You have been given this factsheet because the results of your scan at the end of your first trimester (first three months) show your pregnancy is located within the scar tissue from a previous caesarean section and the placenta is growing into the muscle wall of the womb.

Your scan will have also shown that your pregnancy is continuing to develop despite being located within the caesarean scar tissue. This is described medically as a ‘viable caesarean scar pregnancy’.

This factsheet aims to supplement the discussions you will have with your doctor, to support your understanding of the condition and explain your options regarding the next steps. If there is anything you do not understand or would like more information about, please ask a member of your medical team to explain further.

What is a caesarean scar pregnancy (CSP)?
A CSP is a rare type of ectopic pregnancy where the embryo implants in the scar tissue in the wall of the womb (uterus) from a previous caesarean section, instead of in the usual site on the inner wall of the womb. The wall of the womb has a special lining (called the endometrium) which is adapted to allow a pregnancy to embed and grow. However, the caesarean scar area lacks this special lining and muscle tissue. This means the placenta (the organ that attaches the umbilical cord to the lining of the womb) becomes attached to thin muscle instead. This can lead to serious complications which are explained in more detail below.

How common is the condition?
It is estimated that a CSP occurs once in every 2000 pregnancies, which means that it is rare. However, in recent years the diagnosis has been made more often. This may be because more caesarean sections are being performed, because we are better at recognising CSP, or both.

Why does it happen?
It is not known why some pregnancies attach to the thin part of the womb instead of the normal location. There is a link between the number of caesarean sections a woman has had in the past and the risk of having a CSP. However, medical knowledge in this area is still developing.

Understanding the risks associated with CSP
Having a caesarean scar pregnancy creates many emotionally difficult decisions due to the risks involved both during pregnancy and at the time of birth. These are outlined below, along with the latest medical evidence available, to assist you with this decision making. However, because CSP is rare, there are some uncertainties about the best way to manage it, as it is difficult to predict what the eventual outcome of your pregnancy will be.
Risks during pregnancy

- **Uterine scar separation**: as a pregnancy progresses the wall of the uterus (womb) stretches and places pressure on the scar. While the exact risk of scar separation is unknown, it is higher than when the pregnancy is not embedded in the scar. This is because while it is possible for a pregnancy to continue to grow into the uterus and develop, it may also embed deeper into the wall of the uterus, increasing the risk of separation and life-threatening bleeding (haemorrhage). It can be difficult to determine the way in which a pregnancy may progress from initial scans as the placenta develops with time, making it very hard to predict which uterine scar will separate and when this might occur. However, as the pregnancy progresses the likelihood of scar separation increases.

- **A morbidly adherent placenta (MAP)**: where the placenta becomes stuck to the wall of the womb and may grow through into the bladder.

Both of these conditions can result in serious bleeding that can be life-threatening. In some cases major surgery may be required, including emergency hysterectomy, an operation to remove the womb (uterus). You will no longer be able to become pregnant after a hysterectomy and it is not reversible. Your doctor will be able to answer any questions you may have about what is involved.

There is also a risk of prematurity, as it may be necessary to deliver your baby urgently if complications and/or serious bleeding occur.

Risks at birth

After birth, the muscle of the womb contracts so the blood vessels that were giving blood to the baby via the umbilical cord are squeezed shut. This allows the placenta to separate from the wall of the womb easily. However, in a CSP the placenta is embedded in the wall of the womb meaning it cannot separate easily. This may lead to heavy bleeding which can only be controlled by major surgery. An emergency hysterectomy to remove the womb may also be required. Treatment may also involve blood transfusions and treatment in intensive care.

It is important to understand that the complications of a caesarean scar pregnancy can be life-threatening. Unfortunately it is not possible to accurately predict, based on an ultrasound in the first months of a CSP, whether complications will develop, or how serious they will be.

Options available to you

The management of a CSP depends on whether you are experiencing any pain and/or serious bleeding and your wishes following counselling.

