

## Chapter 45

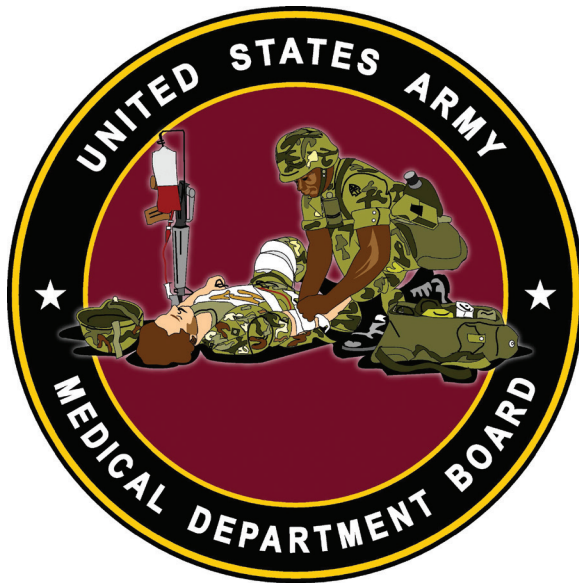
# ROLE OF THE PHYSICIAN ASSISTANT ON THE US ARMY MEDICAL DEPARTMENT BOARD

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## Introduction

The US Army Medical Department Board (AMEDDBD) has a unique mission to support the surgeon general's Title 10 US Code authority to perform the duties of an independent operational tester, through the commanding general of the Army Medical Center of Excellence (MEDCoE), the Training and Doctrine Command, and the Department of Defense acquisition process. The AMEDDBD is the only Army directorate to perform the duties of an operational tester and evaluator for medical materiel systems, including medical command, control, communications, and computers/information technology (C4/IT) systems for the Medical Department.<sup>1</sup> The AMEDDBD provides nonbiased, independent operational testing and evaluation (OT&E) of medical and medical-related materiel and information technology products in support of readiness. It assesses emerging concepts, doctrine, and advanced technology applied to the delivery of health care—both on the battlefield and in fixed US facilities (Figure 45-1).

The AMEDDBD operational testers' main customer is the US Army Medical Materiel Development Activity (USAMMDA), a subordinate command of the Medical Research and Development Command (MRDC). USAMMDA has responsibility for medical research, development, and acquisition and coordinates testing of all nondevelopmental medical systems, items, and medical assemblages through program managers who work with the AMEDDBD. After AMEDDBD has completed the testing and evaluation, USAMMDA decides whether or not to field combat medical systems and products for the US armed forces. USAMMDA, the materiel developer, along with



**Figure 45-1.** The US Army Medical Department Board (AMEDDBD) logo. The AMEDDBD was established in 1963 and adopted this logo in 1982.

the AMEDDBD, the independent tester, work in collaboration with the MEDCoE Capability Development Integration Directorate, the combat developer. These three organizations interface to close capability gaps.

The AMEDDBD is chaired by a president and has two branches: Materiel Systems OT&E and Information Management/Information Technology OT&E. Only two physician assistants (PAs) have been consecutively assigned to the AMEDDBD as chiefs of the Materiel Systems OT&E Branch. Out of 15,168 AMEDD officers, only one PA officer holds this OT&E position. The position is now an O5A (all AMEDD, branch-immaterial officer) long-term health education and training (LTHET) internship.<sup>2</sup>

## Background

Testing and evaluation is noted in Army Regulation 73-1,<sup>1</sup> Department of Defense Instruction 5000.66,<sup>3</sup> and the Defense Acquisition

Guidebook<sup>4</sup> as a major element of the acquisition process that provides state-of-the-art medical and medical-related devices required to accomplish contingency missions. Formed in 1963 as part of MRDC, the AMEDDBD was originally called the Medical Field Service School (Laboratory Sciences Division).<sup>5</sup> On October 1, 1964, the US Army Medical Service Test and Evaluation Activity was activated under the jurisdiction of the surgeon general and assigned to the Brooke Army Medical Center. Four years later, the name was changed to the US Army Medical Department Test and Evaluation Activity, through General Order No. 52, October 15, 1968.<sup>5</sup> Subsequent organizational realignments and name changes occurred, including Medical Equipment Test and Evaluation Division (1971–1973); Directorate of Medical Equipment Test and Evaluation (1978–1982); and finally US Army Medical Department Board (1982–present).

