

# Information for you

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## Malaria and pregnancy

### About this information

This information is for you if you would like to know about malaria and pregnancy. The information applies to women who live in the UK. It may not apply to women who live in an area where malaria is common, such as parts of Africa, Asia and South America.

It tells you:

- how malaria can affect your health and the wellbeing of your baby
- how to reduce the risk of getting malaria during pregnancy
- how malaria is diagnosed and treated.

### What is malaria and how do you get it?

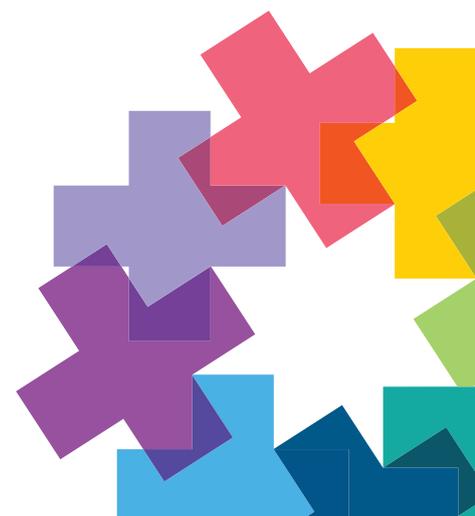
Malaria is a serious infection caused by a parasite called plasmodium. The parasite lives in mosquitoes. If you are bitten by a mosquito that carries the parasite, you can become infected with malaria.

In the UK, about 1500 cases of malaria are reported each year and around 10 people will die from the disease. There have been no malaria-related deaths in a pregnant or recently pregnant woman in the UK in the last 10 years.

If you normally live in the UK, you can get malaria if you travel to countries where the risk is high, especially West Africa. The main reason people get malaria is because they either do not take antimalarial medication or do not take it correctly.

### Does being pregnant increase my risk of getting malaria?

Yes. Pregnant women are more likely to get malaria. This is because your immunity to any infection is lower when you are pregnant. Women who normally live in a malaria-risk area also lose some of their natural immunity when they become pregnant.



## What could it mean for me if I get malaria when I am pregnant?

If you are pregnant, you are more likely to experience a severe form of malaria and to develop severe complications from the infection.

Once you have recovered, you are more likely to be anaemic during pregnancy than if you hadn't had malaria.

## What could it mean for my baby?

You are at risk of having a miscarriage, a stillbirth or premature labour if you get malaria while pregnant. Your baby may not grow properly and may have a low birth weight. Prompt and effective antimalarial treatment can reduce the risks. If you have malaria at or near the time of birth, your baby could catch it from the parasites passing through the placenta, although this is unlikely.

## Should I travel to a malaria-risk country if I am pregnant?

No. Only travel if your trip is essential.

Malaria infection carries serious risks to both you and your baby. If you must make the trip, you should seek advice from a centre with expertise in malaria. They will be able to give you information on ways to reduce the risk of infection. Your GP may also be able to help. At the end of this leaflet, you will find a list of contacts for further help and information.

## What can I do to reduce my chance of getting malaria if I have to travel?

You should follow the 'ABC' for malaria prevention:

- **A**wareness of the risk of malaria
- **B**ite prevention
- **C**hemoprophylaxis (taking antimalarial medication).

## Awareness of the risk of malaria

The risk of malaria depends on several things:

- the country and area you visit
- how long you stay
- the time of year you travel
- the type of malaria parasite found there.

For example, you are less likely to get malaria in a tourist area of Phuket staying in air-conditioned hotels than if you are travelling in rural areas of Papua New Guinea. Malaria is also more common during the wet season.

## Bite prevention

Avoiding bites is important because pregnant women are particularly attractive to mosquitoes. You should guard against being bitten 24 hours a day.

- You should always use an insect repellent on your skin. In pregnancy, you should use an insect repellent containing 50% DEET (diethyltoluamide) on exposed skin areas. The effect lasts up to

12 hours but you should apply it more often in a sweaty environment. Always apply DEET after sunscreen. DEET has been used for a long time and is safe in pregnancy and while breastfeeding.

