

Using Robot Technology to Triage and Remove Injured Soldiers

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The U.S. military has high hopes for the future use of robotic technologies in medical missions, anticipating robots will one day be used to evacuate casualties from the front lines and provide telemedicine capabilities to help keep the mission on track. The potential for new uses for robotic technologies in the field was discussed in late September at a U.S. Army-sponsored medical conference near the Pentagon. [1]

Unmanned aerial and ground vehicles may be the new face of military medics as the Department of Defense considers their use for casualty care. These robotic vehicles could be used to more safely remove injured soldiers from the field.

“We have lost medics throughout the years because they have the courage to go forward and rescue their comrades under fire,” said Maj. Gen. Steve Jones, commander of the Army Medical Department Center and School and chief of the Medical Corps. “With the newer technology, with robotic vehicles we are using even today to examine and detonate IEDs (improvised explosive devices), those same vehicles can go forward and retrieve casualties.” [1]

The military already uses robotic technologies in many situations, such as examining and detonating IEDs. The Army is evaluating existing and developing robotic technologies for potential use in medical missions. [2] It is likely the existing technologies could be adapted to provide casualty removal assistance, thereby saving lives of medics and other soldiers who attempt to retrieve injured soldiers while still under fire. [1] Using unmanned vehicles for soldier retrieval might also better protect the injured soldier as the vehicles could be armored for better shield. [1]

In addition, the Army anticipates battlefield robots could also be used to



One day, unmanned vehicles, similar to but larger than this small unmanned ground vehicle, may roll onto battlefields to rescue downed soldiers said the commander of the Army Medical Department Center and School. (Photo courtesy of Stephen Baack/U.S. Army)

provide telemedicine capabilities. [3] With existing sensor capabilities, robots could monitor soldiers' vitals and be prepared to deliver antibiotics or blood to the front lines. [3]

“What happens when a member of the team comes down with cellulitis or pneumonia? We have got to use telemedicine to tele-mentor them on the diagnosis and treatment. So you don't have to evacuate the casualties, so the team can continue its mission,” Jones said. “Army Medical Research and Materiel Command is actually developing physiological sensors that soldiers can wear. And in a few years, they will be able to field this. They can be wearing the sensors and we can just monitor them. And we can do that remotely.” [1]

Sensors may also be used to triage casualties. With the ability to assess a soldier's vitals, including heart rate and

respirations, the medical robot could determine which soldier needs to be removed for treatment quickly and which soldier is more stable. [3]

References:

- [1] Lopez, C. Todd. (2015, September 22). [Army to enlist robots to pull Soldiers off battlefield](#). The United States Army.
- [2] Osborn, Kris. (2015, September 25). [The Army Plans to Develop Robots to Remove Casualties from Combat](#). Scout.
- [3] Gray, Richard. (2015, September 25). [‘Johnny Five’ will keep soldiers alive: US Army hopes to use Short Circuit-style robots to rescue casualties from battlefields](#). Daily Mail.

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