

General Perspective on the U.S. Military Conflicts in Iraq and Afghanistan After 20 Years

Lt Col Alan L. Peterson, PhD, USAF, BSC (Ret.)

ABSTRACT It has been 20 years since the September 11, 2001 terrorist attacks on America. The ongoing military conflicts in this region are the longest sustained conflicts in U.S. history. Almost 3 million military personnel have deployed, with over 7,000 fatalities and more than 53,000 wounded in action. The most common psychological health condition associated with combat deployments is PTSD. No data exist to compare the prevalence of PTSD across war eras. Therefore, a potential proxy for PTSD risk is the number of combat-related deaths, because this figure has been consistently tracked across U.S. military conflicts. This commentary includes a table of death statistics from major military conflicts, which shows that fewer military personnel have deployed, been killed, sustained wounds, and, one might conclude, suffered from PTSD than any other major U.S. military conflict in history. Advances in the military equipment, tactics, and healthcare programs perhaps mitigated casualties and suffering among Iraq/Afghanistan veterans compared to previous wars. The estimated causality differences across various military conflicts are not meant to minimize the significant contributions and sacrifices made by this new generation of military warriors but to help us gain perspective on military conflicts over the past century as we recognize the 20th anniversary of 9/11.

It has been 20 years since the September 11, 2001 terrorist attacks on America. During this time, extensive research has investigated the physical and psychological health impact of the military conflicts in Iraq and Afghanistan on U.S. service members and veterans. In this commentary, I provide my perspective on combat-related PTSD in post-9/11 military personnel. I also provide a comparison of death statistics across different war eras as a potential proxy for overall physical and psychological health risks. The views expressed are based on my 21-year career as a U.S. Air Force clinical psychologist, which included three post-9/11 deployments, and what I have learned as the director of the South Texas Research Organizational Network Guiding Studies on Trauma and Resilience (STRONG STAR Consortium).^{1,2}

Personally, 9/11 changed my life—as it did for many Americans. Before that dreadful day ended, I deployed from Wilford Hall Medical Center in Texas to McGuire Air Force Base in New Jersey. Overnight, a team of Air Force medical personnel erected a modular military field hospital located

about 45 minutes from the World Trade Center in New York City to provide medical support for survivors of the attack. Three days later, with the number of injured patients requiring immediate care diminishing, I led a team of 12 military mental health professionals to the Armed Forces Mortuary at Dover Air Force Base, Delaware. Our mission was to use a behavioral health consultant model to prevent psychological casualties in about 400 military personnel deployed there to complete the gruesome task of scouring body bags from the attack on the Pentagon to complete human remains identification.³ Three weeks later, I returned to San Antonio and immediately deployed overseas with Operation Enduring Freedom. During this deployment, I conducted one of the first studies to document the significant risk for sleep disorders in deployed military personnel.⁴

During 2004-2005, I deployed to Balad Air Base, Iraq, and had direct exposure to the physical and psychological casualties of war—amputations, burns, traumatic brain injuries, and combat-related PTSD.^{5,6} Among the most traumatic was the catastrophic, triple-amputation injury to Adam Kolfage—the most seriously injured Airman in Air Force history to survive his wounds—after he was struck by a mortar at Balad on September 11, 2004, the third-year anniversary of the initial 9/11 attacks on America. During that deployment, I also became aware of the tremendous gap that existed in PTSD research. At the time, there had been zero randomized clinical trials to guide the treatment of combat-related PTSD in military personnel. Attempting to help service members battling psychological struggles from trauma, I hurriedly turned

Department of Psychiatry and Behavioral Sciences, University of Texas Health Science Center at San Antonio, San Antonio, TX 78229, USA

Research and Development Service, South Texas Veterans Health Care System, San Antonio, TX 78229, USA

The views expressed herein are solely those of the author and do not reflect an endorsement by or the official policy or position of the Department of Defense, the Department of Veterans Affairs, or the U.S. Government.

doi:<https://doi.org/10.1093/milmed/usab496>

Published by Oxford University Press on behalf of the Association of Military Surgeons of the United States 2021. This work is written by (a) US Government employee(s) and is in the public domain in the US.

to civilian therapies and adapted them for service members in a combat zone.

