

Hopes high for alternative to human blood

Medical experts are quietly confident that Fluosol-DA, a fluid that helps transport oxygen through the human body, will soon become an important alternative to human blood, writes David Roberts in *The Citizen*.

A sweet-smelling, milky-white solvent, Fluosol has what is called a per-flouro-chemical base, making it a strange chemical cousin to substances like Varsol, or even mayonnaise.

Fluosol carries oxygen through the body so readily that experiments with rats in the early 1960s showed they could live in vats while totally immersed in the liquid.

The substance could offer life-saving hope to those who, after repeated transfusions — and consequent antibody build-up — reject whole blood from a foreign donor. It could also be a breakthrough for patients such as Jehovah's Witnesses who refuse whole blood transfusions for ethical reasons.

Once tested and proven, Fluosol will probably be useful to the military, offering possibilities in battlefield conditions, for example.

Bond with oxygen

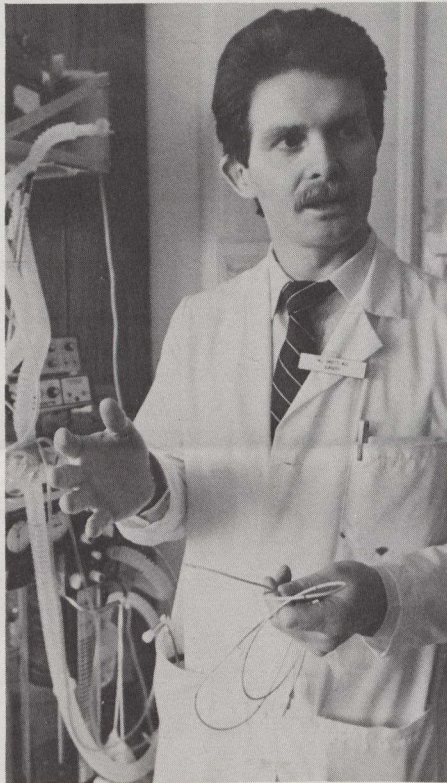
Once in the body, Fluosol forms a chemical bond with oxygen. Regular blood usually carries oxygen to the cells in two ways: bound to haemoglobin and dissolved in the plasma. When Fluosol is added (by intravenous injection), oxygen is now transported in a third way: dissolved in the Fluosol itself.

But Fluosol is still experimental. Each dosage and reaction is carefully monitored. According to Dr. Murray Girotti of Kingston General Hospital: "The patient treated with Fluosol has technicians hanging all over him."

The substance has been available for human tests since 1979. It was developed by the Green Cross Corp. of Osaka, Japan and the North American distributor is Alpha Therapeutic Corp. of Los Angeles, which exercises strict control over its distribution and insists a strict experimental "protocol" be followed during each use.

Canadian recipients

Alpha Therapeutic's Dr. Alan Friedman says Fluosol has been administered to about 80 North American patients since February 1982. That number includes five patients in Canada who received it in the past year. Four of the



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Dr. Murray Girotti of Kingston General Hospital cautions that Fluosol is tricky.

five were Jehovah's Witnesses.

Most patients requiring Fluosol are in critical condition. Their systems are no longer capable of carrying enough oxygen to the cells.

Dr. Tomas Salerno now of Toronto, used Fluosol a few times while he was at Montreal's Royal Victoria Hospital.

"It allows patients to be carried through an operation smoothly, where they normally wouldn't have much hope. Also, it allows the surgeon to work and not worry about loss of blood," he said.

It is also cheaper than blood, about \$20 a unit compared to \$90 for whole blood from agencies like the Red Cross.

Girotti of Kingston General says giving Fluosol to any patient is a tricky business. "We have to be sure the patient's heart, lungs and kidneys are in good shape."

Candidates for the substance must be carefully screened. There can be complicated short-term side effects: increased heart-rate, lowering of blood pressure, shortness of breath and chest pains. Some patients have developed allergic reactions after getting a minuscule amount of Fluosol. It is not available to patients under the age of 18 because the long-term effects are unknown.

Algeria buys Canadian spuds

The Canadian Commercial Corporation has awarded a contract valued at \$8.1 million (Cdn.) to McCain Produce Co. Limited, Florenceville, New Brunswick for the supply of seed potatoes to the Office national des Approvisionnements et des Services agricoles, an agency of the Algerian government, the Minister of State (International Trade) Gerald Regan announced recently.

This contract was won by McCain in the face of strong international competition from Scotland, the Netherlands, Belgium and France. Delivery is expected to begin in November and run for a two-year period. The 24 000 tonnes of seed potatoes will be produced in New Brunswick and Prince Edward Island.

The Canadian Commercial Corporation, a federal government Crown corporation, contracts with foreign governments and international agencies on behalf of Canadian suppliers of goods and services. In 1982-83, the corporation's sales of \$589 million involved over 470 Canadian firms and more than 70 foreign governments and international agencies.

New icebreakers join in oil search

Two of the most powerful privately-owned icebreakers in the world are on their way to the far north to help in the search for oil and natural gas.

The icebreakers were built in two British Columbia shipyards for Gulf Resources Limited which is engaged in test drilling in the Beaufort Sea. The company has developed new exploration technology which depends on the use of icebreakers and these must be powerful enough to push their way through ice up to four metres thick.

The company has already invested more than \$650 million in the exploration program and it will be at least another two years before it will know whether the venture is worthwhile.

The company, which has an administrative centre in Tuktoyaktuk in the Northwest Territories, has a huge floating steel island in place in the Beaufort Sea. Before it bestowed names on the two icebreakers, it conducted a contest in the schools in the Northwest Territories for the best names. The name picked for one is *Kalvik*, Indian for "wolverine". The other is called *Terry Fox* in honour of the heroic young man who lost a leg to cancer.