

TSAC

TACTICAL STRENGTH AND CONDITIONING

ANNUAL TRAINING

APRIL 2 - 5, 2018 | NORFOLK, VA

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2.0 CEUs



FIT TO SERVE. STRENGTH TO PERFORM.

Conflict of Interest Statement

- **I have no actual or potential conflict of interest in relation to this presentation.**



Protocols for Return to Duty Following Musculoskeletal Injury

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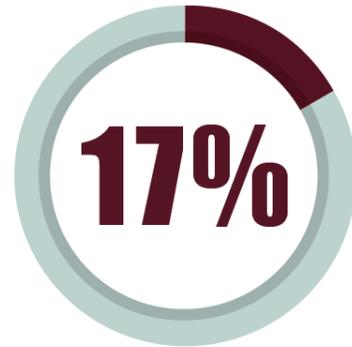
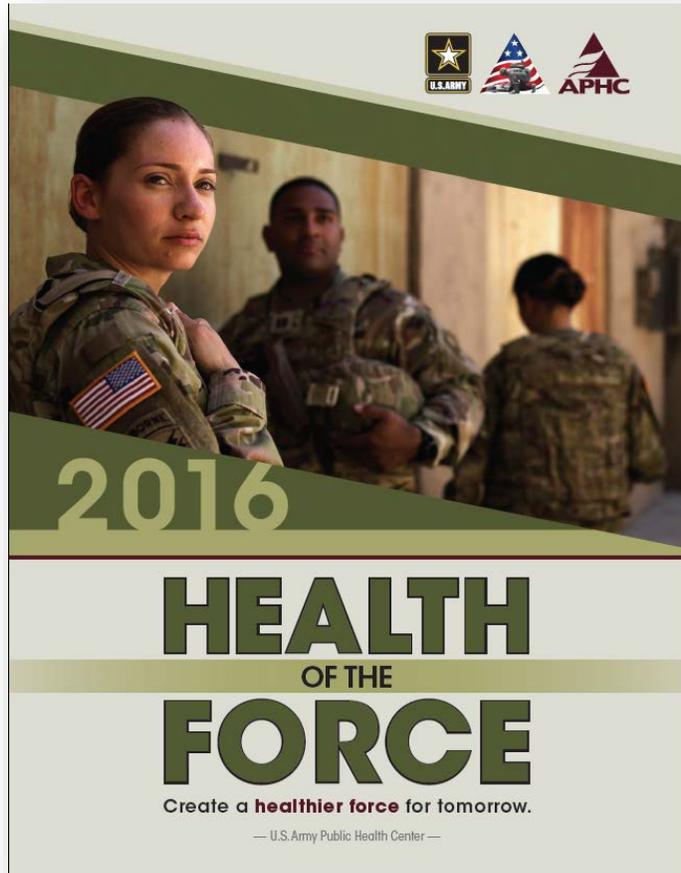
Background and Significance

- **Deploy or get out: New Pentagon plan could boot thousands of non-deployable troops.**

By: [Tara Copp](#), *Military Times*, February 5, 2018

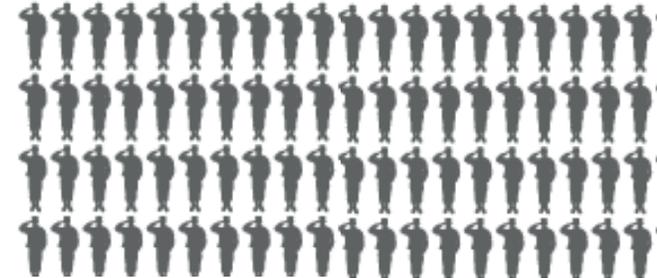
- “If you are going to serve and continue to want to serve, and if you want to make this a career, you’re going to have to learn that path of recovery and get back to being healthy. Because we need healthy, fit warriors to defend this nation.” *Command SGT Major John Troxell*

Background and Significance



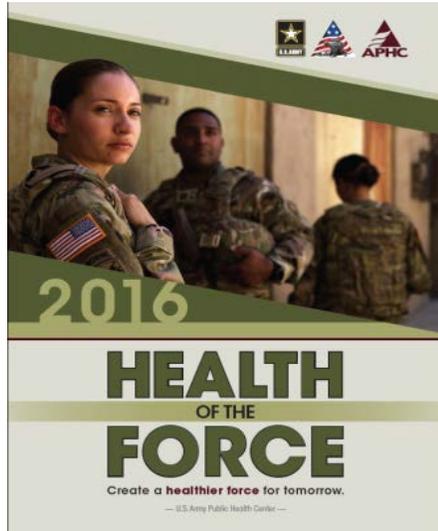
Overall, 17% of Soldiers were classified as not medically ready.

Rates ranged from 12% to 24% across installations.

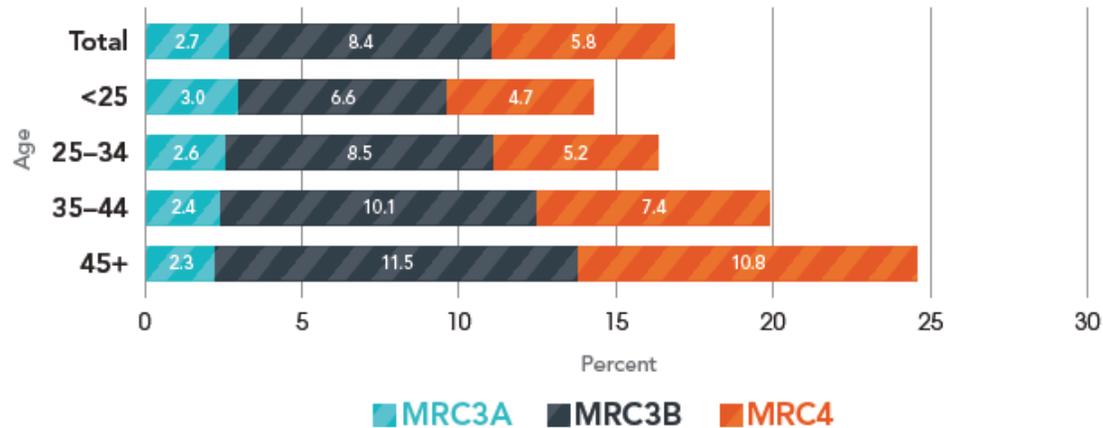


 = 1,000 Soldiers

Background and Significance



Percent Not Medically Ready by Medical Readiness Classification (MRC) and Age, AC Soldiers, 2015



MRC3A: Correctable within 30 Days.

