Use of practice tracks in the medical specialties.

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SPECIAL CONTRIBUTIONS

Use of Practice Tracks in the Medical Specialties

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ABSTRACT

Objectives: To evaluate the use of practice tracks by each of the 24 medical specialty boards and to compare this with the experience in emergency medicine (EM).

Methods: Scripted telephone surveys were conducted with representatives of each of the specialty boards.

Results: Of 24 specialties currently recognized by the American Board of Medical Specialties (ABMS), 14 (58%) reported a history of a practice track. Eight boards reported never having a practice track and 2 were unsure. All practice tracks have been limited in duration, most commonly closing after a specified period. The mean duration of the practice tracks was 9.8 years, the median was 7.5 years, and the range was 3–27 years. The practice track in EM was open for 9 years.

Conclusions: Practice tracks were common in the early years of most specialties and most were limited by duration. The history of the practice track in EM is not dissimilar to those of other specialties.

Key words: specialty boards, medical specialties, American Board of Emergency Medicine.

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Currently 24 specialty boards are recognized by the American Board of Medical Specialties (ABMS). ABEM was recognized by ABMS as a conjoint board (modified) in 1979, and became a primary board in 1989. From 1979 until 1988, ABEM offered a practice track pathway to board certification.[1] Physicians applying under this track must have fulfilled all of the following:

- practiced and/or taught emergency medicine (EM) a minimum of 60 months;
- accumulated a minimum of 7,000 hours in the practice and/or teaching of EM;
- accumulated 2,800 of the 7,000 hours within any consecutive 24-month period;
- accumulated 50 hours of continuing medical education in EM acceptable to the Board, for each completed year in practice after 1973.

ABEM could grant a maximum of 2 years' practice credit for accredited residency training in specialties other than EM. The Board usually allowed a 50% practice credit for each of the years following the completion of the PGY1.

A separate, distinct pathway referred to as "The Special Credentialing Guidelines for Internists Practicing in Academic Centers" was made available by ABEM in 1989. This pathway was available only to American Board of Internal Medicine (ABIM) diplomates practicing at teaching hospitals holding a major affiliation with an accredited internal medicine residency program and a medical school. This pathway required the physician to demonstrate a career commitment to EM in the educational setting. This pathway followed the development of joint graduate training programs in internal medicine and EM, leading to certification by both boards. This pathway was closed on June 30, 1995, the date on which the first residents graduated from the joint training programs.

Since the closing of this pathway in 1995, all physicians applying for ABEM certification are required to complete residency training in EM. The closure of the practice track in EM has been controversial.[2–4]

This study examines the use of practice tracks by each of the 24 medical specialty boards and compares

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TABLE 1 The Practice Track in Each of the Medical Specialties

Specialty	Year of Board Inception	Residency Currently Required?	Practice Track? (Dates)
Ophthalmology	1917	Yes	Yes 1917–1939
Otolaryngology	1924	Yes	Yes 1924–1927
Obstetrics and Gynecology	1930	Yes	No
Dermatology	1932	Yes	Yes 1932–1938
Pediatrics	1933	Yes	Yes* 1933–1943
Orthopedics	1934	Yes	Yes 1934–1938
Psychiatry and Neurology	1934	Yes	Yes†
Radiology	1934	Yes	No
Urology	1935	Yes	No
Internal Medicine	1936	Yes	No
Pathology	1936	Yes	Unsure
Plastic Surgery	1937	Yes	Unsure
Surgery	1937	Yes	Yes 1937–1940
Anesthesia	1938	Yes	Yes 1938–1950‡
Neurosurgery	1940	Yes	Yes 1940–1967
Physical Medicine and Rehabilitation	1947	Yes	No
Colon and Rectal	1949	Yes	No
Preventive Medicine	1949	No§	Yes§ 1949–present
Family Practice	1969	Yes	Yes 1970–1978
Allergy and Immunology	1971	Yes	Yes 1971–1978
Nuclear Medicine	1971	Yes	No
Thoracic Surgery	1971	Yes	No
Emergency Medicine	1979	Yes	Yes¶ 1979–1988
Medical Genetics	1981	Yes	Yes 1981–1987

*Practice track was open for any physician having 10 years of pediatric experience by 1943.

