# THE PHYSICIAN-WARRIOR:

## MOVING BEYOND THE CONVENTIONAL MILITARY MEDICINE PARADIGM

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**Military medicine[1] has been in existence in various forms since the earliest wars were fought — be it on-site care by fellow comrades or established medical units dedicated to provide battlefield support — and has been an integral part of troop support and morale in all major battles.**

**A key component in the combat medical support structure is the physician. Traditionally, physicians are recognised as healers, practitioners who shun conflict and provide solace and support to the ill and dying. Transposed onto the battlefield, the physician now has to morph into a warrior-like mode — to not only participate in the prosecution of the war, but also prepare the fighters under his charge, both physically and mentally. As warfare and its accompanying ideologies and concepts evolve, so does the raison d'être of the physician-warrior. This article discusses the changing paradigm and emerging challenges that military medicine practitioners face.**


## SHIFTING SANDS, CHANGING FACES

The conventional thinking that underpins military medicine is frontline casualty care. However, as most armed forces and their medical units are geared largely for deterrence and their daily routines revolve around peacetime training and performance optimisation, this facet of combat support has gradually receded in stature. Instead, peacetime efforts on training and force sustenance are now focused on translational programmes to maximise the human performance envelope (especially for special forces and unique vocationalists such as divers, aircrew, controllers and gunners); enhancement of cognitive processes and responses to generate rapid sense and decision-making (especially for ground commanders); and channelled resources in combatant healthcare and health administration.

The need for the military physicians to double- or even triple-hat these responsibilities meant that they now require exposure to a wider breadth of operations and academic training in order to maintain the edge over their adversaries. This ensures that the troops under their care will be better prepared to fight any conflicts when the need arises. Dedicated training for frontline combat support has consequently transited to a background role.

Beyond that, the military medicine landscape has also evolved significantly since the turn of the 20th century. While first responder and field medical care for the physically wounded and mentally afflicted remain a priority, there have also been leapfrogging advancements in other subspecialties such as aviation medicine, hyperbaric and diving medicine, sports and tropical medicine, infectious diseases and human systems protection. These fields have proven to be critical in supporting an armed forces that is potent and medically well poised to engage the enemies, by training selected combatants to best fit their combat roles. In addition, even the doyens of clinical medicine with military ties, such as clinicians who don military uniforms full time or as part of the medical reserves, have chosen to scope their niche specialisations to those intimately relevant to combat operations and training. These specialties include trauma, psychiatry, tropical medicine, infectious diseases and rehabilitation, among others.

Besides, a military physician will need to develop a distinctly different mindset from his peers who work in the civilian sector. Other than being clinically competent, administratively able and well versed in the combat medicine subspecialty of his calling, he must also be able to transit mentally from a bedside clinician to that of a warrior as war preparations escalate in any impending conflicts. To do that, he must already be embedded in the operations culture on a day-to-day basis so that he is intimately acquainted with operational concepts, technology, behaviour and training pedagogies. He must also have a keen sense and knowledge of operational medicine such as contingency planning (for mass casualties and triage during disaster scenarios, and biochemical warfare countermeasures); consequence management; business continuity and get-well plans; force medical protection and force health; and aeromedical and hyperbaric rescue operations.

A sensitive topic relating to military medicine is the moral obligation of all physicians — *primum non nocere*[2] (first, do no harm). In a fluid war situation and under the caveat of the "fog of war", things develop dynamically and the demands placed on the ground commanders to ensure a "swift and decisive victory" may position the physician in a dilemma. It is thus not surprising that wars have produced battlefield situations in which suspending patient-centred medical ethics has seemed reasonable, at least to the military commanders.[3] To regenerate troopers in the thick

of battles to continue in the war campaign in light of limited medical supplies and manpower, decisions must be made to channel medical response to the "hopeful" (those with minor injuries who can quickly return to the battlefield), rather than the "hopeless" (those with critical injuries who will not last without definitive medical care). To make such a "sacrilegious" decision, the physician must walk out of the boxed-in mental framing of saving "all and sundry" at the expense of operational demands. Whether that is right or wrong remains fiercely debated till this day, but the fact is that such ethical dilemmas exist and in the heat of battle, the medical officer must make that call.

## INCREASING OPERATIONAL RELEVANCE

As mentioned earlier, even clinical doyens need to be selective when choosing the appropriate medical or surgical subspecialty that is applicable to the military. To serve the military intent, one must then map the chosen field of clinical practice and crossmatch it to conflict- and combat-related domains. To illustrate this, some examples are listed below.

### Surgical fields

This is traditionally thought to be the most applicable to warfare as it encompasses damage control surgery at the frontlines, gunshot wound management, advanced haemorrhage control techniques and kits, trauma orthopaedics (including prosthesis management), reconstructive plastic surgery and burns management.