MRC3B: Correctable in more than 30 days.

MRC4: Status is unknown.

144,000

Soldiers considered non-deployable for various medical reasons

- Medical Readiness STAND TO (December 2016)

Background and Significance

- Currently, 11% or 235,000 of 2.1 million personnel serving on active duty, in the reserves or National Guard are non-deployable.
- 116,000 of the 235,000 personnel are non-deployable due to either short- or long- term injuries.
- Very few of these injuries are combat related injuries.
- The injuries are a result of Soldiers doing their jobs, or during physical training that they were injured.

- [Tara Copp](#), *Military Times*, February 5, 2018

Background and Significance

- Currently, no validated outcome measures exist for returning a Soldier to their job following a musculoskeletal injury (MSKI).
- Close the scientist/clinicians ↔ Warfighter gap
- Develop/use military-relevant tools

Annual Injury Rates, AC Soldiers, 2008-2015

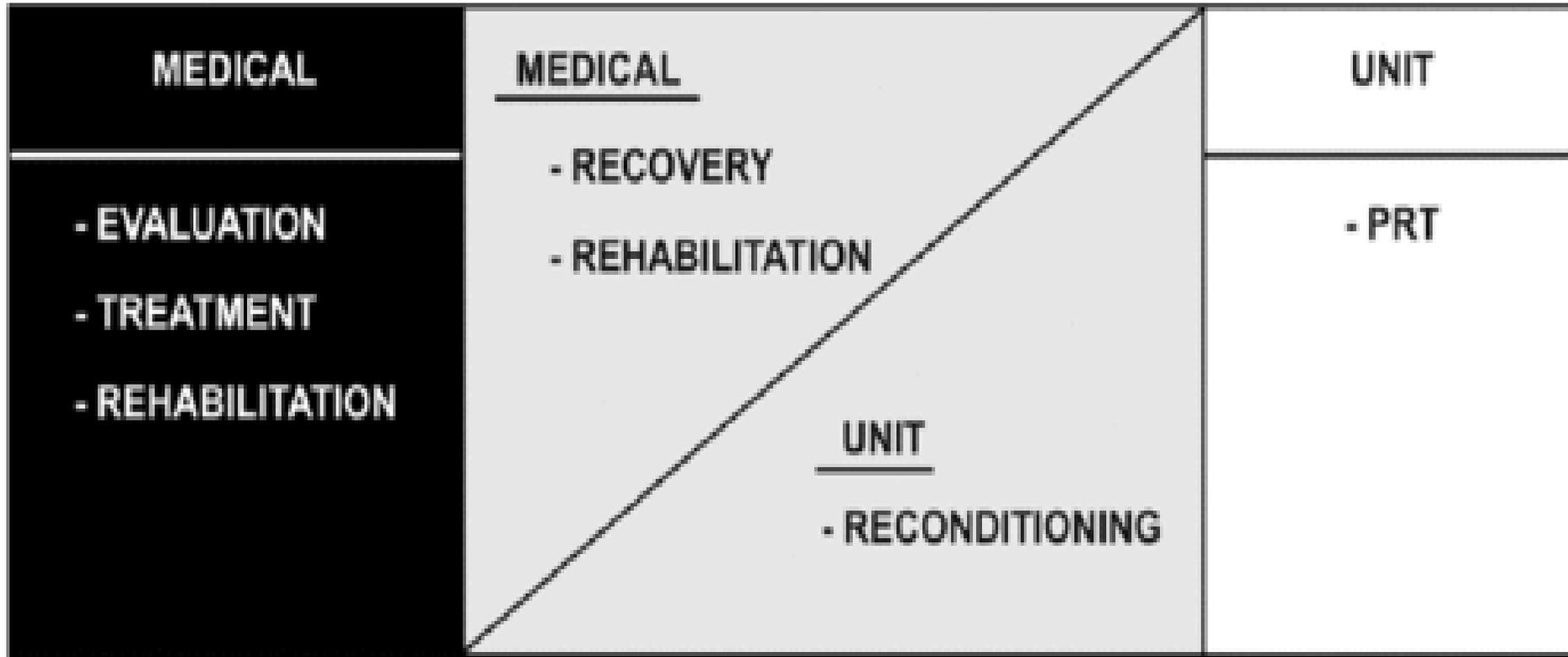


“You’re either deployable, or you need to find something else to do.”

Defense Secretary Jim Mattis

Jim Sisk, Military.Com, 19 FEB 2018

Rehabilitation and Reconditioning Responsibilities



Current RTD Assessments

- Clinicians use a variety standardized assessments based on normative data that may or may not reflect the physical demands and expectations of a military population.



- Without understanding the tasks demands of a Soldier's specific MOS, Soldiers may be cleared to RTD to duty before they are ready.

