

Fact Sheet

Adjuvant Therapy – Recombinant Growth Hormone



What is an adjuvant therapy?

Adjuvant therapy, also known as adjunct therapy, or 'add-ons', comprises a group of medical interventions that are given alone or in combination in addition to the standard IVF treatment. It is important to note that for many of these add-ons there is little or no evidence of their effectiveness to improve live birth rates. Nevertheless, your fertility specialist may decide to offer these treatments to individualise the care of your IVF treatment.

Monash IVF has made a number of fact sheets on add-ons to help you make a fully informed decision. Before you agree, you will need to weigh the evidence that this add-on may help you against the side effects it may cause, the known risks to mother and baby, as well as the extra costs.

Who may recommend an adjuvant therapy to you?

Your Fertility Specialist will discuss and recommend any adjuvant therapies they feel may be appropriate for the treatment you are going to undertake. If recommended, these therapies will be individualised to compliment your fertility treatment cycle.

What is Recombinant Growth Hormone normally used for?

Growth Hormone is naturally produced by the pituitary gland in the body and controls growth of long bones in children and manages the formation of muscle mass and glucose utilization in adults. It works to release insulin-like growth factors (IGF-1) from both the liver and target organs. Recombinant Growth Hormone has traditionally been used for children and adults with Growth Hormone deficiency leading to short stature or fatigue and muscle mass loss.

Why is Recombinant Growth Hormone used in IVF?

There is evidence that IGF-1 may play a role in recruiting and health of follicles containing oocytes. Recombinant Growth Hormone is sometimes used in the controlled ovarian hyperstimulation (stimulation or injection) phase of the IVF cycle with the hope to improve egg number and quality.

Will using Recombinant Growth Hormone increase my chance of success?

There are several research papers looking at multiple small studies investigating the use of Recombinant Growth Hormone in IVF stimulation. There is no evidence that Recombinant Growth Hormone in the general IVF patient population improves oocyte or embryo quality and number or improves pregnancy rates. Further research is required to determine if Recombinant Growth Hormone may be of benefit in older women or patients who have evidence of being poor responders or suboptimal responders to traditional IVF stimulation. Some small studies suggest that egg number and embryo quality may be improved in this subgroup, however, there is insufficient evidence that these improvements lead to higher pregnancy and live birth rates.

Is the use of Recombinant Growth Hormone in IVF an off-label prescription?

Yes. This means its use specifically for IVF is not an authorised use of this medication.

Are there any side effects and risks with using Recombinant Growth Hormone?

Common side effects can include:

- fluid retention (which leads to swelling in the arms and legs)
- joint and muscle pain
- carpal tunnel syndrome
- high blood sugar levels. Long term use increases risk of diabetes
- high cholesterol levels

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Are there any risks to the safety of a baby by using Recombinant Growth Hormone during pregnancy?

Recombinant Growth Hormone is a Pregnancy Category B2 drug. This means it has been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human fetus having been observed.

Multiple small studies looking into the use of Recombinant Growth Hormones show little standardization into the doses and frequency of administration which are often higher than with other uses of this medication. There is not enough research into the higher doses of Recombinant Growth Hormone used in IVF on pregnancy and baby health to give full reassurance of safety, however studies to date have shown no increased adverse effects.

What are the costs?

Your Fertility Specialist will provide you with a prescription to obtain any medications which have been prescribed to you. The cost of these medications may vary from pharmacy to pharmacy, however these costs are in addition to your treatment cycle.

What do I do if I have more questions?

If you have any questions or require further information please contact your Fertility Specialist.

Duffy JMN, Ahmad G, Mohiyiddeen L, Nardo LG, Watson A. Growth hormone for in vitro fertilization. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No.: CD000099. DOI: 10.1002/14651858.CD000099.pub3.

Kyrou D, Kolibianakis E, Venetis C, et al. How to improve the probability of pregnancy in poor responders undergoing in vitro fertilization: a systematic review and meta analysis. *Fertility Sterility* 2009;91: 749-66