

The knowledge to help





Miscarriages happen for lots of different reasons. Sometimes the cause is known but often it isn't. Some women' benefit from treatment but others don't need it.

This leaflet looks at the possible causes of miscarriage and the tests and treatment that might help you.<sup>2</sup> We have separate leaflets about ectopic pregnancy and molar pregnancy.

#### What is a miscarriage?

Miscarriage is when a baby (or fetus or embryo) dies in the uterus before 24 weeks of pregnancy<sup>3</sup>. A loss from 24 weeks is called a stillbirth.

Miscarriage is very common. No one knows exactly how many miscarriages happen, but experts think that more than one pregnancy in every five ends in miscarriage.

There is still a lot that we don't know about miscarriage, and you may never find out why it happened to you. That can be hard to cope with.

What we do know is that miscarriage is highly unlikely to be caused by something you did – or didn't do. And the chances are that your next pregnancy will result in a healthy baby.

Miscarriages are so common, but you don't really think about it until it happens to you.

#### What happens now?

If this is your first or second miscarriage, you probably won't be offered tests or treatment. That's because most women go on to have a healthy pregnancy next time.

But if you think there is a strong reason for having tests now, perhaps because of your age or the time it took you to conceive, you might want to talk to your GP about an earlier referral.

If you've had three or more miscarriages, you should be offered tests. That's because a cause is more likely to be found at this stage. But even then, there may not be a treatment that can help.

That doesn't mean your next pregnancy won't be successful. Even if there is no treatment, you should still get extra support from the medical team next time. And research shows that this alone can improve your chances of having a healthy pregnancy (see references I and 2 on page 15).

<sup>&#</sup>x27;We sometimes use the words 'woman' or 'women' in this leaflet, but we recognise that the person who has the physical loss may not identify as such.

<sup>&</sup>lt;sup>2</sup>We generally use the word 'you' to mean the person who has had the physical loss. We hope it will also be helpful for partners and others affected.

This is in the UK. It may be a different number of weeks in other countries.

### Different types of miscarriage

Doctors use various different terms to describe miscarriage. Here we explain what they mean.

#### Threatened miscarriage

This term is often used when you have some bleeding – or 'spotting' – from your vagina.

Many women with bleeding do not miscarry, even if the bleeding is heavy. But sometimes the baby has already died. And sometimes a scan shows a heartbeat but the baby dies later.

In some cases, the scan needs repeating at a later date to be sure what is happening. That wait can be a stressful time.

It is important to know that scans and internal (vaginal) examinations do not cause miscarriages.

#### Complete miscarriage

This means that the baby has died or not developed and your uterus (womb) has emptied naturally. You may have had pain and heavy bleeding over several days.

You may need a scan to confirm that the miscarriage is complete.



Sometimes a scan shows that the baby has died or not developed even though you haven't had a miscarriage. There are different ways of describing this:

# Missed miscarriage (also called 'delayed' or 'silent' miscarriage)

This means the baby has died but is still in your uterus. This is sometimes discovered during a routine scan and may come as a complete shock, especially if you have had no sign that anything was wrong. You may still feel pregnant and may still have a positive pregnancy test.



# Anembryonic pregnancy, which means a pregnancy without an embryo (also called 'early embryo loss' or 'blighted ovum').

These terms are sometimes used when a scan shows a pregnancy sac with nothing inside it. The embryo has stopped growing at an early stage, but the sac where the baby should develop has continued to grow. As with a missed miscarriage, you may still feel pregnant and have a positive pregnancy test, so the diagnosis can come as a real shock.

#### Incomplete miscarriage

This term means that the miscarriage has started but the uterus has not emptied completely. You will probably still have pain and heavy bleeding.