Army's Profile System (E-Profile)

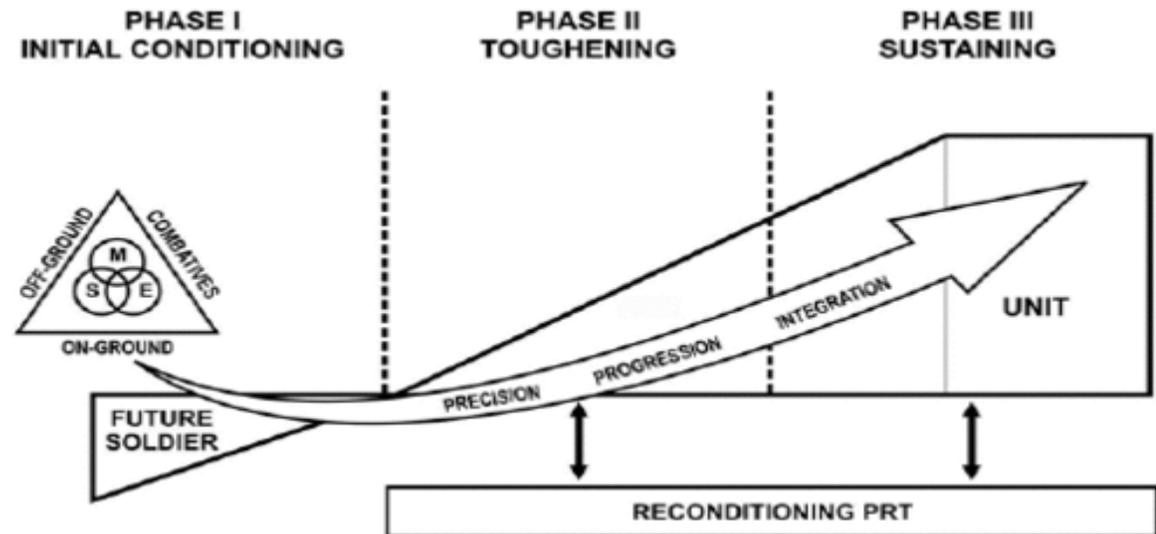
- E-Profile system was designed as a mechanism to address post injury recovery and the readiness gap by guiding unit reintegration following injury.
- Healthcare providers classify Soldiers based on functional abilities, communicate duty limitations and outline graded performance recommendations to military commanders.
- Medical profile system seeks to prevent re-injury during recovery.

Army's Profile System (E-Profile)

- Recent changes to the E-Profile System places greater responsibility on the healthcare provider to write adequate profiles and....
- Places greater responsibility on unit commanders for monitoring their Soldiers on profile and planning for their recovery and unit reintegration.

Army Physical Readiness Training (PRT)

- Army PRT program (Field Manual (FM) 7-22):
 - The Army PRT System was developed with Soldier performance and injury control as its two primary objectives
 - FM 7-22 outlines the required components for planning unit physical training and provides a description of the specific exercises.



Reconditioning Physical Readiness Training (R-PRT)

R-PRT also covered in FM 7-22, describes a reconditioning program for Soldiers on profile based on a two level system led by R-PRT leaders.

- Level I includes Soldiers on profile for injuries that require gym based rehabilitation.
- Level II includes Soldiers with moderate to less severe injuries.
- Purpose of the reconditioning program is to safely restore a level of physical readiness that enables Soldiers to successfully re-enter unit PRT after injury, illness or other medical condition. (FM 7-22)

• *"Injuries are not random events; they are the predictable result of a complex set of risk factors, many of which can and should be controlled."*

- MG Patrick Scully, Deputy Surgeon General, U.S. Army (1998-2002)

From Field Manual 7-22

R-PRT Level I (Exit criteria from Level I into Level II)

Tasks	Entry Criteria to Progress from Level I to Level II
Partial squats without pain	5 repetitions in 5 seconds
Push-ups	10 repetitions to standard
Sit-ups	10 repetitions to standard
Hang from pull-up bar	15 seconds
Walk	30 minutes unassisted, at normal gait without pain

R-PRT Level II (Exit criteria from Level II)	
Tasks	Test out or Exit Criteria from R-PRT to Return to full unit PRT from Level II
Preparation	5 repetitions to standard
Military Movement Drill 1	1 repetition to standard
Conditioning Drill 1	5 repetitions to standard
Climbing Drill 1	5 repetitions to standard
Continuous running	30 minutes at slowest ability group run (AGR) pace in unit
Recovery	Hold each stretch for 20 seconds to standard

Exercise Programming

- Progressing injured Soldiers to a “return-to-duty” level of fitness is the goal of any reconditioning program.
 - Pitfalls to exercise progression include:
 - 1. If the exercise progression is too rapid, the Soldier may become reinjured.
 - 2. If the exercise progression is too slow it risks general deconditioning and a loss of effectiveness when returned to duty.

In addition.....

- A gap between recovery fitness and unit expectations may also cause undue physical and psychological stress.

