

Preterm Pregnancy

Introduction

Globally, mid-trimester pregnancy losses and extreme preterm births remain the most important cause of infant mortality and the neonates that survive have high rates of bronchopulmonary dysplasia, necrotising enterocolitis and neurodevelopmental delay. Effective antenatal screening, management and postnatal counselling is best aided by comprehensive patient resource detailing epidemiology, appropriate management of modifiable risk factors, offering evidence-based interventions to optimise patient engagement.

What is Preterm Birth?

Preterm refers to babies that are born before 37 weeks’ of gestation (referring to the time between conception and birth).

Causes

Of all preterm births, 3 in 10 are due to a medical induction of labour. Your doctor may decide to induce labour due to the mother or baby being in distress. This could be the result of several pregnancy-related conditions, including:

High blood pressure (hypertension)
Pre-eclampsia
Gestational diabetes mellitus
Concerns with baby’s growth

The remaining 7 in 10 preterm births may occur spontaneously following the waters breaking (rupture of membranes), weakness of the neck of the womb (cervix), bleeding, infection, multiple pregnancy (twins) or early uterine contractions.

Clinic Referrals

1. Uterine Malformations (unusually shaped womb).
2. Cervical cerclage in previous pregnancy.
3. Emergency caesarean section at full dilatation in a previous pregnancy.
4. A shortened cervix found during a scan in this or a previous pregnancy.

Reduce The Risks

1. Lifestyle changes
2. Stop smoking: increased risk of growth restriction, placental insufficiency, and stillbirth
3. Diet

Risks

When predicting which women may be at increased risk of preterm delivery, their previous obstetric history is considered. Each pregnancy is different, an induction of labour previously (e.g. for pre-eclampsia) may not affect subsequent pregnancies or be a cause of future preterm births. Factors which may increase the chance of preterm delivery include:

History of early waters breaking
Previous preterm delivery
Previous cervical surgery
Uterine abnormalities
Smoking
Urinary tract infections

5. Premature rupture of membranes in a previous pregnancy.
6. Treatment with progesterone or vaginal pessaries in a previous pregnancy.
7. One or more previous preterm births or late miscarriages after 14 weeks.
8. Previous surgery leading to cervical shortening (e.g. – LLETZ).

4. Stop drinking alcohol during the pregnancy
5. Stop / reduce illicit drug use during the pregnancy
6. Seek advice and help for your mental health, if required

Tests Offered

1. Vaginal swabs (for Neisseria gonorrhoea, Chlamydia or Bacterial Vaginosis) which can increase your risk of having a late miscarriage or preterm birth.
2. Monthly urine tests with the community midwifery team to detect and treat any urine infections.
3. A transvaginal scan is used to measure the length of the cervix.
4. We would perform carbon monoxide (CO) screening tests at all antenatal visits.

Treatments Offered...

Progesterone Vaginal Tablets: A tablet inserted into the vagina (between 16 and 24 weeks) to strengthen the cervix and reduce the risk of PTB by preventing premature contraction of the uterus. Clinical trials have demonstrated that progesterone can reduce the risk of preterm birth before 34 weeks by 55% and birth before 37 weeks by 48%.

Urine Infections: Early treatment of UTIs, with at risk women being offered monthly mid-stream urine samples (MSUs).

Vaginal Infections: Vaginal Infections (for example bacterial vaginosis, chlamydia, Neisseria gonorrhoea, trichomoniasis) will be screened for at the booking scan and treated accordingly.

Cervical Cerclage: This is a day case procedure performed in an obstetric theatre under spinal or general anaesthetic where a cervical stitch (cerclage) is inserted around the cervix. The stitch is usually inserted between 12 and 24 weeks of pregnancy (or up to 28 weeks as an emergency case) and can either be placed through the vagina or through the abdomen; through the vagina is more common. This treatment may not be appropriate in select patients who: have signs of infection, have vaginal bleeding, are having contractions, or whose waters have already broken. The stitch is removed at 36 - 37 weeks.

Vaginal Arabin Pessary: The arabin pessary is a soft silicon ring that will be inserted into the vagina and moved so that the cervix is positioned inside it. This is offered in select patients, as there currently is insufficient evidence that this works as effectively as the other treatment options. Some small-scale studies have reported a reduction in the risk of preterm birth following insertion of pessaries.

