Nova Southeastern University College of Osteopathic Medicine

Medical Education Digest

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Involvement of ACGME-Trained D.O. Residents in the Osteopathic Community

More than 50 percent of those graduating from osteopathic medical schools complete residencies in programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). In 1985, as a result of the decline in the availability of osteopathic residencies, the American Osteopathic Association (AOA) permitted graduates of osteopathic medical schools (D.O.s) to complete postdoctoral training in ACGME- accredited programs.

While this reduced the pressure on osteopathic medicine to have an adequate number of residency positions for its graduates and helped to ameliorate the shortage that allopathic medicine was experiencing of those who entered primary care fields, it created new problems for the osteopathic medical community. While many elected to complete an allopathic residency because they perceived the quality of training was better, others did so because of geographic reasons (e.g., about 75 percent of AOA-approved internships are located in seven states).

However, those osteopathic physicians who were completing ACGME residencies were receiving little or no training in osteopathic manipulative treatment (OMT). It was hypothesized that D.O.s in ACGME-accredited programs had not lost their interest in their osteopathic roots but instead had experienced institutional barriers in continuing to be affiliated with the osteopathic family.

A 12-item national survey was conducted involving D.O. residents who were in ACGME or AOA/ACGME dually accredited programs, as well as those in military programs. Of the 1,354 surveyed, 447 responses were returned, with two thirds of the respondents indicating they were interested in completing the American Osteopathic Board of Family Practice (AOBFP) certification examination. Almost 94 percent indicated their support for increased efforts to transition allopathic residencies into those that would become dually accredited or parallel programs. Also, more than 80 percent indicated they had an interest in a program that had osteopathic mentors for D.O.s in allopathic residencies.

The authors recommend that the osteopathic medical profession has the responsibility to maintain communication with D.O.s who complete ACGME-accredited residency training.

(Scott SC, O'Conner EM, and Marlow RA. Measuring awareness, interest, and involvement in the osteopathic community through board certification: a survey of D.O. residents in ACGME-accredited training programs. JAOA. 109:302-311;2009.)

Small Gifts Influence Student Physicians

Even simple and inexpensive gifts like coffee mugs and pencils appear to influence how physicians prescribe. One medical school study showed that attitudes toward a drug designed to lower cholesterol were more positive among students whose school permitted them to receive gifts from pharmaceutical companies. A report in the *Archives of Internal Medicine* indicated it made no difference how small the gift was. The University of Miami, where gifts are permitted, was compared to the University of Pennsylvania, where they are not. This included 352 third- and fourth-year students who participated in a psychological test focusing on Lipitor and the generic version of Zocor. The more expensive Lipitor was viewed more favorably by the students. After providing gifts to fourth-year Miami students that included Lipitor clipboards, they viewed that drug more positively. The investigators attributed this to the powerful effect of branding. They also indicated that practicing physicians who consider themselves more expert feel they are not susceptible to such influence.

(Nagourney E. Behavior: small gifts found to influence doctors. The New York Times. May 19, 2009.)

Training in the Fourth Year of Medical School

Most of the fourth year of medical school includes student-chosen electives. They also tend to choose rotations at institutions where they would like to match. Residency program directors (PDs) from 43 residency programs were asked what clinical competencies students should acquire in their fourth year that they do not obtain during their third year, and how should the fourth year be revised to better prepare students for internship?

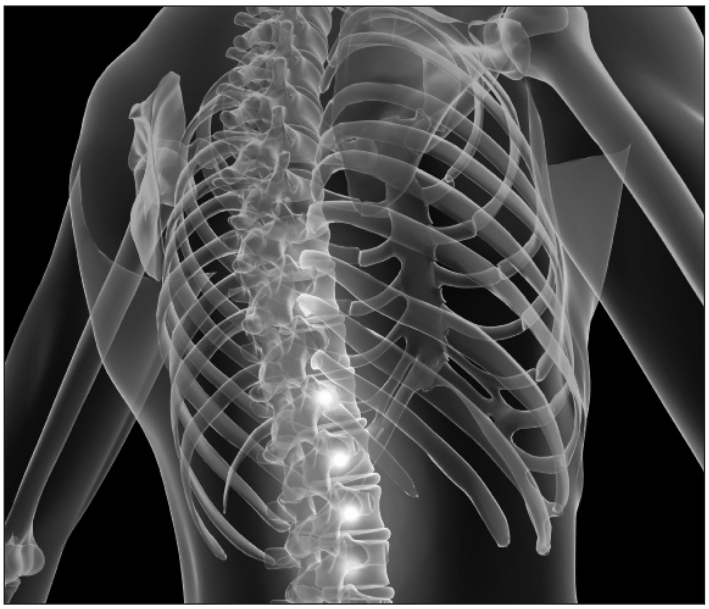
PDs were contacted at the most commonly matched programs of 10 specialties. Of 30 programs, 21 were university-based, 7 were community-based only, and 2 were community-based with university affiliations. Difficulties reported by interns were lack of self-reflection (inability to acknowledge one's weaknesses, receive feedback, and improvement). PDs recommended that during the fourth year of medical school, students should acquire competencies in

