PPROM Preterm Prelabour Rupture of Membranes

Information for you when your waters break before 24 weeks of pregnancy

Madison who experienced PPROM at 22 weeks of pregnancy carrying twins

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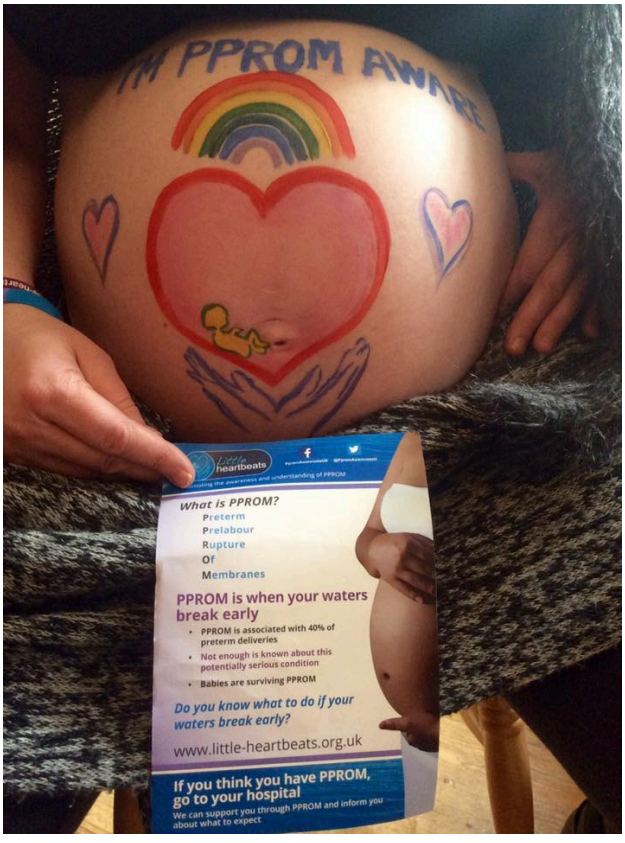
What is PPROM before 24 weeks of pregnancy?

PPROM means Preterm Prelabour Rupture of Membranes. This is when your waters break early in pregnancy.

This leaflet covers when the waters break before 24 weeks of pregnancy.

This is a rare situation.

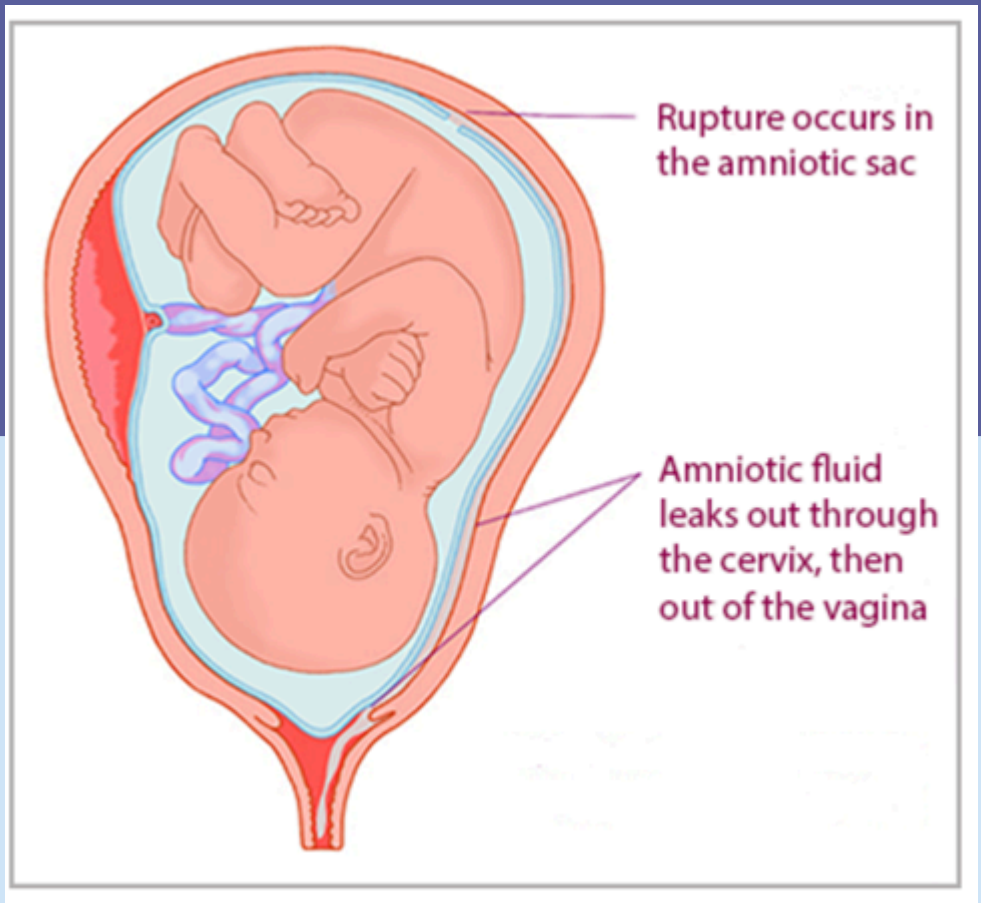
It is estimated to happen in less than 1 in 1000 pregnancies. In a lot of cases the cause is unknown.



