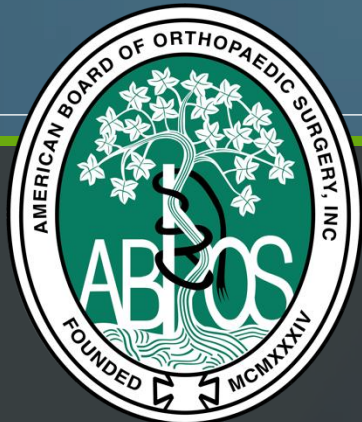


# *American Board of Orthopaedic Surgery: Orthopaedic Knowledge Assessments*

*David F. Martin, MD  
Executive Medical Director*



**American Board of  
Orthopaedic Surgery**

*Establishing Education & Performance  
Standards for Orthopaedic Surgeons*



# ***DISCLOSURES / CONFLICTS***

**Member, Board of Directors (2005-2015), American Board of Orthopaedic Surgery**

**Executive Medical Director (2016-present), American Board of Orthopaedic Surgery**

**Professor of Orthopaedic Surgery (1990-present), Wake Forest Baptist Health**

**No Financial Conflicts**



**ABOS Board of Directors**



**Wake Forest Baptist Health – Winston-Salem**

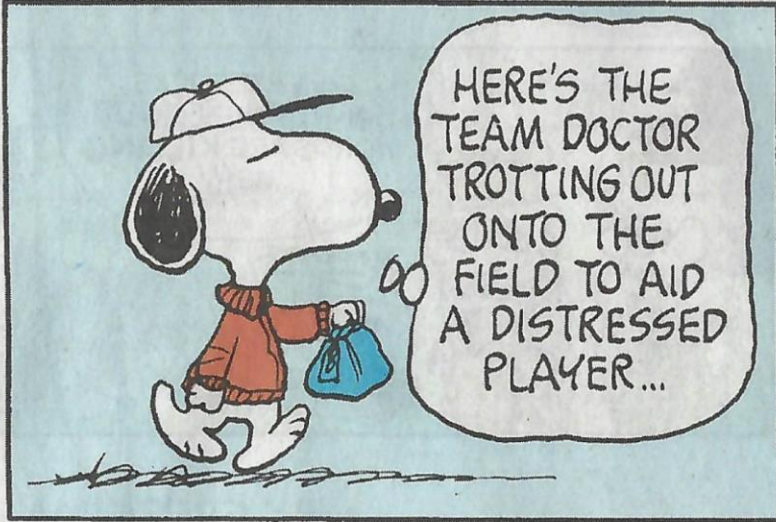


**ABOS Headquarters – Chapel Hill**



# CLASSIC PEANUTS

# BY CHARLES SCHULZ



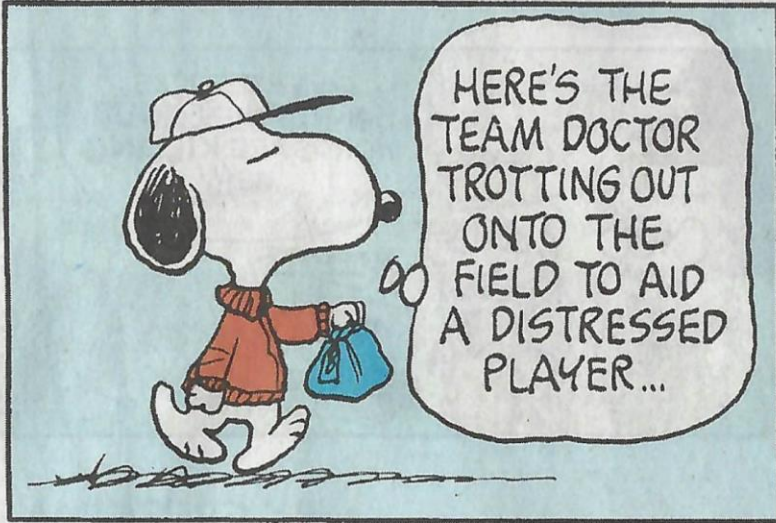
**American Board of Orthopaedic Surgery**  
INCORPORATED 1934  
HEREBY CERTIFIES THAT  
**SNOOPY**  
HAVING MET THE CONTINUING EDUCATION AND PRACTICE REQUIREMENTS OF THE BOARD AND HAVING BEEN EXAMINED IS RECERTIFIED FOR THE PRACTICE OF THE SPECIALTY OF  
**ORTHOPAEDIC SURGERY**  
JANUARY 1, 2014

