

Questacon

Skin under the Spotlight



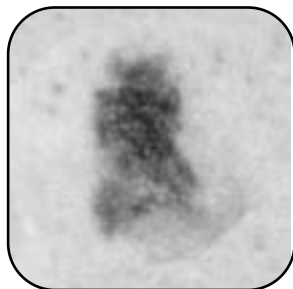
Centenary of Federation

New Australian technology, the SolarScan™, will greatly improve early detection of skin cancer which is the key to saving lives.

WHAT'S THE PROBLEM?

The number of people worldwide suffering from skin cancer, or melanoma, is increasing at a faster rate than the incidence of most other forms of cancer. In Australia, melanoma is the third most common cancer in men and women.

All over the world people love to soak up the sun and in Australia we have a lot of it to soak up! Despite lots of warnings, many people still don't "slip, slop and slap" as much as they should, resulting in freckles, moles and burns.



▲ A melanoma, a form of skin cancer

It's sensible to have sunspots checked out by a doctor, particularly those that have changed in size, shape or colour. It usually isn't necessary to cut them out but doctors do not have a quick and accurate way to make a diagnosis, so they tend to remove the spot to be on the safe side.

Image courtesy of the Anti-Cancer Council of Victoria

On average 33 non-cancerous (benign) spots are cut out for every melanoma, adding significantly to health care costs and causing unnecessary suffering to patients.

A GREAT AUSSIE SOLUTION

The SolarScan™, developed by Polartech Ltd, the Sydney Melanoma Unit and CSIRO will soon be helping doctors all over the world make fast and accurate assessments of sunspots. The new technology is cheap, quick and very easy to use.

The key to the SolarScan™ is advanced computer software. This software was developed using the large amounts of data collected at the Sydney Melanoma Unit and other clinics around Australia over many years.

Not only can the system make a quick diagnosis but it also enables doctors to monitor risky spots by collecting images over a period of time and comparing them for changes.

HOW DOES IT WORK?

1. The camera is simply pointed at the spot in question
2. A picture is taken and stored on computer
3. The image is magnified and enhanced to remove hairs and oil
4. Special software analyses the image and determines whether it is likely to be a melanoma



▲ The key to the SolarScan™ is advanced computer software

THE FUTURE

The SolarScan™ is currently being tested in clinical trials by skin specialists in the US and Australia and is in the process of obtaining marketing approval from health regulators. It won't be long before you can have your sunspots checked out without fear of having them cut off unnecessarily.

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FURTHER INFO, FACTS & FUN

- The ultraviolet (UV) radiation in sunlight causes skin cancer. UV light is a mutagen, which means it can cause changes in our DNA. These DNA changes can cause cells to develop into cancerous growths.
- Melanin is a natural skin pigment which absorbs UV radiation, providing protection to the skin cells below. Dark skinned people have a greater amount of melanin in their skin and are much less sun-sensitive. Sun exposure causes the skin to produce more melanin in an attempt to protect itself. In pale-skinned races melanin shows up as a tan. Unfortunately the amount of melanin pale-skinned people can make is not enough to protect them from the level of radiation that occurs in Australia and other countries around the tropics.
- Q. How do I prevent skin cancer? A. Keeping out of the sun is the best way to decrease your chances of getting skin cancer but this is not always possible. Next comes sun-proof clothing, then sunblocks and sunscreens.
- Q. How do sunblocks or sunscreens work? A. They can be either physical or chemical in their method of action. Physical sunblocks (like zinc cream) form a layer over the skin so that UV light is reflected away. Chemical sunscreens form a film on the skin which absorbs rather than reflects UV radiation.
- Australians have the highest rate of skin cancer in the world. We have only 0.3% of the world's population but we make up 6% of all lethal forms of skin cancer diagnosed around the globe. About 1200 people die each year in Australia as a result of skin cancer. Visit your nearest Cancer Council store for lots of great ways to protect yourself.

For more info on great Australian Science check out:

Questacon's Innovative Australians

<http://www.questacon.edu.au/innovaus>

CSIRO's Australia Advances

<http://www.csiro.au/promos/ozadvances>

The Australian Academy of Science's Nova

<http://www.science.org.au/nova>

- The sun may be dangerous to our skin but see how we can put those powerful rays to a good use in Sensational Solar Cells, another great Australian innovation showcased in our Centenary package.