## **Army Medical Department Board Functions**

The AMEDDBD is fully engaged in contributing to the Army's multi-domain operations and its capabilities requirements. It conducts independent, realistic, and objective OT&E and assessment of enhanced medical equipment, performed by a cadre of seasoned military and civilian experts. Numerous key instructions, directives, pamphlets, and regulations govern AMEDDBD OT&E in the acquisition process (Figure 45-2).<sup>1,6-16</sup> The AMEDDBD executes the following functions:

- performing medical OT&E;
- providing consultants, subject matter experts, and test players (medical personnel end users) to carry out the test planning, execution, and reporting;
- providing representation to OT&E forums as required;
- participating in the Test Schedule and Review Committee, a semi-annual process for addressing test requirements; and
- performing system evaluation for assigned systems in accordance with US Army Test and Evaluation Command policies and procedures.<sup>1</sup>

All customer-requested OT&E requirements that pertain to specific system acquisition, regardless of acquisition category (ACAT), must be incorporated into the AMEDDBD test plan. Most AMEDDBD OT&E

**Figure 45-2 (right).** As an independent test agency, the Army Medical Department Board can assist materiel developers at different milestones through operational testing and evaluation in the acquisition process.

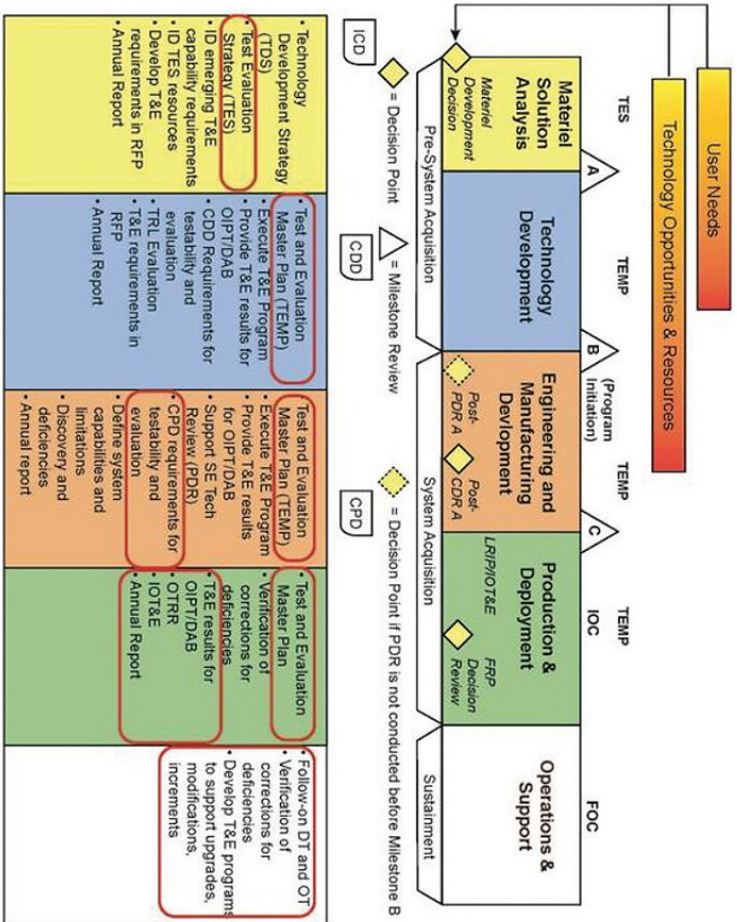
CDD: capabilities development document; CDR: critical design review; CPD: capabilities production document; DAB: Defense Acquisition Board; DT: developmental test; FOC: full operational capability; FRP: full-rate production; ICD: initial capabilities document; IOC: initial operational capability; IOT&E: initial operational test and evaluation; LRIP: low-rate initial production; OIPT: overarching integrated product team; OT: operational test; OTRR: operational test readiness review; PDR: preliminary design review; RFP: request for proposal; SE: systems engineering; TEMP: test and evaluation master plan; TES: test evaluation strategy; TRL: technology readiness level

is for ACAT III, commercial off-the-shelf medical equipment. OT&E is warranted for this equipment to ensure operational suitability and effectiveness. After performing OT&E, AMEDDBD must submit a publishable operational test report and supporting data to the Defense Technical Information Center (DTIC).

