Bedside teaching in general and subspecialized internal medicine departments translates into similar competence in basic physical examination skills in the first clinical year.

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Owing to a recent worldwide decline in physical examination (PE) skills, an early remedial intervention is mandatory.

A large diversity of patients encountered by students during their core clinical rotations is beneficial for the acquisition of knowledge in internal medicine.

However, whether patient diversity – commonly lower in subspecialized internal medicine departments – affects basic PE competence in the first clinical year, is not clear.
Hyposkillia
Deficiency of Clinical Skills

The medical profession today faces many problems. We march to bureaucratic drummers, we have lost our autonomy, our prestige has spiraled downward, and our professionalism is sagging.1,2 But our woes don’t end there.

Lurking in the shadow of these ills is yet another medical malady, one for which we are solely responsible, and one that endangers the public we serve. It begins in medical school, where it almost never receives the attention it deserves. During residency training, it remains easy to spot, but efforts to spot it are not routine. And even when it becomes conspicuous, measures to correct it are often ignored, inadequate, or temporary at best.

I call this malady hyposkillia—deficiency of clinical skills. By definition, those afflicted are ill-equipped to render good patient care. Yet, residency training programs across the country are graduating a growing number of these “hyposkilliacs”—physicians who cannot take an adequate medical history, cannot perform a reliable physical examination, cannot critically assess the information they gather, cannot create a sound management plan, have little reasoning power, and communicate...
Twelve tips for excellent physical examination teaching

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Abstract

Background: Physical examination (PEx) skills are declining among medical trainees, yet many institutions are not teaching these systematically and effectively. Many variables contribute to effective teaching; teachers’ confidence in their clinical skills, ability to demonstrate and assess these skills; availability of suitable patients; trainee attitude and fatigue; belief that institutions do not value clinical teachers. Finally, the relevance and significance of a systematic exam must be demonstrated or the teaching degenerates into a ‘show-and-tell’ exercise.

Aims: This paper describes twelve practical teaching tips that can be used to promote high quality PEx teaching in 5 minutes or 45 minutes.

Teaching tips: (1) Diagnostic hypotheses should guide reflective exam; (2) Teachers with the best clinical skills should be recruited; (3) A longitudinal and systematic curriculum can tailor teaching to multiple learner levels (4) Integration of simulation and bedside teaching can maximise learning (5) Bedside detective work and games make learning fun; (6) The 6-step approach to teach procedures can be adopted to teach PEx; (7) Clinical teaching at the bedside should be increased; (8) Linking basic sciences to clinical findings will demonstrate relevance; (9) Since assessment drives learning, clinical skills should be systematically assessed (10) Staff development can target improvement of teachers’ clinical skills for effective teaching; (11) Technology should
Tip 7

Increase and improve bedside clinical teaching

Bedside teaching provides the best forum for clinical teachers to demonstrate physical examination techniques and teach physical exam. Yet, the frequency of bedside teaching is reported to have decreased from an incidence of 75% in the 1960s to less than 16% in the 1990s (Shankel & Mazzaferri)

Ramani S. Med Teach 2008; 30: 851
Tip 10

Assessment drives curriculum
In our newly-reformed 6-year curriculum, medical students acquire basic competence in PE through:

- preclinical training in a clinical skills lab in year 2 of study
- bedside teaching during the Fall semester of year 3, i.e. an introductory clinical course.

The introductory clinical course consists of mini-clerkships in clinical departments, including:

- departments of general internal medicine (with high patient diversity)
- subspecialized internal medicine departments, e.g. endocrinology, cardiology.

An objective structured clinical examination (OSCE) is carried out at the completion of the introductory clinical course.
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Study aim

To compare students’ competence in PE on an OSCE – carried out at the conclusion of the introductory clinical course in the first clinical year – according to the type of internal medicine department where the introductory clinical course took place.
We retrospectively analyzed examination data from 490 third-year OSCEs during February 2016 and February 2017 exam sessions.

Scores at PE stations were compared between students who attended their introductory clinical course:

- in the general internal medicine departments (n=280);
- in the subspecialized internal medicine departments (n=210).
Based on OSCE grades, OSCE scores at PE stations were calculated as relative values (percentages), with the reference to an optimal result for the given task, assumed to be 100%.

Data are shown as medians, range (min–max) and interquartile range (25th–75th percentile).
Averaged OSCE score at PE stations by the type of internal medicine department (Feb 2016 exam session – n=244)

$p = 0.2$ by Mann-Whitney U test
Averaged OSCE score at PE stations by the type of internal medicine department (Feb 2017 exam session – n=246)
A recent additional analysis after abstract submission

Averaged OSCE score at PE stations
(Feb 2018 exam session – n=225)

\[ p = 0.5 \text{ by Mann-Whitney U test} \]
Competence in basic PE skills is similar after bedside teaching in general and subspecialized internal medicine departments in the first clinical year.

This may result from a lower relevance of a limited patient variety in subspecialized departments for the acquisition of basic PE skills in year 3 of study compared to advanced clinical competence during later core clinical clerkships.
Additionally, the preceding second-year preclinical training in a clinical skills lab could minimize the impact of lower patient diversity in subspecialized internal medicine departments.

In line with this hypothesis, we have recently described a correlation between year-to-year improvements in scores at PE stations in preclinical OSCEs and OSCEs at the completion of the introductory clinical course.

Świerszcz J et al. BMJ Open 2017; 7: e017748
How does preclinical laboratory training impact physical examination skills during the first clinical year? A retrospective analysis of routinely collected objective structured clinical examination scores among the first two matriculating classes of a reformed curriculum in one Polish medical school

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ABSTRACT

Objective As a result of a curriculum reform launched in 2012 at our institution, preclinical training was shortened from 1.5 years to 1 year. This was considered a challenge in terms of maintaining the quality of examination skills. Therefore, we conducted a retrospective analysis of objective structured clinical examination scores to evaluate the impact of this change.

Strengths and limitations of this study

We retrospectively compared objective structured clinical examination scores among the first two classes of students. The study had limitations due to the lack of a control group and the potential for selection bias. However, it provided valuable insights into the effectiveness of the curriculum reform.
Thank you for your attention!