†Practice track was available only to those who graduated from medical school before 1934.

‡After 1944, only "exceptional candidates" were eligible at the board's discretion.

§Practice track is currently open only to those who graduated from an allopathic or osteopathic school before 1984.

¶All requirements had to be satisfied by 1988 but applications were accepted under the practice track until 1990.

this collective experience with the history of EM's practice track.

METHODS

Study Design and Population: A scripted telephone survey was used to survey representatives of each of the 24 specialty boards listed in the Graduate Medical Education Directory, 1995–1996,[5] regarding each board's experience with a practice track.

Survey Instrument and Process: After identifying our affiliation with an EM residency, each person surveyed was told that the purpose of the survey was to determine the history of practice track use by each of the medical specialty boards. The following questions were then posed:

1. When was your board officially recognized by ABMS as a primary board?
2. Is the completion of a residency program in your field currently required to qualify to take your board examination? If not, what other means are available?
3. Was there ever a practice track or means of taking your board examination by virtue of clinical experience alone without completing a residency in your specialty? If yes, a) when did it begin? and b) when did the practice track close?

The initial representative contacted at each of the specialty boards was surveyed. If this representative was unsure of the information requested, further interviews were conducted with anyone identified as possibly possessing the necessary information (e.g., administrator, historian). The results of these interviews were confirmed by correspondence with each board's chief executive officer. In this correspondence, the board's officers were informed that the results were intended for publication. If the best information available from a particular board was that there was no known history of a practice track, "no practice track" was listed as the response. In situations where board representatives could neither confirm nor deny the existence of a practice track in the past, the result was listed as "unsure."

Measurements and Data Analysis: For the purposes of this study, a "practice track" was defined as a mechanism by which a physician could take a board's certifying examination by virtue of clinical experience alone, without a requirement for any formal residency training in the field. The term "grandfathering" has been loosely applied in reference to board certification and was therefore avoided in the present study. The responses to the survey questions were tabulated and descriptive statistics reported.

RESULTS

All 24 boards were contacted. The oldest board, the American Board of Ophthalmology, was organized in 1917. The most recently recognized board, founded in 1981, was the American Board of Medical Genetics. There were 14 (58%) specialties that reported having a practice track at some point in time. Of the remaining boards, 8 stated a practice track never existed in their specialties and 2 were unsure (pathology and plastic surgery). Table 1 summarizes this information.

Extended interviews were conducted with representatives from the 2 boards that were unsure of their practice track histories. The adminis-

trator of the American Board of Plastic Surgery (founded in 1937) reported that some of the early records of certification requirements had been lost and that there was no other source of this information available. The administrator requested that this board's practice track history be listed as "unsure" because she could neither reliably confirm nor deny the prior existence of a practice track. The American Board of Pathology was founded in 1936 and also was unable to provide precise details of its practice track history. According to the executive vice president of this board, there was a written requirement for residency training from 1938 onward, and that all candidates certified from this point forward had specialized training in pathology. The executive vice president was unsure whether a practice track existed from 1936 to 1938. The available records that were reviewed suggested that all candidates certified in this period had completed formal training in pathology.

Of the 14 specialty boards reporting the existence of a practice track, all had limitations related to their availability (Table 2). Eighty-six percent (12/14) were limited by an established period after the formation of the board and 2 by the date of graduation from allopathic or osteopathic school (psychiatry & neurology and preventive medicine). Eligibility for certification by these 2 boards required completion of medical education by 1934 and 1984, respectively. Therefore, the only specialty that currently allows for certification via a practice track is preventive medicine. The American Board of Preventive Medicine will consider individuals through a board-determined equivalency in training and experience.

In the 12 practice tracks that limited access by time from board formation, the time span for the tracks ranged from 3 years (surgery and otolaryngology) to 27 years (neurosurgery). Nine of these 12 specialties limited access to ≤10 years from board inception. The mean duration of the practice tracks was 9.8 years; the median was 7.5 years. Preventive medicine and psychiatry & neurology were not included in these tabulations because their tracks were limited by year of physician graduation, not track duration.