*Jack J. Bramson*  
*John C. Wilson*  
*Joseph J. Murray*  
*Wm. H. ...*  
*J.R. ...*

*Michelle Jones*  
*Ray D. ...*  
*Peter M. ...*  
*James R. ...*  
*T. ...*

**AMERICAN BOARD OF ORTHOPAEDIC SURGERY**  
VALID THROUGH DECEMBER 31, 2023

**GOOD ANSWER! Ready for Board Certification!**



**Board Certification is MORE than just a TEST!**

# Overview

- **Introduction to the ABOS**

- Who is the ABOS?

- **ABOS Maintenance of Certification Program (MOC)**

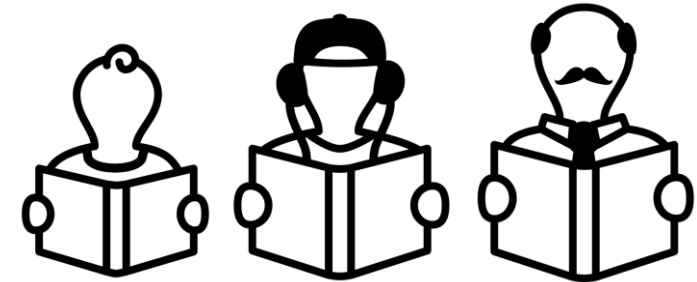
- Innovative/Valuable/Relevant

- **Knowledge Assessment Pathways**

- Advancing Orthopaedic Knowledge

- ABOS Oral Recertification Examination
- ABOS Practice-Profiled Computer-Based Recertification Examinations
- ABOS Knowledge, Skills, and Behavior Program

- **Stimulate Lifelong Learning**

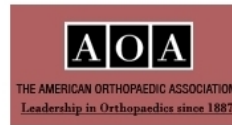


# History

American Medical Association (AMA) – **1847**



American Orthopaedic Association (AOA) – **1887**



**1933**

American Academy  
of  
Orthopaedic Surgeons



**1934**

American Board  
of  
Orthopaedic Surgery



# *ABOS Composition—Who is the ABOS?*

- **Board of Directors**

- 21 Member Board (National/Voluntary)
  - Nominated by three organizations
    - AAOS
    - AOA
    - AMA

- **Full Time Staff – Chapel Hill**

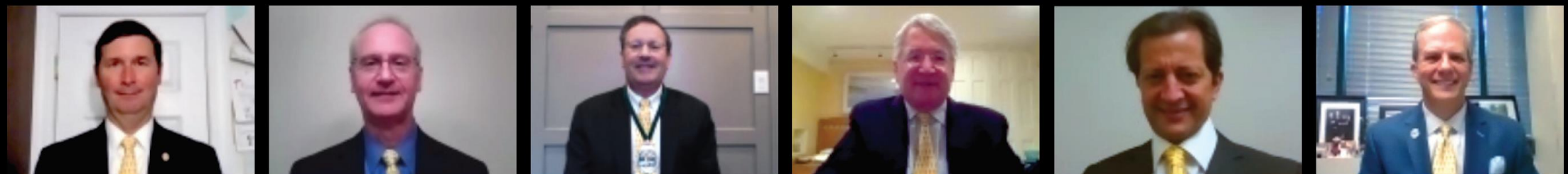
- Chief Operating Officer
  - Aaron S. White
- Executive Medical Director
  - David F. Martin, MD
- 11 Staff Members
  - Examination/Credentialing/Communications/IT
- Advisors: Legal, IT, Web, Psychometrics



**ABOS Headquarters  
Chapel Hill, NC**



# AMERICAN BOARD OF ORTHOPAEDIC SURGERY FALL MEETING 2020





# AMERICAN BOARD OF ORTHOPAEDIC SURGERY FALL MEETING 2020

Michael Daubs  
(not pictured)  
1998  
2028



Gregory Guyton  
(not pictured)  
2001  
2031





*ABOS Maintenance of Certification*



# *ABOS Maintenance of Certification Program*

## *ABOS MOC*

- Reflects Critical Core Physician Values
  - Compassion
  - Patient-Centeredness
  - Passion for Education
- Peer-developed System
  - Encouraging Continuous Professional Development
- Recognizes/Assists Diplomates' Efforts
  - Goal: Help orthopaedic surgeons stay up-to-date across their career



