

Supplemental Digital Appendix 1

Directors of Clinical Skills Courses (DOCS) Survey: Teaching and Assessing the Physical Examination. From a National Study of Approaches to Teaching the Physical Exam to Medical Students, 2015–2016

Instructions:

We anticipate that it will take you less than 30 minutes to complete the survey. You may save your responses and come back to the survey at a later time.

The purpose of this survey is to characterize the current state of teaching and assessing the physical exam with medical students in the pre-clerkship years. This survey is being conducted by the Directors of Clinical Skills Courses (DOCS), and the survey should be completed by the DOCS Institutional Representative at your medical school. The Institutional Representative may ask for input from other members of your faculty and administration but there should be only one survey completed per medical school. Please note that all questions relate to teaching and assessing the pre-clerkship physical exam ONLY. The questions below do NOT pertain to teaching the physical exam in the clerkship year(s) or later, and the questions do NOT pertain to teaching and assessing other clinical skills (communication skills, history-taking, clinical reasoning, etc.).

Only *required* activities which are a part of the official curriculum should be included.

This survey is not anonymous but data will only be reported in aggregate. There are no known risks associated with completing this survey. This project has been granted exempt status from The University of Chicago Institutional Review Board (IRB). By completing this survey you are agreeing to have your responses analyzed and reported in the aggregate with the rest of the survey respondents. If you have any questions please contact Toshi Uchida: toshiko-uchida@northwestern.edu.

This survey is best viewed on a desktop computer (rather than mobile device) with a larger, maximized screen.

1) What is the duration of your school's entire pre-clerkship curriculum?

(do not include summer vacation)

☐ 12 months

☐ 13-15 months

☐ 16-18 months

☐ 19-21 months

☐ 22-24 months

☐ Other: _____

- 2) **After how many months *into* your curriculum do you introduce the physical exam?***
e.g., if the curriculum begins in August and the introduction to the physical exam begins in October, the introduction occurs 2 months into the curriculum.
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[Questions #3 and 4 are intentionally removed as they are repeats of questions #1 and 2.]

- 5) **What percentage of your physical exam curriculum is taught interprofessionally; i.e., with other health professions students?***
☐ 0-25%
☐ 26-50%
☐ 51-75%
☐ 76-100%
☐ We do not include interprofessional education
- 6) **In addition to medical students, which other health professions students are included in your physical exam curriculum?*** (choose all that apply)
☐ Dental students
☐ Physician Assistant (PA) students
☐ Nurse Practitioner (NP) students
☐ Physical Therapy (PT) students
☐ Other (please specify): _____
☐ We do not include other health professions students in the physical exam curriculum
- 7) **Is your physical exam curriculum integrated with any of the following courses/content?*** (choose all that apply)
☐ History-taking
☐ Anatomy
☐ Physiology/Pathophysiology
☐ Other (please specify): _____
☐ We do not integrate with any other courses/content
- 8) **How does your school teach basic physical exam skills (inspection, palpation, percussion, auscultation) and advanced physical exam skills (e.g., egophony, evaluating for ascites, provocative musculoskeletal tests)?***
☐ Basic skills and advanced skills are taught at the same time by organ system
☐ Basic skills are taught first, then advanced skills are taught later, but both are covered in the pre-clerkship curriculum
☐ Basic skills are taught in the pre-clerkship curriculum and advanced skills are taught during or beyond the clerkships
☐ Basic skills are taught first, then advanced skills are taught later, some in the pre-clerkship curriculum and some in the clerkships and beyond
☐ Other (please specify): _____

- 9) **What general approach is used to teach the physical exam?*** (choose all that apply)
- ☐ Comprehensive physical exam (e.g., head-to-toe, organ system-based approach, in which a “tool box” of maneuvers is taught)
- ☐ Clinical reasoning physical exam (e.g., Core + Clusters, Hypothesis-Driven Physical Exam, problem-focused physical exam, evidence-based physical exam; in which clinical reasoning determines which physical exam maneuvers are performed)
- ☐ Other (please specify): _____
- 10) **What percentage of time is devoted to each approach, selected in the preceding question?***
(should add up to approximately 100%)
- _____ Comprehensive physical exam
- _____ Clinical reasoning physical exam
- _____ Other (as specified in above question)
- 11) **What percent of time is spent in the following settings when teaching the physical exam?**
(should add up to approximately 100%)
- _____ Lecture or other large group format
- _____ Small groups in a classroom setting
- _____ Inpatient clinical settings
- _____ Outpatient clinical settings
- _____ Simulation Center
- _____ Other
- 12) **If you selected "other" for the preceding question, please specify what other settings you use to teach the physical exam.**
- _____
- 13) **If small groups (up to 20 students) are used for teaching the physical exam, what is the average number of students within each group?**
- 0 _____ [] _____ 20
- 14) **If inpatient settings are used for teaching the physical exam, what is the average number of students per inpatient preceptor at any one time?**
- 0 _____ [] _____ 12
- 15) **If outpatient settings are used for teaching the physical exam, what is the average number of students per outpatient preceptor at any one time?**
- 0 _____ [] _____ 12
- 16) **What percent of time are the following instructors used to teach the physical exam?**
(should add up to approximately 100%)
- _____ Generalist faculty (family physicians, general internists, general pediatricians, and emergency physicians)
- _____ Specialist faculty teaching the physical exam of their specialty (e.g., neurologists teaching the neuro exam)
- _____ Specialist faculty teaching the entire physical exam (e.g., neurologists teaching the entire physical exam)