One of the first cases of severe PTSD, or what is often referred to as combat and operational stress reactions, I saw in Iraq was a 22-year-old active duty Air Force airman who was tasked with performing convoy protection when his convoy was hit with a 500-pound vehicle-borne explosive device while traveling through an Iraqi village center. As part of this event, the Airman was exposed to many dead Iraqi civilians and some with severe, mutilating injuries including a young Iraqi boy with a massive facial injury, a compound fracture of his femur, and the partial amputation of a foot. After completing a brief assessment of the boy's injuries, and promising the boy that he would return with medical help, the Airman returned to the convoy and contacted the combat medic to arrange for medical assistance. Unfortunately, before medical assistance could be summoned, the convoy personnel were ordered to resume their convoy and to allow the Iraqis to provide their own medical assistance. The Airman's last image of the Iraqi boy was of him sitting by a light pole, waiting for someone to help him, as the Airman drove off in the back of his up-armored vehicle as the convoy resumed.

I assessed the Airman 10 days after this event, and he was suffering from frequent flashbacks of the event, recurrent nightmares, and considerable avoidance (e.g., remaining in his tent to eat meals ready to eat rather than go to the dining facility). He had a score of 67 on the PTSD Checklist, Military Version (PCL-M; range of 17-85), which indicated a high level of PTSD symptoms. My initial assessment was that he might need to be aeromedically evacuated out of the combat theater to Landstuhl Army Regional Medical Center in Germany. However, the Airman desperately wanted to remain in theater and return to his convoy protection duties. Therefore, after obtaining the Airman's informed consent, I treated him with a brief, modified version of prolonged exposure therapy. To my utter amazement, his symptoms rapidly diminished after four treatment sessions (PCL-M = 20), he returned to convoy duty, and he completed the remainder of his deployment. To document the potential utility of the use of modified prolonged exposure in theater, I published a case series with two of my deployed military psychologist colleagues, Air Force Lt Col Jeffrey Cigrang and Army CPT Richard Schobitz.⁷ This case had a significant impact on me, and it inspired me to pursue full-time research on combat-related PTSD after I retired from active duty.

At the 20th anniversary of 9/11, the ongoing military conflicts in this region—now referred to as Operation Inherent Resolve—are the longest sustained conflicts in U.S. history. Initially referred to as the Global War on Terrorism and later as Overseas Contingency Operations, the efforts of the U.S. military have included an international coalition of over 50 countries in a united effort against international terrorism. Although tremendous sacrifices have been made by all coalition forces, the U.S. military has garnered the heaviest burden over the past two decades.

Almost 3 million U.S. military personnel have deployed, with over 7,000 fatalities and more than 53,000 wounded in action.⁸ The U.S. Army has led these efforts, supporting about 56% of the total deployments since 9/11 followed by the Air Force (15%), Navy (15%), and Marine Corps (12%).⁹ Over 5,000 of the fatalities have been U.S. Army personnel, followed by about 1,500 from the Marine Corps, fewer than 300 from the Navy, and about 200 from the Air Force.⁸

With an estimated PTSD point-prevalence rate of 4%-17% in the 3 million service members and veterans who have deployed after 9/11,¹⁰ approximately 120,000-510,000 are at risk for PTSD.¹¹ As the director of STRONG STAR,^{1,2} the nation's largest research consortium focused on combat-related PTSD, I am often asked how PTSD in post-9/11 veterans compares to those of previous war eras. Unfortunately, limited data are available to address this question, considering that PTSD was not listed as a psychiatric disorder until the 1980 publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders*.¹²

What is now known as PTSD has been documented in some of the earliest historical writings, including the Greek historian Herodotus in his description of the battle of Marathon in 490 BC. PTSD was referred to as "shell shock" and "war neurosis" during World War I, and these conditions were estimated to account for about 10% of all war casualties, a rate that appears similar to the rates of PTSD in more recent military conflicts.¹³ However, epidemiological studies of shell shock and war neurosis were not conducted at the time, so there are no strong data to suggest that rates of PTSD in post-9/11 veterans are any better or worse than in previous eras. Therefore, it is difficult to find a common metric to compare the prevalence of PTSD across U.S. military war eras.