This photograph is courtesy of Ciara Curran - founder of the charity Little Heartbeats

What are membranes?

A baby in the womb is surrounded by amniotic fluid, called 'the waters', these are contained within the amniotic sac.



This diagram is from the charity Tommy's. Permission given to use the diagram within this leaflet.

When the waters break, a hole occurs in the amniotic sac- often called 'the membranes'. Then amniotic fluid (the waters) leak through the neck of the womb (cervix) and into the vagina.

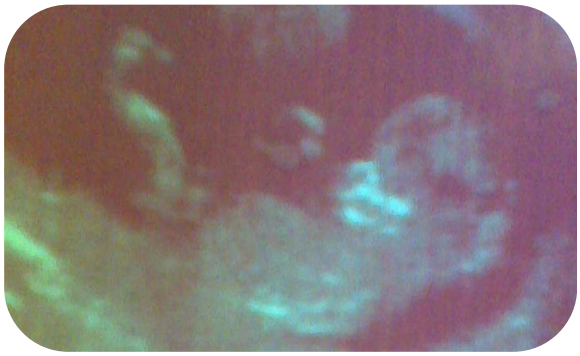
The pregnant woman may be aware of a 'pop' or 'gush' followed by passing of fluid out of the vagina.

When the membranes break

Once the protective membrane around the baby is broken there is an increased chance of complications. This is why it is important we monitor women with this condition closely.

The concerns with PPROM are:

- You may go into labour early. Labour might start before your baby can survive, or when your baby is very preterm.
- You, or the baby, may develop an infection in the womb. This may lead to sepsis.
- The umbilical cord may come through the vagina before the baby. This is called 'cord prolapse' and is an emergency for the baby (see page 11 for more information).
- The placenta may come away from the wall of the womb before your baby is born. This is called 'placental abruption'. This may lead to an emergency for you and your baby and you may need to give birth early because of this.



This scan photograph is courtesy of Ciara Curran

What can I expect to happen in hospital?

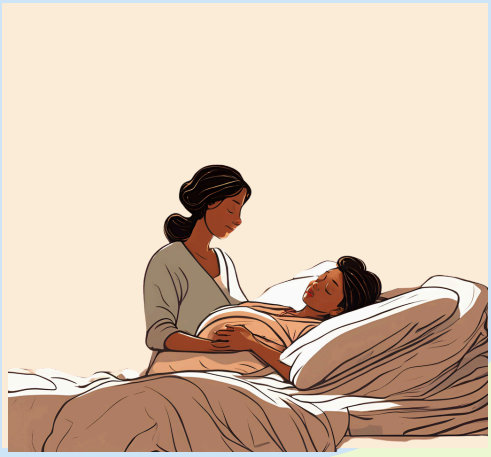
At present, there is uncertainty about the best way to care for women after PPROM under 24 weeks of pregnancy.
The North West regional guidelines have been developed to recommend things that the team looking after you can do to help you and your baby.

If you are well

If you feel well and show no signs of infection or labour, you can continue your pregnancy.

Due to the risks of complications to both mother and baby you will also be offered a termination of pregnancy for medical reasons (TFMR).

If you are unwell



Some women with PPROM feel unwell, or their blood tests or heart rate, temperature or blood pressure show an infection is developing.
If this happens then you will be offered antibiotics. The option of delivering your baby by the quickest and safest way will be discussed to help you get better.

Care – if you continue your pregnancy

You will be looked after by obstetricians (doctors who care for pregnant women) and midwives. You will be offered monitoring in hospital, because we know that the most likely time to go into early labour is the first few days after your waters break.

