

Level I trauma experience prepares surgeons for battle

July 1 2015

Soldiers injured during the conflicts in Iraq and Afghanistan have the highest survival rates in history, thanks to the availability of surgeons skilled in combat care. But combat-ready surgical skills are hard to sustain off the battlefield.

"A lot of knowledge builds up in the military medical enterprise during times of war," said Joseph Galante, who chairs the UC Davis Division of Trauma, Emergency and Critical Care Surgery and is a commander in the U.S. Navy Reserves. "When peacetime comes, that knowledge can slide. We need to identify ways to maintain those skills and avoid lengthy ramp-up periods."

New research published in the June issue of the *Journal of Trauma and Acute Care Surgery* by Galante and Col. Rachel Hight, a [trauma surgeon](#) with UC Davis and the U.S. Air Force, suggests that training collaborations between civilian level I [trauma centers](#) and military surgical centers can help military surgeons keep up their skills in times of peace.

Trauma centers like the one at UC Davis that are verified by the American College of Surgeons as level 1—the highest in terms of resources and patient volume—provide the experience necessary to quickly transition to a combat environment, according to the researchers' results and their own experiences in Afghanistan in 2010.

"We received no specific combat surgical training before being thrown

into one of the busiest [trauma](#) hospitals in the world at that time," said Galante. "Still, we felt comfortable in that environment, given what we do every day in Sacramento. Some of our other colleagues did not have that same level of comfort."

Galante and Hight's study compared the cases and schedules of surgeons at two NATO Role 3 hospitals in Afghanistan with those of trauma surgeons at UC Davis, two civilian level II trauma centers, two civilian level III trauma centers and a military treatment facility in the U.S.

They found that the level I trauma center at UC Davis most closely resembled military Role 3 facilities—the highest level "in theater" centers that are nearest to battlefields and almost exclusively manage trauma cases.

Role 3 facilities in Afghanistan, for instance, averaged 3,600 trauma resuscitations per year, compared to 3,000 at the civilian level I trauma center. Level II centers averaged only 2,100 resuscitations per year while level III centers performed only 600.

In terms of case density, Role 3 surgeons averaged 4.68 procedures per day, while their level I peers averaged 3.53. Level II and III surgeons performed 1.92 and .83 per day, respectively.

The level I center also more closely approximated the intensity of Role 3 work schedules. Role 3 surgeons had between 15 and 30, 24-hour shifts per months. Level I surgeons had six to 10, while level II and III surgeons had two to three.

Despite the similarities, there are key differences between level I and Role 3 medical facilities. Military surgeons face significantly more amputations, soft tissue debridement (removing damaged tissue) and genitourinary traumas.

"I don't treat many blast injuries at UC Davis, but the principles of amputation treatment and hemorrhage control still apply," said Galante. "In civilian trauma, I use all the same tools. I just don't use them at the same level of complexity that I do in combat situations."

Because level 1 trauma experiences most closely mimic those in combat hospitals, the researchers recommend continuous training opportunities at level 1 trauma centers to provide military [surgeons](#) with the medical and emotional tools for managing high volumes of severely wounded men and women.

"Soldiers and Marines go outside the wire and risk their lives every day, and they deserve the best possible surgical care, and integrated civilian-military training can help achieve that," said Galante.

Provided by UC Davis

Citation: Level I trauma experience prepares surgeons for battle (2015, July 1) retrieved 5 May 2024 from <https://medicalxpress.com/news/2015-07-trauma-surgeons.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.