System reduces radiation risk

A revolutionary X-ray system that cuts the amount of radiation to the patient by up to 90 per cent has been developed at St. Joseph's Hospital in Toronto, reports Joan Hollobon in *The Globe and Mail,* January 17.

Dr. David Hynes, radiologist-in-chief, said the hospital has the first working, low-dose fluoroscopic unit anywhere in the world. He said the present system, which also promises to cut costs substantially, is a prototype "but it works, it is a reality". Dr. Hynes is using it routinely on patients every day.

The cost saving comes primarily through using less X-ray film. The film has become 40 percent more expensive over the past few months because of rising silver prices, increasing costs for a hospital the size of St. Joseph's by some $80,000 a year.

Dr. Hynes estimated the new system can halve the cost of film used for fluoroscopy, which probably accounts for about one-quarter of all X-ray film used in a big general hospital. When the new system can also be applied to ordinary X-rays the cost saving will be even greater.

Ordinary medical X-rays produce the familiar large negatives – radiographs – on which the body image shows up white against a dark background. These can be examined at will and filed away with patient records.

A fluoroscopic examination is also an X-ray taken with the same kind of radiation, but it is an immediate, ongoing event that enables a doctor to look at what the X-ray reveals at the moment the picture is taken. Images appear on a television-like screen showing, for example, blood flowing through the heart.

More radiation is needed for fluoroscopy than for ordinary X-rays because of the process and the time involved. In conventional fluoroscopy, radiation is emitted continuously for periods ranging from two to ten minutes (average about four minutes) to give a continuous moving image. Additional radiation must be given to the patient to obtain a permanent record on film.

System reduces radiation

The St. Joseph's Hospital system reduces radiation from both sources: X-rays are given in short bursts instead of a continuous beam and permanent records are obtained by photographing the image from the TV screen rather than the patient.

Worldwide concern has been growing in recent years about the hazards of radiation, including radiation from medical and dental X-rays.

The St. Joseph's system uses a multi-image camera to obtain radiographs from the fluoroscopic image, so that up to nine images can be printed on a single ten by eight-inch film.

The camera does not literally photograph the screen that the specialist looks at: it is all done internally. When the specialist sees something on the screen he wants to film he presses a foot pedal. The desired images are instantly transmitted to a monitor inside the equipment which is photographed by the multi-image camera.

Pulsing during fluoroscopy produces an even greater reduction of radiation to the patient. Again, the radiologist controls the equipment so that he can feed in a continuous beam when he wants to obtain the clearest possible picture with a lot of detail or pulse when complete detail is not needed.

Record pork exports

Canada's balance of trade in pork swung from a deficit of almost 100 million pounds in 1977 to a surplus of about 100 million pounds in 1979.

In 1977, Canada imported about 200 million pounds of pork, almost entirely from the United States. In 1978, exports and imports were about balanced at 118 and 116 million pounds respectively.

Last year exports soared to 170 million pounds, while imports were just 70 million pounds, according to Statistics Canada.

By weight, the United States last year was Canada's main export market, but Japan continued to be the top export market in terms of value. Export sales to New Zealand, Cuba, South Korea, Britain and Caribbean countries also increased.

The strong export market last year helped hog producers during a period of large increases in hog production. Pork production is up more than 20 per cent, and for the first time since 1940 there is more pork being produced in Canada than beef and veal combined. The increase has led to a sharp reduction in pork prices and low returns for producers.

Canadian skaters compete at World Championships

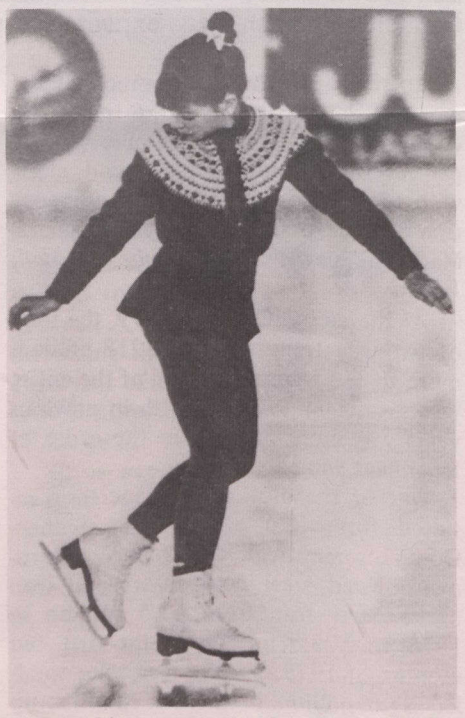
Twelve-year-old Tracey Wainman of Toronto, the youngest Canadian skater ever to compete at the World Figure Skating Championships, finished fourteenth overall at the international competition held recently in Dortmund, West Germany.

Wainman moved up steadily through the competition. She stood twenty-fifth after the first compulsory figure, moving up to twenty-first by the end of the figures section. A seventeenth placing in the short program, then tenth in the long one moved her up to fourteenth overall out of 29 competitors.

Wainman, who won the senior women's bronze at the Canadian Championships this year, said she was "a little bit nervous. I had little butterflies, but I just have to have that to make me skate well". She finished with 164 points and 128 ordinals.

Brian Pockar of Calgary, Alberta, finished ninth in the men's competition, his best placing ever. In the pairs, Barbara Underhill of Oshawa, Ontario and Paul Martini of Woodbridge, Ontario finished eleventh.

The best result came in ice dancing where Lorna Wighton of Don Mills, Ontario and John Dowding of Oakville, Ontario moved into fifth place. Marie McNeil and Robert McCall of Halifax finished thirteenth.



Tracey Wainman practises figures before world figure skating competition.