important variations within the cohorts. Women were less comfortable in both roles,[10] older women particularly were more uncomfortable being examined,[9] and women and men were more comfortable examining peers of the same sex.[8,9] Some students considered relationship with peers important, but there were conflicting results. One study reported that examining strangers was preferable to examining friends,[10] but another found that friends were more acceptable.[6] Cultural and religious issues were important, and PPE was less acceptable in groups who identified as being of non-Anglo-Celtic origin.[6-8] In a New Zealand medical school, Māori and Pacific Islander students were less comfortable than European students, but Asian students were most comfortable, contrary to the usual reported trend. Further investigation of cultural attitudes was recommended.[6] In a study in the United Arab Emirates, 47% of students said they would find PPE inappropriate in learning physical examination skills.[11] When specifically asked, 12% of students in another study were not comfortable in setting limits with peers, and 11% were unsure.[9] Concern was also expressed about the "immaturity" of fellow students and about potential sexual harassment.

A range of experiences were reported by teaching staff on the DR-ED discussion list (Box 1). Although the practice was wide-

1 Experiences reported by teaching staff on an online medical education discussion list (DR-ED)*

- The archives of this online medical education discussion list were searched using the terms "physical examination" and "students".
- Eight entries were found, most in response to a question about peer physical examination (PPE) posted to the list in September 2003. All came from North America: seven from medical schools, one from a physiotherapy program.
- In all but one, PPE was voluntary. Overall comments were positive. Some had worked through difficulties. For example, "About 4 years ago, to deal with multiple complaints [from students about being forced into mixed-sex exams and about policies of some mentors], we put together a student committee to formulate a code of conduct … Since its inception, peace has reigned."
- One exception came from a medical program that "had abandoned PPE years ago" and replaced it with teaching associates owing to student complaints about discomfort at disrobing in front of faculty members, and for educational reasons: "It was like the blind leading the blind".

* http://list.msu.edu/archives/dr-ed.html (accessed Nov 2007). ◆

spread, it was certainly not without difficulties. Some medical schools that reported student discontent with PPE continued to use it successfully after developing and then enforcing strict guidelines for staff and students. One program abandoned the practice in favour of trained standardised patients, adding that in their private institution where the tuition fees were high, they had to be seen to "give students their money's worth."

On balance, PPE appears to be an acceptable practice, with the possible exception of some cultural groups. As international students comprise a growing proportion of the Australian medical student body, this is an issue of increasing significance that needs to be addressed. In response to the lack of information about cultural differences and the expressed need of academic staff to have guidelines for PPE, focus groups were conducted by one of us (S O) with Malaysian medical students enrolled at an Australian university (Box 2). Areas explored in the discussion included student experiences in different methods of learning clinical skills and preferred strategies, thoughts about formal PPE, conditions under which PPE would be acceptable or unacceptable, and any relevant religious or cultural issues that might influence PPE.

Students preferred access to real patients to learn skills, but understood the necessity for alternatives, especially in the earlier years. Along with books and videos, they currently use PPE informally with same-sex Malaysian study partners. Discomfort was expressed at the idea of formal PPE. That PPE should be voluntary, with choice of body parts, participants and environment, was important. Although men appeared more flexible than women about conditions under which PPE would be acceptable, there were variations. Women required women-only pairs. "I don't mind being with anyone, as long as that 'patient' is a girl", said a female student. Men would prefer to be paired with men and would be very uncomfortable with Malaysian women. Each situation, it seems, would require separate negotiation.

The reasons for difficulty with PPE were religious and cultural. As most participants were Malay and Muslim, much of the discussion was about the appropriateness of exposure of different body parts and physical contact between men and women according to Islamic teachings. There was agreement that according to Islamic teachings, women should normally be covered from head to ankle, and men from waist to knee. Participants spoke about the exemptions to normal Islamic teachings available for Muslim doctors and medical students when it is "necessary for health or learning" or "If it is unavoidable …" They were clear that examining patients of both sexes was necessary, but in relation to PPE it was potentially problematic. Individual students and faculty members have different interpretations of what is "necessary" for learning, or "unavoidable". Even when there are no religious proscriptions, participants said that cultural modesty would preclude them from exposing themselves in a classroom. "Religiously it's not wrong, but it's just a shameful thing", said a male student who had declined a tutor's request to remove his shirt to demonstrate anatomical features. As would be expected, culture and religion are very entwined and difficult to separate.

