RECURRENT MISCARRIAGE

Repeated Miscarriage, Rm, Habitual Abortion, Recurrent Pregnancy Loss, Rpl

A disease distinct from infertility, defined by two or more failed pregnancies.

♀ Symptom  ♂ Female

About Recurrent miscarriage

Recurrent miscarriages (RM) are clinically detectable pregnancies that fail to progress. They are common pregnancy complications that affect 15–20% of couples. It is a common obstetric health concern that affects around 5% of women at the reproductive age.

Common established causes include uterine anomalies, antiphospholipid syndrome, hormonal and metabolic disorders, and cytogenetic abnormalities. Other etiologies have been proposed but are still considered controversial, such as chronic endometritis (a continuous inflammation of uterine endometrium), inherited thrombophilias, luteal phase deficiency, and high sperm DNA fragmentation levels.

Over the years, evidence-based treatments such as surgical correction of uterine anomalies or aspirin and heparin for antiphospholipid syndrome have improved the outcomes for couples with recurrent pregnancy loss. However, almost half of the cases remain unexplained and are empirically treated using progesterone supplementation, anticoagulation, and/or immunomodulatory treatments.

Regardless of the cause, the long-term prognosis of couples with recurrent pregnancy loss is good, and most eventually achieve a healthy live birth. However, multiple pregnancy losses can have a significant psychological toll on affected couples, and many efforts are being made to improve treatments and decrease the time needed to achieve a successful pregnancy.

Recurrent miscarriage may be associated with several diseases including:

Antiphospholipid syndrome

Antiphospholipid syndrome is an acquired multisystem disorder characterized by recurrent thromboses in the arterial system, venous system, or both. Antiphospholipid syndrome is classified into 2 groups: primary and secondary. Secondary antiphospholipid syndrome is often associated with systemic lupus erythematosus and less frequently with infections, drugs and other diseases. Serologic markers are antiphospholipid antibodies, lupus anticoagulant and antiphospholipid. The primary diagnostic criteria include arterial thrombosis or venous thrombosis and recurrent fetal loss. About 41% of patients with lupus anticoagulant have skin lesions as the first sign of antiphospholipid syndrome. Cutaneous manifestations include livedo reticularis (a common skin finding consisting of a mottled reticulated vascular pattern that appears as a lace-like purplish discoloration of the skin), cutaneous ulceration and livedo vasculitis (a painful, recurrent and chronic disorder of the microcirculation in the skin). The mainstays of prophylaxis and treatment of thrombosis are anticoagulant and antiplatelet agents.

Lupus erythematosus

Systemic lupus erythematosus (SLE) is a common autoimmune disease and predominantly affects fertile women. The relationship of SLE with pregnancy is complex. One concern is about the impact of SLE on pregnancy. Some previous studies indicated that pregnant women with SLE are at a higher risk of adverse pregnancy outcomes. SLE disease activity in the six months before pregnancy is significantly associated with lupus flare and fetal loss. Pregnant women with SLE are high-risk patients, however, the outcome of pregnancy
with SLE might be relatively good. The other important concern is the impact of pregnancy on SLE. The Hopkins Lupus Pregnancy Centre's (a joint partnership of high-risk obstetricians and rheumatologists) experiences showed that lupus flare occurred in 60% of the pregnancies. Other studies reported relatively lower flare rates and even unchanged condition during pregnancy.

**Uterine fibroids**

In 25–30% of females, fibroids are diagnosed. Although the pathogenesis is not completely understood, we do know that myomas are hormone dependent and are derived from individual myoma cells and not from a metastatic process. Myomas are the most common benign solid tumours of the female genital tract. Although often asymptomatic, they may cause menorrhagia (a menstrual period with excessively heavy flow), metrorrhagia (uterine bleeding at irregular intervals), infertility, pain, pressure symptoms haemorrhage (any profuse internal or external bleeding from the blood vessels), and repeated abortions. Whereas open abdominal myomectomy results in limited morbidity, similar to that with hysterectomy, laparoscopic myomectomy has resulted in remarkable advantages for the patient in medical, social, and economic terms, with less postoperative pain and shorter recovery time.