## **Duties and Responsibilities**

As chief of the Materiel Systems OT&E Branch, the AMEDDBD PA is Army medicine's only materiel test and evaluation branch chief and the senior proponent tester of medical materiel solutions and equipment developed in support of readiness. The AMEDDBD PA is a strategic PA leader who contributes to OT&E as a medical subject matter expert. The PA must be skilled in Tactical Combat Casualty Care and experienced in operational efforts. They must maintain deployability and credentials in support of contingency and support operations. The AMEDDBD PA has the following duties:

- directs, plans, coordinates, and oversees all materiel OT&E activities within Army medicine;
- provides technical guidance to 25 soldiers, Army civilians, and contractors;
- serves as test planner, analyst, and evaluator for medical materiel solutions and equipment developed through the acquisition process;
- reviews and edits documentation, plans, and reports of nonbiased OT&E; and



- serves as a PA specialty consultant (in orthopedics, emergency medicine, or occupational health) or a family medicine PA, as well as a subject matter expert for Army and Defense Health Agency initiatives.

## **Requirements**

Requirements for serving as the chief of the Materiel Systems OT&E Branch are as follows:

- Role 1 to Role 3 deployment experience;
- rank of major (promotable) or lieutenant colonel;
- graduate of the Command and General Staff College; and
- maintenance of PA credentials, privileges, fitness, and deployability.

## **Knowledge, Skills, and Attributes**

Future chiefs should maintain all military requirements and have the following skills and attributes:

- promotion potential for future service in broadening and operational assignments;
- professional knowledge and emotional maturity;
- critical thinking skills;
- skill with people, including coaching and teaching;
- ability to both function on a collaborative team and work independently;
- leadership ability in promoting the PA specialty;
- motivation to work with Forces Command and Training and Doctrine Command stakeholders; and
- effective communication skills, both laterally and vertically.

## **Significant Contributions**

The Materiel Systems OT&E Branch chief and team have made numerous contributions in support of readiness by providing enhanced medical and medical-related materiel to both fixed facilities and the battlefield. Because AMEDDBD's OT&E encompasses testing from the point of injury to Role 3, realistic conditions, including stress and heightened operational tempo, are required during the process. Items are assessed against valid and current requirements.

Customers and partners for materiel systems testing include MRDC; USAMMDA; US Army Medical Materiel Agency (USAMMA); Joint Program Executive Office (JPEO) for Simulation, Training

and Instrumentation; JPEO for Chemical, Biological, Radiological, and Nuclear Defense; US Army Operational Test Command; US Navy Operational Test and Evaluation Force; US Air Force Medical Evaluation Support Activity; and US Marine Corps Operational Test and Evaluation Activity. In the last 3 years, these collaborations have resulted in numerous project event design and operational test reports submitted to DTIC, as listed in Table 45-1. Figures 45-3 through 45-8 show scenes from these tests.

## **Lessons Learned**

The following are lessons learned to help the PA be successful as chief of the Materiel Systems OT&E Branch. The PA should:

- be prepared to brief at the brigade O-6 (colonel) level;
- be up to date with all key documents from the staff and article delivery dates;



**Figure 45-3.** A Fort Bragg paratrooper medic (a test event player) from the 82nd Airborne Division uses a Traumatic Brain Injury at Point of Injury (TBI-POI) device to scan a fellow paratrooper during a 2018 test event, while a test officer (not shown) annotates observations.

