Synthetic human insulin produced

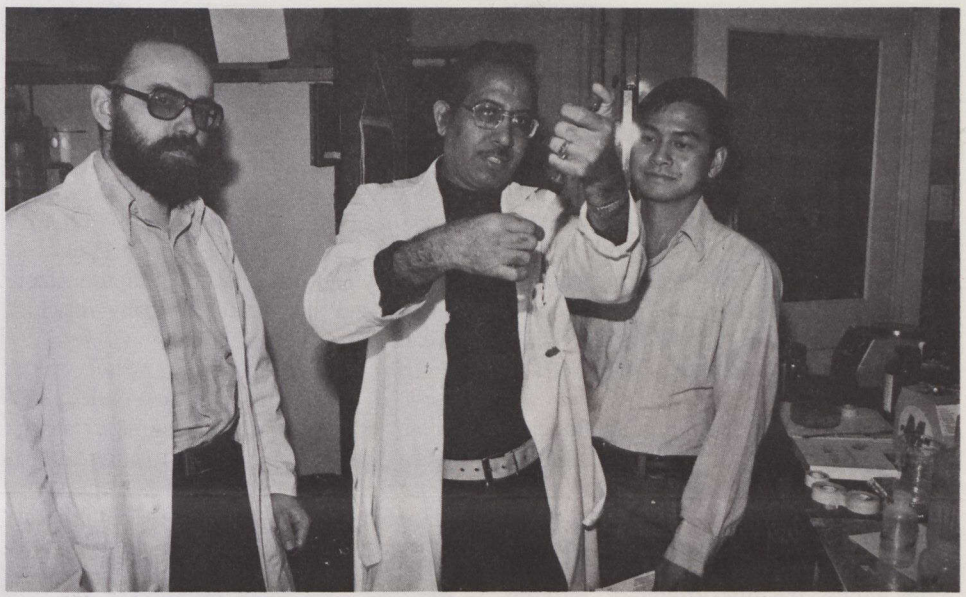
A Canadian scientist has successfully cloned human insulin and the life-saving substance will soon be in the first stages of commercial production.

Dr. Saran Narang of the National Research Council (NRC) in Ottawa manufactured the three genes necessary to obtain insulin and began cloning them last summer (see *Canada Weekly* dated July 4, 1979).

Dr. Narang built the synthetic genes required to transform bacteria into tiny insulin factories in the test-tube, using compounds common to most biochemistry labs. The genes were chemically spliced into the bacteria's chromosomes so the bacteria would treat them as their own. Once accepted, the synthetic genes automatically commanded the bacteria to produce human insulin. The bacteria – clones at this stage – passed the synthetic genes from one generation to the next.

Last summer these bacteria began producing the hormone and now the cloned bacteria are being moved to Canada's largest hormone and vaccine producer, Connaught Laboratories in Toronto.

Connaught's vice-president of research and development, Dr. Don Layne, predicts it will be at least two years before the hormone is available to the public. The company plans to invest several million dollars on the technique.



Bruce Kane, NRC

Dr. Narang (centre) *with co-workers Dr. Joe Michniewicz* (left) *and Dr. Wing Sung.*

Dr. Narang and his collaborator, Dr. Ray Wu of Cornell University in Ithaca, New York were recently given a patent file number by the U.S. patent office. The pending patents will be shared by the NRC and Cornell.

Wonder drug next

Dr. Narang and his research team are currently attempting to clone interferon, a supposed wonder drug, which many respected scientists feel will cure cancer. Interferon is a natural substance produced in cells under attack by a virus. Once manufactured, it assumes a role similar to an early-warning system, moving from the cell under attack to warn surrounding cells of an invasion. This warning prompts healthy cells to produce antiviral proteins to fight the virus.

At the moment, interferon can only be isolated from living cells in minute quantities and scientists are having difficulty obtaining enough of it to discover its true capabilities. Because of its scarcity, interferon has an estimated value of $10 billion a pound.

Nursing association introduces code of ethics

The Canadian Nurses Association recently introduced its first code of ethics to guide nurses through tough moral decisions they face in their jobs.

The code of 20 broad principles, however, does not address specific medical-moral issues such as abortion and the prolongation of life.

Sister Simone Roach of St. Francis Xavier University of Nova Scotia, who developed the code, said it was designed to provide a general set of rules by which nurses can gauge their professional responsibility to patients and to themselves.

"This is not a checklist of do's and don'ts," said Sister Roach, chairman of the university's department of nursing in Antigonish.

She said the code is a "springboard for the reflection of these (controversial) issues, to motivate the nurse to come to grips with issues...in a way she never would have before".

Some of the ethical statements are:

- Working conditions: caring demands the provision of working conditions that enables nurses to carry out their legitimate responsibilities.
- Death: caring acknowledges the reality of death in the life of every person and demands that appropriate support be provided for the dying person and family to enable them to prepare for and to cope with death when it is inevitable.
- Decisions: caring commands fidelity to oneself and guards the right and privilege of the nurse to act in keeping with an informed moral conscience.

The code is based on the general view that caring is the central focus of nursing. The word "caring" marks the beginning of each ethical statement.

Petro-Canada investment

The Federal Government has invested an additional $80 million in Petro-Canada preferred shares. The Government was carrying out a promise made during the last election campaign concerning these funds, and was reinforcing its commitment to strengthen Canada's national oil company. These funds will assist the corporation to assume its exploration and development program during 1980.

In the petroleum sector, recent successes in the east coast and the Beaufort Sea, plus Canada's abundance of oil sands and heavy oil reserves, presents the country with a major economic opportunity, said Energy Minister Marc Lalonde.

A strong Petro-Canada will help to accelerate activity, as it has in recent years, and will also provide for greater Canadian participation in the petroleum industry, he said.