TABLE 2 Specialties with Practice Tracks

Specialty	Year of Board Inception	Dates of Practice Track	Duration of Practice Track (Years)
Ophthalmology	1917	1917–1939	22
Otolaryngology	1924	1924–1927	3
Dermatology	1932	1932–1938	6
Pediatrics	1933	1933–1943*	10
Orthopedics	1934	1934–1938	4
Psychiatry and Neurology	1934†		
Surgery	1937	1937–1940	3
Anesthesia	1938	1938–1950‡	12
Neurosurgery	1940	1940–1967	27
Preventive Medicine	1949	1949–present§	
Family Practice	1969	1970–1978	8
Allergy and Immunology	1971	1971–1978	7
Emergency Medicine	1979	1979–1988¶	9
Medical Genetics	1981	1981–1987	6

*Practice track was open for any physician having 10 years of pediatric experience by 1943.

†Practice track was available only to those who graduated from medical school before 1934.

‡After 1944, only "exceptional candidates" were eligible at the board's discretion.

§Practice track is currently open only to those who graduated from an allopathic or osteopathic school before 1984.

¶All requirements had to be satisfied by 1988 but applications were accepted under the practice track until 1990.

Between 1949 and 1969, no new specialty board emerged. The most recent specialty boards, those beginning after 1968, that used a practice track include allergy and immunology, EM, medical genetics, and family practice. The mean duration of practice tracks in this group was 7.5 years and the range was 6–9 years. The ABEM practice track was open for 9 years. No board reported ever reopening a practice track after its closure.

DISCUSSION

To understand the intended purposes of specialty boards and board certification, one must look to the historical context in which they were initially developed. In 1765 the first American medical college was opened at the College of Philadelphia, which later became the University of Pennsylvania. Until this time, physicians practicing in America had largely been poorly trained European immigrants. Even after the establishment of American medical schools, the physicians in the United States were generally poorly trained, without consistent educational standards[6]. The American Medical Association (AMA) was formed in 1847 in response to the poor quality of care available in the United States. The now famous Flexner Report of 1910 outlined many deficiencies in U.S. medical education. This scathing report led to threats against Flexner's life but resulted in the closing of many of the worst schools and marked improvements in most of the remaining schools.

Concern over the quality of practitioners continued, though, and in 1912 the American Ophthalmology Society began discussing the "certification" of ophthalmologists.[6] Prior to this time, any medical school graduate choosing to do so could identify himself or herself to patients and the AMA as an ophthalmologist (or any other specialist for that matter) without any special training.[7] After dis-

cussion and debate, the "American Board for Ophthalmic Examinations" was founded in 1917; the name of the board was subsequently changed to the American Board of Ophthalmology in 1935. The original constitution of this organization called for the establishment of "education requirements and other requirements for those applying to take the examination" as well as the development of an examination required for certification. The Board initially made provisions to allow certification of physicians with prior experience in ophthalmology but stated that formal ophthalmic education would be required of future candidates. One of the original board members, Dr. Myles Standish (direct descendant of Captain Myles Standish) stressed that taking the examination would remain voluntary for all ophthalmologists.[8] Subsequently, other boards followed: otolaryngology (1924), obstetrics and gynecology (1930), dermatology (1932), and then pediatrics (1933). These boards also were founded with the intention of standardizing the education and certification of specialists to inform the public of physicians possessing special training in their fields.[7] The ABMS was formed in 1933 to develop guidelines that would be common to all specialty boards and loosely link all these organizations. All the specialty boards that had been established to date were the founding members of this organization, along with several medical societies.[7]

The issue of certification requirements has been addressed by each of the medical specialties since the first board was organized in 1917. Only 64% (14/22) of the specialty boards that know their histories regarding a practice track ever used this pathway to certification. The remaining specialty boards required formal residency training in their specialties from the time of the board's inception. When practice tracks are time-limited, they generally close within a decade of the board's formation. Neurosurgery and ophthalmology were the 2 greatest exceptions to this rule, having practice tracks of 27 and 22 years, respectively. Ophthalmology was the first board organized (1917), and neurosurgery was recognized in 1940.