**Table 45-1. Army Medical Department Board collaboration projects, 2018–2020**

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- Automatic Chest Compression Device
  - Bed Net System
  - Defibrillator Pacemaker Physiological Monitor
  - Nerve Agent Antidote Auto Injector
  - Noise-Immune Stethoscope
  - Pathogen Reduction Device
  - Pneumatic Tourniquet
  - Portable Digital Radiography System
  - Sublingual Sufentanil Tablet
  - Modified Rescue and Innovative Rescue Litters Phase I & II
  - Portable Ophthalmic Microscope
  - Modified 7309 and Quad-Fold Litters with Litter Straps
  - Deployable Oxygen Generating System–Small
  - Laboratory Assay for Traumatic Brain Injury and iSTAT (2 biomarkers)
  - Tent, Extendable, Modular, Personnel (TEMPER) Air-Supported Shelter (TAS)
  - Traumatic Brain Injury at Point of Injury Device
  - Medical Simulation Manikin
  - Freeze Dried Plasma
  - Atropine Auto-Injector
  - Chemical Biological Defense Auto Injector Device
  - Delivery of Nucleic Acid Vaccines
  - Field Hospital Suction Apparatus
  - Intrathoracic Pressure Regulation Therapy
  - iDirectDoc Ruggedized-Mobile Telekit
  - Medical Hand-free Unified Broadcast (MEDHUB) Device
  - Rigid Immobilization System for Extremities (RISE)
  - Individual First Aid Kit (IFAK) Generations I & II
  - Whole Blood Pathogen Reduction Device
  - Armored Multi-Purpose Vehicle
  - Extracorporeal Life Support
  - Point-of-Care Hand-Held COVID-19 Test Device
  - Veterinary Ultrasound
  - Human Ultrasound Field Portable
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Data sources: (1) Prater S. Experimental flooring–Spartan medics test field hospital material. *Fort Carson Mountaineer* website. Published September 2, 2019. Accessed October 8, 2020. <https://www.fortcarsonmountaineer.com/2019/09/experimental-flooring-spartan-medics-test-field-hospital-material> (2) Crown E. Army operationally tests brain injury evaluation devices. US Army Medical Materiel Command website. Published September 10, 2019. Accessed October 8, 2020. [https://www.usammda.army.mil/index.cfm/public\\_affairs/articles/2018/army\\_operationally\\_tests\\_brain\\_injury\\_evaluation\\_devices](https://www.usammda.army.mil/index.cfm/public_affairs/articles/2018/army_operationally_tests_brain_injury_evaluation_devices) (3) Upgraded medical manikins enhance realistic, rugged training. Defense Visual Information Distribution Service website. September 10, 2019. Accessed October 8, 2020. <https://www.dvidshub.net/image/5753167/upgraded-medical-mannequins-enhance-realistic-rugged-training> (4) Micheliche B. Freeze dried plasma gets air dropped. Defense Visual Information Distribution Service website. Published September 23, 2019. Accessed October 8, 2020. <https://www.dvidshub.net/news/343202/freeze-dried-plasma-gets-air-dropped> (5) Rodriguez JE. U.S. Army Medical Department Board tests extracorporeal life support. US Army website. Published March 4, 2020. Accessed October 8, 2020. [https://www.army.mil/article/233404/u\\_s\\_army\\_medical\\_department\\_board\\_tests\\_extracorporeal\\_life\\_support](https://www.army.mil/article/233404/u_s_army_medical_department_board_tests_extracorporeal_life_support)





**Figure 45-4.** During an August 2019 test event, several soldiers (test players) from Fort Carson’s 10th Field Hospital were trained, participated in testing, and provided valuable feedback on the Tent, Extendable, Modular, Personnel (TEMPER) Air-Supported Shelter (TAS) Protective Insulated Flooring at Training Site 13. Photograph by AMEDDBD test team. For more information, see Prater S. Spartan medics test field hospital material. *Fort Carson Mountaineer*. Published August 30, 2019. [https://www.fortcarsonmountaineer.com/wp-content/uploads/2019/08/Mountaineer\\_2019-08-30.pdf](https://www.fortcarsonmountaineer.com/wp-content/uploads/2019/08/Mountaineer_2019-08-30.pdf)

- remember that safety is paramount during testing at the operational sites;
- ensure staff maintain continuing learning points, maintaining the T&E certification requirement, and update individual development plans for both the Army Career Tracker and T&E certification;<sup>3</sup>
- maintain positive customer relationships with internal and external stakeholders; and
- keep the AMEDDBD president up to date with upcoming projects, and any challenges or concerns.

### Internship Key Facts

The new 12-month LTHET training and evaluation internship provides AMEDD officers with specialized testing and evaluation training and



**Figure 45-5.** Major Scott A. Kavan, a 65D physician assistant (provider test player) from the 82nd Airborne Division, 3rd Brigade Combat Team, screens a soldier for moderate-to-severe traumatic brain injury during a 2018 operational test event by the AMEDDBD. Photograph by AMEDDBD test team. For more information, see Crown E. Army operationally tests brain injury evaluation devices. US Army Medical Materiel Development Activity website. Published August 14, 2018. [https://www.usammda.army.mil/index.cfm/public\\_affairs/articles/2018/army\\_operationally\\_tests\\_brain\\_injury\\_evaluation\\_devices](https://www.usammda.army.mil/index.cfm/public_affairs/articles/2018/army_operationally_tests_brain_injury_evaluation_devices)

positions them as acquisition leaders, helping them to qualify for future command selection list (CSL) positions in the acquisition competitive category. It also enables them to provide relevant data to acquisition program managers aimed at ensuring sound programmatic decisions so that operational elements are properly equipped to meet the Army's contingency mission requirements.