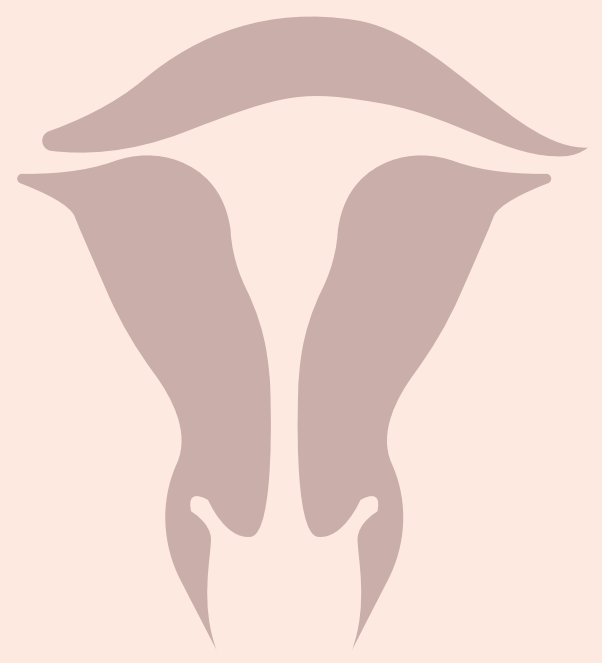
Neonatal Intensive Care Unit (NICU)

The Norfolk and Norwich University Hospital is a tertiary unit and facilitates both special care baby units and a neonatal intensive care unit. In the event of PTB, these centres provide respiratory support, temperature maintenance, feeding / NG tube insertion, breastfeeding help, and prioritising family-centred care.

Within the NHS, there are different types of neonatal units:

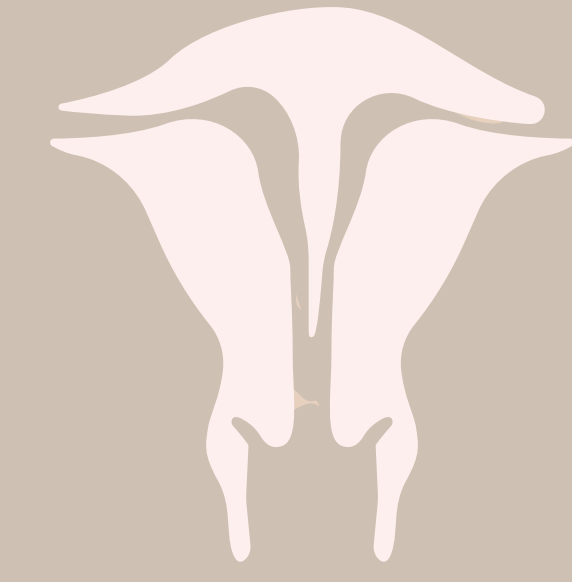
1. Neonatal Intensive Care Units (NICU) these are specialist units that care for the sickest of the premature babies with the highest need of support. Babies may be transferred to an NICU from around the country.
2. Local Neonatal Unit (LNU) most babies born after 27 weeks will receive their care in the local neonatal unit, unless very unwell, in which case they may be transferred to a NICU.
3. Special Care Baby Unit (SCBU) these units provide care for babies born after 32 weeks. SCBU can be a place where babies are transferred to from NICU when they no longer need as much care, but are not well enough to go home yet.