- _____ Senior student-teachers (without faculty present)
 _____ Standardized patients as instructors (without faculty or senior students present)
 _____ Others (NPs, PAs, Physical Therapists, etc.)

17) What percent of time do students practice the physical exam in the following ways?

(should add up to approximately 100%)

- _____ Students practice on each other
 _____ Students practice with standardized patients
 _____ Students practice with actual inpatients patients (NOT standardized patients)
 _____ Students practice with actual outpatients patients (NOT standardized patients)
 _____ Students practice with actual patients in the Emergency Department (NOT standardized patients)
 _____ Students practice using mannequins, simulators, CD-ROMs, virtual patient programs
 _____ Other

18) If you selected "other" for the preceding question, please specify what other ways students practice the physical exam.

19) For each of the formats listed below, indicate whether students are directly observed by an instructor (faculty, senior students, etc.) while they are practicing the physical exam. (choose all that apply)

| | Directly observed by instructor (at least part of the time) | NOT directly observed by instructor | Not applicable |
|---|---|-------------------------------------|----------------|
| Students practice on each other | [] | [] | [] |
| Students practice with standardized patients (SPs) | [] | [] | [] |
| Students practice with actual inpatients (not SPs) | [] | [] | [] |
| Students practice with actual outpatients (not SPs) | [] | [] | [] |
| Students practice using mannequins, simulators, CD-ROMs, virtual patient programs | [] | [] | [] |

20) **How do students learn the genitourinary examinations?** (Choose all that apply).

- ☐ Students practice with trained patients (in-house)
- ☐ Students practice with trained patients (outside 3rd party)
- ☐ Students practice with actual patients (NOT standardized patients)
- ☐ Students practice using mannequins, simulators, CD-ROMs, virtual patient programs
- ☐ Other (please specify): _____

21) **Do you have policies in place for students who feel uncomfortable (for religious or personal reasons) with peer examinations?** (This question pertains to peer examinations of any kind, not only genitourinary examinations).

- ☐ Yes
- ☐ No

22) **If you have policies in place for students who feel uncomfortable with peer examinations, please describe them here:**

23) **If Standardized Patients independently TEACH (without faculty or other instructors present) the physical exam (aside from the genitourinary exams), please specify the parts of the exam they teach.**

(choose all that apply)

- ☐ We do not use standardized patients to teach the physical exam
- ☐ Vital Signs
- ☐ HEENT
- ☐ Chest/Lungs
- ☐ Cardiovascular
- ☐ Abdominal
- ☐ Breast
- ☐ Musculoskeletal
- ☐ Neuro
- ☐ Other (please specify): _____

24) **Which of your instructors are compensated (in money or in protected time) for their teaching?**

(choose all that apply)

| | Compensated with money | Compensated with protected time | No compensation provided |
|--------------------------------|--------------------------|---------------------------------|--------------------------|
| Course Director(s) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Large group lecturers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Small group facilitators | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Inpatient clinical preceptors | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Outpatient clinical preceptors | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

25) If senior students act as teaching assistants for physical exam

instruction/observation/assessment, are they compensated? (choose all that apply)

- ☐ Yes our senior students are compensated monetarily
- ☐ Yes our senior students are compensated with course credit
- ☐ No our senior students are not compensated monetarily or with course credit
- ☐ We do not use senior students as teaching assistants in our curriculum

26) In which settings do you TEACH and ASSESS the physical exam? (choose all that apply)

| | Teach PE | Assess PE |
|--|--------------------------|--------------------------|
| At your medical school's clinical skills center | <input type="checkbox"/> | <input type="checkbox"/> |
| At another medical school's clinical skills center | <input type="checkbox"/> | <input type="checkbox"/> |
| In classrooms | <input type="checkbox"/> | <input type="checkbox"/> |
| In clinical settings (inpatient or outpatient, e.g., teaching or assessing the eye exam in the eye clinic) | <input type="checkbox"/> | <input type="checkbox"/> |

