ANTI-MULLERIAN HORMONE (AMH) BLOOD TEST
(Information Sheet)

1. What is Ovarian Reserve

Ovarian reserve is the term used to describe the number of good quality eggs left within a woman's ovaries.

A woman is born with approximately one million eggs and over her reproductive life her egg numbers will decline as they are lost through natural attrition and ovulation. Only approximately 400 eggs are lost through the process of ovulation. The remaining eggs are lost through natural cell death (apoptosis). The rate at which eggs are lost through apoptosis varies between individual women and this will account for the difference in age of menopause. However, it is estimated that at least 10 per cent of the population will have accelerated loss of eggs leading to a critical reduction of ovarian reserve by their mid thirties.

2. What is Anti-Mullerian Hormone (AMH)?

The AMH is a hormone produced by the granulosa cells of the early developing antral follicles. These are the immature eggs that wake up from their dormant state and develop into mature eggs. As a woman runs out of eggs, the number of these small antral follicles decline in number and as a result the serum Anti-Mullerian hormone falls. This is why serum Anti-Mullerian hormone testing is a good estimate of residual egg number.

3. How do you identify women with diminished Ovarian Reserve?

Women with a family history of early menopause, a history of surgery to the ovary or severe endometriosis, and those who have had previous chemotherapy or radiation, are all at increased risk of early diminished ovarian reserve. However, the vast majority of patients with diminished ovarian reserve have no risk factors. These women will often have normal menstrual cycles with signs of ovulation based on the luteal phase progesterone analysis. The only way to identify this population is with the use of ovarian reserve testing.

4. How do we assess Ovarian Reserve?

Ovarian reserve is best tested by a combination of serum hormones (FSH, Anti-Mullerian hormone) and pelvic ultrasound (antral follicle count and ovarian volume). The combination of these tests is what Repromed terms the 'Egg Timer'. However, the serum Anti-Mullerian hormone is the most sensitive component of the 'Egg Timer', and this test alone can be used as an initial screening test for ovarian reserve.

ANTI-MULLERIAN HORMONE (AMH) BLOOD TEST
(Information Sheet)

5. Why is Ovarian Reserve assessment important?

Women with diminished ovarian reserve have diminished fertility and an increased risk of miscarriage. It is important to identify these women early on so that they can make decisions on when to start having a family and when to access assisted reproductive technology if required.

6. Who should have Ovarian Reserve testing?

Women under the age of 38 years who are considering delaying pregnancy for social/personal reasons are the best candidates for ovarian reserve testing. Women who are identified as having diminished ovarian reserve can then bring forward their plans for having children and boost their chances of success. Women older that 40 years are not ideal candidates for ovarian reserve testing as they will all have diminished ovarian reserve. Furthermore, irrespective of the results of the 'Egg Time' test, it would be unwise to ever advocate a women of 40 years and older to delay pregnancy.

The final group that is well suited to ovarian reserve testing is those who are at increased risk of diminished ovarian reserve. These would include women with a family history or ovarian failure, autoimmune disease, chemotherapy or previous surgery to the ovaries.

7. How do I arrange for Ovarian Reserve testing?

Patients can be referred for a serum Anti-Mullerian hormone (AMH) by requesting this on a Repromed pathology request form. Request forms can be sent out to doctor's rooms by contacting Repromed on pathology@repromed.com.au. Alternatively doctors may request an AMH on their preferred pathology providers request form and ask for it to be sent to Repromed in Adelaide. Please note that there will be an additional time delay in receiving results when this option is used as often samples may only be sent to us once a week. As a result there is usually a minimum of two week turn around for these interstate samples.

Please note that the normal range data derived through extensive research for AMH at Repromed are applicable only to specimens analysed using our method.

For patients wishing to have the full 'Egg Timer' test, including the pelvic ultrasound within SA and interstate, this is best organised by contacting us on pathology@repromed.com.au.

8. What is the cost of Ovarian Reserve testing?

Medicare does not cover the cost of the AMH measurement. Therefore, the cost of a single Anti-Mullerian hormone test is $68.90. Once we received your blood in our laboratory we will contact you regarding payment and then your blood will be analyzed.

ANTI-MULLERIAN HORMONE (AMH) BLOOD TEST
(Information Sheet)

For the "Egg Timer" test including ultrasound and written report by one of our Fertility Specialists there is an additional out of pocket expense. Up to date fees can be obtained by contacting us on pathology@repromed.com.au.

9. How do I get my results?

The results of your AMH or 'Egg Timer' test will be sent to your referring doctor. We do not release results directly to you. The quickest way to get your results is to ask your doctor to include their fax number on the request form. There can be a two week delay in the release of results as often bloods are only sent weekly from external laboratories.

10. At what time in the menstrual cycle should AMH be taken?

Unlike serum FSH, Anti-Mullerian hormone levels fluctuate very little during the menstrual cycle and therefore can be taken at anytime during the menstrual cycle.

