
Scanner could replace X-rays

A \$1-million machine that uses magnetism to scan a patient's body without emitting harmful radiation may revolutionize diagnostic medicine, some medical researchers say.

The machine, known as nuclear magnetic resonance (NMR), can take repeated scans over a short period to monitor the effects of medicine on the body's organs, study ways to reduce the severity of strokes, find aneurysms in the brain, or chart the damage caused by multiple sclerosis.

"I predict within a few years NMR will be a more important diagnostic tool than X-rays," says Dr. Henry Barnett of University Hospital in London, Ontario.

One of the first machines in existence was installed recently at the University of British Columbia in Vancouver; two others are to be installed in Alberta and one in Quebec, while the Ontario government has also approved the purchase of one for the Princess Margaret Hospital in Toronto and another in London.

Continuous checks possible

Dr. Barnett says the main advantage to the NMR scanning technique is that doctors will be able to make continuous checks on how tumors are responding to treatment without exposing the patient to the radiation emitted by X-rays.

The method also takes images of areas of the body that don't show up well with X-rays such as the back part of the brain — which is covered by bone — and the spinal cord.

The new machine shows not only structure, but function of soft tissues, revealing abnormalities that don't affect the size or shape of an organ, says Dr. Ian Smith of the NMR research group at the National Research Council. While bone responds poorly to the technique, he says, an image of the bone marrow can be made with the magnetic effect.

Similar to CAT scanning

The scanning is similar in some ways to the computer axial tomography — CAT scanning — which builds up images of areas of the body by taking a repeated series of X-rays. But instead of using X-rays, NMR uses radio frequencies and a magnetic field, neither of which appear to harm body tissues.

Researchers say the new technique is also safer than PET scanning, an offshoot of CAT scanning, which uses a radioactive

tracer injected into the body.

While it's premature to say there are no bad effects, "tests so far haven't turned up any observable side effects", says Dr. Smith.

"Like so many expensive machines, NMR devices are so sophisticated it's difficult to assess their costs and benefits," he concluded.

Micro-informatics committee

An Advisory Committee on International Collaboration in Micro-informatics will be established to advise the government on Canada's involvement in the World Centre — Informatics and Human Resources — in Paris. The committee will include representatives from business, labour, universities and research institutes.

Canada's plans for participation in the World Centre were announced by the Prime Minister in Paris on November 10. In a letter to Mr. Servan-Schreiber, president of the World Centre, Mr. Trudeau commented on the importance of micro-informatics to society. The Advisory Committee will be examining the feasibility of sending Canadian scientists to Paris for a year to work at the centre. They will consider the possibilities of undertaking a project in Canada, in collaboration with the centre, or donating Canadian-built equipment to the centre. The Prime Minister also suggested, for consideration, the naming of Canadian representatives to the Administrative Council of the World Centre.

Established in 1981 by President Mitterrand of France, the World Centre in Paris will study the applications and implications of micro-computers for information technologies. The centre will monitor the impact of the new technologies on society and will develop technologies accessible to a wide range of personal and national incomes.

Social security pact with Jamaica

Health and Welfare Minister Monique Bégin and Minister of Social Security for Jamaica Neville Lewis have signed a reciprocal Agreement on Social Security between their two countries similar to the one Canada has signed with Italy, Portugal, France, the United States and Greece.

The agreement with Jamaica will co-ordinate the operation of the Canada Pension Plan and the Old Age Security

Act with the Jamaican social security programs which provide old age, survivor and disability benefits. Some 2 200 Canadian residents may become eligible for benefits as a result of the pact. Estimated cost for Canada will be \$4 million for the fiscal year 1984-85.

Both Canada and Jamaica impose minimum conditions of residence contributions for individuals to qualify for social security benefits. Under the terms of the agreement, persons who reside or who have resided in Canada and in Jamaica, will be able to combine social security credits earned in both countries to satisfy the minimum eligibility requirements for benefits from one or both countries.

Once eligibility is thus established, the agreement, which will come into force as soon as both countries have completed the necessary ratification procedure, provides a means of calculating the amount of benefit to be paid by each country in accordance with its own legislation. The amount of such benefits is related to the periods of residence or contributions credited to the individual in each paying country.

Finally, the accord enables interested provinces to negotiate understandings with Jamaica to co-ordinate their social security programs with the equivalent Jamaican programs. These might include any social security program administered by provinces.

Aquaculture conference

The first national aquaculture conference in Canada will be held in St. Andrews, New Brunswick, July 10-14, 1983.

The conference, which is being planned to identify opportunities for developing the aquaculture industry in Canada, is being co-sponsored by the Department of Fisheries and Oceans and the Science Council of Canada.

Coinciding with events marking the seventy-fifth anniversary of the Department of Fisheries and Oceans' St. Andrews biological station, the conference will provide a national forum for representatives of industry, universities, governments and fishermen to assess the status of aquaculture in Canada, develop strategies to foster the growth of the aquaculture industry, and identify socio-economic opportunities for Canada.

Aquaculture, which is the farming of aquatic animals and plants, has the potential to create new job opportunities.