

Subscribe
to Nature



THE UCSD INSTITUTE OF MOLECULAR MEDICINE, THE WELLCOME TRUST
Register now at <http://imm.ucsd.edu>
& NATURE MEDICINE PRESENT THE 4TH ANNUAL

nature

scienceupdate

updated at midnight GMT today is wednesday, february 18

search nature science update

advanced search

news

related stories

home

content

- news
- features
- by subject
- conferences

services

- send to a friend
- printable version
- e-alert
- search
- help
- feedback

information

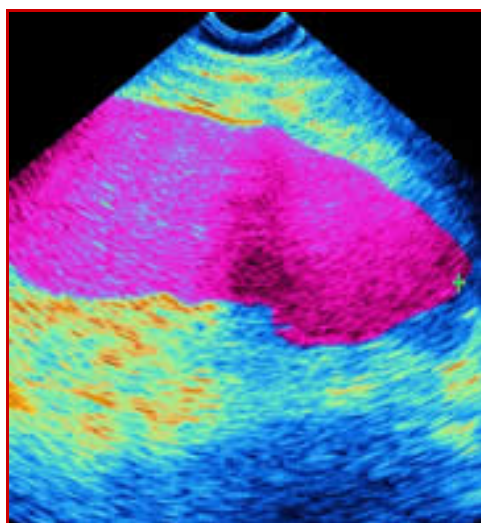
- about the site
- about us

American Association for the Advancement of Science, Seattle, February, 2004

Silent sound zaps cancer

Ultrasound cuts side effects when used to remove tumours.
16 February 2004

JIM GILES



Ultrasound could be used to break up tumours like this one in the spleen.

© SPL

Replacing a surgeon's scalpel with a beam of high-energy sound could reduce the side effects that hamper some cancer treatments, says the team behind a new clinical trial.

The study of prostate cancer patients, announced on 14 February, adds to the growing hope that high-frequency sounds beyond the range of human hearing will one day transform the removal of tumours. "It will

eventually revolutionize treatment for some cancers," predicts Gail ter Haar of the Royal Marsden Hospital in Sutton, near London.

The French study used a high-energy version of the ultrasound waves that are used to image unborn babies. The

• **Radiotherapy blow to fertility underestimated**
29 January 2003

• **Ultrasound scan spots Down's syndrome**
20 December 2002

• **Ultrasound filters fat from blood**
2 October 2002

• **Solar surgery heats up**
19 August 2002

• **Sound cleans up water purification**
15 May 2002

• **Double or quit for cancer drug**
19 June 2001

linkout

• AAAS

waves normally travel harmlessly through the body, but when focused on one spot, they boost tissue temperature to above 60 °C and kill cells. By moving the focus of the waves, doctors can remove whole tumours without a single incision.

Jean-Yves Chapelon and his colleagues at the French National Institute for Health and Medical Research in Paris used ultrasound to treat around 240 elderly prostate cancer patients for whom surgical removal of the prostate - a common strategy for combating the cancer - was considered too risky. They then tracked the patients' progress for five years.

Around 65% of the patients remained free of cancer during this time, a similar success rate to surgery. But rates of incontinence, the major side effect of surgery, were cut from 80% to 8%. Unlike other therapies, the treatment can be safely repeated if the cancer reappears. "This is now ready to challenge other therapies," says Chapelon.

The result backs up a similar study of German patients, published in 2000, and adds to mounting evidence of the benefits of ultrasound. The therapy is already widely used in China to attack cancers of the liver and kidney, says ter Haar, and Chinese doctors say the treatment has fewer side effects than alternatives such as radiotherapy. She is now running a clinical trial designed to assess these claims.

Ultrasound can tackle cancer anywhere in the body, as long as tumours are not obstructed by bone or pockets of gas such as air in the lungs. The treatment lasts one to three hours.

© Nature News Service / Macmillan Magazines Ltd 2004

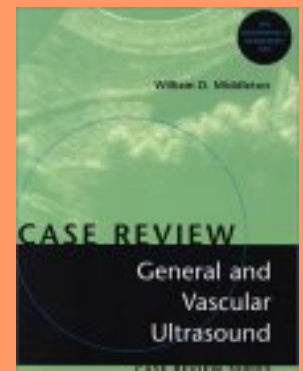
This is now ready to challenge other therapies

**Jean Yves Chapelon
National Institute for
Health and Medical
Research**

morenews

- **Caustic comments get girls a date**
18 February 2004
- **Fish farms still ravage the sea**
17 February 2004
- **Lead linked to schizophrenia**
17 February 2004
- **Climate change could boost cash crops**
17 February 2004
- **High life prompts genetic shift**
17 February 2004
- **Are greenhouse gases drying Africa's dust bowl?**
17 February 2004
- **Plastic heralds next-generation batteries**
17 February 2004
- **Doctors need to get wired**
17 February 2004

sciencebooks



**General and Vascular
Ultrasound: Case
Review**
\$41.95



**UK readers buy at
amazon.co.uk**