UTERINE NORMAL



***Normal:** This is how your uterine should look*

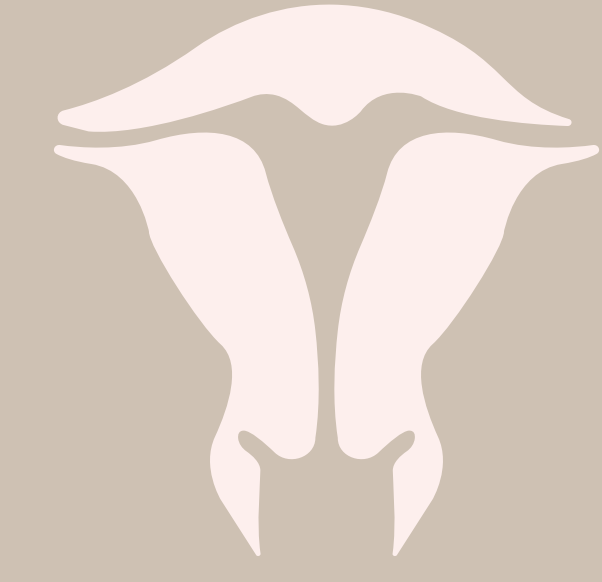
VISUAL DEPICTION UTERINE ANOMALIES



***Uterine Septum:**
a condition where a piece of tissue runs down the middle of the uterus, to split it into two.*



***Bicornuate Uterus:**
a heart shaped uterus, a normal uterus is pear-shaped.*



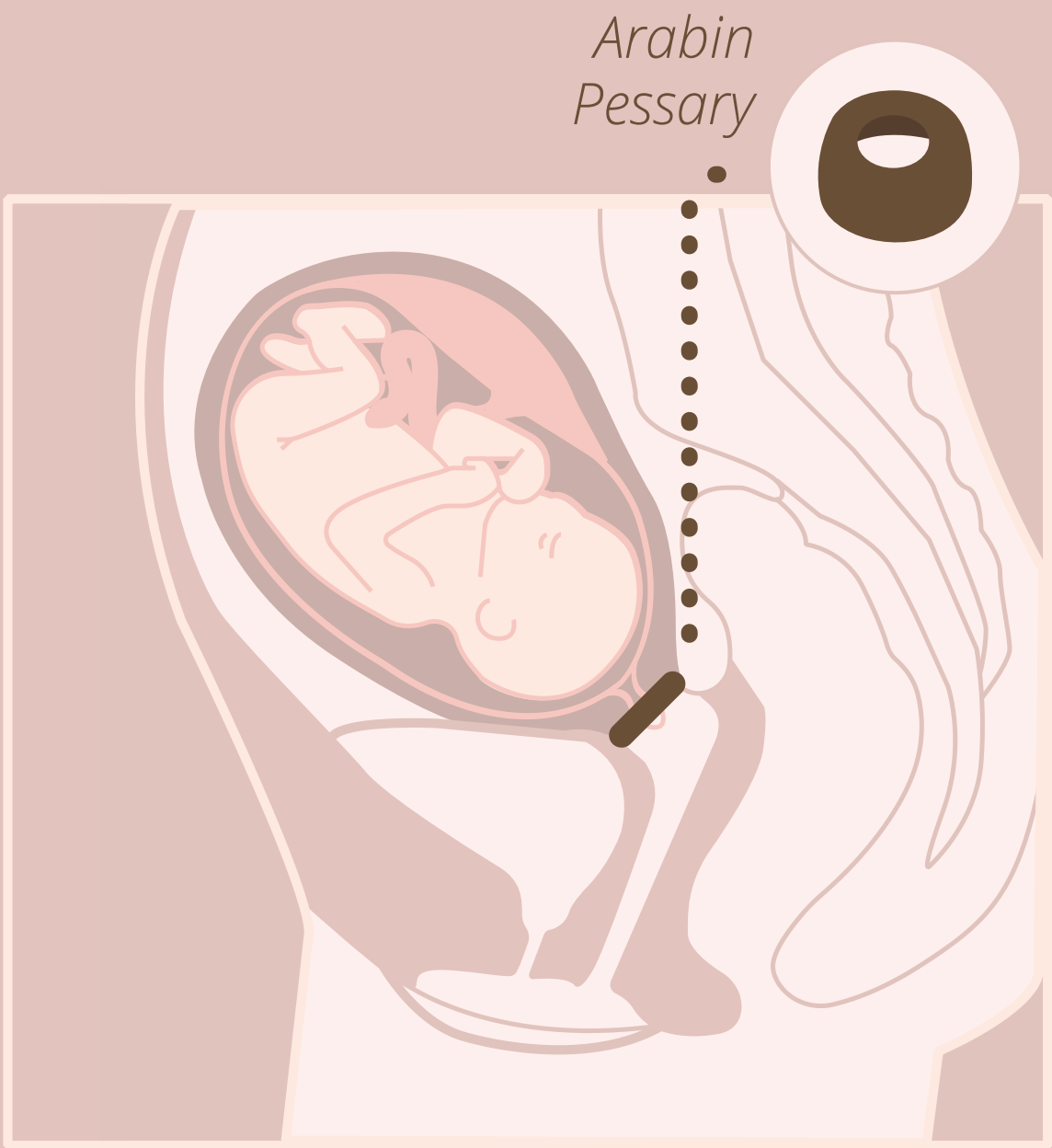
***Arcuate Uterus:**
a slightly irregularly shaped uterus, with a small ‘dent’ at the top.*