If you are well

You will be given the opportunity to talk with the neonatalogists (doctors who care for premature babies) if you are 22 weeks or over. You may have to be moved to another hospital with a neonatal intensive care unit. This is the best place for your baby to be looked after if they are born very early. This website explains more about how neonatal care works.

www.bliss.org.uk/parents/in-hospital/about-neonatal-care/how-does-neonatal-care-work

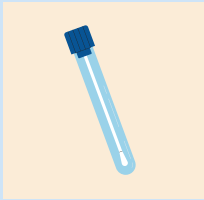
If you become unwell

The team looking after you might explain that delivering your baby by the quickest and safest method may be necessary in order to help you recover. You will be offered support throughout these difficult discussions by your midwife.

Why am I offered monitoring?

You will be offered tests and monitoring to minimise the risks associated with PPROM, these are:

Infection



You will be offered vaginal swabs for vaginal or womb infections. Your team will consider offering a urine test for a water works infection (urinary tract infection, UTI) and offer antibiotics if needed.

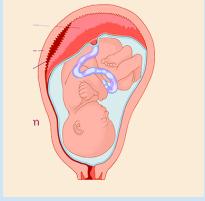
Sepsis

This is the immune system's overreaction to an infection. Sepsis can be very serious and sometimes life-threatening. So that the team can act quickly you will be offered regular temperature, heart rate and blood pressure checks, and blood tests for infection.

Cord Prolapse

This happens when the umbilical cord slips down in front of the baby into the vagina. It is an emergency for the baby. You will be offered an internal examination if there is a concern about cord prolapse

Placental abruption



This is when some, or all, of the placenta separates from the wall of the womb before the baby is born. You will be offered monitoring and might be offered early birth if this happens.

Tests after PPROM

You will be offered monitoring of your baby's heartbeat and your observations. These are your pulse rate, breathing rate, temperature and blood pressure. Other tests that are done after a diagnosis of PPROM are explained here:

Blood tests

Full blood count (FBC) - to look at your white blood cell count (this can be raised in infection)

CRP (C-reactive protein)- this is a marker of inflammation in the body (can also be raised in infection)

Swabs and cultures

High vaginal swab - to look for the an infection in the vagina

Low vaginal and rectal swab - to look for a bacteria called Group B Streptococcus. This bacteria can cause infections after birth in the baby. Some women prefer to take these swabs themselves, some prefer the healthcare team to do them.

Urine sample - to look for bacteria in the urine that may cause infection

Scans

Abdominal ultrasound - this is a scan of your tummy to look at the baby. It can show the way the baby is lying (head down or breech), the baby's weight, where the placenta is implanted and how much water is around baby. It can also show the blood flow through the umbilical cord

Reasons to go back into hospital

If you remain well during your stay in hospital, a senior doctor may offer you the opportunity to be discharged. If this happens you will be offered regular hospital visits for the rest of the pregnancy.

We recommend that you attend your maternity unit urgently if you experience any of these problems:

Feeling hot and shivery or a high temperature (over 37.5 degrees C)

Abdominal (tummy) tenderness, pain or cramping

Feeling generally unwell, concerned about baby's movements or senstation of something in vagina (see next page)

An unusual vaginal discharge or vaginal bleeding

Umbilical cord prolapse

This is a rare complication of pregnancy, but a bit more common if you have PPROM.

You would notice the sensation of something in the vagina. If you think this is happening when you are at home then you should **call 999 for an ambulance**.
In the hospital **alert healthcare team immediately**.

Do not try to push the cord back up into the vagina. Place yourself into a face-down, bum in the air, knees to chest position. In the ambulance, it is safer for you to lie down on your side.

Cord prolapse position waiting for ambulance

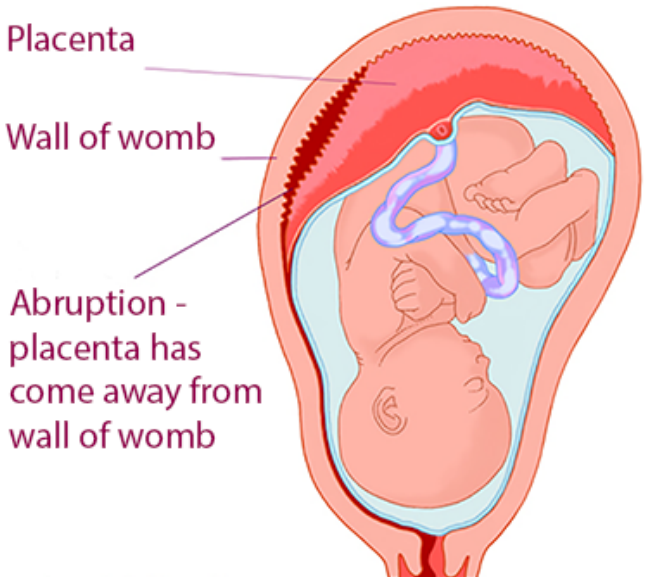
Cord prolapse position in ambulance

Further information about cord prolapse:
www.rcog.org.uk/for-the-public/browse-our-patient-information/umbilical-cord-prolapse-in-late-pregnancy/

Placental abruption

The placenta is an organ that helps your baby grow and develop.