- the effective use of evidence-based medicine
- advanced clinical reasoning
- near intern-level independence
- capacity to care for more patients
- responsibility and reliability
- ownership of patient care
- communication with patients
- professionalism
- medical knowledge

Some PDs recommended that in a four-week rotation, students should work extensively with a senior resident or attending to enhance history-taking and physical exam techniques, expand skills in patient care, practice-based learning and improvement, and system-based practice competencies. The authors believed that the study illustrated the need for fourth-year students to have more effective roles in patient care, and that it should contribute to the natural progression that leads from the third year and prepares them for internship.

(Lyss-Lerman P, Teherani A, Aagaard E, Loeser H, Cooke M, and Harper M. What training is needed in the fourth year of medical school? views of a residency program director. Academic Medicine. 84:823-829;2009.)

Learning Cross-Sectional Anatomy Using Virtual Dissection



In an era when CT and MRI scans are performed frequently, it is important for medical students to learn cross-sectional anatomy. Many software packages now exist that can provide such instruction including one that is available from the National Library of Medicine called VHD (Virtual Human Dissector) that provides a complete three-dimensional representation of the male and female human body.

The University of Durham uses this for undergraduate medical school teaching both formally and through student self-directed study. A study was conducted at this medical school in which one group of students used the VHD in the computer suite only while a second group took the more traditional route that employed dissection, prosection, models, and textbooks. Both groups completed the same pre-session, mid-session, and post-session tests. There was an increase in score from the pre-session to post-session tests for both groups, and no statistically significant difference was noted in any of the tests with either group.

The authors concluded that using the VHD is an equally effective learning tool as the standard methods of learning anatomy (i.e., dissection, prosections, and manuals). The VHD allows users to examine at the same time the anatomy of the viscera or entire organ systems in 2D and 3D views and to be taught simultaneously with clinical skills. In addition, body systems can be reviewed in a variety of orientations, and a virtual slice can be seen any number of times.

(Donnelly L, Patten D, White P, and Finn G. Virtual human dissector as a learning tool for studying cross-sectional anatomy. Medical Teacher. 31(6):553-555;2009.)

Analying the SOMOSAT Self-Assessment Tool

New York University School of Medicine adopted an unfunded, Web-based self-assessment tool for its second-year students. It provides an opportunity for the students to receive feedback from a seven-month course they complete in the mechanisms of disease organized by organ system. The assessment tool is called the School of Medicine Online Self-Assessment Tool (SOMOSAT), which provides a series of organ system-based modules. SOMOSAT allows students to assess their own knowledge as well as offers them additional resources for both study and learning.

The 454 multiple-choice questions address pathophysiology, pharmacology, and pathology of organ system disease, with most questions derived from collaboration between students and faculty members. The criteria used are similar to the questions written for the National Board of Medical Examiners and the American Board of Internal Medicine. Each of eight modules includes 50-60 questions and is organ system-based, including circulation, respiration, excretion, digestion, the endocrine system, reproductive system, musculoskeletal system, and the hematological system. Students are informed that the purpose is to provide a self-assessment of their strengths and weaknesses within each organ system. About two thirds of the students participated in any given module, and about 90 percent completed at least one module.

SOMOSAT was well received by the students and appeared to enhance their knowledge and competence, permitting them to focus on areas that needed most attention. The authors advocate more Web-based learning in medical school education.

