

IVF and MS

Information on this page outlines the consensus opinion of the UK MS Pregnancy Register Steering Group and has been produced to help you in your discussions with your MS team about what you should do.

Why are we looking at the link between fertility treatments and risk of MS relapse?

This is an area where the evidence that we have can change quite quickly, and so it is important to update people with MS and their healthcare teams regularly.

Having fertility treatment can be very stressful, both physically and psychologically. This can be made worse by not knowing what to do about MS treatments. People might need to have fertility treatments for several reasons, and a range of fertility treatments might be offered. This variation can make things complicated when trying to balance risks and benefits, particularly when thinking about MS treatments alongside fertility.

Why are we interested in these new studies?

Previous studies have suggested that there may be an increased risk of Multiple Sclerosis (MS) relapses following IVF treatment. This has been quite worrying for people with MS and their treating teams. However, these previous studies have been in quite small numbers of people. Because of when the previous studies were done, most people with MS going through fertility treatment were not taking disease modifying therapies, and approaches around this have changed. Also, IVF procedures have changed over time.

In these newer studies, more people were taking disease modifying treatments whilst having fertility treatments. Both studies looked at larger numbers of people compared to previous studies, and both studies looked at people from a number of different MS treatment centres. This helps us to have confidence that the results are likely to be reliable and relevant to people with MS.

What types of fertility treatments did these studies look at?

There are different types of fertility treatments. A question that comes up is whether different types of ovarian stimulation techniques (known as agonist and antagonist) might have different effects on MS disease activity. Understanding whether there is a real difference between these different techniques can affect the treatment approach that people take.

How did the studies look at and evaluate fertility treatments and MS relapse?

These two studies in particular focused on:

- A) risk of MS relapse after IVF in women with MS in France.

<https://pubmed.ncbi.nlm.nih.gov/35953288/>

They looked at overall risk (this is, in everyone who had IVF), and secondly according to the type of IVF stimulation protocol that people had (GnRH agonists vs antagonists), using data from the French national health insurance database.

- B) risk of MS relapse in people undergoing a range of fertility treatments across 4 different MS treatment centres in the USA.

<https://pubmed.ncbi.nlm.nih.gov/36922025/>

They looked at the kind of fertility treatments that people had and tried to identify factors associated with an increased risk of relapse.

How did the studies try to evaluate this risk

- A) The first study looked at all women with MS in France who had IVF over a six-year period. The relapse rate in the 12 months prior to fertility treatment was compared to relapse rate in the 3 months following fertility treatment. These two rates were compared to try to identify whether the fertility treatment led to a change. The study looked at four areas: (1) relapse rate before and after IVF; (2) the proportion of IVF cycles that were followed by relapse; (3) the difference in the number of relapses after and before IVF; and (4) the delay between IVF and the first relapse.

- B) The second study, which was based in four centres across the US, looked at people with MS who had undergone fertility treatment in the past 10 years. Similarly to the study above, relapse rate in the 12 months before fertility treatment was compared to relapse rate in the 3 months following fertility treatment. In this study, a wider range of fertility treatments were studied. These included controlled ovarian stimulation followed by fresh embryo transfer, controlled ovarian stimulation alone, embryo transfer alone, and oral ovulation induction.

What were the results of these studies?

Most importantly, neither study showed an increased risk of MS relapse following assisted conception or fertility treatments. This was particularly notable where disease modifying therapy was continued until IVF procedures.

- A) The first study included 225 women, about a third of whom had at least two IVF procedures. The authors found that there was no increase in the risk of relapse after



IVF. A lower annualised relapse rate before and after IVF was seen in women who continued their disease modifying therapy (DMT) up until their IVF treatment. There was no increase in the risk of a relapse requiring steroid treatment following IVF either.

- B) The second study included 64 women and a total of 124 fertility treatment cycles. The authors found that there was no increase in annualised relapse rate following ovarian stimulation. No patients who were using disease modifying therapies (DMTs) during ovarian stimulation had a relapse in the three months following treatment. Where procedures were successful and people got pregnant, relapse rate was lower after IVF than before (i.e. relapse rate was lower during pregnancy). There were no relapses in the 3 months after embryo transfer.