If the physical process of miscarriage hasn't started or completed, you will probably be offered one or more of the these options:

- Go home and wait for the miscarriage to happen naturally.
- Take tablets to start or complete the miscarriage (medical management).
- Have a minor operation to remove any pregnancy tissue left in your uterus. This is called surgical management of miscarriage (SMM), or sometimes ERPC, and it can be done under general or local anaesthetic.

You may need time to think about what you want to do. There is more information in our leaflet Management of miscarriage. 4



### Second trimester loss (late miscarriage)

This is a miscarriage that happens between 14 and 24 weeks of pregnancy. It may start with bleeding, cramps or your waters breaking. You may miscarry or deliver at home.

But sometimes there are no signs and a routine scan shows that the baby has died. In this case, you will probably need to be admitted to hospital, though perhaps not that same day. You will most likely be given medication to start the process of miscarriage, labour and delivery and this can be a very distressing time.

You might be admitted to the gynaecology ward or to the labour ward. In either case, the hospital team should explain everything fully and support you and your partner throughout.

You can find more detail in our leaflet Second trimester loss and on our website.

#### Recurrent miscarriage

This is the medical term for three or more miscarriages. They may have different causes or the same underlying cause.

Doctors usually offer to do tests for possible causes only after three miscarriages. But sometimes they will refer you for tests after two, e.g. if:

- you had a late miscarriage, where the baby died after 13 completed weeks of pregnancy,
- you have fertility problems, such as taking a long time to conceive,
- your doctor thinks your miscarriages may have an underlying cause.

The tests may be carried out at your local hospital or at a specialist centre.

Having tests doesn't necessarily mean you will have an answer as to why you miscarried. And even if a cause is found, it may not be something that can be treated. But you might still feel better if you know what might have caused your miscarriages and what didn't.

More than half the people who have tests after recurrent miscarriage don't have a specific problem found. That can be difficult to accept, but it does mean that there is a good chance that you will have a healthy pregnancy without any particular treatment.

There is more detailed information in our leaflet *Recurrent miscarriage* and on our website.



### Other types of pregnancy loss

There are two other ways that pregnancy loss can happen:

#### **Ectopic pregnancy**

This is a pregnancy that is growing in the wrong place – usually in one of the fallopian tubes leading to the uterus. In this case, it is sometimes called a tubal pregnancy.

A tubal ectopic pregnancy can't develop because there isn't enough room for the embryo to grow beyond about eight weeks. There is also a risk that the tube could burst, which can be lifethreatening.

Ectopic pregnancy may be diagnosed before you even know you are pregnant. You may have some bleeding or spotting or have pain low down on one side of your abdomen or in the tops of your shoulders, but sometimes there are no obvious symptoms.

Some women with ectopic pregnancies can be treated with medication called methotrexate; but others need an emergency operation to remove the pregnancy and sometimes the tube too. It can be a very frightening time.

There is more information in our leaflet *Ectopic pregnancy*.

### Molar pregnancy (hydatidiform mole)

This term is used when an abnormal fertilised egg starts to grow in the uterus. The cells that should become the placenta grow too quickly and leave no room for a baby to develop.

Because your body continues to produce pregnancy hormones, you will have a positive pregnancy test and may feel extremely tired and sick.

Sometimes a molar pregnancy can be seen or suspected on a scan. But it is more often diagnosed after a miscarriage.

If you have a molar pregnancy, you will be referred to a specialist centre for follow-up; and this can be a very worrying time.

There is more information in our leaflet *Molar pregnancy*.



#### Why miscarriages happen

This section looks at the known causes of miscarriage and tests and treatments that may help.

As we said earlier, most people don't find a clear cause for their miscarriage(s), even if they have tests. But we do know that there are some things that make miscarriage more likely to happen. We call these risk factors, rather than causes, because even if you have one or more of these, it doesn't mean they actually caused your loss. These are:

Age Miscarriage risk increases with age. It is highest if you are over 35 and your partner (or the biological father) is over 40.

Previous miscarriages Risk increases with the number of miscarriages you have had in the past. But even after three miscarriages, most people will have a live baby next time.