Currently, all the specialties require residency training of candidates seeking certification, with the exception of preventive medicine. The American Board of Preventive Medicine will allow a physician who graduated from allopathic or osteopathic school prior to 1984 to sit for his or her certifying examination if the board believes that the applicant's experience and training are suitable for "equivalency." This practice track also will eventually close functionally as the number of practicing physicians who graduated before 1984 decreases. Even including preventive medicine, there is currently no specialty with a practice track for physicians who graduated after 1984. No specialty board to date, therefore, has had an unlimited practice track.

The ABEM practice track's duration of 9 years is similar to the average duration of all other specialty boards' practice tracks (9.8 years) and is the longest of any specialty board founded since 1950.

LIMITATIONS AND FUTURE QUESTIONS

The greatest limitation to this study was that the data were self-reported by each of the specialty boards. It is possible that these data could have been erroneous, and there was no consistently available independent source to confirm the information provided. Similarly, 2 board representatives did not know the details of their boards' practice track histories. Also, while the present study can examine the experience of practice tracks in all specialties, it does not address any possible unique aspects of the specialty of EM that could invalidate the comparison with other specialties.

The current study did not examine the history of practice track use by the many subspecialties currently recognized by ABMS. However, subspecialization is a distinctly different issue from that of primary board certification. The subspecialties are, by definition, available only to physicians previously boarded by 1 of the 24 primary boards, and the requirements for subspecialty board certification are quite variable among the specialties. At times, subspecialty requirements can be met during residency training, thus blurring the distinction of whether formalized postgraduate education was required for subspecialty certification. While a comparison of certification requirements among all the subspecialties might be interesting, that was not the purpose of this study.

CONCLUSION

Practice tracks have been common in the early years of many specialties. To date, all practice tracks have been limited in some respect, with most limiting access by specifying a certain life span from that track's inception. The history of the practice track in EM is similar to those of the majority of other specialties that have used a practice track in their formative years.

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Clinical Pearls (cont. from page 952)

Diagnosis: Acute exacerbation of recurrent appendicitis. Multiple appendicoliths are present on the supine abdominal radiograph.

Hospital Course: Surgical consultation was obtained with the presumptive diagnosis of acute appendicitis. The patient was taken to the operating room (OR) for an appendectomy, and an inflamed appendix was found. There was no evidence of appendiceal perforation. The patient had an uneventful postoperative recovery. Pathologic analysis revealed an appendix that had changes consistent with both acute and chronic appendicitis.

Discussion: Approximately 250,000 cases of appendicitis occur each year in the United States, with 70–80% of the cases occurring in patients <30 years of age.[1–3] Elderly patients (>60 years old) account for 10% of the cases. The overall mortality is <1%,[4–6] but increases to 2–6% with perforation,[7–9] and 4–23% in the elderly.[10–13]

Appendicitis can be acute, acute recurrent, or chronic.[14] Previous, similar self-limited symptoms have been reported for 4–30% of patients with acute appendicitis.[15–17] In 1,028 cases of appendicitis in 1 study, 25% had a history of similar previous episodes of abdominal symptoms,[17] as was seen in the present case. In acute recurrent appendicitis, previous episodes of right lower-quadrant pain of an acute, self-limited nature are seen.[14] Acute and chronic pathologic changes are found in the appendix at surgery. Patients with chronic appendicitis have chronic or multiple, intermittent episodes of right lower-quadrant pain with chronic inflammatory changes in the appendix.[16,18]

The primary pathophysiology of appendicitis is obstruction of the lumen due to lymphoid hyperplasia (60%),[3] appendicoliths and calculi (up to 30%),[19,20] other foreign bodies (4%),[3] and tumors or strictures (1%).[3,21] The luminal obstruction is followed by progressive distention, compromise of the blood supply of the appendiceal wall, and subsequent bacterial invasion beyond the mucosal layer. The appendix becomes gangrenous and usually perforates within 36 hours of the onset of symptoms, resulting in localized peritonitis or abscess formation and, less commonly, diffuse peritonitis and disseminated abscess formation.

