Guidelines on Travel during Pregnancy

Background

With the huge increase in overseas travel, pregnancy, both planned and unplanned, is an increasingly important and complex issue when travelling overseas. There can be considerable additional risks in travelling and living in a developing country when pregnant, especially around the time of delivery. The first trimester is also particularly high risk. Because there are so many variables, each woman who is pregnant or might become pregnant when overseas needs to do two things. The first is to seek specific medical advice before travel when they can weigh the risks and start to draw up plans. The second is to become as informed as possible about the increased risks of pregnancy during travel and the details of any medical care which will be available at their destination. For those planning an overseas delivery, certain conditions must be clearly in place (see below) and parents-to-be must be satisfied and confident that there is no significant extra risk of having the delivery abroad compared to their country of origin.

Risks to pregnant travellers

All pregnant travellers should ask themselves if their trip is really essential. Your sending agency may also have a policy on employees travelling in pregnancy. You should check with your employer if they are happy for you to go and confirm that their health insurance will cover you for any complication of pregnancy while travelling - some policies may specifically exclude this. This is important even in very early stages of pregnancy when complications such as miscarriage or ectopic pregnancy are reasonably common.

It is important to be aware of the law in the UK regarding disclosure of a pregnancy to your agency. While you are not required to disclose your pregnancy to your employer, they have no additional duty of care towards you if they were unaware of your circumstances.

It is helpful to consider the additional risks of pregnancy during travel under three separate, though related headings:

1. Safety of general travel during pregnancy;
2. Safety of travel to or living in a developing country during pregnancy;

Although InterHealth is available for advice 24 hours a day, it is important to realise the limitations of medical advice given over the telephone. If you have insufficient planning or back up then we can help you make the best of a difficult situation but it will be impossible for us to replace good medical care with a telephone call.

Actions to be taken before travel

- If pregnancy is possible or planned, rubella antibodies should be checked and if negative a rubella immunisation arranged. In the US the same is recommended for chickenpox.
- If pregnant, have this confirmed by a clinician and preferably by a scan, and make sure an ectopic pregnancy is not present.
• Have a detailed antenatal examination if pregnant and an in-depth discussion with the obstetrician or midwife.

• Take folic acid, 0.4mg from the time of trying to conceive, and 5mg daily if also taking the malaria prevention tablet proguanil. The malaria prevention tablet Malarone also contains proguanil and so 5 mg of folic acid should also be taken with this. Please note Malarone should only be taken in pregnancy after specialist advice.

• Make long-term plans for pregnancy-related care whilst overseas, if relevant, and make a decision about where the delivery will take place based on the best information that can be obtained.

• Take out travel insurance which covers pregnancy-related health problems, and any health problems affecting the newborn during or after delivery including cover for any extended stay in a neonatal unit. A recommended level of cover is £1 million for those in Europe and £2 million for the rest of the world.

1. Safety of general travel during pregnancy to areas with good medical facilities

The mere act of travelling during pregnancy carries small additional risks owing to the greater likelihood of illness, accidents and distance from good healthcare when away from home. However for most healthy travellers with no previous problems during pregnancy, this risk is small providing certain extra precautions are taken (see sections below).

The safest time to travel is between 18 and 24-26 weeks. The least safe times are up until 15 weeks (risk of miscarriage or ectopic [tubal] pregnancy) and after 30 weeks (danger of late pregnancy complications, including bleeding and premature labour).

Air flight is safe during pregnancy and the difference in oxygen concentration and the reduced pressure in the aircraft has no adverse effects on either mother or foetus.

Airport security checks including radiation are not considered to pose any risk. There is, however, a slight increase in the risk of a deep vein thrombosis so it is wise to choose an aisle or bulkhead seat and follow the precautions in the Information & Guidance on Travel Related Deep Vein Thrombosis.

Health problems which tend to be worse in pregnancy e.g. indigestion and flatulence can be a greater problem during flight and it is worth avoiding fizzy drinks. Make sure you keep your fluid intake up, and avoid alcohol. Your feet may swell more than normal. Travel sickness may affect you: promethazine (Avomine) is effective and considered safe. In late pregnancy always travel with a companion.

Most international flights will be unwilling to carry a passenger known to be 35 weeks pregnant or beyond (32 weeks in the case of twin or multiple pregnancies), but many domestic flights make a cut-off point at 36 weeks. Check the exact regulations with the airline concerned and leave a margin of two weeks in case of last-minute changes of plan or cancellations. Always take a medical certificate confirming safety of pregnancy when flying signed by a doctor, stating the expected date of delivery.

