

Ovarian reserve and fertility potential

A woman's fertility declines with age due to a reduction in the number of eggs (oocytes) in the ovaries. Egg quality also declines with age which further affects fertility potential. It is for this reason that older women find it more difficult to become pregnant and are more likely to miscarry.

A gradual decline in fertility potential begins at around 31 years of age. By the age of 37 years the decline in fertility potential becomes more dramatic with most women being unable to have a baby after the age of 42 years. The precise age when conception becomes more difficult varies amongst women. Certain tests may be useful in assessing fertility potential (or biological age) by estimating the "ovarian reserve".

Since a considerable proportion of subfertility is due to postponement of childbearing, assessment of ovarian reserve may provide insight into the remaining number of fertile years a woman has. These tests are proxy indicators of the number and quality of eggs remaining in the ovaries.

Tests we use to assess ovarian reserve*

Day 2-5 Levels of FSH: This is the most commonly available and widely used test. In general high blood levels of FSH are associated with a decline in ovarian reserve. The FSH is produced in the pituitary gland located within the brain. High levels of reflect the need of more of the FSH hormone to drive the ovary to ovulate. One problem with this blood test is that results can vary in different cycles. Any single abnormal test, however, generally indicates that fertility potential has diminished. A level of less than 10iu/l is considered normal.

Ovarian follicle count: Otherwise known as the "antral follicle count". A transvaginal ultrasound is undertaken in the early part of the menstrual cycle (day 2-6). The number of small follicles measuring 2mm-10mm in the ovary is counted. This count reflects underlying egg supply and is useful to predict response to gonadotrophin injections.

AMH (Anti-Mullerian Hormone): AMH is an ovarian hormone which a novel blood test used to assess ovarian reserve. AMH levels are good measure of the number of follicles containing eggs left within the ovary. One advantage of this test is that it can be done at anytime of the menstrual cycle and does not vary between cycles. It is therefore now emerging as one of the most reliable tests of ovarian reserve.

These tests may be useful in predicting a woman's response to fertility treatment and her likelihood of success compared to other women of the same age. In younger women, abnormal test results suggest that fertility potential is declining, but they do not necessarily identify who will or who will not conceive.

Women older than 40 years with abnormal test results are likely to have poor chances of conceiving naturally or with treatment. In these circumstances the use of donor eggs or embryos may need to be considered. However, even with a normal test result, women may have difficulty conceiving for other reasons.

*We do not routinely measure serum **inhibin** levels as we do not feel this hormone provides any further useful measure of ovarian reserve in addition to the above tests. If however you would like this test undertaken please let us know.