# *ABOS Maintenance of Certification*

- **Professional Standing:** Unrestricted License/Privileges
- **Continuing Medical Education:** 240 CME/40 SAE
- **Knowledge Assessment:** Multiple Options
  - *Oral Recertification Examination*
  - *Practice-Profiled Computer-Based Examinations*
    - *General, Spine, Adult Reconstruction, Pediatrics, Trauma, Foot & Ankle, Shoulder & Elbow, Surgery of the Hand, Sports Medicine, Oncology*
  - *ABOS Web-Based Longitudinal Assessment (ABOS WLA)*
- **Practice Improvement:** Peer Review/Case List

**TEN YEAR CYCLE**



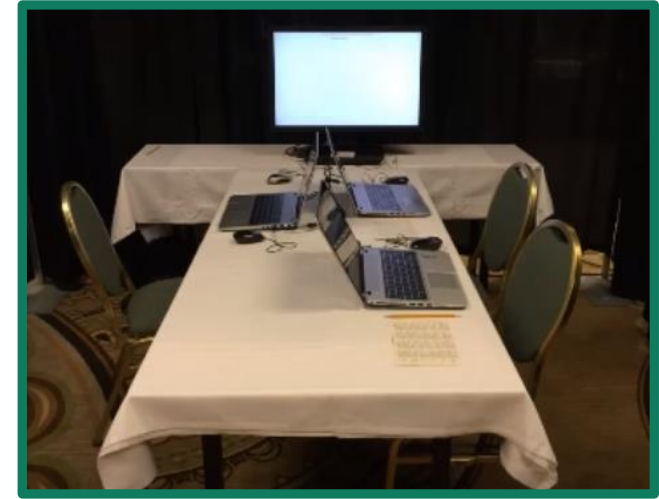


# *Oral Recertification Examination*

# *ABOS MOC Assessment Pathways*

## *Oral Recertification Examination*

- Administered in Chicago each July
- 2-hour exam, divided into four 25-minute periods
- Candidates submit a Case List to the ABOS with Application
- Case Selectors choose 12 Selected Cases for presentation
- Streamlined process for submitting Case List and Documents/Images
- Standard Scoring Rubric
- Multiple modifications over the last two years based on COVID-19
  - Possible adoption for future administrations of the Oral Examination



# ABOS Oral Recertification Examination

## The Oral Examination

- The purpose of the oral exam is to evaluate those aspects of judgment, knowledge, decision making, and patient care not easily assessed by a written examination.
- **Practice Based Examination**
- ABOS: ‘Best Test’

