

In vitro fertilization**Success breeds more problems***Canberra*

A DEVELOPMENT in the *in vitro* fertilization (IVF) work of Professor Carl Wood's group in Melbourne has resulted in a successful pregnancy following implantation in a woman's uterus of an embryo previously frozen for four months in liquid nitrogen. The success was announced last week by Dr Alan Trounson, who implanted the embryo in an infertile patient 14 weeks ago. Two of the eight cells of the embryo were damaged during thawing but a normal fetus is assured from the multipotential nature of embryonic cells at this early stage.

The team from Monash University's department of obstetrics and gynaecology, at the Queen Victoria Medical Centre, responsible for 42 births from IVF since 1979, have been freezing embryos since late 1980 but previous implantations have not resulted in pregnancy. Attributing their success to a change in freezing technique, Dr Trounson said that more pregnancies from some of the 35 embryos now in cold storage can be expected soon.

Early last year, members of the group were implanting in patients embryos developed from eggs donated by other women, in addition to their usual routine. The Victoria government of the day responded to public concern by instituting a committee to examine the social, ethical and legal issues arising from the work and, if necessary, to recommend legislation. The IVF work has since been under the scrutiny of that committee, chaired by law reform commissioner, Professor Louis Waller.

The committee's first interim report in September 1982 was cautious, considering only the "easy" case — that of husband and wife supplying gametes to be fertilized *in vitro* and implanted in the wife's uterus. The committee found this acceptable and recommended that IVF be limited to these cases, *ipso facto* ruling out the donation of eggs but allowing embryo freezing. Moreover IVF was justified solely as a means of curing infertility. Because of its relatively high cost — about A\$42,500 per couple, largely paid for by health insurance companies — IVF was seen as a last-resort treatment as the report required a couple to "have undertaken all other medical procedures during a period in excess of 12 months which may, in their particular circumstances overcome their infertility". The Waller committee also wanted all embryos to be implanted.

The IVF group responded by ceasing the donor egg programme but continued with freezing embryos. Indeed, storing embryos appeared to be the only way of ensuring that all embryos were in fact implanted, as some could be available for subsequent implantation if the first attempt failed, instead of being wasted. Moreover, the

number of laparoscopies could be reduced, thus sparing the patient considerable inconvenience. According to the protocol developed by the Melbourne group, ovulation is induced by the administration of fertility drugs so that as many eggs as possible are collected in a single laparoscopy. The overall improvement in the number of pregnancies per patient since 1979 is largely due to the increased fertilization rate and the fact that more than one embryo is implanted simultaneously. However, the number of pregnancies per embryo implanted has remained low.

Another document bearing on the IVF work is the first report last August by the Working Party on Ethics in Research of the National Health and Medical Research Council (NH and MRC). This body funds medical research but does not have any power to enforce its rules except by withdrawal of funds. All its projects concerned with human experimentation have to be approved by an institutional ethics committee.

The report's supplementary note on IVF is more liberal than the Waller report and approves of IVF treatment "within an accepted relationship". It also approves of the donor egg programme. However "continuation of embryonic development beyond the stage at which implantation would normally occur" and cloning experiments are forbidden. Only early undifferentiated embryos may be stored, with an upper time limit of 10 years which should not be "beyond the time of conventional need or competence" of the women who supplied the egg. Surrogate motherhood is declared "not yet capable of ethical resolution". The most significant recommendation was the setting up of a National Medical Research Ethics Committee, which has since been established. The role of the committee is to review ethical considerations of medical research and respond to questions referred to it by institutional ethics committees.

Despite increased debate on IVF over the past two years and the Waller committee's contribution, the state government seems to be no closer to formulating legislation. Surprisingly, scientists themselves want legislation, perhaps to protect themselves from litigation but also from a desire for guidance from the community and to avoid incurring public displeasure.

Vimala Sarma

Tim Beardsley adds: In Britain, Dr Robert Edwards, who pioneered the technique of *in vitro* fertilization, greeted the Australian group's announcement as "wonderful news". Several UK ethical committees have now approved embryo freezing techniques (see *Nature* 28 April, p. 739). Dr Edwards said "We must now look at our own position. In accordance with patients' interests we have got to go ahead".

Pauling institute**Lawsuit settled out of court**

THE Linus Pauling Institute of Science and Medicine at Menlo Park, California, has agreed to pay \$575,000 to settle a lawsuit brought by Arthur Robinson, co-founder of the institute and for an initial period its president. The suit has been hanging over the centre for the past two years, some time after Robinson had ceased to be director. It has now been settled out of court.

Robinson, in his suit, which had claimed several million dollars, alleged breach of contract by dismissal, slander by way of Pauling's alleged assertion that his work was "too amateurish" to be published and that Pauling had destroyed his data and peptide collections.

Robinson and Linus Pauling differ in their accounts of the effect of vitamin C on the incidence or the course of human cancer. Robinson on the telephone listed among his complaints the allegation that his failure to find a beneficial connection between vitamin C and cancer was suppressed but Pauling, also on the telephone, denied this.

According to Pauling, the lawsuit had been settled out of court only in the light of the trustees' concern about the likely cost and trouble of a protracted hearing. He insisted that the amount of the settlement represented no more than compensation for loss of office and the cost of Robinson's legal fees.

Robinson, who has founded a small private research institute of his own in Oregon ("only three employees and hope", he said), said the money from the settlement will help to get the institute off the ground. He plans to conduct research on nutrition and cancer in mice, and ultimately to address more basic research problems. □

A day for Sakharov

THE Congress of the United States is expected to pass this week a bill to proclaim 21 May (the birthday of Andrei Sakharov) as National Sakharov Day. According to Dr Edvard Lozanskii, a former Soviet dissident and a leading campaigner on behalf of Dr Sakharov, the bill will also authorize President Reagan to appeal to all other nations to proclaim their own Sakharov Days. Vera Rich

ICRF director

AN error in 28 April *Nature* (p. 739) made Dr J. Wyke into director of ICRF Medical Oncology Unit. In fact, Dr J. Malpas will continue to be its director when Dr Wyke becomes responsible for its laboratory work. □