27) Which online multimedia resources are used in your physical exam curriculum?* (choose all that apply)

- ☐ Online learning modules/videos created by your own institution.
- ☐ Online learning modules/videos created by another medical school.
- ☐ Online learning modules/videos created by textbook publishers.
- ☐ Online learning modules/videos posted on YouTube, Vimeo or other similar public websites
- ☐ We do not use online learning modules/videos
- ☐ Other (please specify): _____

28) From the question immediately above, what are the two (2) most useful multimedia resources you have found?

29) Which of the following resources are used in your physical exam curriculum?* (choose all that apply)

- ☐ Virtual patient programs (e.g., DxR Clinician, i-Human, etc.)
- ☐ Mechanical human simulators (e.g., task trainers, mannequins, etc.)
- ☐ Videos, CD-ROMs, etc.
- ☐ Bedside ultrasonography
- ☐ Our curriculum does not use any of the above resources
- ☐ Other (please specify): _____

30) From which of the following textbooks do you assign *required* readings? (choose all that apply)

- ☐ Bates' Guide to Physical Examination and History-Taking by Lynn Bickley
- ☐ DeGowin's Diagnostic Examination by LeBlond, Brown, and DeGowin
- ☐ Sapira's Art and Science of Bedside Diagnosis by Jane M. Orient

- ☐ Seidel's Guide to Physical Examination (Mosby's) by Jane W. Ball
☐ Textbook of Physical Diagnosis: History and Examination by Mark H. Swartz
☐ No textbook readings are required
☐ Other (please specify): _____

31) Indicate whether the following medical equipment is required, recommended or neither for your physical exam curriculum.

| | Required | Recommended | Neither required nor recommended |
|-------------------------|----------|-------------|----------------------------------|
| Stethoscope | () | () | () |
| Sphygmomanometer | () | () | () |
| Otoscope/ophthalmoscope | () | () | () |
| Otoscope insufflator | () | () | () |
| Snellen card | () | () | () |
| Reflex hammer | () | () | () |
| Tuning fork(s) | () | () | () |

32) How many structured assessments of physical exam skills does your school have in the pre-clerkship years?* (include assessments of the physical exam only **AND** comprehensive encounters that include a physical exam)

Number of summative assessments (which contribute to final score/grade): _____

Number of structured formative assessments (which do not contribute to final score/grade): _____

33) For your formative and summative assessments of the physical exam in the pre-clerkship years, please mark the grid below to indicate: who serves as the patient?*

| | Formative | Summative | Not used in assessments |
|---------------------------|-----------|-----------|-------------------------|
| Standardized Patient (SP) | [] | [] | [] |
| Real Patient | [] | [] | [] |
| Student | [] | [] | [] |

34) For your formative and summative assessments of the physical exam in the pre-clerkship years, please mark the grid below to indicate: who scores the checklist?*

| | Formative | Summative | Not used in assessments |
|---|-----------|-----------|-------------------------|
| Standardized Patient (SP) who serves as the patient | [] | [] | [] |

| | | | |
|--|--------------------------|--------------------------|--------------------------|
| Separate SP from the one who serves as the patient | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Senior Student | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Faculty | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

35) For your formative and summative assessments of the physical exam in the pre-clerkship years, please mark the grid below to indicate: when is the initial scoring done?

| | Formative | Summative | Not used in assessments |
|---------------------------|--------------------------|--------------------------|--------------------------|
| Live | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Later by watching a video | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

36) For your *summative* assessments (including OSCEs, written exams and other assessments) which of the following techniques do you use to set your passing standards?* (choose all that apply)

- ☐ Norm-referenced standard (e.g., standard deviation)
- ☐ Angoff and/or Hofstee methods
- ☐ Borderline method
- ☐ Bookmark method
- ☐ Standard set by Course Director
- ☐ Standard set by internal committee
- ☐ I do not know how our standards are set
- ☐ Other (please specify): _____

37) If checklists are used in your physical exam assessments, who is involved in the creation of the items? (choose all that apply)

- ☐ Course director(s)
- ☐ Course faculty instructors
- ☐ Relevant sub-specialists
- ☐ Accepted list used at my and other institutions
- ☐ Other (please specify): _____

38) For your students who fail *summative* physical exam assessments, what type of remediation program do you use?* (choose all that apply)