2. Safety of travelling to or living in a developing country during pregnancy

This will vary greatly depending on the country and your exact location. The main considerations will be the actual availability of good medical care and being within easy travelling distance of the best care available (therefore often restricting in-country travel).
Although many trips will pass without difficulty, if problems do arise or a tragedy does occur it is important that risks have been considered leading to an informed choice.

The following conditions either mean that travelling or living in a resource-poor area when pregnant is inadvisable, so carefully weigh the risks with your doctor and draw up detailed plans. Some of these apply to the whole of the pregnancy and some to certain times, especially from 30 weeks onwards:

- You have had a medical condition that adds to the risk of pregnancy. This would include heart disease, severe asthma or lung disease, diabetes, significant anaemia including sickle-cell anaemia, high blood pressure, previous deep vein thrombosis or pelvic infection, epilepsy or auto-immune problems. In addition, obesity (body mass index greater than 30), smoking and higher maternal age (>40) also increase the risks.

- You have had problems in a previous pregnancy. These would include an actual or threatened miscarriage, *ectopic pregnancy*, pre-eclampsia or eclampsia, diabetes or hypertension, placental abnormalities, premature labour, baby very small or very large for dates, chromosomal abnormalities, any significant complication of birth likely to be repeated, postnatal depression and Rhesus incompatibility (see below).

- You have problems in your present pregnancy. These would include threatened miscarriage or any vaginal bleeding, foetal growth abnormalities, incompetent (weak) cervix, raised blood pressure, presence of twins, triplets or other multiples. Also those 15 years of age or under and 35 years or over.

These lists are not exhaustive and if you are unsure, it is best to ask us.

*Note on ectopic (tubal) pregnancy.* If you have a previous history of an ectopic pregnancy you have about a one in four chance of this being repeated in a subsequent pregnancy. This can be dangerous. Here are some guidelines to follow:

- You should use contraception.

- If you are unable or unwilling to use contraception you should do a home pregnancy test immediately before any international travel. If this is positive you should not go abroad until you have had confirmation the pregnancy is not ectopic via an ultrasound scan.

- If you are not taking contraception and not pregnant when leaving home, you should take pregnancy tests abroad with you and do tests if your period does not arrive on time.

- You should return home if the test is positive and local diagnostic facilities are not adequate e.g. ultrasound.

Important risks related to pregnancy and travel include:

- **Miscarriage:** There is a slight increased risk of this in the tropics because of fever, especially malaria, and possibly severe dehydration. If a miscarriage occurs or vaginal bleeding persists medical facilities such as those for evacuation of the uterus (e.g. ERPC or D&C procedures) may be less reliable - and less hygienic. Safe blood may be harder to get in the rare event of needing a transfusion.

- **Malaria.** Malaria, especially malignant malaria, which is common in sub-Saharan Africa and South-East Asia, increases the risk of anaemia, premature labour, miscarriage and stillbirth. A
severe attack can be life threatening. The baby may be born with malaria. Women who are pregnant, or recently pregnant, are more attractive to mosquitoes and more likely to get mosquito-borne illnesses, especially malaria. It is essential to take the strictest precautions to avoid mosquito bites, including covering up and the use of DEET-based insect repellent at the normally recommended concentration: this is not harmful to mother or foetus.

**Medication options for malaria in pregnancy include:**

a) **Chloroquine and proguanil (Paludrine)** are considered safe in pregnancy but due to drug resistance in most parts of the world this option is not often recommended. In addition a 5mg folic acid supplement should be taken both when trying to conceive and during pregnancy up until the end of the 12th week when taking proguanil. Please note this is prescription strength folic acid and a higher dose than that available in conventional antenatal vitamins.

b) **Mefloquine** has reassuring data on its use in pregnancy and is now considered to be safe in the second and third trimesters and may be used with caution in the first trimester, so is often the first choice in pregnancy. However it can occasionally cause side-effects so needs a thorough risk assessment and 3-week trial if it is being used for the first time. There is also some mefloquine resistance in parts of SE Asia where it should not be used.

c) There is insufficient safety data to confirm whether or not **Atovaquone & Proguanil (A&P - brand name Malarone)** is safe to be used in pregnancy. At present, A&P is only used where the risk of malaria outweighs any possible risk of taking A&P during pregnancy. The UK Malaria Prevention Guidelines state that it can be used in the second and third trimesters after careful risk assessment. If used in the first trimester, A&P should also be taken with a 5mg folic acid supplement up until the end of the 12th week as it contains Proguanil.

d) **Doxycycline** was generally contraindicated in pregnancy due to concerns that it would affect the teeth of the developing foetus. However, recent changes to the UK Malaria Prevention Guidelines reflect new data and now state that doxycycline can be used up until 15 weeks gestation as the foetus will not have any teeth developing before this time. Doxycycline is now an option for malaria prophylaxis in early pregnancy as long as the post-exposure 28 days can be completed prior to 15 weeks gestation, but should not be used after this or while breast-feeding.