A potential gross proxy for PTSD risk is the number of combat-related deaths, because this figure has been consistently tracked across U.S. military conflicts prior to the Vietnam War. Table I includes death statistics from major military conflicts.¹⁴⁻¹⁸ World War II was the deadliest of all recorded U.S. military conflicts, with over 400,000 killed over a 4-year period. The war averaged 300 deaths per day, representing a death rate of almost 300 per 100,000 in the U.S. population. At that time, over 16 million military personnel served on active duty each year, representing over 11% of the U.S. population. By comparison, across the 20 years of military operations in Iraq and Afghanistan, there have only been slightly more than 7,000 deaths, with an average of 1 death per day, representing a death rate of about 2 per 100,000 in the U.S. population. Less than 1% of the U.S. population has served on active duty during this time.

It should be noted, however, that the potential risk for PTSD in individual post-9/11 veterans may be higher than in previous U.S. military war eras considering the 20-year duration of the conflict, the number of deployments completed, and the cumulative duration of the deployments. In addition, the scale and objectives of the conflicts in Iraq and Afghanistan were entirely different from those in previous

TABLE I. Death Statistics for Major U.S. Military Wars and Conflicts

War or conflict ¹⁴	Mean duration in years	Estimated U.S. population ¹⁵	Annual mean number serving on active duty ¹⁶	Estimated total number who deployed to combat theater ¹⁷	% of U.S. population serving on active duty	Total deaths ¹⁶	Deaths per day	Death rate per 100,000 in U.S. population	Estimated number with PTSD
World War I (1917-1918)	2	103,200,000	4,734,991	Not available	4.6%	116,516	199.5	112.9	Not available
World War II (1941-1945)	4	141,400,000	16,112,566	7,600,000	11.4	405,399	301.4	286.7	Not available
Korea (1950-1953)	3	160,200,000	5,720,000	1,789,000	3.6	36,574	32.4	22.8	Not available
Vietnam (1964-1973)	8	211,900,000	8,744,000	3,403,000	4.1	58,220	14.8	27.5	961,900 ¹⁸
Iraq and Afghanistan (2001-2021)	20	331,400,000	1,685,000	3,000,000 ⁹	0.5	7,036	1.0	2.1	120,000-510,000 ^{10,11}

wars. For example, at the height of the Vietnam War, more than 500,000 U.S. military service members were fighting the North Vietnamese Army in a relatively small country to stop the spread of communism. By comparison, when the conflicts in Iraq and Afghanistan reached their peak in 2008, there were less than 300,000 U.S. military personnel fighting various groups of insurgents spread between these two countries with their vast deserts and mountainous countryside covering an area more than three times the size of Vietnam.

Over the past two decades, fewer military personnel have deployed, been killed, and sustained wounds than any other major U.S. military conflict in history. Despite what might be interpreted as a great improvement in the conduct of war, compared to the death statistics from the past century, the potential psychological health impact on up to 510,000 post-9/11 service members and veterans with PTSD cannot be overstated. The estimated causality differences across various military conflicts are not meant to minimize the significant contributions and sacrifices made by this new generation of military warriors, but to help us gain perspective.