Ethnicity If you are of Black African or Black Caribbean background, you have a higher risk of miscarriage. We do not yet know why this is.

Weight and lifestyle Being very overweight or very underweight increases miscarriage risk. Cigarette smoking, and drinking more than the recommended maximum amount of alcohol or caffeine may also increase your risk.

We say a little more about these risk factors on page 12.

#### Other known causes of miscarriage

#### **Chromosome problems**

The chromosomes in every cell of your body carry information in the form of genes. A baby inherits half its chromosomes from each parent.

About half of all miscarriages are caused by random (one-off) genetic faults in the egg or the sperm, or in how the fertilised egg develops. We don't know what causes these faults, although they are more common in women in their late 30s and older.

If your miscarriage was caused by a random genetic fault, there is a good chance that your next pregnancy will be healthy.

In a very few cases miscarriage is caused by a genetic fault in the mother or father. If you or your partner are found to have such a problem, you will be offered genetic counselling. This can help you understand the chances of it affecting future pregnancies and help you think about trying again.



When I miscarried I couldn't understand how everything could go horribly wrong when I already had a perfect daughter, and not one single health problem.

#### **Antiphospholipid syndrome** (APS)

This is a blood clotting disorder, sometimes called 'sticky blood syndrome. It happens when your immune system makes abnormal antibodies that can cause blood clots in the placenta and early miscarriage.

APS can also cause problems in later pregnancy, including the baby not growing enough, pre-eclampsia or stillbirth. It also increases your risk of developing blood clots.

If you are found to have APS, you will be treated with low dose aspirin tablets and heparin injections. Together, these make your blood less likely to clot and can increase your chance of having a live baby. However, you should not start taking aspirin unless it has been prescribed by your doctor.

For more detail see our leaflet Antiphospholipid syndrome and pregnancy loss.

#### Other blood clotting problems

Some inherited blood clotting disorders can cause recurrent miscarriage. Some of these, such as factor V Leiden and protein S deficiency are linked to a slightly higher risk of miscarriage. If you have one of these problems, you might be offered heparin injections in your next pregnancy, depending on your individual circumstances.

#### **Cervical weakness** (also sometimes called 'incompetent cervix')

Your cervix is a kind of 'gateway' between your uterus and vagina, and it normally dilates (widens) during labour to allow the baby to be born. If the cervix is weakened or damaged, it might dilate too early in pregnancy. This is a known cause of some second trimester (late) miscarriages.

A weak cervix can be difficult to diagnose. If your doctor suspects it, perhaps because of your pregnancy or medical history, they may offer you regular scans of your cervix in your next pregnancy. They might suggest putting in a 'cervical stitch' in your next pregnancy an operation that may reduce the risk of the cervix opening too early.



In this day and age it's unusual to have something happen to you and for you to never to know why. Something so important and lifechanging. Years later, I still have moments where I wonder 'why?'.

### Possible causes of miscarriage

Miscarriage might be caused by a problem with your uterus. Your doctor may refer you to a specialist for further assessment and possibly treatment.

### Abnormally shaped uterus or other uterine problems

A small number of women (5-6 in 100) are born with an unusually shaped uterus (womb). This is rather more common (13 in 100) in women with recurrent miscarriage, so it is considered a possible cause of miscarriage.

Your uterus is formed from two separate tubes that fused together before you were born. Sometimes, though, the uterus develops an irregular shape, for example, a septate or bicornuate uterus. There may not be enough room for the baby to grow inside the uterus and this can lead to miscarriage, usually after 14 weeks.

If you have this problem and your doctor thinks it may have caused your miscarriage, they might suggest an operation to correct or reduce it.

You should be given clear information to help you decide whether or not to have surgery. This will include the possible risks of the operation and how likely it is to improve your chance of having a healthy pregnancy next time.