Malaria in pregnancy in a traveller or expatriate carries much more risk than malaria in the non-pregnant and is a medical emergency requiring expert help. This is because travellers have no prior immunity from previous malarial exposure, unlike the local population. Malaria can also be difficult to detect in pregnancy as the parasites are attracted to the placenta so may not be detectable in normal blood samples. If you are in a place without access to excellent health facilities and think you have malaria then you should contact your health insurers urgently. Common malaria treatments such as Co-artem have not been confirmed to be safe in pregnancy. A combination of Clindamycin and Quinine may be started but this is not a substitute for seeking urgent medical attention. Clindamycin is unlikely to be available in most resource-poor countries.

- **Immunisations during pregnancy** - although the risk of damage to the foetus from any vaccine given in pregnancy is extremely rare, like all medical decisions risks and benefits have to be matched up. This is particularly important in reference to live vaccines such as yellow fever.
These should be discussed with an experienced advisor in a travel health consultation who can brief you on the issues relevant to you and your destination.

- **Hepatitis E** - this form of hepatitis is spread like hepatitis A, but unlike the latter there is no vaccine against it. It is common in areas of the world where food and water hygiene are poor. Hepatitis E is especially dangerous in the second half of pregnancy and may be fatal. Pregnant woman are generally advised not to travel to an area where there is known to be an outbreak of hepatitis E.

- **Extra dangers from certain foods** - this includes the risk of toxoplasmosis and listeria. Take extra precaution with food and water hygiene; strictly avoid all salads, undercooked meats, unpasteurized milk, soft cheese and paté. Take all precautions to avoid diarrhoea and use oral rehydration solution early as dehydration may reduce placental blood flow. Boil water rather than using iodine to sterilise it. The antibiotic ciprofloxacin commonly used for traveller’s diarrhoea is not generally used in pregnancy due to problems found in animal studies. Data on an alternative antibiotic, azithromycin, is limited. This means that while there is no evidence of harm as yet, there is insufficient data to confirm safety. We would not recommend using antibiotics against traveller’s diarrhoea in pregnancy without a good reason and without seeking medical advice as to whether it is essential to do so.

- **Premature labour** - although in the absence of malaria this is no more likely when overseas, access to adequate treatment, such as safe blood for the mother and extra support for a premature baby, is greatly reduced.

- **Anti D availability** - there is a risk that Rhesus negative mothers who carry Rhesus positive children can have their own blood sensitised by their baby. The mother then develops Rhesus antibodies that can adversely affect any babies that they may have in the future.

The use of Anti D immunoglobulin helps prevent Rhesus illness in the newborn and is recommended for Rhesus negative mothers in certain situations such as miscarriage or threatened miscarriage, abdominal trauma or after delivery. This is not an exhaustive list and you should seek specialist advice if you are rhesus negative. In the UK, rhesus negative women are also routinely given Anti D at 28 and 34 weeks of pregnancy.

If you are rhesus negative, we recommend you take steps to find out what is available for you in-country prior to travelling. Anti-D immunoglobulin is a blood product and carries a risk of transmitting blood-borne viruses (such as HIV) if it has not been properly screened. Many of our patients have reported problems getting hold of a reliable supply of Anti-D.

- **Medicines** - many medicines are best avoided in pregnancy, meaning treatment may need to be delayed until the baby is born. A bewildering number of drugs are available in many developing countries, either by prescription or over the counter. Some medicines are known to carry risks in pregnancy; many medicines are probably safe, but best avoided because there is insufficient evidence. Always check any written instructions that come with the medicine including the Patient Information Leaflet. If you are in doubt as to whether a medicine is safe to take in pregnancy, or while trying to conceive, it is best to check with a health professional.

**Other issues to consider:**

- Antenatal care in a developing country is very unlikely to mirror that available in the UK, except for some private clinics in specific locations. Monitoring may take place less frequently and there may be little or no opportunity for screening for foetal problems such as screening...
for Down’s Syndrome (routinely offered at 12 weeks in the UK). Additionally, maternal problems may go unchecked, such as gestational diabetes, raised blood pressure or pre-eclampsia. You may also miss out on the opportunity to spend time with a midwife who can give advice on staying healthy in pregnancy, how to cope with pregnancy niggles and preparing for birth.

