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JAOA and AACOM

Requirements for Certification in Surgery: A Comparison of the American Board of Surgery and the American Osteopathic Board of Surgery

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In early 2014, the Accreditation Council for Graduate Medical Education, the American Osteopathic Association, and the American Association of Colleges of Osteopathic Medicine agreed to a memorandum of understanding describing a single accreditation system for graduate medical education in the United States. Although there are many benefits, such as consistent quality of graduate medical education, alignment of competency standards, alignment with policymakers' expectations, unification of voices on graduate medical education access and funding issues, and visibility of osteopathic medicine, there are also many challenges in creating a uniform system of graduate medical education. The authors review the pathways to initial certification for both the American Board of Surgery and the American Osteopathic Board of Surgery and discuss recertification and maintenance of certification.

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Historically, the Accreditation Council for Graduate Medical Education (ACGME) has accredited residency programs, and the American Board of Surgery (ABS) has certified surgeons. However, the ACGME and ABS have a collaborative relationship such that the ACGME holds ABS certification of program graduates as a key outcome measure for residency programs and their maintenance of accreditation.¹ For graduates of training programs approved by the American Osteopathic Association (AOA), the American Osteopathic Board of Surgery (AOBS) provides the pathway to certification for osteopathic surgeons. Through the Residency Evaluation and Standards Committee (RESC), the AOA monitors programs to ensure that qualified applicants are eligible to enter the AOBS process for certification, and board examination pass rate is a consideration of the RESC when reviewing program

status. Graduates of newly accredited programs under the single accreditation system will be able to choose where to obtain certification by meeting the requirements of either the ABS or the AOBS.² In this article, we review the pathways to initial certification for both the ABS and the AOBS and discuss recertification and maintenance of certification.

American Board of Surgery

Initial Certification

The mission of the ABS is to serve the public and the specialty of surgery by providing leadership in surgical education and practice, by promoting excellence through rigorous evaluation and examination, and by promoting the highest standards for professionalism, lifelong learning, and the continuous certification of surgeons in practice.⁴ Incorporated in 1937 as a member of the American Board of Medical Specialties, the purposes of the ABS are to conduct examinations of acceptable candidates who seek certification or maintenance of certification by the board, to issue certificates to all candidates who meet the board's requirements and satisfactorily complete its prescribed examinations, and to improve and broaden the opportunities for the graduate education and training of surgeons.⁴

The ABS publishes an annual information booklet⁵ that provides an outline of the certification process. *The American Board of Surgery Booklet of Information-Surgery* contains information on the background of the ABS, requirements for certification, issuance of certificates, maintenance of certification process, and the ABS-sponsored examinations.

The ABS requires the attestation of the residency program director that an applicant has completed the required educational experiences and attained sufficient knowledge, clinical judgment, and technical skills. Additionally, the applicant must demonstrate ethical behavior as verified by the program director to be admitted to the certification process.

Content areas for residency programs are in alignment with the ACGME program accreditation requirements.¹ Specifically, residency programs must provide educational experiences in the management of conditions and operations related to the alimentary tract; abdomen and its contents; breast; skin and soft tissue; endocrine system; solid organ transplantation; pediatric surgery; surgical critical care; surgical oncology, including head and neck surgery; trauma, burns, and emergency surgery; and vascular surgery. In addition, applicants must have demonstrated knowledge of epidemiology, anatomy, physiology, pathology (including neoplasia), anesthesia, biostatistics, principles of minimally invasive surgery, transfusion and disorders of coagulation, wound healing, infection, fluid management, shock and resuscitation, immunology, use of antibiotics, metabolism, pain management, and nutrition. Knowledge and skills related to the interdisciplinary care of specific patient groups is also required, including terminally ill patients, morbidly obese patients, geriatric patients, and patients representing culturally diverse groups.⁵

These educational needs must be met within specific timeframes, and the minimum requirements of experience and certification must be achieved.⁶ Applicants must have at least 5 years of progressive training in a program accredited by the ACGME or Royal College of Physicians and Surgeons of Canada and complete the sequence at no more than 3 programs. In each postgraduate year, residents must have completed at least 48 weeks of full-time clinical activity, which may be averaged over the first 3 years and the last 2 years to allow for fellowship interviews, illness, and pregnancy. Two additional weeks in postgraduate years 1 through 3 and in postgraduate years 4 and 5 are allowed for personal medical problems or pregnancy. Graduates of ACGME-accredited osteopathic residency programs must have completed 3 years in the program after the program has received ACGME accreditation to be eligible for ABS certifica-

tion. (Residents receive credit for a full year if ACGME program accreditation is obtained at any point during an academic year.)