#### Fibroids or scar tissue

Fibroids are harmless growths that can develop inside the uterus or, more rarely, outside the uterus.

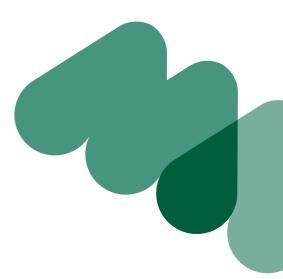
Small fibroids are fairly common and don't usually cause problems in pregnancy, but large ones can be a cause of miscarriage.

If you have a very large fibroid that has changed the shape of your uterus, your doctor may suggest removing it under anaesthetic before you get pregnant again.

Scar tissue in your uterus, caused by previous surgery or infection, may also affect you risk of miscarriage, but this depends on its extent and position.

#### An abnormality in the baby

Some miscarriages are caused by problems in the baby. These include spina bifida and heart defects.



<sup>&</sup>lt;sup>5</sup>There is a helpful diagram in the RCOG patient information leaflet on page 15.

#### **Hormonal problems**

There are several hormonal conditions that are sometimes linked to miscarriage.

Polycystic ovarian syndrome (PCOS) is associated with an increased risk of miscarriage and it can also mean that it takes longer to conceive. This may be due to increased levels of insulin and the male hormone testosterone that many women with this condition have. but the relationship is not clear.

Despite research, there is no recommended treatment for PCOS but. if you have this diagnosis, you might be offered treatment as part of a clinical trial.

**Diabetes** that is well controlled does not increase miscarriage risk. Poorly controlled diabetes may mean a higher chance of miscarriage.

Thyroid problems that are well controlled do not increase miscarriage risk. Untreated thyroid disease or high levels of thyroid stimulating hormone (TSH) or thyroid antibodies may increase miscarriage risk.

If you are found to have either diabetes or thyroid disease, you will be supported to control this as well as possible before your next pregnancy.

**Prolactin** Abnormal levels of the hormone prolactin may increase the risk of miscarriage. There is no recommended treatment if you have a prolactin imbalance, but you might be offered treatment as part of a clinical trial.

#### **Progesterone treatment?**

Many people ask about treatment with progesterone supplements as a way to prevent miscarriage.

Research published in 2015 showed that overall, progesterone supplements during pregnancy did not improve outcomes for women with previously unexplained recurrent miscarriage.°

However, a later research trial showed that in women with bleeding in early pregnancy and a history of miscarriage, especially recurrent miscarriage, progesterone treatment reduced the risk of their pregnancy miscarrying. This treatment is now recommended.



6 6 I've found lots of information on the internet, but different sites say different things. It's really hard to know what to believe.

See page 15, reference 3

<sup>&</sup>lt;sup>7</sup>See page 15, references 4 and 5

### Infection and miscarriage

Mild infections like coughs and colds are not harmful in pregnancy, but very high fevers and some serious infections can cause or increase the risk of miscarriage. If an infection causes miscarriage, it tends to happen only once because your body will become immune to the infection.

### Infections of the vagina or uterus

Sometimes an infection of the vagina or uterus can cause late miscarriage (from 14 weeks). The infection may cause the baby to die in the uterus; or it may make your waters break prematurely.

Doctors can test for this kind of infection and treat it if necessary. Depending on the infection, your partner may need treatment to avoid re-infecting you.

#### Listeria

This is caused by eating unpasteurised cheese and other dairy products, pâté or uncooked smoked fish. It isn't usually harmful to women but it can be a cause of late miscarriage.

#### Chlamydia

This infection is usually sexually transmitted; but a rare form called *Chlamydia psittaci*, can be caught from touching infected sheep or cattle, particularly during lambing or calving.

Chlamydia can lead to miscarriage, ectopic pregnancy or premature labour; it can also harm your fertility.