From Field Manual 7-22

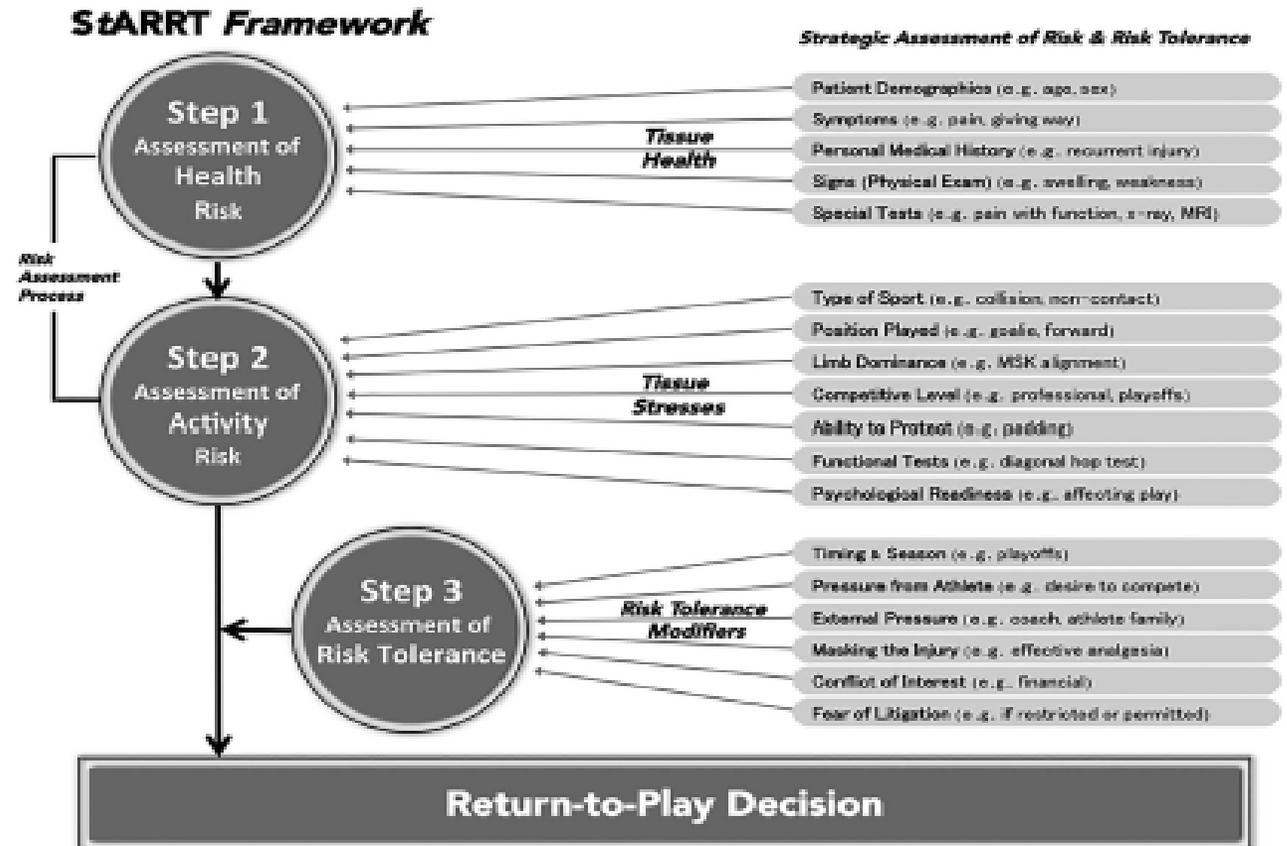
Return to Sport Performance

- Three Elements of the Return to Sport Continuum
 - 1. Return to Participation
 - 2. Return to Sport
 - 3. Return to Performance

Arden C.L., et al. 2106 Consensus statement on return to sport from the First World Congress in Sports Physical Therapy. British Journal of Sports Medicine 2016; 0:1-12.

Return to Sport Performance

- The Strategic Assessment of Risk and Risk Tolerance (StARRT) framework
 - Three-step model which helps estimate the risks of different short-term and long-term outcomes associated returning to sport.



1. Arden C.L., et al. 2106 Consensus statement on return to sport from the First World Congress in Sports Physical Therapy. British Journal of Sports Medicine 2016; 0:1-12.

Return to Sport Performance

The Strategic Assessment of Risk and Risk Tolerance (StARRT) framework

1. Assessment of Health Risks	2. Assessment of Activity Risks	3. Assessment of Risk Tolerance
Patient demographics Symptom Personal medical history Physical Examination Laboratory tests Functional test Psychological state	Type of sport Position played Limb dominance Competitive level Ability to protect	Timing and season Pressure from athlete External pressure (coach, etc) Masking the injury Conflict of interest Fear of litigation

1. Matheson, G.O., Shultz, R. & Bido, J. et al. Return-to-play decisions: are they the team physician's responsibility? Clin J Sport Med 2011;21:25-30.
2. Arden C.L., et al. 2106 Consensus statement on return to sport from the First World Congress in Sports Physical Therapy. British Journal of Sports Medicine 2016; 0:1-12.

Return to Duty Strategies



Develop Evidence-Based
RTD Performance Standards

Develop Effective RTD
Strategies

↓ RTD timeline
↓ Re-injury rates
↑ Health & Readiness

We need to improve decision making

286,000

"On any given day, about 13 to 14 percent of the force is medically unable to deploy -- that comes out to be around **286,000 service members**"

-Undersecretary of Defense for Personnel and Readiness 2018

NEWS > HEADLINES

Pentagon's New Deploy-or-Out Policy Could Separate Up to 286K



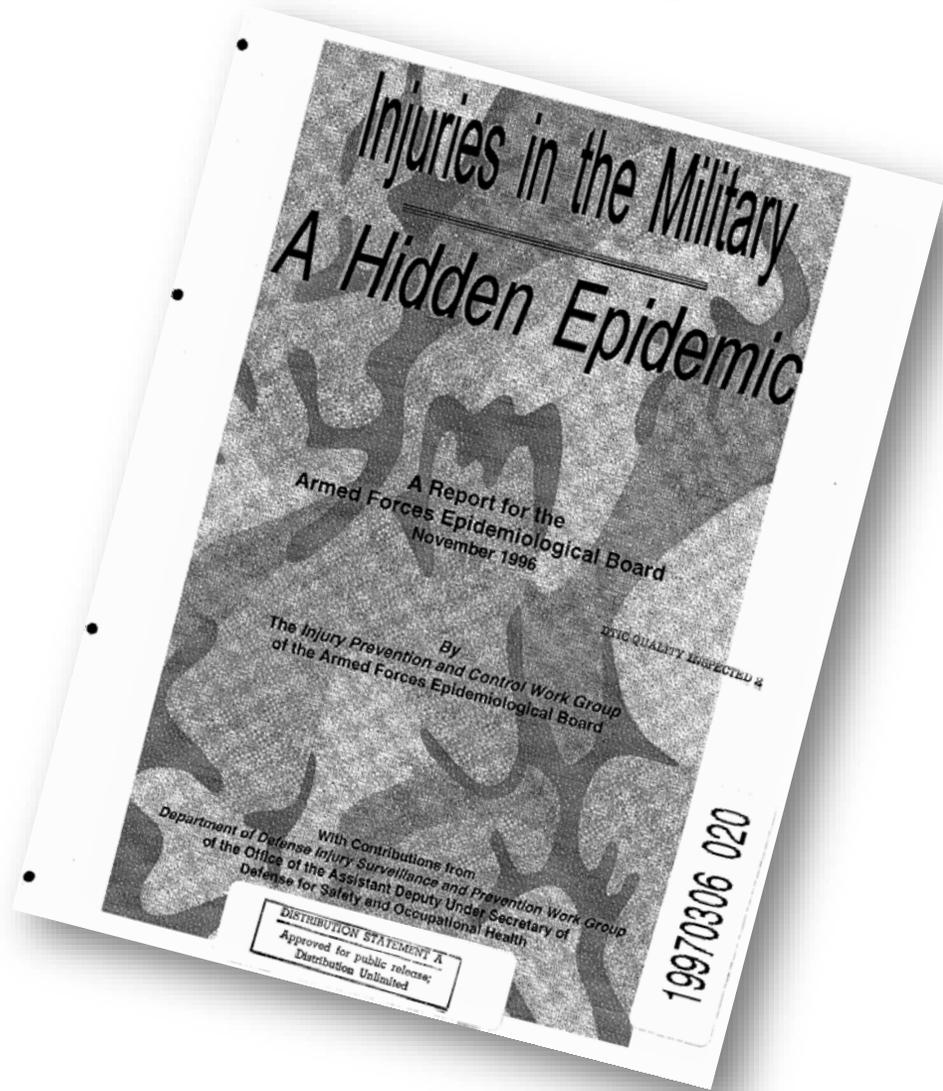
U.S. Marine advisors with Task Force Southwest and advisors with Resolute Support walk through the Regional Training Center compound to begin their assessment and evaluations in Lashkar Gah, Afghanistan, Nov. 15, 2017. (U.S. Marine Corps photo)