**Lack of Knowledge = Incompetence**  
**Knowledge ≠ Competence**  
**Critical Measure:**  
**Application of Knowledge**

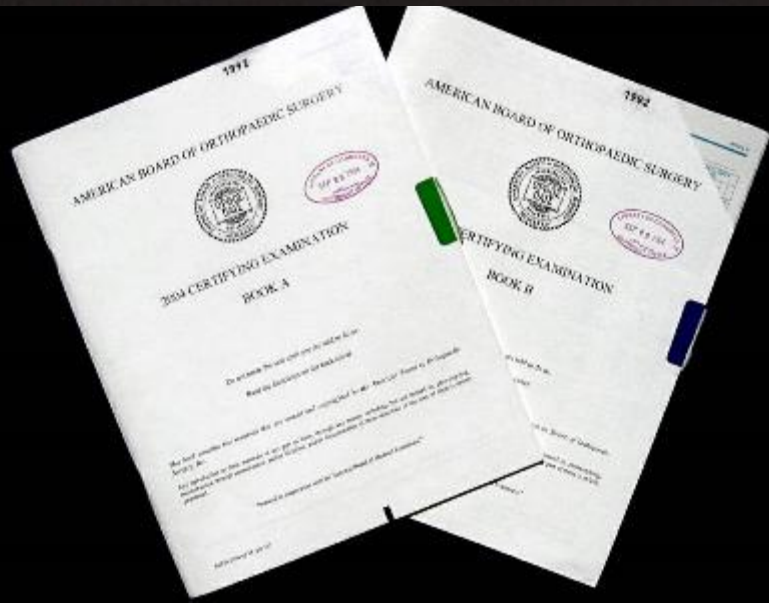
	3 Above Expected Level	2 Expected Level	1 Below Expected Level	0 Unacceptable
<b>Data Gathering</b>	Records all pertinent history Records a complete physical examination Uses all relevant tests and laboratory findings and other diagnostic studies appropriately Records are complete and unique to the patient treated	Records adequate history Records an adequate physical examination Adequate use and interpretation of basic and advanced imaging and other diagnostic studies Records are adequate and unique to the patient treated	Records cursory history Records an incomplete physical examination Inadequate use and interpretation of basic and advanced imaging and other diagnostic studies Records are incomplete	Records insufficient history Records an incomplete and/or insufficient physical examination Inadequate use and interpretation of basic and advanced imaging and other diagnostic studies Records are incomplete and/or grossly deficient
<b>Diagnosis and Interpretive Skills</b>	Synthesis of information gathered is complete Formation of comprehensive differential diagnosis Adequate integration of information to form the correct diagnosis	Synthesis of information gathered is adequate Formation of adequate differential diagnosis Adequate integration of information to form the correct diagnosis	Synthesis of information gathered is incomplete Formation of differential diagnosis is incomplete but not incorrect Inadequate integration to form the correct or complete diagnosis	Synthesis of information gathered is unacceptable Formation of incomplete differential diagnosis Poor integration of information and/or formation of incorrect diagnosis
<b>Treatment Plan</b>	Formation of appropriate non-surgical treatment plan Formation of appropriate surgical treatment plan Qualifies when appropriate informed consent	Formation of adequate non-surgical treatment plan Formation of adequate surgical treatment plan Qualifies when appropriate informed consent	Formation of non-optimal non-surgical treatment plan Formation of non-optimal surgical treatment plan Qualifies when appropriate informed consent	Formation of unacceptable non-surgical treatment plan Formation of unacceptable surgical treatment plan Qualifies when appropriate informed consent
<b>Technical Skill</b>	Pre-operative planning is complete Execution of the procedure is thorough and appropriate Post-operative management is thorough and appropriate	Pre-operative planning is adequate Execution of the procedure is adequate Post-operative management is adequate	Pre-operative planning is incomplete Execution of the procedure is inappropriate Post-operative management is inadequate	Pre-operative planning is unacceptable Execution of the procedure is unacceptable Post-operative management is unacceptable
<b>Outcomes</b>	Records appropriate patient satisfaction with care Records appropriate objective measure of patient recovery at follow-up Records appropriate attempt to maintain continuity of care	Mostly records appropriate patient satisfaction with care Mostly records appropriate objective measure of patient recovery at follow-up Records appropriate attempt to maintain continuity of care	Records sub-optimal patient satisfaction with care Records sub-optimal objective measure of patient recovery at follow-up Continuity of care is incomplete	Records unacceptable patient satisfaction with care Records unacceptable objective measure of patient recovery at follow-up Care attempt to maintain continuity of care
<b>Surgical Indications</b>	Appropriate use of accepted non-surgical treatment alternatives Indications for the procedure are appropriately described Prevalent disease are optimal and well supported	Adequate use of accepted non-surgical treatment alternatives Indications for the procedure are adequately described Prevalent disease are adequate and generally well supported	Inadequate use of accepted non-surgical treatment alternatives Indications for the procedure are poorly described Prevalent disease are sub-optimal or not well supported	Inappropriate use of non-surgical treatment alternatives Indications for the procedure are poorly described Prevalent disease are unacceptable and unsupported
<b>Surgical Complications</b>	Appropriate measures to avoid complications Prompt identification of complications Complications described are generally expected for the procedure Adequate management of complications	Adequate measures to avoid complications Identification of complications is adequate Complications described are generally expected for the procedure Adequate management of complications	Inadequate measures to avoid complications Identification of complications is inadequate Complications described are not generally expected for the procedure Inadequate management of complications	Inappropriate measures to avoid complications Identification of complications is unacceptable Complications described are unexpected and/or not generally expected for the procedure Inadequate management of complications
<b>Ethics and Professionalism</b>	Provides safe, ethical, compassionate, confidential, and professional care at an appropriate level	Provides safe, ethical, compassionate, confidential, and professional care at an adequate level	Provides safe, ethical, compassionate, confidential, and professional care at a sub-optimal level	Did not provide safe, ethical, compassionate, confidential, and professional care



A woman in a white lab coat is smiling and looking towards a patient whose back is to the camera. They are in a clinical or office setting with a window in the background. The entire image has a teal overlay.