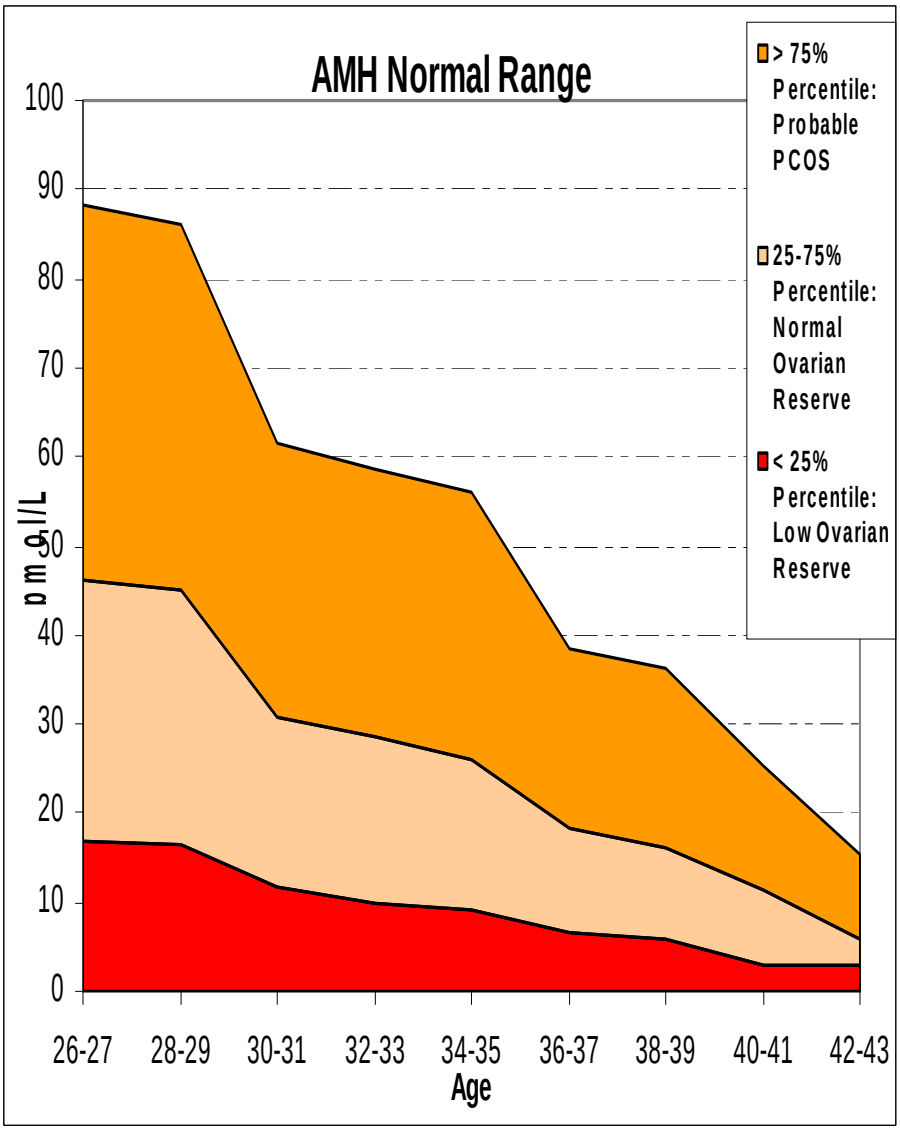
11. How do I interrupt that Anti-Mullerian hormone result?

Previous work at Repromed has shown that women with serum Anti-Mullerian hormone levels less than or equal to 14 pmol/L have a reduced chance of success on the IVF program and an increased risk of miscarriage. Therefore, 14 pmol/L is one of the critical values used in the assessment of ovarian reserve. In addition, Repromed has assessed Anti-Mullerian hormone levels in over 800 women and has developed normal percentile ranges. A copy of this graph is included in this document below. Women with Anti-Mullerian hormone levels in the lowest quartile (< 25%), will likely have a diminished ovarian reserve, especially if their AMH result is < 14 pmol/L. Women with Anti-Mullerian hormone levels in the upper quartile, (> 75%) are most likely to have polycystic ovarian syndrome. Anti-Mullerian hormone has now been shown to be a good marker for PCOS.

12. What can be done if a woman is found to have low Ovarian Reserve?

Women cannot generate more eggs after a birth. Therefore, there is no therapy which allows for expansion of the oocyte reserve. The only effective therapy is for women to bring forth their plans to start a family and this is the ultimate key to the success of the 'Egg Timer' test. If a woman has low ovarian reserve and has not conceived within six months of trying then we would also suggest early investigation for "infertility". If a severe male factor is identified at this point, then early referral for IVF may assist a conception.

ANTI-MULLERIAN HORMONE (AMH) BLOOD TEST
(Information Sheet)



AMH normal ranges have been derived at Repromed through the analysis of 840 women aged 26-42 attending Repromed for fertility management