

Doctors: Treatment of extremity wounds outdated

Orthopedic surgeons want funds for research to improve care

By Kelly Kennedy

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With the number of service members wounded in Iraq reaching 23,114 as of Jan. 25, members of the American Academy of Orthopaedic Surgeons have had plenty of opportunities to look at the way injuries are handled in the combat zone.

What they've found is that the unconventional warfare in Iraq shows that some conventional treatments for extremity war injuries may be outdated — and that the Defense Department may need to look at changing training and surgery manuals.

For example, surgeons argued that tourniquets should not be taught as a last resort that automatically leads to amputation, and that irrigating wounds to remove harmful bacteria could actually push the bad bugs further into the flesh.

At the annual Extremity War Injuries symposium in Washington, D.C., on Jan. 24-27, physicians and researchers met to talk

about what works and how they can do things better. To that end, speakers also talked about applying for grant money and stressing the immediacy of their research.

"If it doesn't have relevance or it doesn't have an impact, who cares?" said Joseph Wenke, manager for the Army's Orthopaedic Trauma Research Program at the Institute of Surgical Research. "We're looking for proposals that will make a difference within five years."

Surgeons have known since the Trojan Wars that combat wounds tend to be more complex than those suffered in the civilian world.

Conditions are dirtier, people often have to be treated as fighting continues around them, and it can take some time before they make it to a hospital.

In today's wars, the wounded often have multiple injuries, as well as contamination caused when explosive high-velocity munitions push bacteria deep into

the body. In Iraq, 70 percent of injuries are to service members' extremities.

In 2006, Congress gave the academy \$7.5 million through appropriations to create the Orthopaedic Trauma Research Program, which is using the money for grants relating to combat trauma — everything from using existing muscles to control prosthetic devices, to figuring out how much flesh needs to be removed around a wound to prevent infection.

Some results have been surprising. Army Col. John Kragh Jr., an orthopedist at the Army Institute of Research at Fort Sam Houston, Texas, reported that using a tourniquet in combat results in amputation only 1 percent of the time.

But people are often taught that they should use a tourniquet only as a last resort because it will result in an amputation.

Kragh argued that with proper

monitoring and placement, that's just not true.

And Navy Capt. Frank Butler, medical consultant to the Navy's Medical Lessons Learned Center, said not using tourniquets has resulted in some deaths that were "potentially preventable."

People need to be better trained, all combatants should carry tourniquets and researchers need to do more study to prove tourniquets are safer than people believe, he said.

Army Col. Roman Hayda, acting chief of orthopedic services at Brooke Army Medical Center, gave a presentation about contamination and war wounds.

Recent studies show that some irrigation methods — common practice for extremity wounds — may actually push infection further into a wound, he reported, and more research needs to be done to find the best means to clean out a wound.

Army Col. James Ficke, chief of

orthopedic surgery at Brooke, and Air Force Lt. Col. James Keeney, orthopedic surgery consultant to the Air Force Surgeon General, gave a presentation showing that so many things have changed since the Emergency War Surgery Manual was last updated that it's time for another look.

For example, surgeons no longer prefer the guillotine method for amputations, and they try to save as much soft tissue for reconstruction as possible; they no longer use casts to move people out of theater because they move them out within three days instead of the 10- to 14-day time period of the 1991 Persian Gulf War.

The surgeons also recommended an electronic version of the manual with pictures and video examples.

And Capt. Daniel Unger, the Navy's specialty leader for orthopedic surgery, called for creating a standardized Military War Extremity Surgery Course for surgeons going to war zones. Now, each service has training, but there are no mandatory requirements or consistent updates to that training. □

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