Military.com | 15 Feb 2018 | By Richard Sisk

The Pentagon's new "deploy-or-out" policy could result in the separation from military service of possibly 286,000 personnel who are currently deemed medically unfit for overseas duty.

"This new policy is a 12-month deploy or be removed policy," Robert Wilkie, the undersecretary of defense for Personnel and Readiness, told the Senate Armed Services Subcommittee on Personnel Wednesday.

Injury Rates . . .



. . . MSKI has been
“out of hiding” for
decades

So What?

Injury Rates . . . Can we predict them?



Injury Rates . . . Can we predict them?



Annual Injury Rates, AC Soldiers, 2008-2015



Injury Rates . . . Can we impact them?

Annual Injury Rates, AC Soldiers, 2008-2015



Challenges

Top recruiter: Just 136,000 out of 33 million young Americans would join the Army

By: [Meghann Myers](#)  October 12, 2017



Army recruiter Staff Sgt. Molly Lewis gives recognition letters to Spencer Dean, an Army applicant, and Erica Anderson, a former Army applicant, during an assembly at Bethel High School in Spanaway Wash., May 16. (Army)

According to U.S. Army Recruiting Command, there are 33.4 million Americans ages 17 to 24, the Army's prime demographic for enlisting and commissioning.

But there's one hitch: When you whittle that number down for standards, quality and interest? Only about 136,000 are left.

“ . . . there are 33.4 million Americans ages 17 to 24

. . .When you whittle that number down for standards, quality and interest

. . . Only about 136,000 are left.”

– U.S. Army Recruiting Command

Challenges

“We are finding that there are a large number of trainees that come in that quite frankly just physically don’t have the capacity to throw a hand grenade 20 to 25 to 30 meters,”

–MG Frost (CG, U.S. Army Center for Initial Military Training)



Challenges

Develop return to duty testing standards based on actual military physical demands



Military-specific Challenges

LOAD(S):

MOS Tasks:

*Lifting
Bending
Twisting*

Load Carriage:

*Body Armor
Ruck
Equipment*

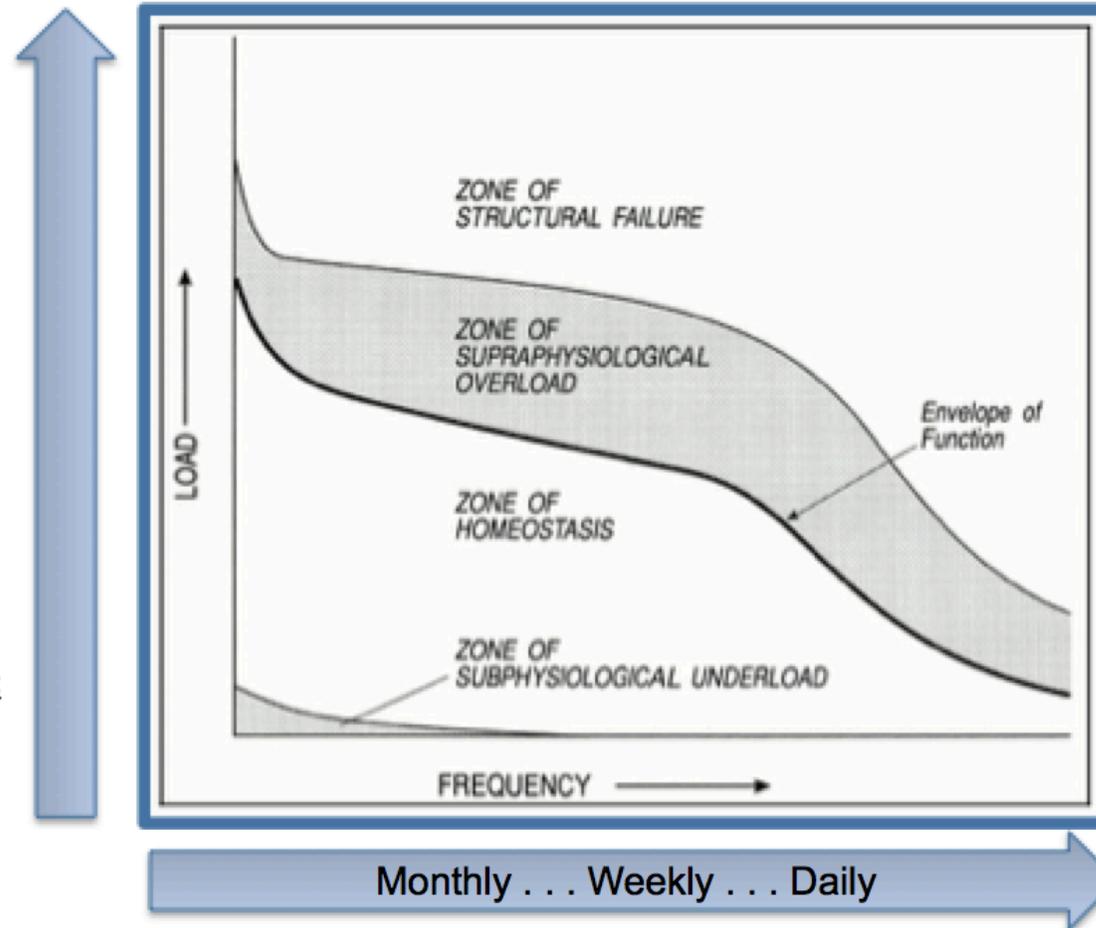
Sports/Recreation:

*PRT
Strength Training*

Sports

Cummulative Distance:

*Marching
Running*



Strategies and Standards:

What is the right load + frequency for RTD?

Service-specific Challenges

Are we adequately prepared to make decisions based on actual military physical demands?



Service-specific Challenges

“What job-specific tasks are impacted by injury?”



Make it military (& service) specific

Integrate Military-Specific Outcomes Tools MLQFS - MUQFS - MLBPQ



Military Lower Quarter Functional Scale

We are interested in knowing whether you are having any difficulty at all with the activities listed below due to your lower limb problem for which you are currently seeking care. Please provide an answer for each activity. Do you (or would you) have any difficulty at all with:

Activity	Extreme difficulty or unable to perform the activity	Quite a bit of difficulty	Moderate difficulty	A little bit of difficulty	No difficulty
1. Any of your usual military duties	0	1	2	3	4
2. Physical Readiness Training (PRT) / Physical Training (PT)	0	1	2	3	4
3. Your usual off-duty recreational or sporting activities	0	1	2	3	4
4. Putting on your military footwear (boots)	0	1	2	3	4
5. Squatting	0	1	2	3	4
6. Lifting an object (like a backpack) from the floor	0	1	2	3	4
7. Performing light activities around your home (or barracks)	0	1	2	3	4
8. Performing heavy activities around your home (or barracks)	0	1	2	3	4
9. Getting into or out of a military vehicle	0	1	2	3	4
10. Getting into or out of your POV (personally owned vehicle)	0	1	2	3	4
11. Walking 2 blocks	0	1	2	3	4
12. Walking a mile	0	1	2	3	4
13. Ruck-marching a mile	0	1	2	3	4
14. Ruck-marching 5 miles	0	1	2	3	4
15. Going up or down 10 stairs (about 1 flight of stairs)	0	1	2	3	4
16. Sitting for 1 hour	0	1	2	3	4
17. Running on even ground (track, pavement, etc.)	0	1	2	3	4
18. Running on uneven ground (trail, etc.)	0	1	2	3	4
19. Making sharp turns while running fast	0	1	2	3	4
20. Hopping / jumping	0	1	2	3	4

Existing tools fall short . . .

Lower Extremity Functional Scale

Lower Extremity Functional Scale (LEFS)¹

Today do you, or would you have difficulty at all with: (Circle one number on each line)

	Extreme Difficulty or Unable to Perform Activity	Quite a bit of Difficulty	Moderate Difficulty	A Little Bit of Difficulty	No Difficulty
a. Any of your usual work, housework or school activities.	0	1	2	3	4
b. Your usual hobbies, recreational or sporting activities.	0	1	2	3	4
c. Getting into or out of the bath.	0	1	2	3	4
d. Walking between rooms.	0	1	2	3	4
e. Putting on your shoes or socks.	0	1	2	3	4
f. Squatting	0	1	2	3	4
g. Lifting an object, like a bag of groceries from the floor.	0	1	2	3	4
h. Performing light activities around your home.	0	1	2	3	4
i. Performing heavy activities around your home.	0	1	2	3	4
j. Getting into or out of a car.	0	1	2	3	4
k. Walking 2 blocks.	0	1	2	3	4
l. Walking a mile.	0	1	2	3	4
m. Going up or down 10 stairs (about 1 flight of stairs).	0	1	2	3	4
n. Standing for 1 hour.	0	1	2	3	4
o. Sitting for 1 hour.	0	1	2	3	4
p. Running on even ground.	0	1	2	3	4
q. Running on uneven ground.	0	1	2	3	4
r. Making sharp turns while running fast.	0	1	2	3	4
s. Hopping.	0	1	2	3	4
t. Rolling over in bed.	0	1	2	3	4
COLUMN TOTALS:					
To be completed by provider					
SCORE: _____ out of 80 (No Disability 80, SEM 5, MDC 9)					

¹ adapted from Binkley J et al; Phys Ther; 79: 371-383, 1999.

Existing tools fall short . . .

Lower Extremity Functional Scale

Lower Extremity Functional Scale (LEFS)¹

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e. Putting on your shoes or socks.	0	1	2	3	4
f. Squatting	0	1	2	3	4
g. Lifting an object, like a bag of groceries from the floor.	0	1	2	3	4
h. Performing light activities around your home.	0	1	2	3	4
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k. Walking 2 blocks.	0	1	2	3	4
l. Walking a mile.	0	1	2	3	4
m. Going up or down 10 stairs (about 1 flight of stairs).	0	1	2	3	4
n. Standing for 1 hour.	0	1	2	3	4
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r. Making sharp turns while running fast.	0	1	2	3	4
s. Hopping.	0	1	2	3	4
t. Rolling over in bed.	0	1	2	3	4
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g. Lifting an object, like a bag of groceries from the floor.
h. Performing light activities around your home.
i. Performing heavy activities around your home.

t. Rolling over in bed.

Existing tools fall short . . .

Quick-DASH

QuickDASH

Please rate your ability to do the following activities in the last week by circling the number below the appropriate response.