Plain abdominal radiographs are abnormal for 50% of patients presenting with acute appendicitis.[22] Radiographic findings include a dilated cecum and/or terminal ileum with air/fluid levels (most common) referred to as a "sentinel" or "appendiceal" ileus, blurring of the distal psoas shadow, and the presence of a right lower-quadrant appendicolith (8–12% of patients). Although a localized ileus is usually seen in the right lower quadrant when present, 1 retrospective study of 100 cases of surgically proven appendicitis documented a 51% incidence of a focal dilation of a loop of small bowel in the left upper quadrant on supine abdominal radiographs.[23] This finding was attributed to a localized ileus of the proximal jejunum. Some patients with appendicitis may have evidence of fluid in the right peritoneal cavity manifested by an enlarged right properitoneal flank stripe on a supine abdominal radiograph. An appendiceal abscess may be seen as a large soft-tissue mass-like density in the right lower quadrant, or by loculated or mottled collections of extraluminal gas.

Appendicoliths are formed when fecal material enters the lumen of the appendix and becomes inspissated. This results in an increase in appendiceal mucous gland output leading to the deposition of mineral salts (calcium and phosphorus) contained within the mucous onto the inspissated fecal material. The radiographic characteristics of appendicoliths were first described in 1906.[24] Appendicoliths characteristically are usually solitary (70%), oval, laminated (90%) calcified densities 0.5–2.0 cm in diameter located in the right lower quadrant. However, they may be found any place in the abdomen in which the appendix can be situated.[14] Unfortunately, appendicoliths may be difficult to distinguish from calcified phleboliths or mesenteric nodes, ureteral calculi, ectopic gallstones, and bone islands.

Calcified phleboliths are usually multiple and nonlaminated, with symmetrical distribution. Calcified mesenteric nodes are mobile and nonlaminated, have a dentate border and a granular density, and are usually nearer to the vertebral column. In this patient, the abdominal radiograph shows multiple appendicoliths in a linear fashion in the right lower quadrant, which appears to identify the orientation of the appendix. These multiple appendicoliths could be palpated in situ during the laparotomy and were

identified when the appendix was removed and incised in the OR prior to submitting it to the pathologist. It is likely from the pathologic changes found in the patient's appendix, and his history of previous symptoms, that he suffered from acute recurrent appendicitis. The presumed etiology of spontaneous resolution in recurrent appendicitis is relief of the luminal obstruction or lymphoid hypertrophy shrinkage.[15]

Approximately 60% of patients undergoing appendectomy for appendicitis have an appendicolith found during pathologic examination; however, only 30% of these are calcified.[20] It had been recommended to perform elective appendectomies in asymptomatic patients with radiographs revealing appendicoliths because of the associated higher incidence of gangrene and perforation.[20,24] This is especially true in children with appendicoliths, primarily because of their higher incidence of perforation at the time of presentation.[14] This recommendation awaits more current confirmation, considering the newer diagnostic modalities that may detect acute appendicitis earlier.

Some authors believe that plain abdominal films to search for appendiceal calcifications are indicated for all patients presenting with nonspecific abdominal pain[24,25]; however, one should not delay surgical consultation while awaiting abdominal radiography for patients with clinically apparent appendicitis.

Clinical Pearls:

1. *A supine abdominal radiograph should be considered for patients with recurrent right lower-quadrant pain to search for appendicoliths.*

2. *Appendicoliths, although not pathognomonic for acute appendicitis, are distinguished from calcified phleboliths or mesenteric lymph nodes by their number, appearance, size, and location. They are usually solitary, oval, laminated, 0.5–2.0 cm in diameter, and located in the right lower quadrant.*

3. *Recurrent appendicitis does occur and is often associated with an appendicolith.*

4. *A normal white blood cell count does not rule out appendicitis.*

5. *The finding of an appendicolith on an abdominal radiograph for a patient with periumbilical abdominal pain or right lower-quadrant pain is an indication for an appendectomy.*

6. *Patients with clinically apparent appendicitis should not have surgery delayed by diagnostic studies.*