While wishing to be sensitive and respectful of religious and cultural differences, it is important that we do not lose sight of the fact that we are educating students to registration standards in the country of training. If we feel that learning outcomes will not be achieved if students do not participate, then it is unacceptable to routinely exclude them. If, however, these skills can be learned by other means, then we should be flexible. Ongoing dialogue between faculty members and students accompanied by training for tutors will be necessary.

What is best practice?

In the light of our findings and the published literature, we recommend a set of best practice guidelines:

Voluntary. Participation in PPE for medical students should be voluntary and non-coercive, practised in groups of two to five, with students able to choose their own groups or partner.

Non-intimate body parts. Reported student comfort declines with the intimacy of the body part under examination. Although most

2 Focus groups with Malaysian medical students

- Students were invited to attend a meeting to discuss strategies for teaching clinical examination skills. A discussion guide was used, and approval was gained from the university ethics committee.
- Three focus groups (one mixed-sex group and two single-sex groups) were held, lasting 60–90 minutes each.
- Twenty-one students from across 2 years of the medical program participated, comprising about half the eligible students in each targeted year. The majority were Malay Muslim, but Indian Hindu, ethnic Chinese and Christian students were also present.
- The discussions were audiotaped, transcribed and analysed thematically (by S O) using inductive methods.
- Islamic teachings and Malaysian cultural values were discussed in relation to exposure of body parts and touch. While Islamic teaching allows body exposure and touch with the opposite sex when necessary (for health or education), as between a patient and doctor or medical student, the situation for PPE is less clear. In addition, cultural modesty, in the absence of religious prohibitions, in exposing their bodies would make PPE uncomfortable for these students. For women, it would only be acceptable among the same sex, but for men there may be more flexibility. It should occur only in pairs or small groups of the students' own choosing, in a private environment.
- Students said they could not answer for all students, and suggested there might be others who adhered to stricter Islamic rules. Therefore, permission should be asked each time. ◆

schools clearly preclude examination of the breasts, genitals and rectum, it is interesting that a considerable minority (20%–40%) of students said they would consider taking part in more intimate examinations.[9,12]

Written protocols, and protocols adhered to. There needs to be a clear, transparent, agreed-upon process that includes full disclosure of information about what will happen, freedom to decline, a discussion of issues and concerns, and commitment by staff and students that each student will be professionally treated. There may not be a necessity for formal consent,[13] but this may be desirable as it could be the best way to ensure that all students have considered all the issues, unless there is systematic training of all teaching staff. Formal consent encourages tutors to model professional practice. Protocols must also be in place for students and faculty members, outlining procedures for handling suspected medical problems discovered by students.

Cultural and religious considerations. A small minority of students in every survey expressed discomfort with PPE, and at least some of these are from non-Anglo-Celtic backgrounds. With increasing numbers of Australian medical students from non-English-speaking and non-Anglo-Celtic backgrounds, including overseas students, this could be a significant barrier in the implementation of PPE. Cultural and religious implications of PPE should be respectfully explored with the ethnically diverse student populations in medical schools and should be part of an ongoing dialogue with faculty members and students.

In conclusion, PPE is an acceptable and useful learning strategy for the majority of students. Three issues stand out. First, it is important to have an accessible and explicit process in place to guide both staff and students. Second, sensitivity in relation to the small minority of students for whom PPE is not acceptable is necessary. With supportive discussion, flexible alternative strategies may need to be explored. Third, PPE must be supported by staff training. Adequate training of medical tutors, usually busy clinicians, is a continual challenge. The use of PPE as a formal part of the clinical skills curriculum demonstrates that, underneath a seemingly straightforward issue, there are pitfalls for the unwary. The landscape of medical education is constantly changing, and we need to keep discussing, debating, adapting and learning from our students.

Competing interests

None identified.

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