Residents must participate in at least 250 operations by the end of the second postgraduate year and have a minimum of 750 operative procedures as the operating surgeon during the course of the 5-year clinical curriculum. One hundred fifty cases or more must be done as a chief resident. To foster independence, those desiring certification must show that they participated as teaching assistants to other residents in a minimum of 25 cases. Experience with the care of critically ill patients is also expected, with the documentation of a minimum of 25 patients with a defined set of critical care needs.

Specific educational assessments must be taken and certifications awarded to meet certification requirements.⁶ Applicants must show current or past certification in advanced trauma life support, advanced cardiac life support, and fundamentals of laparoscopic surgery. Completion of the ABS flexible endoscopy curriculum will be required for graduates in 2018 and beyond. Applicants are also required to have undergone at least 6 operative and 6 clinical performance assessments to demonstrate that they meet competency in technical and clinical skills.

Application to the certification process may begin as early as the end of the postgraduate year 4 provided all certification requirements are met, although most apply at the end of their postgraduate year 5 as a chief resident. Applicants must provide evidence of their educational experiences and required skill certifications and have their application signed and verified by their residency director. If accepted, applicants are allowed to sit for the first examination in the process. The first part is the Qualifying Examination, which typically takes place during the summer immediately after graduation. Programs accredited by the ACGME are expected to have at least 65% of their graduates pass this examination on the first attempt to maintain accreditation.¹

Thus, this examination represents high stakes for both programs and graduates.

The Qualifying Examination is a test of knowledge using a multiple-choice format.⁵ The examination takes approximately 8 hours to complete and is offered in a computer-based format once per year at a secure testing center. This examination must be applied for and passed within no more than 4 academic years after residency. Once the applicant has passed the Qualifying Examination, he or she may sit for the Certifying Examination. Applicants have an additional 3 years in which to pass the Certifying Examination.

The Certifying Examination is a test of clinical judgment, application of knowledge to clinical problems, management of operative complications, and assessment of technical knowledge.⁵ It is the last step to initial certification. In addition to meeting the requirements already outlined, applicants must have a full and unrestricted medical license in the United States or Canada. This examination is given orally and consists of three 30-minute periods during which 2 examiners test the candidates' knowledge, skill, and management of various conditions commonly found in patients requiring surgery, as well as the broad group of surgical problems that are commonly managed by the general surgeon. The Certifying Examination is given 5 times per year. Examiners are a mix of ABS directors and associate examiners who are also ABS diplomates who are currently certified and participate in the maintenance of certification program.

Both examinations are validated across examination administrations by professional psychometricians employed by the ABS. The specific topics for both examinations are chosen from the Surgical Council on Resident Education Curriculum Outline.⁷

After both examinations are successfully passed, candidates are welcomed as diplomates with a certificate from the ABS that verifies their board certification. This certificate is valid for 10 years.

Maintenance of Certification

In alignment with the members of the American Board of Medical Specialties, the ABS introduced standards and expectations for maintenance of certification in 2005. The maintenance of certification process allows surgeons to meet the requirements in a way that is best suited to their practice.⁷ Every 3 years, diplomates must submit information about their professional standing, including medical license, hospital privileges, and contact information for the chief of surgery and credentialing at the facility where most work is done to the ABS. Continuing medical education credits must also be submitted and must include documentation of 90 hours of AMA PRA Category 1 with at least 60 of the 90 credit hours, including self-assessment modules on which a score of 75% or higher was achieved. Evidence of participation in local, regional, or national outcomes registries is also required to meet the requirement for practice assessment. Every 10 years, knowledge assessment with a specialty recertification examination is required in addition to submission of an operative log from the previous 12 months.