**Figure 45-6.** Major Robert M. Levesque, a 65D physician assistant (provider test player) with the 3rd Brigade Support Battalion, 1st Armored Brigade Combat Team, 3rd Infantry Division, evaluates pupillary reaction on a simulated casualty for brain activity during a Medical Simulation Mannequin customer test for the recently upgraded mannequins, September 10, 2019, at Fort Stewart, Georgia. Medical Simulation Mannequins replicate the entirety of an adult human and reacts to injury and medical intervention as a live human would. US Army photo by Sergeant Arjenis Nunez/Released. Reproduced from: <https://www.dvidshub.net/image/5753167/upgraded-medical-mannequins-enhance-realistic-rugged-training>

Completing the LTHET internship results in an 8X additional skill identifier (for highly technical medical personnel in acquisition management), establishing identification, certification, and utilization, thereby enabling the PA to be assigned to acquisition positions. The intern incurs in a utilization tour requirement and an active duty service obligation of 24 months. During the internship, students will receive hands-on practical experience in analysis, research, plan-writing, report-writing, oral briefings, policy development, and OT&E procedures.

The objective of the internship is to provide the AMEDDD with a pool of officers that are fully qualified to fill AMEDDD testing and evaluation assignments. There are only four AMEDDD positions that require acquisition-certified officers; the chief of the Materiel Systems OT&E Branch is one of two requiring Defense Acquisition University



**Figure 45-7.** Specialist Yasmine Schmidt, of the 432nd Blood Support Detachment, 28th Combat Support Hospital, 44th Medical Brigade, reconstitutes the article under test, freeze-dried plasma (FDP), during the AMEDDDBD's inject-into-the-units field training exercise, as an AMEDDDBD test officer records observational data (September 19, 2019, Fort Bragg, NC). Photograph by Sergeant Brian Micheliche, 22nd Mobile Public Affairs Detachment.



**Figure 45-8.** During an international (Italian) operational test event for the Extracorporeal Life Support (ECLS) system, held February 18–20, 2020, at the Deployable Medical Systems Equipment for Training site, kidney and pulmonology provider teams are trained, test the system, and provide valuable end-user feedback on the system’s functionality and usability. The system is being used in China, Italy, and other countries as an adjunct for COVID-19 patients. Photograph by AMEDDBD. For more information, see Rodriguez JE. US Army Medical Department Board tests extracorporeal life support. Joint Base San Antonio website. Published March 5, 2020. <https://www.jbsa.mil/News/News/Article/2102241/us-army-medical-department-board-tests-extracorporeal-life-support/>

(DAU) level III training and evaluation certification. The pool requires at least 12 officers to allow for other professional, operational, and developmental assignments.

## **Internship Requirements**

Currently the internship is open to Medical Service Corps and Specialist Corps officers. There are no minimum Graduate Record Examination, Graduate Management Admission Test, or grade point average requirements. Interns are selected by the surgeon general 8X consultant and the AMEDDBD president. To qualify for the LTHET internship program, officers must:

- be a member of the active duty US armed forces serving in the rank of major (promotable) or lieutenant colonel, and be selected by the LTHET board<sup>2</sup>;
- have a baccalaureate degree or higher from an accredited educational institution; and
- have completed 24 semester hours (or equivalent) from an accredited institution of higher education in the science, technology, engineering, or mathematics.

During the internship, the officer must attain DAU level I and II certification and complete the didactic course work with eventual level III certification and subsequent future Army Acquisition Corps (AAC) membership.<sup>3,17</sup>

## **Tips for Success**

Along with lessons learned, the following tips for success will help AMEDDBD PAs to succeed beyond expectations:

- When briefing the test team leads and test players (tasked to engage as end users), the PA should enforce safety, rules of engagement, and the importance of honest feedback (via surveys, after-action reviews, recommendations, etc) on the item being tested.
- The PA should always review, make recommendations, and discuss (if needed) the test plans and reports that are staffed up to the AMEDDBD president for DTIC submission.
- The PA should update their Officer Record Brief with DAU testing and evaluation certification level and AAC membership in the career acquisition management portal.

## **Conclusion**

The AMEDDBD carries on the mission to provide independent OT&E of medical and medical-related materiel and information technology products in support of readiness for the warfighter. The AMEDDBD PA is a team member who assesses emerging concepts, doctrine, and advanced technology applications applied to the delivery of health care—both on the battlefield and in fixed facilities. The PA contributes

as a member of a diverse team in operationally testing equipment before it is fielded to ensure operational functionality and usability by the end user, in support of the primary customer, the warfighter, whether in the United States or deployed outside the country. The potential for such contributions, and the opportunity to compete for the coveted upcoming CSL acquisition competitive category, offer challenges to the LTHET selected intern PA who will begin in academic year 2021.