# *Computer-Based Recertification Examination*

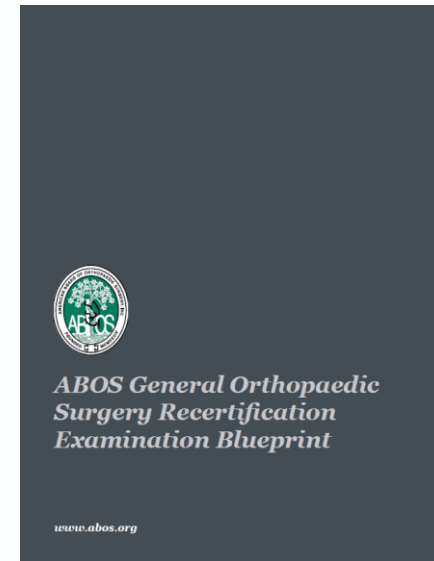




# ABOS MOC Assessment Pathways

## Computer-Based Recertification Examination

- Meet Diplomates at their practice
  - Choices:
    - General Orthopaedic Examination
    - Practice-Profiled Examination
- Three Hour Examination
  - 150 multiple-choice questions
  - Three 60-minute sections
- Administered at Prometric Testing Centers
  - Early August – Early October
- Blueprints available on ABOS Website



ABOS General Orthopaedic Surgery Recertification Examination Blueprint

Table of Contents	
<b>General Principles</b>	3-8%
Biostatistics/epidemiology	0.5-1.5%
Legal/ethical	1-3%
Basic Science Principles	1-3%
<b>Spine</b>	3-8%
Cervical	1-3%
Thoracolumbar	1-3%
Nonspecific site	0.5-1.5%
<b>Upper Extremities</b>	19-55%
Clavicle/Acromioclavicular joint/Sternoclavicular joint	1-3%
Scapula	0.5-1%
Shoulder joint	4.5-11.5%
Humerus	3-9%
Elbow joint	2.5-7.5%
Radius/ulna	4-12%
Wrist joint	1.5-4.5%
Hand	2-6%
<b>Lower Extremities</b>	24-56%
Hip joint	4-10%
Femur/Fractures	2.5-7.5%
Knee joint	6.5-16.5%
Pediatric knee injuries	0.5-1.5%
Tibia/Fibula/Fractures	2.25-5.25%
Ankle joint	3.5-7.5%
Foot	4.25-7.25%
<b>Multiple Sites</b>	4-12%
Multiple trauma	0.5-1.5%
Compartment syndrome	0.5-1.5%
Complications following surgical procedures	1-3%
Medical aspects of sports medicine	0.5-1.5%
Inflammatory disease	1-3%
Metabolic bone disease/osteoporosis	0.5-1.5%
<b>Outcome Management</b>	2-3%
Infection and medical optimization	2-3%
<b>Neoplasms</b>	2-5%
Benign	0.5-1.5%
Malignant	1-3%

ABOS General Orthopaedic Surgery Recertification Examination Blueprint

Upper Extremities		28-30%
Clavicle/Acromioclavicular joint/Sternoclavicular joint		1-3%
Scapula		0.5-1.5%
Shoulder joint		4.5-11.5%
Dislocations/instability		1-3%
Arthritis		1-3%
Muscle/tendon/adhesive capsulitis		2-4%
Osteonecrosis, nerve injury/compression, infection		0.5-1.5%
Humerus (fracture)		3-9%
Proximal		1-3%
Shaft		0.5-1.5%
Distal		1-3%
Pediatric		1-3%
Adult		0.5-1.5%
Elbow joint		2.5-7.5%
Dislocations/instability		0.5-1.5%
Arthritis		0.5-1.5%
Muscle/tendon/ligament/tendinitis		1-3%
Osteochondritis, nerve injury/compression		0.5-1.5%
Radius/ulna (fracture)		4-12%
Proximal		0.5-1.5%
Pediatric		0.5-1.5%
Adult		0.5-1.5%
Shaft		1-3%
Distal		0.5-1.5%
Pediatric		0.5-1.5%
Adult		1-3%

(continued)

return to table of contents



# ABOS MOC Assessment Pathways

## Computer-Based Recertification Examination

### 10 Practice-Profiled Exam Options:

1. Adult Reconstruction
2. Foot/Ankle Surgery
3. General Orthopaedic Surgery
4. Musculoskeletal Oncology
5. Orthopaedic Sports Medicine
6. Orthopaedic Trauma
7. Pediatric Orthopaedic Surgery
8. Shoulder/Elbow Surgery
9. Surgery of the Hand
10. Surgery of the Spine

Gray BM, Vandergrift JL, McCoy RG, *et al.*

Association between primary care physician diagnostic knowledge and death, hospitalisation and emergency department visits following an outpatient visit at risk for diagnostic error: a retrospective cohort study using medicare claims.