American Osteopathic Board of Surgery

Initial Certification

The mission of the AOBS is to fulfill the duties ascribed by the AOA in the certification of osteopathic surgeons and to set and test a standard of excellence. The examination process is comprehensive and psychometrically sound.

Similar to the ABS certification process, the AOBS has specific requirements regarding educational experiences. All candidates must be graduates of AOA-approved programs. The AOBS requires that this training be done under the jurisdiction of the AOA specialty college with approval of residency years by the specialty college's RESC. Candidates

for AOBS certification in general surgery must complete 48 months of training in general surgery in addition to a 12-month osteopathic graduate medical education year or complete 60 months of training in general surgery. At least 12 months of the surgical specialty training program must encompass all aspects of the particular specialty, including adequate training in the basic medical sciences fulfilled by didactic conferences.

Specific educational experiences must be part of the training program, including exposure to clinical and basic science topics. The basic medical science exposure emphasizes pathology, physiology, and osteopathic principles and practice. Other areas of specific exposure to clinical areas of general surgery are described in the AOA's Basic Standards for Residency Training in Surgery and the Surgical Subspecialties.⁸ The training requirements are similar to the ACGME requirements in that they are competency-based, and the additional competency in osteopathic manipulative medicine must be incorporated into the program. Osteopathic medicine defines itself by its principles and practice focused on an understanding of body unity, self-healing, self-regulatory mechanisms, and the relationship between structure and function. This philosophical and practical approach to patient care is the foundation on which all 6 medical competencies are based and must be demonstrated as integrated into the residency curriculum. Programs are required to have didactic content, scholarly activity, and evaluation and testing on osteopathic manipulative medicine. Special attention to the role of the musculoskeletal system as it relates to diagnosis and treatment using osteopathic manipulative treatment techniques must be included in the curriculum. The ACGME has recognized this unique component of osteopathic training in the single graduate medical education accreditation system by developing osteopathic recognition requirements and milestones.^{9,10}

The scope and volume of required cases are similar to that of the ABS, with a total of 750 major cases over the 5 clinical years of the program and 150 major cases as senior chief resident required. Residents are required to log the cases in the operative log (OPLOG), where they are reviewed annually by the program director and the RESC. Final summative evaluation with endorsement of the program director and approval by the American College of Osteopathic Surgeons, RESC, and the AOA allows the residents to enter the certification process.

Eligible graduates of AOA-approved programs must complete the certification process within 6 years. Documentation of the following requirements must be provided to be admitted to the initial examination:

- graduation from an AOA-accredited college of osteopathic medicine
- unrestricted licensure to practice in the state or military jurisdiction where practice is conducted
- evidence that the candidate conforms to the standards set forth in the AOA code of ethics
- maintenance of continuous and uninterrupted membership in the AOA or the Canadian Osteopathic Association throughout the certification process
- satisfactory completion of an AOA-approved year 1 osteopathic graduate medical education residency training
- completion of all general surgery training in an AOA-approved residency program and approval of any prior training by the specialty college and its RESC in line with the time requirements outlined above
- documentation from the specialty college that the candidate has achieved “program complete status”

The examination sequence includes a written Qualifying Examination of multiple-choice items testing the candidate’s knowledge of surgical conditions; basic science; knowledge of how the osteopathic philosophy of surgery applies to diagnosis and management; advances in surgical technique; surgical judgment; and diagnostic, operative, and therapeutic skill in the practice of surgery. The Certifying Examination is an oral examination that tests these principles as they relate to the patient case scenarios developed by the AOBS. The written examination is given twice per year in the spring and fall, and the oral examination is given once per year in the fall. Since 1997, candidates have been given a time-dated certificate valid for 10 years. The AOBS works closely with Clarity Assessment Systems, an international psychometrics consulting firm, to develop legally defensible written and oral examinations that accurately measure the subject knowledge of each candidate. Performance standards (criterion-referenced) remain consistent from year to year, thereby requiring the same high level of performance from all candidates. Psychometric analysis has validated both oral and written examinations.