- ☐ A pre-determined remediation program that is the same for all students who fail
- ☐ An individualized remediation program based on the student's needs
- ☐ We do not remediate failed physical exam assessments
- ☐ Other (please specify): _____

39) If you have a remediation program, who works with the students who are remediating?* (choose all that apply)

- ☐ Faculty
- ☐ Standardized Patients
- ☐ Senior students
- ☐ Other (please specify): _____

40) How do you evaluate your physical exam curriculum?* (choose all that apply)

- ☐ Student satisfaction on course evaluations
- ☐ AAMC Graduation Questionnaire data
- ☐ Students' ability to demonstrate passing performance on institution-based standardized testing (e.g. SP-based assessment, OSCEs, multiple choice questions, etc.)
- ☐ Students' ability to demonstrate passing performance on the USMLE Step 2CS examination
- ☐ Students' performance of physical examination skills in the clerkships
- ☐ Other (please specify): _____

41) How many total hours do you spend teaching the physical exam in the pre-clerkship years?*

42) Please list the two (2) most successful aspects of your physical exam curriculum.

43) Please list the two (2) aspects of your physical exam curriculum that present the greatest challenges.

44) Please provide any other comments you have on teaching and assessment of the physical exam in the pre-clerkship curriculum

45) Demographics

First name: _____

Last name: _____

Title/position (in relation to clinical skills curriculum): _____

Email address: _____

46) Which years of your school's physical exam curriculum are you responsible for: (choose all that apply)

- ☐ 1st Year
- ☐ 2nd Year
- ☐ 3rd Year
- ☐ 4th Year

47) How many years have you been in a leadership position teaching and assessing the physical exam?

- ☐ 0-2 years
- ☐ 3-5 years
- ☐ 6-8 years
- ☐ 9-11 years
- ☐ 12-14 years
- ☐ >15 years

48) Class size: (number of students per year)

- ☐ 1-50
- ☐ 51-100
- ☐ 101-150
- ☐ 151-200
- ☐ 201-250
- ☐ 251-300
- ☐ 300+

49) Your institution

- ☐ Albany Medical College
- ☐ Albert Einstein College of Medicine of Yeshiva University
- ☐ Baylor College of Medicine
- ☐ Boonshoft School of Medicine Wright State University
- ☐ Boston University School of Medicine
- ☐ Brody School of Medicine at East Carolina University
- ☐ Case Western Reserve University School of Medicine
- ☐ Central Michigan University College of Medicine
- ☐ Charles E. Schmidt College of Medicine at Florida Atlantic University
- ☐ Chicago Medical School at Rosalind Franklin University of Medicine and Science
- ☐ Columbia University College of Physicians and Surgeons
- ☐ Commonwealth Medical College
- ☐ Cooper Medical School of Rowan University
- ☐ Creighton University School of Medicine
- ☐ David Geffen School of Medicine at UCLA
- ☐ Drexel University College of Medicine
- ☐ Duke University School of Medicine
- ☐ East Tennessee State University James H. Quillen College of Medicine
- ☐ Eastern Virginia Medical School
- ☐ Emory University School of Medicine
- ☐ Feinberg School of Medicine Northwestern University
- ☐ Florida International University Herbert Wertheim College of Medicine
- ☐ Florida State University College of Medicine
- ☐ Frank H. Netter MD School of Medicine at Quinnipiac University
- ☐ Geisel School of Medicine at Dartmouth
- ☐ George Washington University School of Medicine and Health Sciences
- ☐ Georgetown University School of Medicine
- ☐ Harvard Medical School
- ☐ Hofstra North Shore-LIJ School of Medicine at Hofstra University
- ☐ Howard University College of Medicine
- ☐ Icahn School of Medicine at Mount Sinai
- ☐ Indiana University School of Medicine
- ☐ John A. Burns School of Medicine University of Hawaii at Manoa
- ☐ Johns Hopkins University School of Medicine
- ☐ Keck School of Medicine of the University of Southern California
- ☐ Loma Linda University School of Medicine

