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Raytheon & AZ Cancer Center team up to fight deadly skin cancer

Posted: Dec 16, 2008 05:55 PM

By Barbara Grijalva - [email](#)

Raytheon is teaming up with the Arizona Cancer Center to find a better way to detect skin cancer early, or even before it starts.

The Tucson missile maker makes remote sensing technology that compares images of battlefields from space.

It can be used to detect enemy troop movements, for example.

The idea is to use that pattern recognition software to map changes on the human body...changes that could indicate cancer or pre-cancer.

Doctors and researchers are looking for a better way to do things.

Some 60,000 people die of melanoma in the U.S. every year, and the number is growing.

That type of skin cancer is the number one cause of cancer death of women, 25 to 30 years old.

The researchers are hoping the new technology will help them switch gears to concentrate more on early detection.

Right now doctors mostly depend on their eyes to compare and track changes on the skin of their patients, hoping to spot changes early enough to prevent or successfully treat skin cancer.

That can be tough to do.

"If they have four moles, that is not as challenging to determine whether something has changed or not. When we have someone who has 100, 200, 500 moles, then it can be difficult," says the Arizona Cancer Center's Dr. Clara Curiel.

Enter an engineer who works at Raytheon, a company known more for missiles than moles.

"I met Dr. Coriel socially and she was telling me her frustrations with image analysis at the University of Arizona as she tried to track skin changes over time. So I invited her to Raytheon to discuss her problems with our software engineers. That's the type of work that we do...image comparison," Karleen Seybold says.

Take the same technology that guides one of Raytheon's Tomahawk Missiles to its target, and use it to guide a doctor to the cancer target.

"Images would be collected over time and those images would be compared, to look for changes in the skin over time, much like we do with our technology, looking at the earth or a battlefield scene," Seybold says.

Instead of human eyes looking for changes that could signal skin cancer, the new software would find the changes automatically.

It would become an important aid in diagnosis.

Change the software a bit, and you could look for other cancers too.

"For example, something we're starting to look into is also breast cancer, and whether comparison of mammograms over time can increase the level of accuracy and detection of early breast cancer," Dr. Curiel says.

Science Foundation Arizona is providing the \$1.2 million for the study.

Next month the Arizona Cancer Center will start the development phase of the study, using people who will be given fake moles for comparison purposes.

Eventually, actual patients will test the software.

If things go well, Dr. Curiel says we could see a prototype ready to test in three to five years.



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