**Mumps**

Mumps is a viral disease caused by the mumps virus. Initial signs and symptoms often include fever, muscle pain, headache, and feeling tired. Studies have reached differing conclusions regarding whether or not infection with the mumps virus during pregnancy leads to an increased rate of spontaneous abortion.

**Uterine malformations**

Uterine malformation in general population is around 7% - 8%. Abnormal fusion of the para-mesonephric duct (mullerian duct) during embryonic life results in a variety of congenital uterine malformations, such as uterus didelphys, uterus bicornis bicornis, uterus bicornis unicornis, uterus subseptae, uterus arcuatus, uterus unicorns. The bicornuate uterus accounts for approximately 10% of the mullerian anomalies. Women with bicornuate uterus have no extra uterine infertility issues. The uterine malformations are known to be associated with spontaneous miscarriages, intrauterine growth restriction, preterm deliveries, preterm pre-labour rupture of membranes, breech presentation and increased rate of caesarean delivery. The rates of spontaneous abortion and premature delivery have been reported to reflect the degree of non fusion of the horns. The common complications and adverse reproductive outcomes associated with bicornuate uterus are recurrent pregnancy loss (25%), preterm birth (15% - 25%) and cervical insufficiency (38%).

Find more about related issues

**Organ**

- **Uterus**
  The uterus is the largest and major organ of the female reproductive tract that is the site of fetal growth and is hormonally responsive
  Learn more at: [www.fertilitypedia.org/edu/organ/uterus](http://www.fertilitypedia.org/edu/organ/uterus)

**Diagnoses**

- **Thyroid disorders**
  A medical condition impairing the function of the thyroid.
  Learn more at: [www.fertilitypedia.org/therapy/diag/thyroid-disorders](http://www.fertilitypedia.org/therapy/diag/thyroid-disorders)

- **Repeated implantation failure**
  The absence of implantation after three or more transfers of high quality embryos or after placement of 10 or more embryos in multiple transfers.
  Learn more at: [www.fertilitypedia.org/therapy/diag/repeated-implantation-failure](http://www.fertilitypedia.org/therapy/diag/repeated-implantation-failure)

- **Antiphospholipid syndrome**
  A condition when immune system mistakenly attacks some of the standard proteins in blood.
  Learn more at: [www.fertilitypedia.org/therapy/diag/antiphospholipid-syndrome-do-rf](http://www.fertilitypedia.org/therapy/diag/antiphospholipid-syndrome-do-rf)
Asherman's syndrome
A medical condition, where the walls of the uterus stick to one another due to bands of scar tissue.
Learn more at: www.fertilitypedia.org/therapy/diag/asherman-s-syndrome

Uterine malformations
A type of female genital malformation resulting from an abnormal development of the Müllerian duct(s) during embryogenesis.
Learn more at: www.fertilitypedia.org/therapy/diag/uterine-malformations

Uterus septus
A form of a congenital malformation where the uterine cavity is partitioned by a longitudinal septum. It is one of Müllerian duct anomalies.
Learn more at: www.fertilitypedia.org/therapy/diag/uterus-septus

Uterus duplex
Congenital uterine malformation where both Müllerian ducts develop but fail to fuse, thus the woman has a "double uterus".
Learn more at: www.fertilitypedia.org/therapy/diag/uterus-duplex

Uterus subseptus
A form of a congenital malformation where the uterus is partially divided by a longitudinal septum. It is one of Müllerian duct anomalies.
Learn more at: www.fertilitypedia.org/therapy/diag/uterus-subseptus

Mumps
Mumps was a common childhood viral disease caused by the mumps virus. Mumps frequently causes orchitis and impairs male fertility.
Learn more at: www.fertilitypedia.org/therapy/diag/mumps

