What Kind of Doctors Are We Training for the Future?

In the past, I have addressed the concerns of medical training that interns and residents endure while on their journey to gain board certification as a physician or a surgeon. I felt that the new changes hampered the ability of newly trained doctors to deal with real world medicine after the completion of training. Required residency hours were lengthy and medical professional communities recognized the potential dangers that excessive work hours under stressful situations posed on several levels including the effects of sleep deprivation and increased rates of medical errors.

In 2003 in an effort to further regulate, the Accreditation Council for Graduate Medical Education (CGME) tackled the current residency and hour requirements, highlighting patient safety, resident wellness, and the resident training experience. In 2007 regulations were restricted to 80 hours per week for medical residents in training, overnight call frequency of no more than one overnight every third day, 30-hour maximum straight shift, and 10 hours off between shifts; albeit voluntary, adherence had been mandated for the purposes of accreditation of the residency. Moreover, first-year residents, also called interns, were limited to shifts no longer than 16 hours straight, due to these newly regulated standards effective on July 1, 2011.

While patient safety advocates and surgeons themselves uttered objection and trepidation, still the ACGME implemented standards in an effort to protect residents from sleep deprivation, fatigue, and the medical errors that can follow from longer work hours. Second year resident schedules allowed up to 24 straight hours, with 4 additional hours permitted to ensure proper patient hand-off, as opposed to the previous standards whereby 24 hour shifts were the maximum for all residents, with 6 hours acceptable for patient hand-off.

With all the debate and protest, David Farley, MD, of the Mayo Clinic in Rochester, Minn., and his colleagues conducted a study at 11 general surgery residence programs where they surveyed 215 interns about the efficacy of the new standards. In the June 18, 2012 edition of the *Archives of Surgery* published Dr. Farley's findings with statistics that caused alarm within the medical community and the American public at large.

The investigation found that 80% of the surgical interns believed that the time restrictions would decrease continuity with patients, and nearly 58% believed that it would impact overall patient care. Furthermore even greater concern was expressed when interns were asked about the effect the reduced

hours would have on their expertise in the operating room, with 67% reporting apprehension. On average 50% of the interns believed their general medical knowledge, surgical skill set, and educational experience would suffer, even if their fatigue would lessen.

Farley's findings reiterate my original premise regarding the deficiencies in medical training in the United States since implementation of the new guidelines that were put into place after completing my general surgery residency in 1996. Over the course of my 5 years of surgical training, I performed over 1300 cases as the primary surgeon at Los Angeles County-USC Medical Center, one of the most demanding and busy hospitals in the US, and was many times at the hospital for 130 hours a week. Then I did my cardiothoracic surgery training at University of Miami-Jackson Memorial Hospital, again another medical facility inundated with a constant influx of patients. Today, however, graduating residents from LA County-USC finish with roughly half the number of cases that I executed in the same time frame of training and the number of cases cardiac surgery residents perform barely meet the minimum necessary to qualify to sit for board certification.

There is a reason that surgical training is exhausting, extensive, and very difficult. The first reason is to purge those doctors that emphatically can't perform under such extreme conditions. The second reason is that in order to develop an expert skill set, a graded approach is needed such that residents can operate and care for patients independently. Today, in most residency programs, most residents perform only a portion of the case, because the attending surgeon essentially performs the surgical procedure. After graduation, how are these surgeons going to face a sick patient "alone" if they haven't successfully achieved a complete procedure during their residency with great frequency? Unfortunately, many times training is done under exhausting conditions, and mistakes are made. I can assure you that fatigue is not the primary cause of mistakes. The lack of experience in patient coordination and the failure to become independently skilled at complicated operations is.

With a shortened work week, now at 70 hours, there can be no accountability on the part of residents, since as soon as the "going gets tough," they're allowed to go home. In the real world sick patients are not on a 9 to 5 schedule. Does anybody ever think why it takes so long to become a navy fighter pilot? Does one ever think that mistakes are made due to pilot fatigue? The answer to the last question should be obvious, but the difficult grueling, repetitive training minimizes this, as it does in surgical training.

So what kind of doctors are we training for the future? The answer is a group of individuals who don't know how to work under difficult conditions, have no commitment to patient care, and basically cannot perform the necessary operations independently at the end of their residency. Operating on simulators is not the same as operating on the human body. There is no way to simulate five gun shot wounds coming into Los Angeles County - USC Emergency Room at one time and being able to independently decide how to triage the patients. There is also no way to simulate having spent two days on-call with limited sleep and having to do a heart transplant. Unfortunately, heart donors don't necessarily die during the day; and unless we prepare our future doctors for a most difficult career, the future of medicine, as we currently know it, is doomed for failure. Doctors already rely on too much testing to make a diagnosis, which increases the cost of health care. The art of examining the human body is being taught less and less. Unless we confront the reality of medical training and future health care, we are heading for a health care system that is inferior to that of many countries in the world. Residency training needs to be extended. Doctors need to be compensated appropriately. If residents are unable to deal with the difficult training in surgery, they should look at training in an easier medical specialty.