- If you sleep outdoors or in a room without insect screens, use mosquito nets treated with an insecticide such as pyrethroid. Some nets need to be retreated with insecticide every 6 months. The nets should have no tears or holes and must be large enough to tuck under the mattress.
- Cover up bare areas to reduce the risk of bites. Evenings and nights are the most dangerous times so wear long sleeves, long trousers, loose-fitting clothes and socks (the colour does not matter) after sunset. Spraying clothing with DEET or an insecticide spray such as permethrin reduces the risk of being bitten.
- If possible, use an electrically heated device to vaporise a tablet containing a synthetic pyrethroid in your room during the night. Burning mosquito coils is not so effective.
- Sleeping in an air-conditioned room reduces the risk of bites because the room is cooler. Doors and windows to the room where you sleep should be screened with fine mesh netting. Before dusk, spray the room with an insecticide to kill any mosquitoes that have come in during the day.
- Herbal or homeopathic remedies do not protect against malaria and should not be used.

## Chemoprophylaxis (antimalarial medication)

Antimalarial medication does help prevent malaria but medication may not work completely in every case. The choice of medication will depend on the country you are visiting. The recommended medication for a particular country may change over time as the parasite can become resistant, so what you took for your last trip may not be the best choice for your next trip, even if you are travelling to the same place.

Malaria prevention guidelines for travellers who are UK residents are regularly updated (see the Public Health England website: [www.gov.uk/government/collections/malaria-guidance-data-and-analysis](http://www.gov.uk/government/collections/malaria-guidance-data-and-analysis)). This will give you the relevant advice for individual countries. Your doctor, pharmacist or travel clinic can also give you advice.

Antimalarial medication is only available on prescription and you should only get it from your doctor's surgery, pharmacy or travel clinic. Medication bought in malaria-risk areas and/or over the internet may be cheaper but it may also be fake.

You must take your medication exactly as advised. The most common reason for getting malaria is not taking medication correctly. Medication often needs to be started a week or more before the journey and needs to be continued for up to 4 weeks after you leave the malaria-risk area. Don't miss tablets and don't stop taking them when you get home.

### Antimalarial medication for pregnant or breastfeeding women

The antimalarial drug usually recommended for pregnant women is mefloquine. It appears to be safe to take in pregnancy. However, if you are in the first 12 weeks of pregnancy or if you are breastfeeding, you should talk to a specialist with experience in managing malaria before taking any antimalarial drugs.

If you have epilepsy, depression or a history of mental illness, you will not be able to take mefloquine. If this is the case, ask your doctor about other options.

Doxycycline and primaquine are not recommended during pregnancy as they may harm your unborn baby.

### What side effects might I get when I take antimalarial medication?

The most common side effects include nausea and/or diarrhoea. Taking the tablets with meals may help. Around 1 in 20 people taking mefloquine develop headaches or have problems with sleep. Always read the information sheet that comes with the medication you are taking for a list of side effects and warnings.

## What is standby (emergency) treatment?

If you are pregnant and it is essential that you travel to a high-risk malaria area without access to medical care, your doctor or travel clinic will give you advice and standby treatment to take with you. Standby treatment should be started if you develop a flu-like illness and have a temperature of 38 °C or above. You should seek medical help as soon as possible.

## What if I am planning to get pregnant?

If you are travelling to a malaria-risk area, you should avoid getting pregnant because:

- malaria increases the risk of miscarriage
- antimalarial medication is not 100% protective. It may be harmful to the baby if taken at the time of conception or in the first 3 months of pregnancy. You should wait until the drugs are out of your body before trying to get pregnant: 3 months for mefloquine; 1 week for doxycycline; 2 weeks for atovaquone/proguanil.

## What are the symptoms of malaria?

You may have malaria if you have a high temperature or flu-like symptoms such as headaches and muscle pains. You might also have a cough and feel more tired than usual. You might feel sick, vomit and have diarrhoea.

Symptoms may take a week or more to develop after you have been bitten. Occasionally, it takes a year for symptoms to develop.

With severe malaria, symptoms will get worse. Complications can affect your liver, lungs and brain. You may notice that you are getting more breathless and you are jaundiced (seen as yellowing of the skin and whites of the eyes). You will usually feel very weak and tired owing to severe anaemia.

If you think you might have malaria, you should see a doctor immediately. You should say that you have recently travelled to an area where malaria is common.

## How is malaria diagnosed?

The doctor will check whether you have the parasites in your blood. A smear of your blood is examined under a microscope. If you have three negative malaria smears 12–24 hours apart, you don't have malaria.

## How is malaria treated during pregnancy?

If you are pregnant, you are likely to be admitted to hospital even if you are well. You will be cared for by a medical team with infectious disease, obstetric and neonatal specialist care on hand. If you develop severe complications, you are likely to need care in an intensive care unit.

