

On 9/26/11 9:26 AM, "Lippert, Thomas R. CIV NMLC"

> <Thomas.Lippert@med.navy.mil> wrote:

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>> Hello.

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>> I'm inquiring into the work currently referenced in the article NPGS

>> eyes nano-patches to monitor troops health.

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>> I'm currently the Deputy Program Manager for the Navy's Expeditionary

>> Medical Facilities, (previously known as Fleet Hospitals), and was

>> intrigued with the direction that is being pursued.

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>> We are looking to build our next generation medical capability....as

>> adaptive, medical capabilities being tailored to respond to the

>> various situations that our forces may be called to respond to.

>> Usually logistics is an afterthought that must adapt to the emerging

>> technologies that are being developed. This specific area of

>> research not only can improve the level of care to our future

>> warfighters.....but can also be used to more quickly address the

>> logistic response that would be required to treat those forces.

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>> If you could please pass my inquiry to those who are working this

>> project....with the hope of at least being able to stay abreast of

>> the progress.....it would be greatly appreciated.

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>> Sincerely,

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>> Tom Lippert

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Naval Postgraduate School Explores Next-Level Telemedicine

By Donna Miles

American Forces Press Service

MONTEREY, Calif., Sept. 20, 2011—Studies being done here at the Naval Postgraduate School aim to take telemedicine to the next level - possibly using body sensors and robots on the ground and in the sky to help medics and corpsmen treat combat casualties.

Alex Bordetsky, an associate professor at NPS' Department of Information Sciences, is leading its efforts to tap into evolving technology to speed the delivery of battlefield medicine.

It's a concept being advanced on several fronts to incorporate sensors, networking and unmanned aerial and ground vehicle capabilities.

And if Bordetsky's predictions prove correct, it could be operational within the next five to seven years.

The battlefield medical networking experiments begin with small "nano patches" developed by the Massachusetts Institute of Technology that would be attached directly to service members' bodies or combat uniforms, Bordetsky explained.

In the event that the soldier was wounded in combat, these patches would monitor vital signs to determine the extent of the injuries.

That data would be transmitted to medical-care providers -- at the next-echelon combat treatment facility or anywhere else in the world. They, in turn, would monitor the patient's condition until on-site medical care was available.

What's extraordinary about the concept is that, when necessary, these distant medical professionals could administer battlefield medications via the nano patch, Bordetsky said.

Bordetsky sees the system as a way to support field medics or corpsmen when they have more cases than they can initially treat and evacuate, or for treating troops in remote areas or pinned down by enemy fire.

In the event of multiple casualties, the system could help identify their locations and provide a basic triage to assess which ones need the most immediate care.

The whole plan hinges on a robust tactical networking system that's able to identify the soldier's location, relay and receive data and initiate life-saving medicine when required - all from afar.

Unmanned ground vehicles equipped with networking capabilities would deploy to the injury point and establish that data link, Bordetsky explained. In some cases, they could actually help move the patient out of direct fire.

Medics unable to get to the patient immediately could use either of these vehicles to activate the nano devices or deliver initial medications, Bordetsky said.

In addition, unmanned aerial vehicles could be deployed overhead to monitor the patient and drop needed medical supplies or medications where they are needed on the ground, he said.

To evaluate this concept, NPS has partnered with Salinas Valley Memorial Healthcare System in California and more recently, with U.S. Air Force pararescue teams assigned to Air Combat Command.

Although initial tests in both indicate that human operators perform faster and better, Bordetsky sees NPS' experiments as the next step toward providing faster battlefield care until those human operators are able to respond.

"The curve on this is very steep," he said. "Sometimes forecasts are slower than reality. So this is something I believe we are going to see not too far into the distance on the battlefield."