- () Louisiana State University School of Medicine in New Orleans
- () Louisiana State University School of Medicine in Shreveport
- () Marshall University Joan C. Edwards School of Medicine
- () Mayo Medical School
- () Medical College of Georgia at Georgia Regents University
- () Medical College of Wisconsin
- () Medical University of South Carolina College of Medicine
- () Meharry Medical College School of Medicine
- () Mercer University School of Medicine
- () Michigan State University College of Human Medicine
- () Morehouse School of Medicine
- () New York Medical College
- () New York University School of Medicine
- () Northeast Ohio Medical University College of Medicine
- () Oakland University William Beaumont School of Medicine
- () Ohio State University College of Medicine
- () Oregon Health & Science University School of Medicine
- () Paul L. Foster School of Medicine Texas Tech University of Health Sciences Center
- () Pennsylvania State University College of Medicine
- () Ponce School of Medicine and Health Sciences
- () Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania
- () Rush Medical College of Rush University Medical Center
- () Rutgers New Jersey Medical School
- () Rutgers, Robert Wood Johnson Medical School
- () Saint Louis University School of Medicine
- () San Juan Bautista School of Medicine
- () Sidney Kimmel Medical College at Thomas Jefferson University
- () Southern Illinois University School of Medicine
- () Stanford University School of Medicine
- () State University of New York Upstate Medical University College of Medicine
- () State University of New York, Downstate Medical Center, College of Medicine
- () Stony Brook University School of Medicine
- () Stritch School of Medicine Loyola University Chicago
- () Temple University School of Medicine
- () Texas A&M Health Science Center College of Medicine
- () Texas Tech University Health Sciences Center School of Medicine
- () Tufts University School of Medicine
- () Tulane University School of Medicine
- () Uniformed Services University of the Health Sciences, F. Edward Hébert School of Medicine
- () Universidad Central del Caribe School of Medicine
- () University at Buffalo School of Medicine and Biomedical Sciences, State University of New York
- () University of Alabama School of Medicine
- () University of Arizona College of Medicine - Phoenix
- () University of Arizona College of Medicine
- () University of Arkansas for Medical Sciences College of Medicine
- () University of California - Davis School of Medicine
- () University of California - Irvine School of Medicine

- () University of California - Riverside School of Medicine
- () University of California - San Diego School of Medicine
- () University of California - San Francisco School of Medicine
- () University of Central Florida College of Medicine
- () University of Chicago Division of the Biological Sciences, The Pritzker School of Medicine
- () University of Cincinnati College of Medicine
- () University of Colorado School of Medicine
- () University of Connecticut School of Medicine
- () University of Florida College of Medicine
- () University of Illinois at Chicago College of Medicine
- () University of Iowa Roy J. and Lucille A. Carver College of Medicine
- () University of Kansas School of Medicine
- () University of Kentucky College of Medicine
- () University of Louisville School of Medicine
- () University of Maryland School of Medicine
- () University of Massachusetts Medical School
- () University of Miami Leonard M. Miller School of Medicine
- () University of Michigan Medical School
- () University of Minnesota Medical School
- () University of Mississippi School of Medicine
- () University of Missouri School of Medicine
- () University of Missouri-Kansas City School of Medicine
- () University of Nebraska College of Medicine
- () University of Nevada School of Medicine
- () University of New Mexico School of Medicine
- () University of North Carolina School of Medicine
- () University of North Dakota School of Medicine and Health Sciences
- () University of Oklahoma College of Medicine
- () University of Pittsburgh School of Medicine
- () University of Puerto Rico School of Medicine
- () University of Rochester School of Medicine and Dentistry
- () University of South Alabama College of Medicine
- () University of South Carolina School of Medicine, Columbia
- () University of South Carolina School of Medicine, Greenville
- () University of South Dakota Sanford School of Medicine
- () University of Tennessee Health Science Center College of Medicine
- () University of Texas Medical Branch at Galveston
- () University of Texas Medical School at Houston
- () University of Texas School of Medicine at San Antonio
- () University of Texas Southwestern Medical Center at Dallas, Southwestern Medical School
- () University of Toledo College of Medicine
- () University of Utah School of Medicine
- () University of Vermont College of Medicine
- () University of Virginia School of Medicine
- () University of Washington School of Medicine
- () University of Wisconsin School of Medicine and Public Health
- () USF Health Morsani College of Medicine

Supplemental digital content for Uchida T, Park YS, Ovitsh RK, Hojsak J, Gowda D, Farnan JM, Boyle M, Blood AD, Achike FI, Silvestri RC. Approaches to teaching the physical exam to preclerkship medical students: Results of a national survey. Acad Med.

- () Vanderbilt University School of Medicine
- () Virginia Commonwealth University School of Medicine
- () Virginia Tech Carilion School of Medicine
- () Wake Forest School of Medicine of Wake Forest Baptist Medical Center
- () Warren Alpert Medical School of Brown University
- () Washington University in St. Louis School of Medicine
- () Wayne State University School of Medicine
- () Weill Cornell Medical College of Cornell University
- () West Virginia University School of Medicine
- () Western Michigan University School of Medicine
- () Yale University School of Medicine

Thank you!

*Items analyzed in current report