Placental abruption is when some, or all, of the placenta separates from the wall of the womb before the baby is born.



This happens in 1 in 100 pregnancies, but is more common in pregnancies affected by PPROM.

Signs and symptoms

- Vaginal bleeding
  - But, 1 in 5 women this happens to will not experience bleeding
- Constant tummy pain
- Lots of contractions
- Your bump may feel hard
- Lower back pain

If you think this is happening to you in hospital, **alert your healthcare team immediately.**

If you are at home, contact your maternity unit, or **call 999 if you have severe pain or bleeding that is making you feel unwell.**

What will happen?

This depends on how many weeks pregnant you are, how well you and your baby are and how severe the abruption is.

If the abruption is small, and you and your baby are well, your medical team may recommend close monitoring.

If you or your baby are very unwell, you may need to give birth quickly. Your medical team will discuss vaginal or Caesarean birth.

Care – if you end your pregnancy

This is called TFMR- termination for medical reasons.
You will be looked after by a specialist team in a maternity or gynaecology unit. You should have a private room with access to bereavement and psychological support services.

If you are well

Women often opt for medications to end the pregnancy.

Some hospitals might be able to offer an operation to end the pregnancy. This is less common and might have more risks for your health. We recommend you discuss this with your doctor if it is being considered.

If you become unwell

If you are showing signs of infection, you will be recommended to start antibiotics through a drip.

The team looking after you are likely to recommend medications to end the pregnancy as soon as possible.

What are the statistics? (Part 1)

A UK wide study assessed the pregnancy outcomes of all women affected by PPROM between 16 and 23 weeks' of pregnancy over 18 months from September 2019 to March 2021. This included 364 women.

Ciara at Little heartbeats worked alongside Dr Angharad Care & Dr Laura Goodfellow from The University of Liverpool to complete the PPROM study.

Why was this study done?

This study was carried out when no guidelines were available for care of women experiencing early PPROM. This was because there was very little data about what happens to these mums and babies, as PPROM is a rare condition. This meant doctors were unsure how best to care for women and families affected.

Because of this study, that information is now available.

Ciara Curran, founder of Little heartbeats says

"I see this research as crucial for advancing our understanding of PPROM. This will help women facing early PPROM to make the best decisions for them, and also hopefully help us secure more funding for research about how to improve outcomes.

UKOSS

Little heartbeats promoting the awareness and understanding of PPROM

UNIVERSITY OF LIVERPOOL

What are the statistics? (Part 2)

This information is available *if* you feel that it would be helpful for you.

These are chances of outcomes and do not mean that an outcome will definitely happen to you or your baby. You can discuss your situation with your healthcare team.

The health outcomes for women and babies included in the study are available by following the QR code below.

This information is available about pregnancies:

- *Chance of the baby being born in the week after PPROM*
- *The proportion of women who continued their pregnancy, and the proportion who ended their pregnancy (also called TFMR, termination for medical reasons).*

This information is available about babies:

- *Chance of being born alive*
- *Chance of leaving hospital alive*
- *Chance of leaving hospital without severe illness*

This information is available about women:

- *Chance of developing sepsis*
- *Chance of becoming very ill*

www.liverpool.ac.uk/life-course-and-medical-sciences/about/womens-and-childrens-health/pprom/

Women's health – what are the concerns

Sepsis	Some women with PPROM before 24 weeks' of pregnancy develop sepsis.
Retained placenta	Some women need to go to theatre for a procedure to help the placenta be delivered after birth
Haemorrhage	This is when you bleed a lot. This is more likely if the placenta needs to be surgically removed. Rarely women bleed so heavily they need an operation to remove their womb to stop the bleeding (hysterectomy). This is only done very rarely, to save the woman's life.
Psychological wellbeing & mental health	This is an incredibly stressful time. You should be offered psychological support.

Bree and her partner who experienced PPROM at 19 weeks of pregnancy.