An additional factor to be considered in the psychological health burden of post-9/11 service members and veterans is the significant increase in military suicides over the past 20 years, for which there appear to be multifactorial contributors.¹⁹ Unfortunately, despite substantial DoD research investments in suicide prevention, including funding of the Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS) suicide study and the Military Suicide Research Consortium, the rate of completed suicides in military personnel has continued to increase. The 2020 DoD Suicide Report indicated that completed suicides have continued to increase for the fifth year in a row across the DoD, and suicides in the U.S. Army in 2020 reached the highest rate in recorded history.²⁰

On a more positive note, advances in military medicine,²¹ equipment,²² and tactics/operations²³ over the past two decades have resulted in significant improvements in the case fatality rate for those physically injured in combat.²⁴ However, this also may mean we today have a significant increase in wounded-in-action survivors with PTSD. Combat injuries have been found to increase the risk for PTSD.²⁵ Conversely, there are also reports suggesting that natural recovery from PTSD is more likely to occur in service members with physical wounds, as compared to the invisible wounds of war, because of the repeated conversations with friends, family, fellow service members, and healthcare providers that often occur after visible, physical injuries.²⁶

Fortunately, similar to the improvements in the case fatality rate for those physically injured in combat, there have also been advancements in the treatment of the psychological wounds of war such as combat-related PTSD. STRONG STAR has now supported over 25 PTSD clinical trials.^{1,2} The initial results of these trials documented that combat-related PTSD could be successfully treated in about 50% of service members with trauma-focused, cognitive-behavioral

therapies. Subsequent clinical trials by STRONG STAR have found even greater improvement and recovery rates in PTSD using cognitive behavioral therapies specifically tailored for the unique need of post-9/11 service members and veterans. The results of many of these clinical trials have now been disseminated and implemented into clinical practice throughout the Military Healthcare System and the Veterans Health Administration, and access to evidence-based interventions is widespread. However, there is considerable room for improvement in the assessment, diagnosis, prevention, and treatment of PTSD and other psychological health conditions in service members and veterans. Continued research is needed to advance current treatments, develop new interventions, evaluate alternative delivery modalities, and evaluate the combination and sequencing of various treatments for PTSD, suicide, and other psychological health conditions.

FUNDING

None declared.

CONFLICT OF INTEREST STATEMENT

The author declares no conflicts of interest.