Osteopathic Continuous Certification

Board-certified osteopathic surgeons must maintain continuous certification and submit data in a cyclical fashion. Five documentation components are required¹¹:

1. **Licensure**—Diplomates must have unrestricted state or jurisdictional military licensure.
2. **Evidence of lifelong learning**—Every 3 years, diplomates must complete 120 continuing medical education credits, including 30 Category 1-A credits and 50 Category 1 or Category 2 primary specialty credits defined by the AOBS.
3. **Cognitive assessment**—A written recertification examination must be completed within 10 years before the end of the time-limited certificate.

Table.
American Board of Surgery and American Osteopathic Board of Surgery Certification Requirements

Area	American Board of Surgery	American Osteopathic Board of Surgery
Accreditation	First-time pass rate of QE and CE outcome must be 65% or higher	None
Time in training	5 sequential clinical years of 48 wk each	60 mo, including 12 mo designated at OGME-1R
Minimum case volume	Minimum, 750 cases; 150 in chief year; 25 TA cases; 250 by PGY-2	Minimum, 750 cases; 150 in chief year; ≤50 TA cases count toward the minimum
Focused certifications	ATLS, ACLS, FLS, and completion of FES curriculum	None
Ethical practice	Verified by program director	Verified by program director
Society membership	None	Continuous American Osteopathic Association membership
Licensure	Unrestricted state license to take CE	Unrestricted state or military jurisdiction license before application
Timing of initial examinations	Within 7 y of graduation	Within 6 y of graduation
Examination structure	Written QE followed by oral CE	Written QE followed by oral CE
Time limit to certificate	10 y	10 y
Maintaining continuous certification	MOC with 4 components ^a and written examination every 10 y	OCC with 5 components ^b and written examination every 10 y

^a Maintenance of certification (MOC) documentation, submitted every 3 years, includes professional standing, lifelong learning and self-assessment, cognitive expertise, and evidence of participation in professional practice-improvement registries.

^b Osteopathic continuous certification (OCC) documentation, submitted every 3 years, includes licensure, evidence of lifelong learning, cognitive assessment, practice performance assessment, and American Osteopathic Association membership.

Abbreviations: ACLS, advanced cardiac life support; ATLS, advanced trauma life support; CE, Certifying Examination; FES, fundamentals of endoscopy; FLS, fundamentals of laparoscopic surgery; OGME-1R, osteopathic graduate medical education first-year residency; PGY, postgraduate year; QE, Qualifying Examination; TA, teaching assistant.

4. Practice performance assessment—

Diplomates must demonstrate participation in performance improvement in surgical knowledge and skills, including benchmarking of outcomes compared with peers and with national benchmarks. This requirement can be satisfied by completing 2 specialty-specific modules every 3 years during the 10-year osteopathic continuous certification cycle. Data from at least 6 different case types must be submitted. Attestation of completion by the diplomate is required every 3 years.

5. Continuous AOA membership

Discussion

Many similarities exist between the 2 certifying boards in their requirements for certification (*Table*). In the areas of time in training, minimum case volume, verification of ethical practice, licensure, time to initial examination, certificate time limitation, and examination structure, both organizations have almost identical requirements. Both groups have created a pathway for continuous certification to be maintained. However, there are important differences. The program requirements for ACGME-accredited general surgery programs mandate that 65% of graduates pass the Qualifying Examination and the Certifying Ex-

amination on the first attempt. No such requirement currently exists for AOA-accredited programs. The AOBS requires that applicants be members of the AOA, which reflects the integrated nature of the AOA accreditation process with the AOBS certification process. The ABS requires special skill-related certifications in advanced trauma life support, advanced cardiac life support, fundamentals of laparoscopic surgery, and completion of the fundamentals of endoscopy curriculum.

The integration of AOA-approved programs into the ACGME accreditation system over the next 5 years will provide a uniform experience for all graduates of general surgery residencies in the United States. This standardization will allow both boards to consider how they may want to uniquely define their diplomates, or it may even stimulate consideration of a single certification system. Both the ABS and the AOBS value certification of surgeons as part of protecting the public. Both have endorsed the importance of its diplomates to remain lifelong learners and practitioners of contemporary surgery. Future trainees and board-certified surgeons will benefit from the efforts of these organizations in collaboration with ACGME, AOA, and AACOM to continue to enhance the educational structure of surgical training in the United States.

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