- Always have a backup plan to cover your worst case scenario. This could include: identifying a reliable medical facility and obstetrician with whom you have a relationship, forming a plan of how you could be moved quickly if required, where your nearest centre of medical excellence is and which friends, family or colleagues could support you urgently if needed. If you are in a remote area, then you should be aware that a Medevac plane can sometimes take days to organise. You need to feel that you have made an informed choice regarding the level of risk.

- The first scan in the UK is performed at 12 weeks. Those living in a developing country should consider having an earlier scan to confirm the pregnancy is in the uterus and not a tubal pregnancy. It is usually possible to visualise a pregnancy on a scan from 6 to 7 weeks onwards.

You can minimise health risks during pregnancy by trying to set up an ordered lifestyle, taking regular gentle exercise and allowing more time than usual for rest, relaxation and routine tasks.

3. Safety of having a delivery overseas

There is potentially a greater danger from complications at the time of delivery in a developing country, unless there are excellent, round-the-clock facilities within easy reach. In most resource-poor countries, facilities both for routine and for emergency care are less reliable. This means you need to make an informed choice, not through a haze of optimism but based on a cool look at what might happen in the worst scenario.

The following are suggested minimum requirements for an overseas delivery:

- A maternity unit, easily accessible at all times of the day or night and in all seasons, with 24-hour cover from an experienced obstetrician able to carry out forceps and vacuum deliveries and Caesarean sections.

- High standards of hygiene, fully trained midwives and the guaranteed use of sterile instruments.

- The ready availability of safe blood from a trusted donor with the same or a compatible blood group. Those with a rhesus negative blood group (16% of the UK population) may find that compatible blood is hard to find in certain parts of the world where rhesus negative blood is rare amongst the local population.

- Resuscitation facilities for the newborn and a special care baby unit staffed by experienced paediatricians.

- The absence of any serious pregnancy-related problems in this or previous pregnancies, including Rhesus incompatibility.

- A personality that can cope with the added risks and anxieties of having a delivery away from home and support from the wider family.
- A partner or family member who can give practical support at the time of delivery, including organising travel arrangements.

- Before coming to a decision about having a delivery at home or abroad carry out the following:
  - Inspect the maternity unit, and facilities for the newborn preferably in the company of a doctor, nurse or midwife.
  - Meet the doctor(s) or midwives likely to carry out the delivery.
  - Ensure a doctor will be available 24 hours a day.
  - Check with other expatriates who have used the facility. Personal experiences are often more valuable than simply seeing that the facility looks ok.
  - Ensure that any employing organisation is satisfied with the arrangements.

Even if the minimum requirements are in place, the balance may still be tilted in favour of coming home if:

- either this is your first delivery;
- or you are over 35;
- or you are working in a country where HIV/AIDS or malaria are very prevalent;
- or there is political instability, unreliable transport or the likelihood of heavy rains that could delay getting to hospital.

An alternative to coming home is to move nearer to a capital city or centre of excellence at least 2 weeks before the delivery date, or to a nearby country with better health facilities.

In the case of UK citizens, check citizenship rules with the Home Office if both baby’s parents and/or two or more grandparents were born overseas.

**Case scenarios:**

The following scenarios are based on real situations in which InterHealth has been asked to help. It is worth asking yourself if you are comfortable with the risks of these situations and how your personality (and that of your partner) would deal with this eventuality:

- A 39 year old woman based in Bamako has been trying for 2 years before falling pregnant. At 17 weeks she unfortunately miscarries. Her partner also works for an NGO and is travelling away with work. The hospital staff are very busy with more urgent cases and the woman has to wait several hours on a chair before anyone can attend to her. The miscarriage is complicated by very heavy bleeding. The woman then has to decide whether or not she should accept a blood transfusion from a source she is unsure is safe.

- A 26 year old woman based in Cambodia goes into labour at 26 weeks. Fortunately they have good insurance cover and a medevac plane is able to land quickly and transfer her to Bangkok where there is a neonatal unit available. Both mum and baby do well but then discover that the insurance policy only covers them for 15,000 US dollars’ worth of neonatal care. The baby needs round the clock care for at least 8 weeks at a cost of 1000 US dollars per day. The
· A 30 year old lady goes into labour in Tanzania. She has planned to deliver at the local mission hospital where she has had her antenatal care. There is a good obstetrician there who has delivered the babies of other mission workers; however it happens that he is away that night and she is attended to by the midwifery assistant and a friend. The labour appears to progress well until the baby is born blue with the cord wrapped around its neck. It becomes clear at that point that the medical staff do not know how to deal with the baby.

