

ADVERTISING

Think Comcast

CALL 1-866-GO-CABLE!



Subscribe | Contact Us | Seattle Post-Intelligencer

Jump to >> Weather | Traffic | Webtowns | Mariners | Seahawks | Sonics | Forums

seattlepi.com

Local

- NEWS
- Local
 - Transportation
 - Consumer
 - Education
 - Elections
 - Environment
 - Legislature
 - Joel Connelly
 - Robert Jamieson
 - Visitors Guide
 - Obituaries
- Neighborhoods
- Sports
- Nation/World
- Business
- A&E
- Lifestyle
- NW Outdoors
- Photos
- Special Reports
- COMMENTARY
- Opinion
 - Columnists
 - Letters
 - David Horsey
 - Saturday Spin
 - Forums
- COFFEE BREAK
 - Comics & Games
 - Mike Mailway
 - TV Listings
- FIND IT!

UW scientists tout cancer treatment

Seattle conference to focus on technique used only in China

Tuesday, July 30, 2002

By **TOM PAULSON**
SEATTLE POST-INTELLIGENCER REPORTER

If only there were a way to simply zap tumors without traumatic surgeries, chemotherapy or radiation.

There is, contend a small but devoted group of scientists, physicians and engineers. It's an ultrasound technique developed from military research done at a University of Washington lab originally created during World War II to work on torpedoes and sonar.

UW researchers are trying to get the technique, called high-intensity focused ultrasound, considered as a cancer therapy.

Scientists here have already produced a device using these high-energy sound waves to stop internal bleeding in major arteries or organs in a non-invasive way. A Seattle company is pursuing commercial development.

"We anticipate starting clinical trials in the U.S. in the third quarter of 2003," said Tom Anderson, vice president for clinical programs at Therus Corp.

Sound waves are a form of energy. Using multiple ultrasound sources, the waves pass harmlessly in the body until they converge on a focal point -- a tumor or bleeding artery, where the combined energy is great enough to either destroy the cancer cells or cauterize the wound.

Low-intensity ultrasound provides simultaneous imaging to precisely target the area under treatment.

Despite Seattle's lead role in developing this technique, the first clinical trials of the high-energy ultrasound device for stemming bleeding were done in Germany.

For cancer, this technique is now available only in China. A small number of cancer patients in Britain will be able try it soon with a clinical trial planned at Oxford University.

ADVERTISING

Career Improvement opportunities

Seattle University
Master of Business Administration
Join us for an informational session

Seattle University
Master of Science in Nursing
[Open House Schedule](#)

Seattle Pacific University
Master of Science in Information System Management
[Attend our next Information Session](#)

Seattle Pacific University
Graduate Programs
[Competence and Character](#)

UW Extension
Evening and Distance Learning Certificate Programs
[Choose from over 100 different programs](#)

TOOLS



Print this



E-mail this

Most printed & e-mailed

HEADLINES

NWclassifieds

- [Jobs](#)
- [Autos](#)
- [Real Estate](#)
- [Rentals](#)

NWsource

- [Shopping](#)
- [Personals](#)
- [Yellow pages](#)
- [Maps/directions](#)

P-I Archives

Obituaries

P-I ANYWHERE

E-mail Newsletters

News Alerts

PDA

Cell Phones

RSS Feeds

"The Chinese are three to five years ahead of us on this," said a frustrated Larry Crum, director of the UW's center for industrial and medical ultrasound at the Applied Physics Laboratory. "I don't know why we're not doing it here."

Crum and his colleagues are playing host to the second annual international symposium on therapeutic ultrasound in Seattle this week to present their data and make their case for moving the technology to the fast track. Crum participated in the first symposium in Chongqing, China, where the approach is in widest use as a cancer therapy.

The Applied Physics Laboratory, created in 1943 with a Navy grant, has become one of the world's leading research labs on sonar and ultrasound technology and has spun off numerous private companies. One of the world's largest manufacturers of diagnostic ultrasound machines, Bothell-based ATL, can be traced back to the UW lab. Philips Electronics recently acquired ATL.

But Crum said the U.S. cancer-treatment establishment has resisted taking a close look.

"The problem with most cancer therapies today is damage to the body. This method does not damage the body," said Dr. Feng Wu, who directs the program at Chongqing University.

Wu speaks this morning at the symposium, held through Thursday at the Washington Athletic Club. He will present clinical results from four years of using high-intensity focused ultrasound on a variety of cancers. He claims success even among patients who, with standard therapies, often have little chance of survival, such as those with aggressive pancreatic cancer.

Ultrasound, according to Wu, aids in fighting tumors that have spread beyond the primary site because, unlike chemo or radiation, it doesn't damage the patient's immune system.

It's expected to be a hard sell to the American medical community, however.

Dr. Robert Livingston, one of the lead oncologists at the UW, said using ultrasound to non-invasively destroy tumors sounds good but there's no evidence yet that it provides superior results. And there are some drawbacks.

"We want to be able to identify the cancer cells," Livingston said. Surgical removal of the tumor allows physicians to identify cell and tumor type, he said, which provides valuable information on how to proceed with patient care.

Dr. Todd Barnett, director of radiation oncology at Swedish Hospital Medical Center, agreed, adding that the use of high-energy sound waves should not be confused with the use of low-level waves for ultrasound diagnostics. "With this method, you're introducing a burn into the body," Barnett said. "I'm not sure that's better than surgery."

