

## Recurrent miscarriage

Miscarriage refers to the loss of a pregnancy before the baby is mature enough to survive on its own outside the womb. It is the most common serious complication of pregnancy. Indeed, some doctors believe that most early pregnancies end in miscarriages before women even realise they are pregnant. Research has shown that a lot of so-called 'late periods' are actually very early miscarriages. About 1 in 6 confirmed pregnancies will end as a miscarriage and most of these (9 in 10) occur in the first three months of pregnancy.

### Why does miscarriage happen?

Although most miscarriages occur because of problems with the pregnancy, or that develop in the baby or mother, it is often impossible or impractical to find out what those problem are. Most early miscarriages are believed to be due to abnormalities of chromosomes (the materials that carry our genes). Some miscarriages occur because of weakness of the neck of the womb (cervical incompetence) and these typically occur between 14 and 26 weeks. Unfortunately, some healthy pregnancies miscarry following tests (like amniocentesis and CVB) that are done to study the baby's chromosomes. The risk of miscarriage increases with the woman's age. About 1 in 4 confirmed pregnancies in women aged 40 years end in miscarriage, often because of chromosomal abnormalities. Some women have higher risks of miscarriage than others. Women with more than one previous miscarriage have higher risks of further miscarriages. Other factors that increase this risk include smoking, medical conditions (like diabetes), some blood disorders that increase blood clotting, uterine fibroids (swellings in the womb), and some infections. Abnormalities of the shape of the womb can also cause miscarriages (usually late miscarriages).

### What is recurrent miscarriage?

Recurrent miscarriage (RM) is the consecutive loss of three or more pregnancies before the baby is mature enough to survive on its own outside the womb. These miscarriages occur at any stage before and after the pregnancies have been detected by ultrasound. This condition unfortunately affects about 1% of pregnant women. RM is one a most frustrating condition for affected couples and healthcare providers. It is even more so if investigations reveal no underlying cause for it. We know that it can adversely affect personal and family relationships in the long-term and so we provide affected couples with access to counselling.

### What causes recurrent miscarriage?

RM can be caused by a number of conditions but we do not find any underlying cause in 50% of women we investigate. The currently recognized causes include:

**Antiphospholipid syndrome:** this is the single most common cause of RM. It denotes increased levels of two substances in blood (anticardiolipin antibodies and lupus anticoagulant) that increase the stickiness of blood and consequently risk of miscarriage.

**Acquired thrombophilias:** these similarly increase the stickiness of blood and include diminished levels of certain blood components (Protein C, Protein S, Antithrombin III and Factor V Leiden).

**Uterine abnormalities:** the presence of a uterine septum, submucosal fibroids or uterine synechiae (adhesions) can cause repeated miscarriages.

**Chromosomal disorders:** the presence of a balanced chromosomal translocation in either partner can predispose to RM. This is a condition where there is a re-arrangement of the chromosomes without loss of any chromosomal material and so does not produce any effects in those affected. It only becomes problematic at the time of conception when the splitting and joining of chromosomes from both partners can result in loss of some genetic material resulting in miscarriage.

**Genital tract infections:** some infections like bacterial vaginosis have been implicated in miscarriage.

Other touted conditions that have not been proven to cause recurrent miscarriage include:

**Uterine natural killer (NK) cells:** there is currently no robust evidence that these play a role in miscarriage and so they remain a research tool for now.

**Sperm abnormalities:** there is no evidence that these are implicated in miscarriage.

**Blood group incompatibilities:** there is no evidence that these are implicated in miscarriage.

### How we investigate RM?

We aim to uncover the reason in the 50% of affected couples with an underlying cause. The list below details the principal investigations that we typically offer:

**Haematological screen:** blood tests for Lupus Anticoagulant, Anti-Cardiolipin antibodies, Protein C, Protein S, Factor V Leiden, Prothrombin Gene variant and Anti-Thrombin III levels.

**Hormonal screen:** blood tests for FSH, LH and Oestradiol.

**Genetic screen:** blood tests for chromosomal karyotype in both partners.

**Ultrasound investigations:** this will usually be a transvaginal (internal) ultrasound to examine the whole of the genital tract. We sometimes inject fluid into the womb during the scan for a more detailed examination (a procedure called hydrosonegography).

### **How do we treat recurrent miscarriage?**

The treatment we offer for RM depends on whether an underlying cause is found and what that is.

**Where there is no underlying cause:** affected couples will be reassured that there is no underlying cause for the miscarriages and that in such situations their chances of achieving a live birth in future might be good. The prognosis for this depends on the woman's age and number of prior miscarriages but can be as high as 90%. We offer such couples repeated ultrasound scans (1-2 weekly) up to 12 weeks in future pregnancies as this has been found to improve the chances of achieving a live birth. The role of progesterone in these situations is not yet proven and we await the findings of an ongoing national study. Low dose aspirin has been shown to be ineffective in this situation and so we do not recommend it.

**Where there is an underlying cause:** couples are offered the recognized treatment for that problem if it exists.

*Heparin and low dose aspirin* - are used to treat antiphospholipid syndrome and acquired thrombophilias and this has been proven to significantly improve their chances of live birth.

*Uterine metroplasty* - surgery through a hysteroscopic day case procedure to divide uterine septa or synechiae.

*Hysteroscopic myomectomy* - surgery through a hysteroscopic day case procedure to remove submucosal uterine fibroids.

*Antibiotics* - to treat genital tract infections.

*Genetic counselling* - for genetic and we provide avenues for genetic testing of the pregnancy (fetus) at an early stage in future pregnancies.

### **What you can expect from us:**

- Outpatient consultations and ultrasound scans
- Full hormonal screen
- Testing for inherited and acquired thrombophilias
- Testing maternal and paternal chromosomal Karyotypes
- Outpatient Hydrosonegography
- Aspirin and Heparin treatment in early pregnancy
- Hormonal interventions in early pregnancy
- Laparoscopic cervical cerclage in-between pregnancies

We provide an evidence based approach to treating recurrent miscarriage and do not just offer psychedelic unproven interventions.

### **Is there a role for complimentary therapies?**

There is no scientific evidence for the effectiveness of any complimentary therapy. However, we do know that stress plays a role (albeit unquantifiable) in RM and any measures that help to reduce stress might lead to benefit. Therefore, although we would not recommend taking any non-traditional medicines for this condition, some women might find that techniques like acupuncture help to reduce their stress levels.