## References

1. US Department of the Army. *Test and Evaluation Policy*. DA; 2018. Army Regulation 73-1. Accessed October 8, 2020. [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN7727\\_AR\\_73-1\\_WEB\\_Final.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN7727_AR_73-1_WEB_Final.pdf)
2. US Army Human Resources Command. *Academic Year 2021 Army Medical Department (AMEDD) 4 (Army Nurse (AN), Medical Service (MS), Army Medical Specialist (SP), and Veterinary (VC)) Corps Long Term Health Education and Training (LTHET) Program Selection Panel Announcement*. DA; 2019. MILPER Message Number 19-369. Accessed October 8, 2020. <https://www.hrc.army.mil/PrintPreview/Milper/19-369> [requires Common Access Card login]
3. US Department of Defense. *Defense Acquisition Workforce Education, Training, Experience, and Career Development Program*. DOD Instruction 5000.66. Accessed October 26, 2020. <https://asc.army.mil/web/wp-content/uploads/2019/11/DoDI-5000.66.pdf>
4. Defense Acquisition University. *Defense Acquisition Guidebook*. DOD; 2020. Accessed October 26, 2020. <https://www.dau.edu/tools/dag>
5. US Army Medical Research and Development Command website. Subordinate commands. Updated October 2, 2019. Accessed October 8, 2020. [https://mrdc.amedd.army.mil/index.cfm/about/subordinate\\_commands](https://mrdc.amedd.army.mil/index.cfm/about/subordinate_commands)
6. Operational Test and Evaluation of Defense Acquisition Programs, 10 USC § 2399 (2012). Accessed October 12, 2020. <https://go.usa.gov/xGJRe>

7. US Department of Defense. *The Defense Acquisition System*. DOD; 2020. DOD Directive 5000.01. Accessed October 12, 2020. <https://www.esd.whs.mil/Directives/issuances/dodd/>
8. US Department of Defense. *Operation of the Adaptive Acquisition Framework*. DOD; 2020. DOD Instruction 5000.02. Accessed October 12, 2020. <https://www.esd.whs.mil/Directives/issuances/dodi/>
9. US Department of Defense. *Operation of the Defense Acquisition System*. DOD; 2020. DOD Instruction 5000.02T (change 8). Accessed October 12, 2020. <https://www.esd.whs.mil/Directives/issuances/dodi/>
10. US Department of the Army. *Army Medical Materiel Acquisition Policy*. DA; 2014. Army Regulation 40-60. Accessed October 12, 2020. [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/r40\\_60.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/r40_60.pdf)
11. US Department of the Army. *Medical Logistics Policies*. DA; 2005. Army Regulation 40-61. Accessed October 12, 2020. [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/r40\\_61.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/r40_61.pdf)
12. US Department of the Army. *Army Acquisition Policy*. DA; 2018. Army Regulation 70-1. Accessed October 12, 2020. [https://armypubs.army.mil/epubs/dr\\_pubs/dr\\_a/pdf/web/arn5631\\_r70\\_1\\_final.pdf](https://armypubs.army.mil/epubs/dr_pubs/dr_a/pdf/web/arn5631_r70_1_final.pdf)
13. US Department of the Army. *Test and Evaluation Policy*. DA; 2018. Army Regulation 73-1. Accessed October 12, 2020. [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN7727\\_AR\\_73-1\\_WEB\\_Final.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN7727_AR_73-1_WEB_Final.pdf)
14. US Department of the Army. *Test and Evaluation in Support of Systems Acquisition*. DA; 2003. DA PAM 73-1. Accessed October 12, 2020. [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/p73\\_1.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/p73_1.pdf)
15. US Army Test and Evaluation Command, ATEC Pamphlet 73-1, *System Test and Evaluation Procedures*. DA; 2010. Accessed October 12, 2020. <https://go.usa.gov/xGJR4>



16. US Department of the Army. *Warfighting Capabilities Determination*. DA; 2019. Army Regulation 71-9. Accessed October 12, 2020. [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN11041\\_AR71-9\\_FINAL.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN11041_AR71-9_FINAL.pdf)
17. Office of the Assistant Secretary of the Army Acquisition Logistics and Technology. *Acquisition Career Field Certification Policy*. Department of the Army. Memorandum, October 10, 2019. Accessed October 8, 2020. <https://asc.army.mil/web/wp-content/uploads/2020/05/policy-acf-cert.pdf>