REFERENCES

- Peterson AL, Niles BL, Young-McCaughan S, Keane TM: Assessment and treatment of combat-related posttraumatic stress disorder: results from STRONG STAR and the Consortium to Alleviate PTSD. In: Gorbunov N, ed. *Current Topics on Military Medicine*. InTech Open; 2021:1–19.
- Peterson AL, Young-McCaughan S, Roache JD, et al: STRONG STAR and the Consortium to Alleviate PTSD: shaping the future of combat PTSD and related conditions in military and veteran populations. *Contemp Clin Trials* 2021; 110: 106583.
- Peterson AL, Nicolas MG, McGraw K, Englert D, Blackman LR: Psychological intervention with mortuary workers after the September 11 attack: the Dover Behavioral Health Consultant model. *Mil Med* 2002;167(9 Suppl): 83–6.
- Peterson AL, Goodie JL, Satterfield WA, Brim WL: Sleep disturbance during military deployment. *Mil Med* 2008;173(3): 230–5.
- Peterson AL, Baker MT, McCarthy KR: Combat stress casualties in Iraq. Part 1: behavioral health consultation at an expeditionary medical group. *Perspect Psychiatr Care* 2008;44(3): 146–58.
- Peterson AL, Baker MT, McCarthy KR: Combat stress casualties in Iraq. Part 2: psychiatric screening prior to aeromedical evacuation. *Perspect Psychiatr Care* 2008;44(3): 159–68.
- Cigrang JA, Peterson AL, Schobitz RP: Three American troops in Iraq: evaluation of a brief exposure therapy treatment for the secondary prevention of combat-related PTSD. *Pragmat Case Stud Psychother* 2005; 1(2): 1.
- US Department of Defense: Casualty status as of October 13, 2021. Available at <https://www.defense.gov/casualty.pdf>; accessed October 26, 2021.
- Wenger JW, O'Connell C, Cottrell L: Examination of recent deployment experience across the services and components. RAND Corporation, 2018. Available at https://www.rand.org/pubs/research_reports/RR1928.html; accessed November 19, 2021.
- Richardson LK, Frueh BC, Acierno R: Prevalence estimates of combat-related post-traumatic stress disorder: critical review. *Aust N Z J Psychiatry* 2010;44(1): 4–19.
- Krull H, Farmer CM, Simmons MM, et al: Post 9/11 trends in medical separation and separation for service members with post-traumatic stress disorder and traumatic brain injury. RAND Corporation, 2021. Available at https://www.rand.org/pubs/research_briefs/RBA1197-1.html; accessed November 19, 2021.
- American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*. 3rd ed. American Psychiatric Association; 1980.
- Crocq MA, Crocq L: From shell shock and war neurosis to posttraumatic stress disorder: a history of psychotraumatology. *Dialogues Clin Neurosci* 2000;2(1): 47–55.
- Congressional Research Service: US periods of war and dates of recent conflicts. Available at: <https://crsreports.congress.gov>, RL21405; updated June 5, 2020; accessed August 7, 2021.
- United States Census Bureau: Population and housing unit estimates. Available at: <https://www.census.gov>; accessed August 7, 2021.
- Congressional Research Service. American war and military operations casualties: lists and statistics. Available at: <https://crsreports.congress.gov>, RL32492; updated July 29, 2020; accessed August 7, 2021.
- U.S. Department of Veterans Affairs: America's wars. Available at https://www.va.gov/opa/publications/factsheets/fs_americas_wars.pdf; accessed November 19, 2021.
- Kulka RA, Schlenger WE, Fairbank JA, et al: Contractual report of findings from the National Vietnam Veterans Readjustment Study. 1988. Available at www.ptsd.va.gov/professional/articles/article-pdf/nvvrsv_vol1.pdf; accessed November 19, 2021.
- Shen Y-C, Cunha JM, Williams TV: Time-varying associations of suicide with deployments, mental health conditions, and stressful life events among current and former US military personnel: a retrospective multivariate analysis. *Lancet Psychiatry* 2016;3(11): 1039–48.
- Orvis KA: Department of Defense quarterly suicide report 4th quarter CY 2020. Defense Suicide Prevention Office, 2021. Available at https://www.dspo.mil/Portals/113/Documents/2020QSRs/TAB%20A_20210309_OFR_Rpt_Q4%20CY%202020%20QSR.pdf?ver=UKN194rEw5MhM_vaGy0j0w%3D%3D; accessed November 19, 2021.
- Butler FK, Smith DJ, Carmona RH: Implementing and preserving the advances in combat casualty care from Iraq and Afghanistan throughout the US Military. *J Trauma Acute Care Surg* 2015;79(2): 321–6.
- Hodgetts TJ: A roadmap for innovation. *J R Army Med Corps* 2014;160(2): 86–91.
- Shukla A, Perez C, Hoemann B, Keasal M: Tactical Combat Casualty Care in Operation Freedom's Sentinel. *J Spec Oper Med* 2020;20(3): 67–70.
- Nessen SC, Gurney J, Rasmussen TE, et al: Unrealized potential of the US military battlefield trauma system: DOW rate is higher in Iraq and Afghanistan than in Vietnam, but CFR and KIA rate are lower. *J Trauma Acute Care Surg* 2018; 85(Suppl 1S): S4–12.
- Soumoff AA, Clark NG, Spinks EA, et al: Somatic symptom severity, not injury severity, predicts probable posttraumatic stress disorder and major depressive disorder in wounded service members [published online ahead of print August 9, 2021]. *J Trauma Stress*. 10.1002/jts.22722.
- Peterson AL: Natural recovery from posttraumatic stress in injured military service members: commentary on Soumoff et al. (2021) [published online ahead of print August 15, 2021]. *J Trauma Stress*. 10.1002/jts.22764.