Will the New Milestone Requirements Improve Residency Training?

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Education in orthopedic surgery is evolving. Recently, the Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Orthopaedic Surgery (ABOS) have implemented a set of clinical "milestones" by which training programs will use as progressive benchmarks to evaluate each resident's acquisition of medical knowledge and patient care skills.[1] The milestones are a step toward standardizing resident education based on a progression model, which is already being used by European and Asian countries. The evaluations are disease-specific and graded from Level I (incoming resident) to Level V (career specialist). Contrary to many residents' first impressions, the milestone levels do not correspond to post-graduate year; the recommended target for graduates is actually Level IV. Although these milestones are not intended to supersede the program's decision to graduate an individual, program directors are now encouraged to complete these evaluations, with co-faculty, at the semi-annual review in order to identify possible weaknesses in either the resident or in the institution's teaching methods. Several pros and cons have been identified with the current paradigm shift in orthopedic education, and the following article will discuss those controversies from one resident's perspective.

Pros

Residents will now have a tangible set of goals for each rotation, and the acquisition of medical knowledge and clinical skills can be directed toward them. During the mid-year review, residents will be provided with unambiguous feedback that either confirms their progress and/or identifies their weaknesses. Faculty will have an opportunity to reflect on their own teaching methods and adjust them according to their goals for the block. On a national scale, the ACGME and ABOS will have a large bank of normative data to compare programs.

Cons

Inherent biases of the rating scales and the raters are the major limitation of this initiative. Although a well-respected group of orthopedic surgeons developed the milestone levels, the rating scales are nonetheless only one small group's interpretation of a resident's proper educational growth. Additionally, a few surgeons are less than enthusiastic about the increase in paperwork and may not give close consideration to the evaluation. Last, these scales are not validated and interobserver variability limits the comparison of residents within and among programs.

My View

John Dewey, one of the fathers of modern education, is quoted in his book *Experience and Education* saying, "education should derive its material from present experience and should enable the learner to cope with problems of the present and the future."[2] Dewey criticized the traditional authoritative teaching model of the early 1900s; methods of that time emphasized a rigid classroom structure, unchallenged dogmas, and a master instructor who expected students to absorb facts in a classroom and apply them in the "real world." Does this sound familiar to anyone? It is surprising that with many of the advances in educational philosophy that many instructors still teach with rote memorization in a Socratic fashion. Fortunately, it appears that many training programs are striving to improve the quality assurance of their product and, like Dewey, are advocating for gradual freedom of independent thought and progressive, step-wise, learning through guided experience. I think the milestones are a step toward Dewey's progressive pedagogical philosophy for several reasons:

1 The milestones provide an opportunity for the residents to assess their own growth and potential for independence. I think often residents feel a progressive sense of entitlement as they rise in post-graduate year. I have heard the phrase "he doesn't let me do anything in the case" many times. Perhaps in this new model, residents can see why some surgeons do not think they are ready to operate. For example, many of the trauma modules require preoperative

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planning skills before the resident is advanced to placing implants. Many residents may feel like they enjoy the case more if the surgeon lets them handle the equipment, but in reality, even medical students can implant hardware if someone is thinking for them and telling them every step. The milestone for hip fracture asks that the resident first shows a thought process behind the choice of implants, the approach, and postoperative management (Level II) before they repair a simple or complex hip fracture (Level III and IV).

2 The milestones provide an opportunity for the educators to reflect on the effectiveness of their teaching methods. How many of us have held a leg for hours in an arthroscopy case only for the attending to point to the popliteus tendon and ask the name? How many of us have done this as a chief resident? I think milestones will now ask the faculty to think about the resident's skill level and adjust the surgical experience appropriately. In the future, perhaps that same experience might now expand to a guided interpretation of x-rays and magnetic resonance imaging findings (levels II and III) or discussing controversies of meniscal repair techniques and supervising a resident through one (level IV).

3 The milestones provide an opportunity for programs to evolve. Overall, I think it will be challenging to compare programs nationally because evaluators/residents will not equally value this system. However, I think the best implementation lies in studying trends within individual programs. If taken seriously, program directors can have another tool to monitor the progress of trainees and make adjustments: some residents may need to work harder and recognize their deficiencies, and some faculty members may need to reflect on their relationship with the residents.

At my program, the residents and instructors complete the evaluations and compare; at least in the short term, I think this exercise has generated healthy discussion for quality improvements on both ends, which has the potential to improve training. As medicine is becoming increasingly judged on the quality of care, the quality of the surgeon must rise as well, and we should continue to seek new ways to meet that demand.

References

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