### Psychiatry

Mental health was often overlooked in the past, but has come to the forefront during recent conflicts (Operations Iraqi Freedom for the Iraq conflict and Enduring Freedom for the war on terror in Afghanistan). Subfields comprise niche specialisations and focus


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on combat stress, combat fatigue, post-traumatic stress disorders, veteran mental and psychological well-being and in-zoning for war preparations. Others include prisoner-of-war psychiatric management, as well as clinical management for survivors' guilt or traumatic near-death experiences.

### Occupational and service-oriented specialties

These cover underwater medicine, aviation medicine, sports and rehabilitation medicine, community and occupational medicine, and public health. Increasingly, the doctor has a greater role in combatant selection, training and safety management. Special military vocations demand that the applicants undergo and pass a battery of medical, fitness and psychological tests. Military physicians are now increasingly thrust into the realm of designing and scoping these tests, to ensure that standards are maintained and the right applicants selected. After that, they assume the role of trainers, in which they supervise and monitor specific areas of military training that require medical oversight. Some examples include bounce dives, hypobaric and hyperbaric chamber exposures, and centrifuge training.

Finally, the military doctor also has to immerse himself in human systems protection and performance maximisation. As we stride into the 21st century, the human operator is now the limiting factor in operating war machines. As such, we now begin to visualise the man-in-the-loop as a weapon system and design programmes to enhance and protect this unique weapon system. This is an ever-expanding field that covers a myriad of considerations — the physician needs to come up with plans (such as heat countermeasures, acclimatisation and monitoring) to help the operator overcome environmental stressors and threats (biochemical, radiological or thermonuclear), and even entraining the war fighters to extended nocturnal operations. In addition, there is the need to surpass cognitive limitations and raise reactive or projective thresholds in the human operator; such areas encompass situational awareness training, uncertainty management, and even the OODA (Observe,

Orientate, Decide, Act) loop thinking process. Thus, military doctors need to collaborate closely with clinical psychologists to achieve these aims. Last but not least, the onus is on the physician to devise equipment and implement survival training and know-how for troopers, working in conjunction with the survival trainers in the force.

The scope of the military physician does not end with the roles described above. He also features prominently in accident and/or incident investigations and analysis, providing a slice of medical insight into the overall dissection of the event and giving input on the likelihood of medical conditions or human errors contributing to the incident.

## THE PHYSICIAN OPERATOR

The military doctor dons multiple hats and is a vital cog in the machine that is the military organisation. He has to understand key military operations and doctrines in order to design the appropriate combat support plans and be deeply knowledgeable about operator behaviour in order to train operators to the suitable level of competence and safety. He also has to be dynamic in applying himself in order to utilise existing technological advances to achieve the above-mentioned aims (such as designing information technology systems or capabilities to ensure a robust and flexible medical support structure that provides seamless support across the peace-war continuum). He is thus no longer just a doctor, but a fellow military operator and a practitioner of medicine deeply knitted in the battlefield tapestry.

Moving ahead, the military medicine community is also increasingly being leveraged in the larger geopolitical sphere. In the event of an armed conflict, post-war resolution would require the services of medical teams, largely from the military, to defuse tensions in the civilian community either in the form of direct healthcare services to the affected public, or humanitarian aid or disaster relief to occupied areas. This paints the picture of a benevolent force that cares for the people on the ground, thus enhancing civil-military relations.

## CONCLUSION

The practice of military medicine is no longer restricted to battlefield casualty care. Its scope has increased dramatically over the years. The footprint and importance of its contribution will certainly increase in the coming years, and it is the establishment's prerogative to ensure the sustained attraction and retention of the brightest minds to maintain this intangible edge. Regardless of its transformation and criticality, military medical practitioners must never forget the mandate to "seek, save and serve" because this is the duty we were called to carry out in the first place. ◆

*Notes*

**1.** Extracted from www.wikipedia.org. The term "military medicine" has several potential connotations. It may mean: (1) a medical specialty, specifically a branch of occupational medicine attending to the medical risks and needs (both preventive and interventional) of soldiers, sailors and other service members; (2) the planning and practice of surgical management of mass battlefield casualties, and the logistical and administrative considerations of establishing and operating combat support hospitals; (3) the administration and practice of healthcare for military service members and their dependents in non-deployed (peacetime) settings; or (4) medical research and development specifically bearing upon problems of military medical interest.

**2.** From the Hippocratic Oath undertaken by all physicians.

**3.** Annas GJ. Military medical ethics — physician first, last, always. New Engl J Med 2008; 359:1087-90.

PROFILE

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*Legend*

**1.** An SAF medical personnel interacting with the International Security Assistance Force counterpart and an Afghan patient

**2.** SAF medical personnel undergoing in-theatre combat refresher training