(Leaf DE, Leo J, Smith PR, Yee H, Stern A, Rosenthal PB, Cahill-Gallant EB, and Pillinger MH. SOMOSAT: utility of a web-based self-assessment tool in undergraduate medical education. Medical Teacher. 31:e211-219;2009.)

Biomedical Informatics: A Formal Academic Discipline

Biomedical informatics (BMI) is concerned with the methods and capabilities for developing models for

understanding biomedical and health care processes

acquiring data characterizing biomedical/health care processes

representation of biomedical and health care processes

storage of data

analytic processes for using the data

generation of knowledge from data

management of knowledge

application of knowledge to facilitate problem solving

decision making

optimization of processes and workflow

It also is concerned with social, cultural, cognitive, organizational, and educational use and application of data and knowledge. The subdisciplines that BMI encompasses today include

- *bioinformatics* – molecular level
- *imaging informatics* – organ/tissue level
- *clinical informatics* – person level
- *public health informatics* – population level

BMI professionals have the role to be both the mediator and collaborator between the world of computer science and the world of medicine. They have the role of understanding the information and decision-making needs of researchers and practitioners in biomedicine and health to develop and apply methods and procedures to meet those needs.

(Greenes RA and Shortliffe EH. Informatics in biomedicine and health care. Academic Medicine. 84:818-820;2009.)

Early Student Contact with Patients at New Schools

The new allopathic medical school at Hofstra University in Long Island, New York, and at least at two osteopathic medical schools are including early clinical experience for their students. Many medical schools up to now were reluctant to include early clinical experiences in their curriculum because of the demands on the students during their first and second years. Hofstra, for example, intends to send first-year medical students out with ambulance crews. It intends to enter its charter class of 40 in 2011 and is currently seeking preliminary accreditation. The school will include North Shore and the Long Island Jewish Health System as its partners.

Since this will provide access to a fleet of 60 ambulances, early exposure by students using this asset is possible. Working with the ambulance crews will allow students to learn basic EMT skills. In addition, students will be able to track these patients over months or years including at home, in the hospital, rehab center, or nursing home. The students also will probably be spending a day a week in the hospital from the beginning of their first year of medical school.

The accrediting body, Liaison Committee on Medical Education, is encouraging this approach. Florida International University, also a new medical school, will be dividing its initial class of 43 students into four groups focusing on a predominantly Hispanic, African-American, Caribbean, or Jewish neighborhood. In the spring of 2010, the students will be assigned to families they will be visiting in their homes twice monthly over a three-year period to follow the progression of their medical conditions. Rocky Vista University in Parker, Colorado, a new osteopathic medical school, has its inaugural class of 152 perform community service in domestic violence shelters, a drug-and-alcohol treatment center, a migrant worker clinic, or other public health facilitities.

(Managan K. The Chronicle of Higher Education. May 22, 2009.)

Simulation-Based Emergency Med Curriculum

In a study conducted by Northwestern University Feinberg School of Medicine faculty, it was postulated that a simulation-based pediatric emergency medicine curriculum for pediatric emergency medicine residents would improve resident performance. A controlled evaluation study was performed that employed six instructional and three evaluation simulation scenarios. Each case lasts about 15 minutes with a debriefing session following for another 15-30 minutes. The problems addressed included an infant in shock, tachycardia, altered mental status, and trauma. Each case had a simulation flow diagram, scripts for use by actors playing a nurse, parent, or historian, as well as an instructor's guide. Case materials are available at *http://pediatrics.patientsimulation.net/emsct/*.

Cases were piloted with a new group of senior pediatric residents. Evaluation instruments were developed in concert with instructional cases, and both are similar. Checklists are used containing 37-61 items. A nurse and nurse practitioner were trained to be evaluators, but faculty experts reviewed videos with these raters to provide feedback. Also employed were high-fidelity human patient simulators called the Laerdal SimBaby mannequin that simulates heart sounds, respiratory movement, and peripheral pulses. It also can be intubated endotracheally, ventilated, and receive interosseous and intravenous access. In addition, it responds automatically to interventions by producing changes in cardiac rhythm after being defibrillated. It was noted that the project produced a valid reproducible pediatric emergency medicine instructional and evaluation curriculum with modest gains in residents trained later in the academic year.

(Adler MD, et al. Development and evaluation of a simulation-based pediatric emergency medicine curriculum. Academic Medicine. 84:935-941;2009.)

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