

# Fact Sheet

## Adjuvant Therapy – Prednisolone



### 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 prednisolone normally used for?

Prednisolone is used to treat conditions such as arthritis, blood disorders, breathing problems, severe allergies, skin diseases, cancer, eye problems and immune system disorders. Prednisolone belongs to a class of drugs known as corticosteroids. It decreases your immune system's response to various diseases to reduce symptoms such as swelling and allergic-type reactions.

### Why is prednisolone used in IVF?

Some clinicians and researchers believe that a woman's immune system can be overactive and make it less likely for the embryo to implant. Often natural killer cells are mentioned as the underlying cause of implantation failure but there is currently very little good evidence to support this. Prednisolone is used to suppress the immune system and it has been suggested that it may improve the pregnancy rate.

### Will using prednisolone increase my chance of success?

A thorough review of 14 randomised controlled trials has found no effect of glucocorticoids on live birth rates or miscarriage rates when used in an unselected IVF/ICSI population (Boomsma et al., 2012). The authors noted that there was a small positive effect in women who were undergoing IVF (not ICSI) but they warned this finding needs to be noted with great caution, as there is no plausible explanation for this.

It is worth noting that Monash IVF published a study in 2015 that showed a significant drop in pregnancy rates in women undergoing a frozen embryo transfer while they were on a combination of corticosteroids and anti-clotting agents such as aspirin and/or heparin. They were was no improvement in pregnancy rates in women undergoing a fresh transfer.

### Is the use of prednisolone in IVF an off-label prescription?

Yes, prednisolone is an off-label prescription. This means its use specifically for IVF is not an authorised use of this medication.

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### Are there any side effects and risks with using prednisolone?

Common side effects can include:

- headache
- dizziness
- trouble sleeping
- inappropriate happiness or euphoria
- severe mood swings, including severe depression and psychotic manifestations
- personality change
- bulging eyes
- acne
- thin, fragile skin
- red or purple blotches or lines under the skin
- slowed healing of cuts and bruises
- increased body hair growth
- changes in the way fat is distributed in the body
- extreme tiredness
- weak muscles
- irregular or absent menstrual periods
- low sex drive
- heartburn
- unusual sweating

Corticosteroids are powerful drugs that adversely affect a wide variety of body functions and reduce your ability to fight a stressful situation. There are a large number of medical conditions where corticosteroid treatment is contra-indicated, including diabetes, glaucoma, gastric ulcers, and osteoporosis. If you suffer from medical conditions, it is important you check with your fertility specialist that you do not have a contra-indication.

Corticosteroid use during pregnancy is associated with an increased risk of gestational diabetes and maternal hypertension. Prolonged steroid use delays wound healing and increases the risk of infection. Chickenpox and measles, for example, can have a more serious or even fatal course in adults on corticosteroids. The risk of very serious and potentially fatal infections following complications after surgery, including egg retrieval, are increased especially if other immune-suppressing drugs (dexamethasone, Humira, Plaquenil, ...) are added.

There is a risk of a rare but serious complication called 'avascular necrosis of the head of the femur' in which the top of the hip bone becomes eroded and is permanently damaged.

### WARNING

It is dangerous to suddenly stop corticosteroid treatment, especially if the treatment has lasted for 4 or more weeks. This type of medication needs to be withdrawn slowly under medical supervision. Even then, side-effects may sometimes last for months after. There have been rare cases of patients who cannot be weaned off the medication and need to remain on corticosteroid treatment.

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### **Are there any risks to the safety of a baby using prednisolone during pregnancy?**

Prednisolone is a Category A drug. Category A drugs have been taken by a large number of pregnant women and women of childbearing age without any proven increase in the frequency of malformations or other direct or indirect harmful effects on the fetus having been observed.

Nevertheless, there is possibly a slightly increased risk of congenital heart defects, cleft lip/palate (reported to be 6 times higher than normal) and incomplete formation of the anus in babies born to women who have taken steroids during pregnancy, particularly in the first trimester.

### **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.