#### **Toxoplasmosis**

This is a parasitic infection sometimes carried by cats. It can be caught through contact with soiled cat litter, with contaminated soil, or through eating poorly cooked contaminated meat

#### **Parvovirus**

This is a viral infection, which is sometimes called 'slap-cheek'. Although it can cause miscarriage, most women who are infected have a normal pregnancy.

#### Other infections

Some other infections are especially harmful in pregnancy although they don't usually cause miscarriage. These include cytomegalovirus (CMV), rubella (German measles), genital herpes and HIV.



### Personal factors: a little more information

We mentioned risk factors earlier – things associated with miscarriage but not necessarily causing it. Even if you have one or more of these, it may be something else entirely that caused your loss.

In addition, you can't change your age, your pregnancy or fertility history or your ethnicity. All you can do is to be aware of them and this might help you make decisions about trying again, or not.

Age Women are born with all the egg cells they will ever have. The older you are, the older your egg cells and the more likely they are to carry a genetic error. There seem to be age-related issues with male sperm too. But even in your early 40s with up to three miscarriages, you are still more likely to have a healthy pregnancy than another miscarriage.

#### Pregnancy and fertility problems

The risk of miscarriages increases if:

- you have miscarried before, especially after three miscarriages, or
- it has taken more than a year to conceive, or
- you are pregnant with twins or more.

**Ethnicity** There is very strong evidence that people of Black African or Black Caribbean background have a higher risk of miscarriage – and, sadly, of later baby loss and maternal risks. Researchers are working to find out why this is and whether there are any actions that could reduce the risk.

Weight and lifestyle If you already are what's considered a healthy weight (BMI between 19 and 25), there's no need to change. If not, your GP or practice nurse may be able to advise and support you. If you smoke, they will be able to support you in stopping.

Experts agree that it is best to limit the amount of caffeine you drink (tea, coffee or caffeinated soft drinks) to two cups or glasses a day. They also advise either not to drink alcohol at all or to avoid drinking regularly or to excess.

**Medication** Some medicines like lbuprofen may increase miscarriage risk. If you take regular prescribed medicine, including some anti-depressants, it's best to ask your doctor which are safe in pregnancy and not just stop them yourself.

**Stress and work** Overall, research suggests that there is a link between stress and miscarriage – and of course miscarriage or being pregnant after loss can cause stress. But there is no clear evidence that stress *causes* miscarriage.

Your risk of miscarriage may be higher if you are exposed to workplace hazards such as toxic chemicals, solvents, lead or radiation. Research also suggests that working nights, shifts and/or long hours are linked to increased miscarriage risk, but don't necessarily cause it."

<sup>&</sup>lt;sup>8</sup>See page 15, reference 6

<sup>&</sup>lt;sup>9</sup>See page 15, reference 7

<sup>&</sup>lt;sup>10</sup> See page 15, references 8 and 9

### Things you don't need to worry about

These are things that don't seem to increase the risk of miscarriage even though people often worry about them in pregnancy:

- Anxiety
- Exercise
- Working full time
- Work that involves sitting or standing for long periods
- Heavy lifting
- Sex
- · Travel by air
- · Eating spicy food
- · Being pregnant for the first time.
- Getting pregnant soon after a previous birth or miscarriage
- Living near electric pylons or mobile telephone masts
- Not wanting to be pregnant or thinking about termination.



#### Why me: a summary

There is still a lot we don't understand about the causes of miscarriage.

It can be difficult to know how much to believe what you hear from friends, family, the media or online.

And it can be very hard to tell the difference between proper research evidence and unproved theories.

You may never know exactly why you miscarried; and that uncertainty can be very hard to live with.

But the good news is that most people who miscarry – even several times – go on to have a healthy pregnancy in the end. And that often happens without any treatment at all.

Recovering from two miscarriages is a work in progress - it never really leaves you. But I am proud and comforted to know that I did my best, that it wasn't my fault. When life throws you the ball, sometimes you aren't going to catch it, but next time you might.

