

Artificial Oocyte Activation (AOA)

What is AOA?

An oocyte is the scientific term for an egg. When a sperm meets an egg, it triggers something called 'egg activation' which begins the process of fertilisation and embryo development. This activation process is caused by sperm factors which lead to an increase of calcium in the oocyte. If the sperm are lacking these factors or the oocytes don't respond to the factors properly, then the activation process may not occur and fertilisation can fail. Artificial oocyte activation uses a substance called a calcium ionophore which aims to help to activate the egg and improve fertilisation.

How is AOA carried out?

Immediately after your oocytes have been injected using conventional ICSI they are placed in a ready-to-use calcium ionophore solution for 15 minutes. They are then rinsed to remove the calcium ionophore and placed, as normal, into a time-lapse incubator and checked to see if any have fertilised the following morning.



Is AOA for me?

It is possible that for some patients who have had an ICSI cycle with failed (or significantly reduced) fertilisation, the reason for the lack of fertilisation may be due to an inability of the oocytes to activate. Alternatively, some men produce sperm which appear to lack the ability to activate oocytes properly; AOA may help in either of these cases.

There have now been numerous reported cases of live births following the use of AOA for patients who had previous failure (or significantly reduced) fertilisation. These cases have shown that if fertilisation is achieved with AOA, then embryo quality and pregnancy rates are similar to those with standard ICSI. However, we cannot say with certainty that the use of AOA will help your oocytes to fertilise, as there are many other steps involved in this complex process.

Are there any risks with AOA?

It is important to note that AOA has only been certified for diagnostic purposes and not for clinical use. This means that it has not been tested for routine clinical treatment in this country.

However, there have now been several trials published with no reports of any adverse effects on the health of babies born following the use of AOA. Although, it is important to note that further studies would be required to fully evaluate any risks.

What is the cost of AOA?

There will be an additional charge per treatment cycle of £195 for AOA.

The Human Fertilisation and Embryology Authority (HFEA) and AOA:

AOA is regarded by the HFEA as a treatment 'add on'. The HFEA status for the use of AOA as a treatment add-on is amber. This means that there is a conflicting body of evidence and further research is required to prove its benefit.

For more information on treatment add-ons please refer to the HFEA traffic-light system on the website:

<https://www.hfea.gov.uk/treatments/explore-all-treatments/treatment-add-ons/>

This leaflet can be made available in different formats on request. If you would like to make any suggestions or comments about the content of this leaflet, then please contact the Patient Experience Team on 0151 702 4353 or by email at pals@lwh.nhs.uk

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