	NO DIFFICULTY	MILD DIFFICULTY	MODERATE DIFFICULTY	SEVERE DIFFICULTY	UNABLE
1. Open a tight or new jar.	1	2	3	4	5
2. Do heavy household chores (e.g., wash walls, floors).	1	2	3	4	5
3. Carry a shopping bag or briefcase.	1	2	3	4	5
4. Wash your back.	1	2	3	4	5
5. Use a knife to cut food.	1	2	3	4	5
6. Recreational activities in which you take some force or impact through your arm, shoulder or hand (e.g., golf, hammering, tennis, etc.).	1	2	3	4	5

	NOT AT ALL	SLIGHTLY	MODERATELY	QUITE A BIT	EXTREMELY
7. During the past week, to what extent has your arm, shoulder or hand problem interfered with your normal social activities with family, friends, neighbours or groups?	1	2	3	4	5

	NOT LIMITED AT ALL	SLIGHTLY LIMITED	MODERATELY LIMITED	VERY LIMITED	UNABLE
8. During the past week, were you limited in your work or other regular daily activities as a result of your arm, shoulder or hand problem?	1	2	3	4	5

Please rate the severity of the following symptoms in the last week. (circle number)

	NONE	MILD	MODERATE	SEVERE	EXTREME
9. Arm, shoulder or hand pain.	1	2	3	4	5
10. Tingling (pins and needles) in your arm, shoulder or hand.	1	2	3	4	5

	NO DIFFICULTY	MILD DIFFICULTY	MODERATE DIFFICULTY	SEVERE DIFFICULTY	SO MUCH DIFFICULTY THAT I CAN'T SLEEP
11. During the past week, how much difficulty have you had sleeping because of the pain in your arm, shoulder or hand? (circle number)	1	2	3	4	5

Existing tools fall short . . .

Quick-DASH

QuickDASH

Please rate your ability to do the following activities in the last week by circling the number below the appropriate response.

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4. Wash your back.	1	2	3	4	5
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11. During the past week, how much difficulty have you had sleeping because of the pain in your arm, shoulder or hand? (circle number)	1	2	3	4	5

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2. Do heavy household chores (e.g., wash walls, floors).
3. Carry a shopping bag or briefcase.
4. Wash your back.
5. Use a knife to cut food.
6. Recreational activities in which you take some force or impact through your arm, shoulder or hand (e.g., golf, hammering, tennis, etc.).

Getting back to military relevance . . .

Military Low Back Pain Questionnaire

- Good correlation with the M-ODI – concurrent validity
- As reliable as the M-ODI in an Army population
- May be more sensitive to change in an Army population

MILITARY MEDICINE, 179, 2(12), 2014

Preliminary Validation of the Military Low Back Pain Questionnaire

MAJ Tanja C. Roy, SP USA*; MAJ Karen L. Fish, SP USA†; CPT Heather P. Lopez, SP USA‡; Sara R. Piva, PhD§

ABSTRACT Soldiers must perform a variety of physical tasks that the civilian population does not. The Modified Oswestry Disability Index (M-ODI) is the most widely used measure of function in patients with low back pain but does not include military tasks. The Military Low Back Pain Questionnaire (MBQ) was developed by military Physical Therapists to include tasks such as wearing body armor. The purpose of this study was to provide preliminary evidence for the reliability, responsiveness, and validity of the MBQ in nondeployed Soldiers. The MBQ had good reliability compared to the M-ODI. The inter-rater correlation coefficient for the M-ODI was 0.79 and 0.75 for the MBQ. Cronbach's alpha was 0.75 and 0.85 for the M-ODI and MBQ, respectively. The minimal detectable change for the M-ODI was 21.03 and 22.97 for the MBQ. Responsiveness was assessed using a global rating of change; area under the curve for the M-ODI was 0.82 and 0.90 for the MBQ. The correlation between the M-ODI and the MBQ was $r = 0.80$ indicating good concurrent validity. The MBQ was as reliable as the M-ODI in an Army population. There were trends in the psychometrics suggesting the MBQ may be more sensitive to change than the M-ODI in this population.

INTRODUCTION

In 2006, 4.9% to 7.4% of all medical visits in the U.S. Armed Forces were for low back pain (LBP).¹ It was the most common reason for seeking medical care in the military.¹ In all previous deployed injury studies, the low back was the most commonly injured anatomical region.²⁻⁷ It was the leading cause of medical evacuation from both Iraq and Afghanistan accounting for 18% and 17% of nonbattle injury evacuations, respectively.⁸ LBP is a common prob-

lem in the U.S. military resulting in the reduction of combat strength. Thus, tools to measure disability because of LBP in the military are needed.

The Oswestry Low Back Pain Disability Index (ODI) was developed by John O'Brien.^{9,10} It was modified several times over the next 20 years.⁹ In 2001, Fritz and Irgang proposed the Modified Oswestry Low Back Pain Disability Questionnaire (M-ODI). An item regarding employment and home-making ability was substituted for the item related to sex life because this item was frequently left blank. The ODI and the M-ODI are the most used questionnaires to assess disability because of LBP.¹¹ The face and content validity, test-retest, internal consistency, and clinically significant change of multiple versions of the ODI were all found to be acceptable.⁹ The ODI and M-ODI have been proven valid and reliable numerous times and in many languages.¹¹⁻¹³

The ODI/M-ODI is not as useful in the military as it does not capture the high level of physical function that is required to complete military tasks. A person could score as low as 10% out of the possible maximum score of 100% on the ODI/M-ODI, which would be considered very low disability because of LBP, and still be completely unable to accomplish military tasks such as wearing body armor for extended periods or riding in a military vehicle. Although several items in the ODI/M-ODI are relevant to both civilians and Soldiers, such as the intensity of pain and the person's ability to walk, lift, and sit for extended periods, other items in the ODI/M-ODI do not represent activities

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The investigators have adhered to the policies for protection of human subjects as prescribed in Army Regulation 70-25, and the research was conducted in accordance with the provisions of 32 CFR Part 219. Human subjects participated in these studies after giving their free and informed voluntary consent. Investigators adhered to AR 70-25 and USAMRMC Regulation 70-25 on the use of volunteers in research. Any citations of commercial organizations and trade names in this report do not constitute an official Department of the Army endorsement or approval of the products or services of these organizations.

