



HEPARIN SUPPLEMENTATION IN THE LUTEAL (POST OVULATION AND EARLY PREGNANCY) PHASE

INTRODUCTION.

The pregnancy rate from Assisted Reproductive Technology (ART) procedures have remained virtually unchanged over the last 5 years with the limiting factor being the continued implantation of the embryo into the uterus. Although successful implantation rates are now relatively high the rate of early pregnancy loss still remains unacceptably high in most ART procedures.

The use of heparin and aspirin has gained popularity in recent years for the treatment of recurrent miscarriage for patients with proven thrombotic (blood clotting) problems, especially recurrent miscarriage in the first trimester of pregnancy. It is thought that heparin and aspirin, as blood thinning agents, may be useful in increasing blood flow to the lining of the uterus in some patients.

It has been proposed¹ that a similar effect may occur in the early part of the ART pregnancy. It is possible that heparin may be beneficial by promoting blood flow to the uterine lining, thereby enhancing the implantation of an embryo and reducing the rate of early pregnancy loss. It should be noted that as yet there is no proven advantage of using heparin to prevent early pregnancy loss in ART and that this is regarded as an experimental procedure.

RISKS.

This is an experimental procedure with as yet no proven outcomes. Your doctor will explain the risks to you but the main risks are described below:

- a. **Risk of haemorrhage** Heparin is an anticoagulant and as such any injury could lead to haemorrhage. If you take heparin you will be provided with a card that you should give to any health professional so that they are aware of your use of heparin.
- b. The use of heparin in this manner may not improve pregnancy outcome but our investigations have shown that the outcome should at least be unchanged, however there can be no guarantee.
- c. Heparin is not known to be associated with embryo development problems or subsequent birth defects, however again there can be no guarantee.

If you have any questions please do not hesitate to contact the nurse coordinator or your specialist.

PROCEDURE.

Injections of 5000IU of heparin twice daily from the day of embryo transfer. Each eligible patient will be provided with a prescription for heparin by their specialist doctor. If there is no pregnancy the injections will be stopped along with any other luteal support medication. If pregnancy hormone is detected then the injections will continue until approximately 7 weeks, but after this a similar medication called Clexane, which is a once daily injection, would be taken until approximately 12 weeks of pregnancy.



The nurse coordinator will provide instructions on heparin administration on the day of the embryo transfer. The medication is available from most pharmacies including the Calvary John James Pharmacy. It is your responsibility to get the prescription filled before embryo transfer. If you wish we can store the heparin at Canberra Fertility Centre until your embryo transfer. Once you take the medications home they must be stored as per the manufacturer's instructions.

ELIGIBILITY.

We have decided to offer this treatment to women who have had three previous unsuccessful embryo transfers including frozen embryo transfers.

REFERENCE.

- ¹ Urman, B et al, Luteal phase empirical low molecular weight heparin administration in patients with failed ICSI embryo transfer cycles: a randomized open-labeled pilot trial. *Human Reproduction*, 2009; 24:1640–1647.