Crum has heard it all before. He notes that the medical community in Britain appears less skeptical, so much so that they've imported one of Wu's machines to do their clinical trial next year.

"It's been a hard slog getting this going in England as well, perhaps because it looks too good to be true," said Dr. Gail ter Haar, head of the therapeutic

[Soldier accused of trying to aid al-Qaida](#)

[Cloning is slippery slope for some; others say it's for a greater good](#)

[U.S. scientists fear losing out on cloning](#)

[Will love survive? You just have to do the math](#)

[Rescued skier faces new ordeal: Amputation](#)

[Asian/Pacific Islanders assemble political clout](#)

[Worried parents should test children for lead, experts say](#)

[For Fox Island homeowners, Navy takes 'step in the right direction'](#)

[A push for a new three-county transportation tax](#)

[It's Friday the 13th, but not to worry](#)

[Broken hearts in the 'promised land'](#)

[Tunnel conversion for rail to begin next year](#)

[Court rules that student's gun joke didn't constitute a threat](#)

[In The Northwest: Walkinshaw master at portraying regional identity](#)

[Gates gives \\$83 million to find better TB vaccine](#)

[Third option pitched for new state primary system](#)

[Green River searched after report of possible drowning](#)

[Daughters get mom's ring 30 years later](#)

[Police officer's ex-wife requests end to gag order](#)

[Appeals court blocks Sound Transit contract](#)

[Teacher accused of sex with student resigns](#)

[Conviction upheld in tavern-](#)

ADVERTISING

TOYOTA CITY GREAT DEAL
TOYOTA GREAT CAR!
 Click here for factory specials available in **Western Washington.**
 Corolla
 TOYOTA

OUR AFFILIATES

NWsource AFFILIATE
komo 4
M5 NBC
digitalcity

ultrasound unit at the Institute of Cancer Research in Surrey, England.

Ter Haar, one of the principal investigators of the clinical trial at Oxford that will begin in about a year, said they will try it first on liver, kidney and prostate cancers.

The science behind the use of high-energy sound waves to destroy cancers isn't new, Crum noted.

It goes back decades, largely to the work of Dr. Frank Fry in Indianapolis -- who will be receiving an award at this week's meeting for his pioneering work in therapeutic ultrasound.

Crum has friends with cancer, and he can barely contain his frustration that a technology he believes can help them -- a technology he and his colleagues developed here in Seattle -- is only available to patients in China. [**Note:** This sentence has been clarified since it originally appeared in print.]

"One of my best friends is dying of cancer, and all the doctors can tell him is he's going to die," Crum said. "It's depressing."

He and his colleagues recognize they have some hurdles to overcome: The fact that this new experimental cancer therapy came not from academic medicine but from a physics lab devoted to military projects, that the best data come from a dubious source and immense regulatory and legal challenges to introducing any new drug or medical therapy.

But Crum and his associates at the Applied Physics Laboratory are a stubborn bunch.

"This is such a benign and promising treatment," he said. "I can't think of a good reason not to try it."

[brawl killing](#)

[Police learn more about fatal shooting](#)

[King County Deaths](#)

ULTRASOUND SURGERY

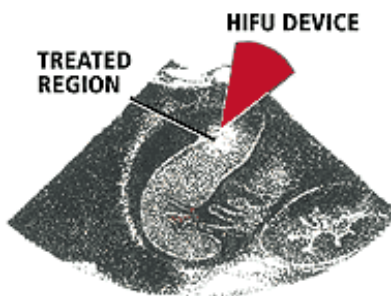
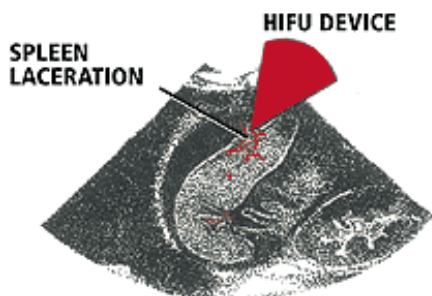
FOCUSED ENERGY

The high-intensity focus ultrasound or **HIFU device** developed by UW researchers allows doctors to see an image of an internal wound or cancerous tumor. It then delivers ultrasound energy at levels thousands of times greater than that used for imaging. The ultrasound energy is focused to create heat, much like sunlight focused through a lens can start a fire.



HOW IT WORKS

To treat internal bleeding, a technician would scan the patient with a hand-held probe to find the source of the bleeding (displayed on the screen at right), in this case a ruptured spleen. The same mechanisms that stop bleeding can also destroy cancerous tumors.



The ultrasound image of the spleen, left, shows lacerations and bleeding. After treatment with the HIFU device, right, the bleeding has stopped. The bright region in the ultrasound indicates the treated area.

Source: Applied Physics Laboratory

SEATTLE POST-INTELLIGENCER

P-I reporter Tom Paulson can be reached at 206-448-8318 or tompaulson@seattlepi.com

 [Printer-friendly version](#)

 [E-mail this story](#)

 [Get e-mail news updates](#)

 [Subscribe to the P-I](#)

Seattle Post-Intelligencer

101 Elliott Ave. W.
Seattle, WA 98119
(206) 448-8000

Home Delivery: (206) 464-2121 or (800) 542-0820

Send comments to newmedia@seattlepi.com

©1996-2004 Seattle Post-Intelligencer
[Terms of Service/Privacy Policy](#)