Photographic Critique (by Michael Morris): The reproduction of radiographs for publication is challenging because of the need to preserve fine detail and subtle shades of gray on the printed photograph. These features are best reproduced using black-and-white film and traditional black-and-white prints because of the ability to alter the contrast of the final print during film processing and the use of contrast-varying filters or "graded" papers during the printing process. The ability to alter the contrast of the print enables the photographer or laboratory technician to produce a print that will reproduce well in publication. Generally speaking, it is necessary to produce a print that is slightly "flatter" (1 grade less than optimal) in contrast to the original radiograph to account for the increase in contrast that is inherent in the offset printing process.

Color slide film is "contrasty" by nature, and the use of slide film for copying radiographs for publication usually results in a loss of subtle detail and an overall increase in print contrast that can render the illustration difficult to interpret. Figure 1 would have retained more detail had it been reproduced via the traditional black-and-white negative/print process.

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Key words: abdominal pain; appendicitis, recurrent; appendicolith; x-ray.

Reflections

SHARPEN YOUR SAW

The horizons for academic excellence have changed dramatically in the last decade. The successful academic physician was once expected to excel in research, clinical care, and teaching. The pathways for achieving success in these different venues have changed dramatically. Ten years ago, the young academic physician had a realistic chance of receiving funding for a grant from the NIH. Today, fewer than 20% of applications to the NIH for research grants are being funded. Competition for grants has increased to intolerable levels. Many researchers now spend a fourth to a half of their time writing applications to keep their laboratories open. In addition, the pursuit of new, imaginative research is fraught with failure, as the NIH review process tends to favor "safe" research devised by well-established programs and scientists.

Concomitantly, the revenues for clinical practice have diminished considerably. The competitive managed care organizations have decreased the remuneration for patient care by nearly 50%, causing many to markedly increase their hours spent as practicing clinicians.[1] With a clinical information explosion, teachers are faced with new challenges in imparting cognitive information, as well as teaching psychomotor skills to medical students, residents, and other health professionals. These include the incorporation of computer-assisted education, requiring skills in word processing and multimedia software.

For many of us, appreciation of these demands fuels our puritan work ethic in which we spend lengthy hours at the hospital without regard to our family and friends. This decision can be the beginning of a compulsion that America applauds,[2] yet loved ones abhor. When work begins to dominate the physician's life, it is often the beginning of a personal isolation in which he or she denies the consequences of this addiction. At its roots, this addiction reflects our inability to appropriately love and value ourselves apart from external achievement. This inability to accept ourselves is due, in part, to our failure to nurture our souls.

We become lost in a work cycle that has no end. The noted management specialist, Stephen Covey,[3] presents the parable of a man addicted to his work: "Suppose you were to come upon someone in the woods working feverishly to saw down a tree. 'What are you doing?' you ask. 'Can't you see?' comes the impatient reply. 'I'm sawing down this tree.' 'You look exhausted!' you exclaim. 'How long have you been at it?' 'Over five hours,' he returns,'and I'm beat! This is hard work.' 'Well, why don't you take a break for a few minutes and sharpen that saw?' 'I'm sure it would go a lot faster.' 'I don't have time to sharpen the saw,' the man says emphatically. 'I'm too busy sawing!' "

In Covey's[3] work parable, "sharpening your saw" refers to exercising all 4 dimensions of our human nature—physical, spiritual, mental, and social/emotional. The physical dimension involves, in particular, eating the right kind of food, getting sufficient rest and relaxation, and exercising on a regular basis. The spiritual dimension concerns your core, your center, your value system, and this draws upon the sources that inspire and uplift you and tie you to the timeless truths of all humanity. Immersion in great music or literature can have similar effects as regards the renewal of one's spiritual life. The mental dimension deals with exploration of new subjects outside of one's profession that can provide insights into your work and life. The social and emotional dimension revolves around the intimacy of friendships, which provide the opportunity to share sadness, sorrows, loves, and dreams in a confidential, safe place.

During the last few years, we have taken a new approach to scientific meetings that has allowed us to "sharpen our saws." Together with friends, we planned