*BMJ Open* 2021;11:e041817.

**Conclusion:** Higher diagnostic knowledge was associated with lower risk of adverse outcomes after visits for problems at heightened risk for diagnostic error.





# *ABOS Web-Based Longitudinal Assessment*

# ABOS MOC Assessment Pathways

## Web-Based Longitudinal Assessment (ABOS WLA)

- Formative Assessment – focus is on Adult Learning
- Diplomates can customize their Assessment
- Flexibility
  - Diplomates use their own computer
  - Location/timing of their own choosing
- Encourages Continued Learning:
  - Based on current orthopaedic literature
  - Provides immediate feedback question

### Adult Learning Principles



# ABOS MOC Assessment Pathways

## Web-Based Longitudinal Assessment (ABOS WLA)

### Pathway Overview:

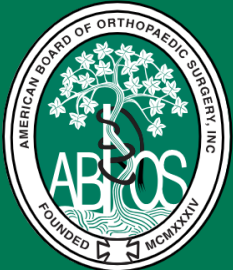
- ABOS posts more than 200 Knowledge Sources in January
  - Journal Articles, Practice Guidelines, AUCs
- Diplomates select 15 Knowledge Sources for in-depth study
- April-May
  - Window opens for Diplomates to answer 30 multiple choice questions
  - Two questions from each of the 15 chosen Knowledge Sources
  - Will know in advance from which Knowledge Source each question will come
  - 3 minutes per question
  - Answer as many questions in each sitting as desired/Open-book format/CME
  - Successful Completion: 5 Quality Years (24/30 correct)



# ABOS WLA KNOWLEDGE SOURCE PAGE

Welcome Dr. [REDACTED] | My ABOS Diplomate Dashboard

Videos | FAQ | Support | Log Out



ABOS WLA

My ABOS WLA Dashboard

All Knowledge Sources

My Selected Knowledge Sources

Sample Questions

## All 2019 ABOS WLA Knowledge Sources

Select 15 Knowledge Sources from the complete list below. Click a title to read and review (and print if you wish) that Knowledge Source. You may change your selections anytime until you view your first question during the April 15 to May 20 administration window. Your ABOS WLA is comprised of 30 questions in random order, 2 from each of your 15 selected Knowledge Sources. When you are ready to answer questions, click:

[ABOS WLA Participation Agreement](#)

Knowledge Sources Selected  
(15 Required)

1 of 15

Sports Knowledge Sources Selected  
(Min 5 Required)

0 of 5

### Required by ABOS

(1 selected)

**Leading the Way to Solutions to the Opioid Epidemic: AOA Critical Issues.**

*Seymour RB, et al.*

J Bone Joint Surg Am. 2017 Nov 1;99(21):e113(1-10).

**(Required by ABOS)**

### General Orthopaedics

Complications of shoulder arthroscopy.

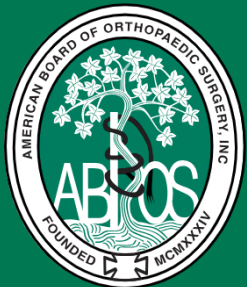
Controversies in the management of distal radius fractures.

Foot and Ankle Surgery: Common Problems and Solutions.

# ABOS WLA DASHBOARD

Welcome Dr. [REDACTED] | My ABOS Diplomate Dashboard

[Videos](#) | [FAQ](#) | [Support](#) | [Log Out](#)



ABOS WLA

My ABOS WLA Dashboard

All Knowledge Sources

My Selected Knowledge Sources

Sample Questions

## My ABOS WLA Dashboard

[ABOS WLA Participation Agreement](#) | [ABOS WLA Incident Report](#)

To read and review (and print if you wish) a Knowledge Source, click the Knowledge Source title from the [All Knowledge Sources](#) page or the [My Selected Knowledge Sources](#) page.

