

Next generation deployable military trauma medicine

By Owen Smith and Sean Ryan

New medical technology offers modern militaries the capacity to generate new approaches to deployable military trauma medicine by providing advanced tools and techniques that clinicians can use to treat and stabilize injured soldiers. Approaches that are no longer limited to the doctrinal point of injury care before movement through Role 1 and Role 2 medical units before reaching Role 3 and definitive care.

Some ways in which new medical technology is transforming deployable military trauma medicine:

Haemostatic Agents; Haemorrhage is the leading cause of preventable death in combat trauma and the secondary cause of death in civilian trauma¹. Systemic agents can be administered to staunch bleeding at inaccessible injury sites, while combat gauze provides topical haemostatic management for surface wounds¹.

Portable diagnostic devices are revolutionizing point-of-injury care for military personnel. Blood analysis devices, like the iStat, offer rapid insights into vital signs and potential infections², while ECG tools detect heart issues immediately³. These advancements allow for faster, more accurate diagnoses, allowing crucial treatment decisions in the field, ultimately improving survival rates and optimizing care in the Golden Hour.

Telemedicine is acting as a vital lifeline on the battlefield. Clinicians connect directly to remote specialists to receive expert guidance for complex injuries, improving diagnoses and treatment decisions under pressure. Clinicians are empowered by offering on-demand support and enhancing their expertise in remote locations⁴. Despite challenges like secure communication and harsh environments, the potential of telemedicine to save lives and optimize care makes it a critical tool for modern military medicine.

Portable medical imaging is redefining battlefield medicine⁵. Ruggedized ultrasound machines like the Lumify fit in a clinician's bag, offering immediate insights into internal injuries and guiding life-saving interventions at the point of injury⁶. Access to advanced medical imaging, such as x-rays and CT in the field, allows for advanced diagnosis previously only available in extensive civilian facilities⁷.

The improved deployable medical technology allows for remote monitoring of patients and advanced medical data. Clinicians then share in real-time with clinical specialists, allowing definitive care in the field under guidance from afar. This model improves the overall quality of care and enhances the chances of successful treatment outcomes.

New medical technology offers a more comprehensive and advanced approach to deployable military trauma medicine. It enables faster and more accurate diagnosis, improved communication between medical personnel, and enhanced treatment options, ultimately leading to better outcomes for injured soldiers.

As a result, the long-held doctrinal approach to deployable military trauma medicine from the point of injury through Role 1 and Role 2 medical units before reaching Role 3 and definitive care may no longer be valid. New technology offers the opportunity to bring advanced treatment further forward on the battlefield, combine levels of care, offer advanced treatment constantly along the evacuation chain, and ultimately improve patient outcomes.

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