***Uterus Didelphis:**
a rare condition where a women has two uteruses instead of one (and two cervix).*

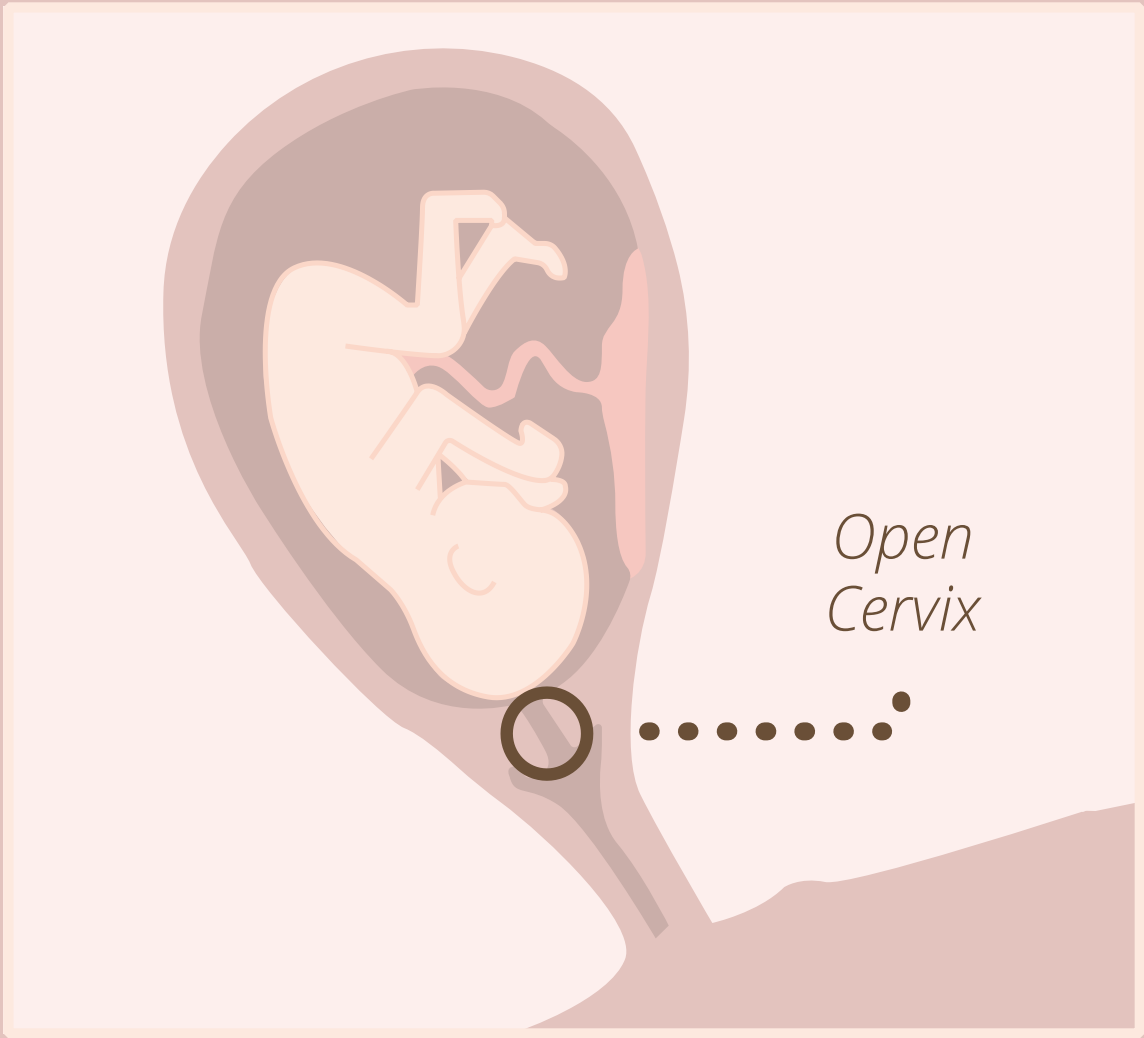


***Unicornuate Uterus:**
a condition where there is one uterus attached to one fallopian tube and ovary.*



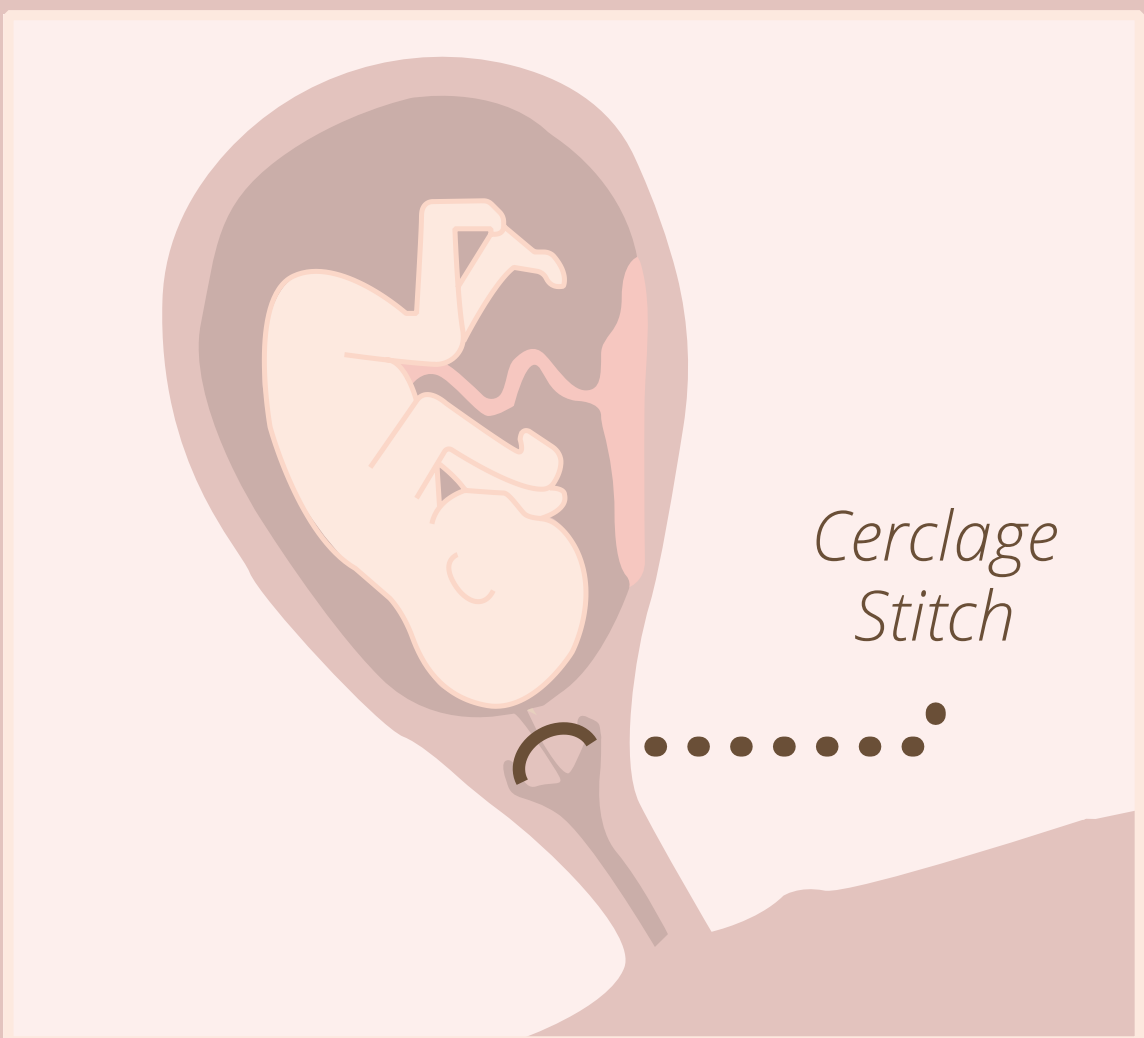
Cervical Arabin Pessary

A Cervical Pessary can be fitted through the vagina and encircle the cervix to provide additional support for a shortened or open cervix.



Open Cervix

In some pregnancies the cervix will be open instead of closed. It is important to identify an open cervix and treat appropriately to avoid preterm labour.



Cervical Cerclage / Stitch

If an open or shortened cervix is identified a surgical procedure, called a Cervical Cerclage, can be performed to both close the cervix and decrease the incidents of preterm birth.