The options are:

- to continue with your pregnancy ensuring you are aware of the increased risks associated with this decision
- or to decide to end the pregnancy with a termination

Since a caesarean scar pregnancy will often miscarry on its own with time; some parents hope that taking a wait-and-see approach can relieve them of the difficult choice to end a pregnancy. However, this approach also presents significant risks to the mother.

Continuing your pregnancy

If you decide to continue with the pregnancy, you will have a series of ultrasound scans. After 14 weeks you will be seen by an obstetric team specialised in the management of morbidly adherent placenta (MAP). The team will continue to monitor you closely for the rest of the pregnancy.

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Your medical team will want to ensure that you fully understand the risks associated with this option, including the severity of the potential complications - which, as already stated, have the potential to be life-threatening - and the likelihood that you will need to have a hysterectomy.

Choosing to end your pregnancy
If a decision is made to end your pregnancy, an operation to empty the womb will be carried out under general anaesthetic. The procedure will be performed under ultrasound guidance to reduce the risk of injury to the wall of the womb. There is a risk of bleeding during surgery and a very small risk of a hysterectomy being required. If the bleeding is heavier than normal, a stitch will be placed in the cervix to close off the neck of the womb. This allows a clot to form in the scar so that the bleeding stops. The stitch will then be removed a week later in outpatients.

Future pregnancies
Evidence to date suggests that most women who decide to end a caesarean scar pregnancy in the first trimester will not experience the same problem again. It is likely that a future pregnancy will attach normally, away from the scar, resulting in a pregnancy which progresses in the usual manner.

Making your decision
The decision whether or not to continue with a pregnancy which has problems or poses risks for the mother and/or baby is an incredibly difficult one. You and your partner will have the opportunity to discuss your options with a doctor. It is important to make sure that you:

- fully understand all your options
- ask for more information if there is something you do not understand
- raise your concerns, if you have any
- understand what each option means in terms of future pregnancies
- have enough time to make your decision.

You may also find it helpful to talk to the people close to you about how you feel, and to your midwife or doctor about what’s happened and why. Contacting the support group listed at the end of this factsheet may also be beneficial.

Additional support available
The Ectopic Pregnancy Trust is a charity offering information, support and a helpline service.
Website: www.ectopic.org.uk
Email: ept@ectopic.org.uk
Telephone helpline: 020 7733 2653
Understanding the outcomes at this hospital
We have outlined our experience in treating CSP along with the outcomes below.

At Princess Anne Hospital between 2011 and 2016 we have cared for 12 women with a viable CSP.

Of these:
- 4 patients had surgical termination of pregnancy with normal blood loss.
- 3 patients had medical termination of pregnancy (medication to stop the pregnancy). This treatment is not offered for CSP anymore as there is evidence that it is not effective.
- 5 patients chose to continue with the pregnancy.

Of these:
- 3 patients developed MAP leading to major bleeding which posed a threat to life. As a result, each patient had a hysterectomy performed at the time of delivery (these were at 30, 34 and 36 weeks gestation respectively).
- 2 patients did not develop MAP. Both women had a caesarean section at 37 weeks with normal blood loss.

How does our experience compare with other centres?
Evidence from other large maternity hospitals has also shown that women diagnosed with a CSP in the first three months of pregnancy have a high chance of developing MAP. This is again associated with heavy bleeding in the later stages of pregnancy, resulting in the need for an emergency hysterectomy in the majority of cases. One study reported an emergency hysterectomy was necessary in 10 out 10 of cases, whereas another one reported emergency hysterectomy in 4 out of 9 cases. This highlights how difficult it is to predict the complications and outcome of a CSP.

Future pregnancies
Latest statistics provided by a large maternity hospital in London showed that 60 out of 79 of women who attempted conception after a CSP were successful (76%).

If you have any further questions regarding these outcomes, or would like to discuss anything covered in this factsheet in more detail, please speak to a member of your healthcare team.