To review sample questions: [click here](#).

### Administration Window: 4/15/19 - 5/20/19

Questions Administered	Questions Remaining
0	0

### Performance

Administrative Period	Questions Correct	Questions Administered	% Correct	Quality Year
2019	0	0	0%	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0%</b>	<b>0</b>

Your certification is valid through **2021**. You need 5 consecutive [Quality Years](#) by **May 2023** OR ALL 120 cumulative questions correct by **May 2022** to complete the ABOS WLA Pathway for Part III of ABOS's MOC Program.

[View My Question History](#)

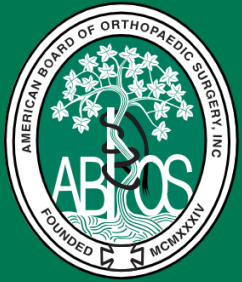
*The American Board of Orthopaedic Surgery*

400 Silver Cedar Court, Chapel Hill, NC 27514

Phone: (919) 929-7103 • Fax: (919) 942-8988



# ABOS WLA SAMPLE QUESTION



ABOS WLA

## Question 1 of 1

According to the Chalmers et al. study of rotator cuff repair and the natural history of rotator cuff tears, which of the following was significantly different in patients who underwent rotator cuff repair compared to patients who were treated without surgery?

- A. Elevation range of motion measures
- B. Elevation strength measures
- C. Functional outcomes
- D. Patient-based outcomes
- E. Requirement for additional surgery

Submit Answer

Source:

[The Effect of Rotator Cuff Repair on Natural History - A Systematic Review of Intermediate to Long-Term Outcomes.](#)

Chalmers, PN, Ross H, Granger E, Presson AP, Zhang C, Tashjian RZ.  
JB JS Open Access. 2018 Feb 9;3(1):e0043.