Your treatment will depend on how severe the infection is. You will be given regular paracetamol to treat your fever. Paracetamol is safe to take in pregnancy. Depending on the type of parasite and the severity of your symptoms, you may be given one or a combination of antimalarial medicines. The treatment may need to be given through a drip into a vein. If you become severely anaemic, you may be offered a blood transfusion.

You may find that you feel very weak and tired for several weeks afterwards.

## What additional care will I get after I have recovered?

You should be seen at a hospital antenatal clinic and have your baby at a consultant unit with neonatal facilities.

- Your blood count will be checked regularly to make sure that you are not anaemic. You may be advised to take iron tablets.
- You will be offered regular ultrasound scans to check on your baby's growth.

## Is the infection likely to come back?

It is possible, but unlikely if you live in the UK. A fever or flu-like illness up to 1 year after returning from a high-risk country may be malaria. If your symptoms and/or fever occur again, you should go to your doctor straightaway.

## What about my baby?

If you have the infection at or near the time of birth, there is a small chance that your baby will also get malaria, although this is unlikely. Babies with malaria may have fever, irritability and feeding difficulties.

If you have had malaria during pregnancy, your baby will have a blood test for malaria at birth and then weekly for the first 28 days of his or her life.

## Key points

- Do not travel to a country where malaria is common if you are pregnant.
- When you are pregnant, your immunity is reduced. This means that you are at increased risk of getting malaria, of malaria recurring, of developing severe complications or of dying from the disease even if you take adequate precautions.
- If you get malaria, your unborn baby is at risk of miscarriage, stillbirth or premature birth.
- If you must travel, take precautions to prevent mosquito bites. Always take suitable antimalarial medication and always follow the instructions properly.
- A fever or flu-like illness up to 1 year after returning from a high-risk country may be malaria. Go to your doctor if you develop symptoms.

## Further help and information

National Travel Health Network and Centre: [www.nathnac.org](http://www.nathnac.org)

TRAVAX – the A to Z of Healthy Travel (Health Protection Scotland and NHS Scotland):  
[www.travax.nhs.uk](http://www.travax.nhs.uk)

Malaria Reference Laboratory: [www.malaria-reference.co.uk](http://www.malaria-reference.co.uk)

Liverpool School of Tropical Medicine: [www.liv.ac.uk/lstm](http://www.liv.ac.uk/lstm)

# Making a choice

## Shared Decision Making

If you are asked to make a choice, you may have lots of questions that you want to ask. You may also want to talk over your options with your family or friends. It can help to write a list of the questions you want answered and take it to your appointment.



### Ask 3 Questions

**To begin with, try to make sure you get the answers to three key questions if you are asked to make a choice about your healthcare.**

1. What are my options?
2. What are the pros and cons of each option for me?
3. How do I get support to help me make a decision that is right for me?

These resources have been adapted with kind permission from the MAGIC Programme, supported by the Health Foundation

\* Ask 3 Questions is based on Shepherd HL, et al. Three questions that patients can ask to improve the quality of information physicians give about treatment options: A cross-over trial. Patient Education and Counselling, 2011;84: 379-85



<http://www.advancingqualityalliance.nhs.uk/SDM/>

## Sources and acknowledgements

This information has been developed by the RCOG Patient Information Committee. It is based on the RCOG Green-top guidelines *The Diagnosis and Treatment of Malaria in Pregnancy* (2010) and *The Prevention of Malaria in Pregnancy* (2010). These guidelines contain a full list of the sources of evidence we have used. You can find them online at: [www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg54b](http://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg54b) and [www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg54a](http://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg54a).

The RCOG produces guidelines as an educational aid to good clinical practice. They present recognised methods and techniques of clinical practice, based on published evidence, for consideration by obstetricians and gynaecologists and other relevant health professionals. This means that RCOG guidelines are unlike protocols or guidelines issued by employers, as they are not intended to be prescriptive directions defining a single course of management.

This information has been reviewed before publication by women attending clinics in Dublin, Birmingham and Liverpool.

A glossary of all medical terms is available on the RCOG website at: [www.rcog.org.uk/womens-health/patient-information/medical-terms-explained](http://www.rcog.org.uk/womens-health/patient-information/medical-terms-explained).

### A final note

The Royal College of Obstetricians and Gynaecologists produces patient information for the public. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor or other attendant in the light of the clinical data presented and the diagnostic and treatment options available. Departure from the local prescriptive protocols or guidelines should be fully documented in the patient's case notes at the time the relevant decision is taken.

All RCOG guidelines are subject to review and both minor and major amendments on an ongoing basis. Please always visit [www.rcog.org.uk](http://www.rcog.org.uk) for the most up-to-date version of this guideline.