· M, aged 34, is 6 weeks pregnant and living in rural India with her family. Her last pregnancy was uneventful and she had a normal delivery in the UK. M had a travel health consultation while she was back in the UK before she planned her pregnancy and is up to date with all her vaccinations. The family live in a malarial area and M is taking chloroquine and paludrine along with a high dose 5 mg folic acid supplement which offer sufficient protection for their region and are safe in pregnancy.

The village has a clinic but this is only staffed by health assistants. M visited the nearest hospital (3 hours away) prior to her pregnancy to see if she could identify a suitable doctor there. The doctor seemed professional, however the hospital looked very understaffed and there were patients without a bed who were sleeping outside on the verandah.

On becoming pregnant, M decides to travel to Delhi, where, once she is 6 weeks pregnant, a scan can be done to determine that the pregnancy is in the womb and not in the tubes (ectopic). As the highest risk of miscarriage is in the first trimester, M decides to stay in Delhi a bit longer, where she is also able to organise her antenatal blood tests and consult with a midwife and obstetrician. Several other expatriates have delivered their babies at the hospital which has a well-staffed neonatal unit so M and her husband decide they would also like to use the hospital for delivery. After the 12 week scan shows all is well, M goes back to the village where the second trimester passes uneventfully until she returns back to Delhi for the 20 week scan. The family had planned to move to Delhi from 26 weeks onwards. However, there is an outbreak of dengue fever in the village and so M decides to remain in Delhi until her delivery which passes uneventfully.

**Leisure pursuits and pregnancy**

This is largely a matter of common sense, remembering that any accident may be harder to treat in a developing country, which means the risk to both mother and child is slightly greater. Avoid extreme sports, skiing, horse-back riding and scuba diving (danger to foetus through pressure changes). At moderate altitudes there is only a minimal reduction in the oxygen supply to the mother. Experts currently advise that pregnant women should avoid altitudes over 3600 metres (about 12,000ft) apart from brief stopovers at high altitude airports. Altitudes above 2500 metres should be avoided in higher risk pregnancies, for delivery and a few weeks before.

**Breastfeeding and travel**

Breastfeeding a child exclusively up to six months makes travel easier for a mother and is less risky than bottle feeding for the infant. If this is not possible, mothers should seek advice on the best formula to use, its availability overseas and take every precaution to sterilise bottles and feeding equipment and to use boiled water.
In hot climates mothers will need to drink a greatly increased amount of fluid. This nearly always ensures adequate breast milk without the need to give supplementary water to the baby under 6 months.

Most vaccinations are considered safe when breastfeeding but again it is better to postpone any that are not essential. We recommend you have a risk-benefit assessment.

Many medicines are compatible in breastfeeding but some are contra-indicated. Always check with a medical advisor and read the Patient Information Leaflet. For malaria prevention, UK guidelines state that experience suggests that mefloquine is safe; doxycycline is contraindicated and that there is an absence of safety data on Malarone. This may differ from the advice given by other countries. We recommend you consult us for further advice.

**Summary of recommendations**

1. Understand and act on the issues mentioned above.
2. Discuss your travel plans in detail with a medical practitioner if pregnancy is confirmed or possible.
3. Take out comprehensive travel insurance.
4. If planning delivery overseas, check out the facilities in detail, according to the guidelines above.
5. Ensure immunisations are completed, if possible, before conception: avoid live vaccines during pregnancy and delay pregnancy for 28 days after any live vaccine.
6. Take every precaution to avoid malaria: ideally avoid living in malarious areas, especially where falciparum malaria is prevalent.
7. Report any pregnancy related problems at once and take extra care to prevent illness.
8. If health problems arise and/or confidence diminishes in facilities available, consider an earlier return to your country of origin.
Further advice

- Centers for Disease Control and Prevention, USA: [www.cdc.gov/travel](http://www.cdc.gov/travel)
- Royal College of Obstetricians and Gynaecologists ‘Air Travel & Pregnancy - Information for you’
- The Pregnant Traveler website [www.pregnanttraveler.com/](http://www.pregnanttraveler.com/)

Sources

- Original peer-reviewed papers
- The World Health Organization [www.who.int/ith](http://www.who.int/ith)
- The Health Protection Agency UK [www.hpa.org](http://www.hpa.org)
- The National Travel Health Network and Centre (NaTHNaC) [www.nathnac.org](http://www.nathnac.org)
- Centers for Disease Control and Prevention USA [www.cdc.gov/travel](http://www.cdc.gov/travel)

Last reviewed: January 2015 by Emley Pine & Lynda Rea

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