Uterine fibroids
The most common benign smooth muscle tumors of the uterus encountered in women of reproductive age.
Learn more at: www.fertilitypedia.org/therapy/diag/uterine-fibroids

Bicornuate uterus
Inborn morphological deviation of the uterus - one of the Müllerian duct anomalies where the uterine cavity is divided in the upper part.
Learn more at: www.fertilitypedia.org/therapy/diag/bicornuate-uterus

Lupus erythematosus
Collection of autoimmune diseases in which the human immune system becomes hyperactive and attacks normal, healthy tissues.
Learn more at: www.fertilitypedia.org/therapy/diag/lupus-erythematosus

Pelvic adhesions
A form of abdominal adhesions in the pelvis.
Learn more at: www.fertilitypedia.org/therapy/diag/pelvic-adhesions

Recurrent miscarriage
Three or more consecutive pregnancy losses before 20-24 weeks of gestation or below a fetal weight of 500 g.
Learn more at: www.fertilitypedia.org/therapy/diag/recurrent-miscarriage

Gallery
## Risk of miscarriage

<table>
<thead>
<tr>
<th>Gestation</th>
<th>Risk of miscarriage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 6 weeks</td>
<td>22 - 57</td>
</tr>
<tr>
<td>6 - 10 weeks</td>
<td>15</td>
</tr>
<tr>
<td>After 10 weeks</td>
<td>2 - 3</td>
</tr>
</tbody>
</table>

### Miscarriage rate according to maternal age

| Maternal age at conception (years) | Miscarriage rate (%) |
|===================================|----------------------|
| 20 - 24                          | 9                    |
| 25 - 29                          | 11                   |
| 30 - 34                          | 15                   |
| 35 - 39                          | 25                   |
| 40 - 44                          | 51                   |
| >45                              | 75                   |

### Risk of miscarriage according to obstetric history

<table>
<thead>
<tr>
<th>Consecutive pregnancies</th>
<th>Risk of miscarriage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First pregnancy</td>
<td>5 - 13</td>
</tr>
<tr>
<td>After 1st pregnancy</td>
<td>14 - 21</td>
</tr>
<tr>
<td>After 2nd pregnancy</td>
<td>24 - 29</td>
</tr>
<tr>
<td>After 3rd pregnancy</td>
<td>31 - 45</td>
</tr>
</tbody>
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**Sources**

- Mumps [sourced from Wikipedia licensed under CC BY- SA 3.0](https://en.wikipedia.org/wiki/Mumps)
- Complications of Uterine Fibroids and Their Management, Surgical Management of Fibroids, Laparoscopy and Hysteroscopy versus Hysterectomy, Haemorrhage, Adhesions, and Complications [by Mettler et al. licensed under CC BY 3.0](http://www.hindawi.com/journals/ogi/2012/791248/)
- Associations of recurrent miscarriages with chromosomal abnormalities, thrombophilia allelic polymorphisms and/or consanguinity in Saudi Arabia [by Turki et al. licensed under CC BY 4.0](https://bmcmedgenet.biomedcentral.com/articles/10.1186/s12881-016-0331-1)
- Recurrent pregnancy loss: current perspectives [by Hachem et al. licensed under CC BY-NC 3.0](https://www.dovepress.com/recurrent-pregnancy-loss-current-perspectives-peer-reviewed-article-JWH)
- Antiphospholipid syndrome [by Santamaria et al. licensed under CC BY-NC 4.0](http://www.scielo.br/scielo.php?pid=S0365-05962005000300002&script=sci_arttext&tlng=en)
- Pregnancy in Women with Systemic Lupus Erythematosus: A Retrospective Study of 83 Pregnancies at a Single Centre [by Chen et al. licensed under CC BY 4.0](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4555317/)
- Bicornuate Uterus: Infertility Treatment and Pregnancy Continuation without Cerclage: An Unusual Case [by Parmar and Tomar licensed under CC BY 4.0](http://file.scirp.org/pdf/OJOG_2014112415105145.pdf)