#### **Useful reading**

Miscarriage Association leaflets, including:

Antiphospholipid syndrome and pregnancy loss

Ectopic pregnancy

Molar pregnancy

Management of miscarriage

Recurrent miscarriage

Second trimester loss: late miscarriage

All our leaflets are available at www. miscarriageassociation.org.uk/leaflets/

## Royal College of Obstetricians & Gynaecologist (RCOG) leaflets, including:

Recurrent miscarriage: bit.ly/3psUa01 Cervical stitch: bit.ly/3NHCvtD

#### References

Stray-Pederson & Stray-Pederson Etiologic factors and subsequent reproductive performance in 195 couples with a prior history of habitual abortion.

American Journal of Obstetrics & Gynaecology. 1984; 148: 2: 140-146.

https://pubmed.ncbi.nlm.nih.gov/6691389/

<sup>3</sup> The PROMISE trial. Coomarasamy A et al. A Randomised Trial of Progesterone in Women with Recurrent Miscarriages. N Engl J Med 2015. https://www.nejm.org/doi/full/10.1056/NEJ-Moa1504927?query=featured home

<sup>4</sup>The PRISM trial. Coomarasamy A et al. A Randomized Trial of Progesterone in Women with Bleeding in Early Pregnancy. N Engl J Med 2019. https://www.nejm.org/doi/full/10.1056/NEJ-Moa1813730

- <sup>5</sup> Ectopic pregnancy and miscarriage: initial diagnosis and management. NICE guideline NG126, updated 2021. https://www.nice.org.uk/guidance/ng126
- <sup>6</sup> Sharma R, Agarwal A, Rohra VK, Assidi M, Abu-Elmagd M, Turki RF. Effects of increased paternal age on sperm quality, reproductive outcome and associated epigenetic risks to offspring. Reprod Biol Endocrinol. 2015; 13: 35. https://pubmed.ncbi.nlm. nih.gov/25928123/
- <sup>7</sup> Brigham, Conlon & Farquharson A longitudinal study of pregnancy outcome following idiopathic recurrent miscarriage. Human Reproduction. 1999; 14: 11: 2868-2871. https://pubmed.ncbi.nlm.nih.gov/10548638/
- <sup>8</sup> N Maconochie, P Doyle, S Prior, R Simmons. Risk factors for first trimester miscarriage: results from a UK-population-based case-control study. BJOG, 2007; 114(2): 170-186. https://pubmed.ncbi. nlm.nih.gov/17305901/
- Bonde JPI, Jørgensen KT, Bonzini M, Palmer KT. Miscarriage and occupational activity: a systematic review and meta-analysis regarding shift work, working hours, lifting, standing, and physical workload. Scand J Work Environ Health. 2013; 39(4): 325-34. s://pubmed.ncbi.nlm.nih.gov/23235838/

#### Need to talk to someone who understands?

Call our support line on 01924 200799. Monday to Friday, 9am-4pm. Chat with us online at www.miscarriageassociation.org.uk.
Or email info@miscarriageassociation.org.uk

<sup>&</sup>lt;sup>2</sup> Liddell, Pattinson & Zanderigo Recurrent miscarriage — outcome after supportive care in early pregnancy. Australian & New Zealand Journal of Obstetrics & Gynaecology. 1991; 31: 4: 320-322. https://doi.org/10.1111/j.1479-828X.1991.tb02811.x



The knowledge to help

#### The Miscarriage Association

T: 01924 200799

**E**: info@miscarriageassociation.org.uk **W**: www.miscarriageassociation.org.uk

© The Miscarriage Association, July 2023 Charity Number 1076829 (England & Wales) SC039790 (Scotland) A company limited by guarantee, number 3779123 Registered in England and Wales

Our thanks to the donors and fundraisers who make it possible for us to provide all our leaflets free of charge. If you, too, would like to support our work, please visit www.miscarriageassociation.org.uk/donate