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121

CONCLUSIONS

The MBQ was found to be as reliable as the M-ODI in a U.S. Army population during pilot testing. There were trends in higher average scores, higher AUC, GRI, and correlation with the GRC that suggest the MBQ may be more responsive than the M-ODI in this population. These findings need to be further validated in larger samples.

A step in the right direction . . .

Military Lower Quarter Functional Scale (M-LQFS)

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Activity	Extreme difficulty or unable to perform	Quite a bit of difficulty	Moderate difficulty	A little bit of difficulty	No difficulty
1. Physical Readiness Training (PRT) / Physical Training (PT).	0	1	2	3	4
2. Walking 2 blocks.	0	1	2	3	4
3. Going up or down 10 stairs (about 1 flight of stairs).	0	1	2	3	4
4. Running on even ground (track, pavement, etc).	0	1	2	3	4
5. Running on uneven ground (trail, etc).	0	1	2	3	4
6. Making sharp turns while running.	0	1	2	3	4
7. Hopping / jumping	0	1	2	3	4
8. Your usual off-duty recreational or sporting activities.	0	1	2	3	4
9. Any of your usual military duties.	0	1	2	3	4
10. Wearing your military footwear (boots).	0	1	2	3	4
11. Performing light activities around your home (or barracks).	0	1	2	3	4
12. Performing heavy activities around your home (or barracks).	0	1	2	3	4
13. Lifting an object (like a backpack) from the floor.	0	1	2	3	4
14. Lifting heavy equipment or supplies	0	1	2	3	4
15. Lifting, dragging, or carrying a person (casualty evacuation)	0	1	2	3	4
16. Getting into or out of a military vehicle.	0	1	2	3	4
17. Riding or driving a military vehicle.	0	1	2	3	4
18. Wearing military gear (fighting load) for prolonged period of time.	0	1	2	3	4
19. Ruck-marching a mile.	0	1	2	3	4
20. Ruck-marching 5 miles.	0	1	2	3	4

Military Lower Quarter Functional Scale

14. Lifting heavy equipment or supplies
15. Lifting, dragging, or carrying a person (casualty evacuation)
16. Getting into or out of a military vehicle.
17. Riding or driving a military vehicle.
18. Wearing military gear (fighting load) for prolonged period of time.

Armed with better decision aids . . .

SUBJECT #: _____ DATE: _____

Military Upper Quarter Functional Scale (M-UQFS)

We are interested in knowing whether you are having any difficulty with the activities listed below due to your upper extremity problem for which you are currently seeking care. Please provide an answer for each activity.

Do you (or would you) have any difficulty with:

Activity	Extreme difficulty or unable to perform	Quite a bit of difficulty	Moderate difficulty	A little bit of difficulty	No difficulty
1. Physical Readiness Training (PRT) / Physical Training (PT)	0	1	2	3	4
2. Supporting your body weight while hanging from a bar, rope, ledge, etc.	0	1	2	3	4
3. Doing 50 push-ups or less	0	1	2	3	4
4. Doing more than 50 push-ups	0	1	2	3	4
5. Doing 50 sit-ups or less	0	1	2	3	4
6. Doing more than 50 sit-ups	0	1	2	3	4
7. Ruck marching with a load (fighting load) for 1 hour or less	0	1	2	3	4
8. Ruck marching with a load (fighting load) for more than 1 hour	0	1	2	3	4
9. Running due to your upper extremity movement	0	1	2	3	4
10. Weight-bearing activities through the upper extremity (planking, etc.)	0	1	2	3	4
11. Overhead upper-body strength training	0	1	2	3	4
12. Upper body strength training	0	1	2	3	4
13. Lower body strength training (due to your upper extremity)	0	1	2	3	4
14. Swimming (water survival, etc.)	0	1	2	3	4
15. Preparing for/attending specialty school (Air Assault, Airborne, Ranger, EFMB, etc.)	0	1	2	3	4
16. Donning or doffing military gear / fighting load	0	1	2	3	4
17. Wearing military equipment / fighting load for less than 1 hour	0	1	2	3	4
18. Wearing military equipment/ fighting load for 1 hour or more	0	1	2	3	4
20. Firing your assigned weapon (in any firing position)	0	1	2	3	4
21. MOS specific tasks such as loading heavy-ammunition rounds, turning a wrench, performing vehicle maintenance, etc.	0	1	2	3	4
22. Loading small-arms ammunition (loading a magazine, etc.)	0	1	2	3	4
23. Getting into or out of a military vehicle	0	1	2	3	4
24. Operating a military vehicle, truck or aircraft	0	1	2	3	4
25. Riding (passenger) in a military vehicle, truck or aircraft	0	1	2	3	4
26. Lifting, carrying, or dragging a casualty	0	1	2	3	4
27. Crawling (high or low crawl)	0	1	2	3	4
28. Moving under fire	0	1	2	3	4
29. Throwing a hand grenade	0	1	2	3	4
30. Participating in combatives	0	1	2	3	4
31. Reacting to a vehicle rollover	0	1	2	3	4
32. Negotiating an obstacle course	0	1	2	3	4
33. Sleeping in field training conditions	0	1	2	3	4
34. Carrying heavy items (moving sand bags, ammunition cans, specialized weapons or equipment, etc.)	0	1	2	3	4
35. Performing field medical care (CPR, applying a tourniquet, etc.)	0	1	2	3	4
36. Administrative duties (working at desk, computer, typing, etc.)	0	1	2	3	4
37. Saluting	0	1	2	3	4
38. Standing at parade rest for 10 min or less	0	1	2	3	4
39. Standing at parade rest for more than 10 min	0	1	2	3	4

Military Upper Quarter Functional Scale

30. Participating in combatives
31. Reacting to a vehicle rollover
32. Negotiating an obstacle course
33. Sleeping in field training conditions
34. Carrying heavy items (moving sand bags, ammunition cans, specialized weapons or equipment, etc.)
35. Performing field medical care (CPR, applying a tourniquet, etc.)