

Endometriosis and fertility

The aim of this article is to explain in a patient-friendly way what endometriosis is, how it might affect fertility and what fertility treatments might be recommended. It is not supposed to be an exhaustive reference and if you have concerns or questions please discuss them with your GP or fertility or endometriosis doctor.

What is endometriosis?

The endometrium is the medical name for the lining of the womb. Endometriosis is a condition in which this tissue grows outside of the womb. This can be almost anywhere in the body, but is usually on organs in the pelvis such as the bowel, bladder and ovaries. The hormones which cause the normal menstrual cycle make it thicken and bleed every month in the same way as if it was lining the womb, and this can cause pain, scarring and difficulty falling pregnant. Endometriosis is thought to occur in up to one in ten women, but many less than that will be effected by it.

Do you have endometriosis?

It is very usual to have some pain with your monthly periods, but it is difficult for you to know what "normal" is. Most women would describe it as a cramp or ache in their lower abdomen or back for a day or two, and typically it goes away or improves significantly with simple pain killers such as paracetamol or ibuprofen. If the pain is worse than this (and certainly if it causes you to miss school, work or social events) or if you are struggling to get pregnant, it is worth discussing it with your doctor. Other tell-tale symptoms for endometriosis are pain on opening the bowels, pain when passing urine and pain deep inside when having sex. All these problems are classically worse around the time of the period, but may be present all the time.

How is endometriosis investigated and diagnosed?

"Deep infiltrating" endometriosis (where the endometriosis grows deep into the tissues) can be seen on two different types of scan called ultrasound and MRI (magnetic resonance imaging). Neither is better than the other, and which one is chosen often depends on the availability of expertise and scans in the local area. Both require specialists with expertise in looking for endometriosis on scan. Even in the best hands they cannot see "superficial" (shallow growing) endometriosis and a laparoscopy (key hole surgery) may be required to diagnose this.

How does it cause problems getting pregnant?

It probably does this in a few ways:

- Scarring (sometimes called adhesions)- scarring in the pelvis can effect the way that the organs move and function. For example a scarred fallopian tube may struggle to pick up an egg or be blocked.
- Inflammation- inflammation caused by endometriosis may release chemicals which are toxic to the egg, sperm or embryo.
- Damage the ovaries- women are born with all the eggs they will ever have, they do not make new ones (this concept is usually referred to as the "ovarian reserve"). Insults (e.g. endometriosis or surgery for endometriosis) to the ovaries may effect the number and quality of these eggs.
- Pain preventing sex- obviously if a women is unable to have regular sex her chances of pregnancy will be decreased.

How can fertility problems caused by endometriosis be treated?

The treatments that might be offered or recommended depend on the severity and location of the disease. In simple terms, in mild to moderate disease surgical treatment helps to improve the chances of falling pregnant naturally, but the same is not the case in severe disease. In more mild cases removing the tissue and cutting adhesions may return the pelvis to relatively normal function, but this is unlikely in severe cases. In mild cases ovulation induction and intrauterine insemination may also improve the chances of falling pregnant, especially if done within 6 months of surgery. In severe cases IVF is usually recommended. Surgery for severe endometriosis does not

seem to improve the chance of IVF success, and in fact these complex operations may have complications making IVF more difficult and success less likely. There are exceptions to this such as large endometriomas (ovarian cysts caused by endometriosis), hydrosalpinges (blocked, fluid filled fallopian tubes) and when the ovaries are scarred into a position where eggs cannot be collected. We will touch on these in more detail later.

Why does IVF work in endometriosis?

IVF bypasses many of the problems thought to cause fertility issues in endometriosis. As the egg is taken directly from the ovary, is fertilised in the lab and the embryo put back into the womb the difficulties of scarring, toxic inflammatory chemicals and pain with sex can be avoided. In general IVF success rates in endometriosis patients are very good as long as there are no other problems.

What about endometriomas?

Endometriomas are ovarian cysts caused by endometriosis. They are filled with old, brown blood which looks like melted chocolate and are therefore sometimes called “chocolate cysts”. In cases of mild to moderate disease they should be excised (cut out) if they are not too big. The concern in doing this is that the ovary (and therefore ovarian reserve) may become damaged in this process. If the cyst is small (less than about 4cm) the effect of this is probably small, but as they get bigger the effect is likely to be larger. Occasionally it might cause bleeding from the ovary which can only be stopped by removing the ovary. For the reasons above it may be recommended that the cyst is treated in two stages. The first is a laparoscopy to drain the cyst, followed by another a while later to cut it out now that it is smaller. They do generally refill, so it needs to be done relatively quickly (usually a few months later) and injections of medications called gonadotrophin releasing hormone analogues (GnRH analogues) may be used to slow the refilling down.

The presence of large endometriomas can also complicate IVF, so it may be advised to have them drained (but not cut out) just before the start of a cycle. The idea is that they will then have less effect on the IVF, but not risk damaging the ovarian reserve which is so crucial in IVF treatment. If endometriomas are present at the time of IVF egg collection antibiotics should be considered as if they are mistakenly punctured they can cause infection.

What about hydrosalpinges?

The scarring caused by endometriosis can cause hydrosalpinges (blocked, fluid filled fallopian tubes). These decrease the chance of success at IVF by about 50%, probably because the fluid inside can leak into the womb and is toxic to the embryo after it has been transferred. Therefore surgery to remove them or disconnect them from the uterus is almost always recommended.

What if the ovaries are stuck in a position which means eggs cannot be collected?

It may be possible to have surgery to free-up the ovaries from scarring and put them in a position where it is possible. Eggs are normally collected using a needle through the vagina, though occasionally it may be possible to collect them through the tummy wall if absolutely necessary.

Summary

Endometriosis is a very common condition which may cause difficulties getting pregnant. A fertility or endometriosis expert will be able to investigate whether it is likely to be relevant to you and advise on the appropriate treatment if required.