Time Remaining

01:59

# 2019 ABOS WLA Statistics:

## First Year Offered

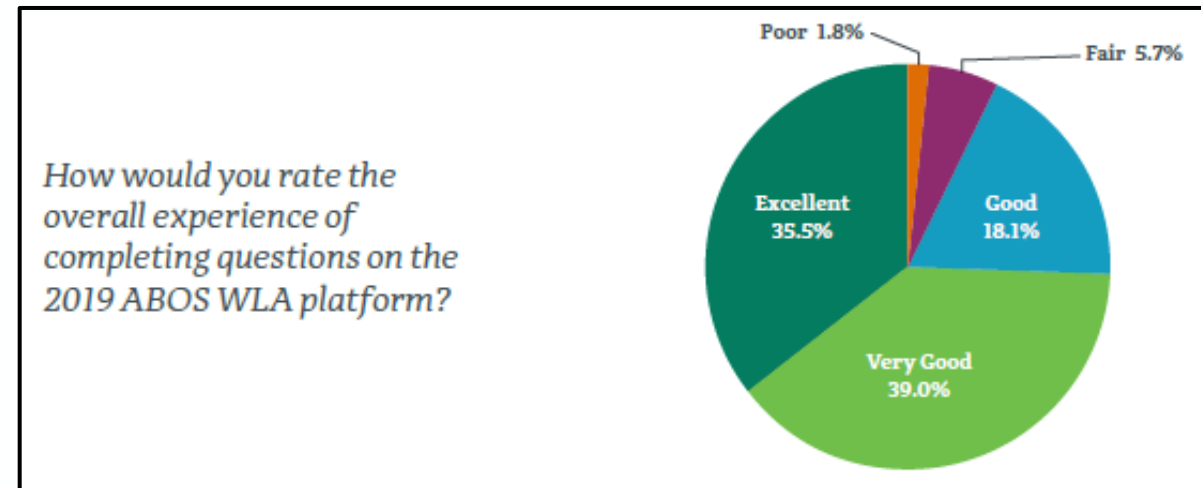
# of participants: 9,596

% eligible who participated: 55%

% who earned a Quality Year: 98.2%

Total questions administered: 287,366

Average time it took to answer each question: 64.05 seconds



# *2020 ABOS WLA Statistics:*

## *Second Year Offered*

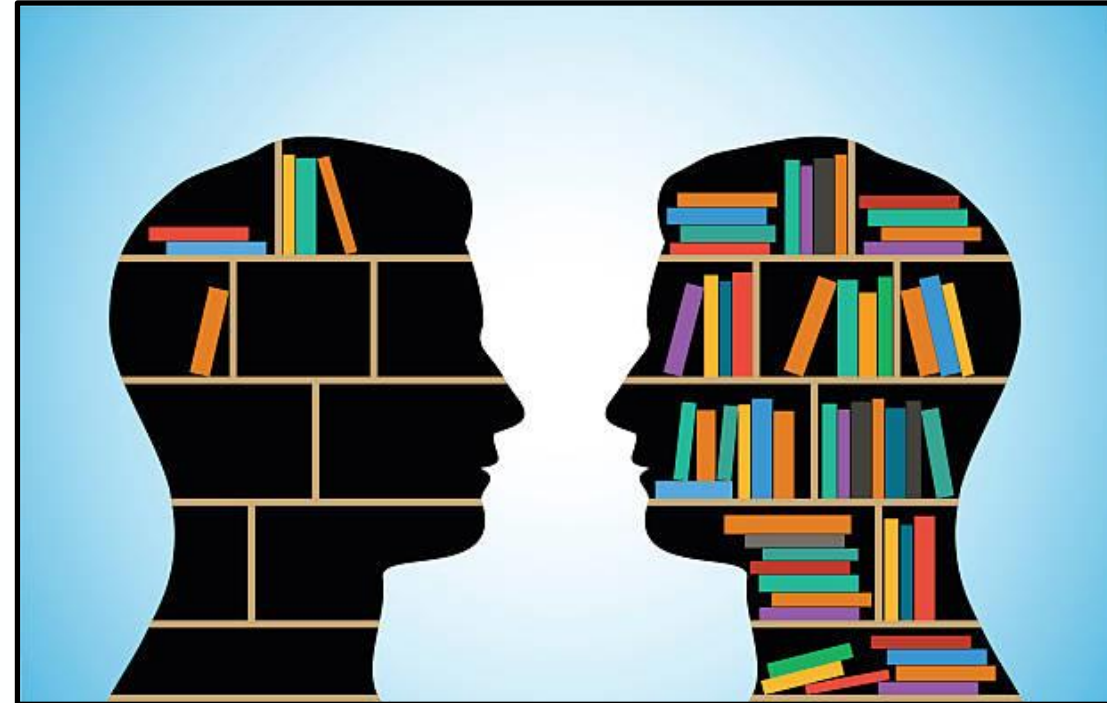
# of participants: 12,620

% eligible who participated: 66%

% who earned a Quality Year: 99.3%

Total questions administered: 378,627

Average time it took to answer each question: 52.31 seconds





*Looking to the Future*

# *ABOS – A Purposeful Evolution*

- Continually looking at ways to improve our programs
  - Leveraging technology to streamline processes
- Targeted, specific Diplomate communications
- Greater collaboration with stakeholders:
  - American Academy of Orthopaedic Surgeons (AAOS)
  - Subspecialty Societies
  - State and Regional Orthopaedic Societies
- Transparency about where we're going and why
- Seeking feedback and insights to improve our processes
  - Surveys
  - Office hours with Executive Medical Director
- Implementing programs to encourage diversity



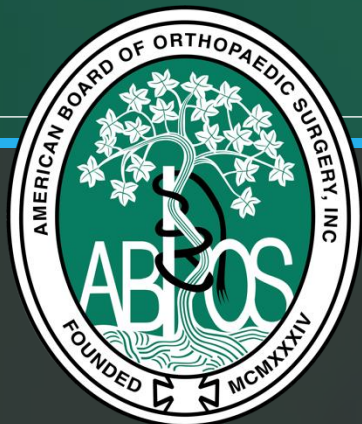
# ABOS Priorities

- Lifelong Certification Process that promotes Continuous Learning
  - Goal: relevant evaluations that improve patient care
- Respect the unique nature of each surgeon's practice
  - Goal: reduce burden/increase value
- Serve our Patients, our Profession, and the Public
  - Goal: safe, ethical, and effective practice of orthopaedic surgery
- Continued Commitment to Physician Self Regulation
- Volunteer – [www.abos.org](http://www.abos.org)



# *Thank You*

*David F. Martin, MD*  
*dmartin@abos.org*  
*919-929-7103*



American Board of  
Orthopaedic Surgery

*Establishing Education & Performance  
Standards for Orthopaedic Surgeons*