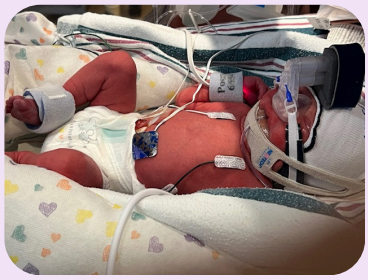
Baby's health – what are the concerns? (Part 1)

Preterm birth

If a baby is born early, there may be short and long term problems with many organs in the body. Some are severe enough to cause death. This figure has more details about survival rates for babies born from 22 to 26 weeks of pregnancy.

This figure is available on the BAPM website: hubble-live-assets.s3.eu-west-1.amazonaws.com/bapm/file_asset/file/31/outcome-of-births-infographic-201909111005-colour.pdfparagraph text

For babies born from 27 weeks of pregnancy onwards the chance of survival is higher, and improves the further through pregnancy you are. Your medical team will be able to discuss this further. Please do still seek care if your condition changes even if you are now in more advanced pregnancy, because later pregnancies with PPROM can still have complications.



Sandra and her baby. Sandra experienced PPROM at 20 weeks' of pregnancy and gave birth at 29 weeks of pregnancy.

Baby's health – what are the concerns? (Part 2)

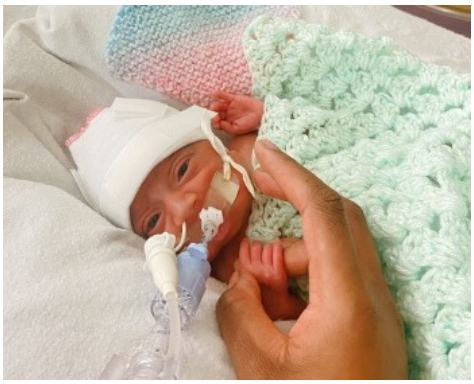
Pregnancy loss

This can happen if you go into labour before the baby is mature enough to survive. Sometimes the baby passes away in the womb before birth, after birth or in the neonatal unit.

It can be hard know which babies will survive or not. Your doctors, supported by the information on page 13, can give you further information about the chance of this.

Ciara experienced PPROM at 22 weeks of pregnany and this photograph was taken the following week. The day after this photograph she developed sepsis and the baby had to be born. He did not survive.

Baby's health – what are the concerns? (Part 3)



Simone and her daughter Malena. Simone had PPROM at 17 weeks of pregnancy and Malena was born at 25 weeks of pregnancy. Malena is 6 weeks old in the photograph above.

Disability	This is hard to predict and mostly related to prematurity.
Infection	During labour and after birth. Wherever possible doctors will try to treat with antibiotics, but severe infections can make babies so sick that they can die or have disabilities.
Breathing problems	Due to the lower amount of water around the baby, the lungs might not develop as well as they should. This can lead to long lasting breathing problems.
Limb contractures	This is like 'club foot' (or hand). Low levels of fluid inside the womb reduce the movement of the baby's arms and legs and affects their development. Contractures are often treatable with physiotherapy.

Special cirumstances

If you are under the care of a specialist preterm birth prevention clinic, you may be using vaginal progesterone or have a cervical cerclage (stitch) in place.

After PPROM anything in the vagina can increase the risk of infection tracking upwards into the womb. This can cause women and babies to get very sick. You are recommended to stop vaginal progesterone pessaries and your doctor will discuss taking out your stitch.

If you are pregnant with more than one baby, waters breaking early is more common

Your options and how you will be looked after in pregnancy are similar to women carrying one baby. Mothers with multiple pregnancies may be more likely to get sepsis.

Madison who experienced PPROM at 22 weeks of pregnancy carrying twins

Timing of birth

No complications

Can consider birth at 37 weeks of pregnancy*

This decision may change depending on your wishes, baby's growth or concerns with your health

Complications

Group B strep detected from swabs

Bleeding
Growth concerns
Infection
Cord prolapse

Birth considered from 34 weeks' of pregnancy

Birth considered urgently

*If you are carrying twins and remain well, your timing of birth will be depend on the type of twins and your wishes for how the babies are born

If my baby is going to be born preterm (before 37 weeks), how will they be looked after?

There are several treatments that can improve the health of babies born preterm. The treatments offered depend on how many weeks of pregnancy the baby is at birth.

Follow the QR code to a leaflet that explains these in more detail.

Health Innovation Manchester: https://healthinnovationmanchester.com/wp-content/uploads/2023/08/Optimisation-Leaflet-v1-1.pdft

Who do I contact if I have concerns whilst I am at home?

Who will look after me?

A named obstetric consultant
Community midwife
Hospital midwives in the maternity assessment unit

Contact details

Maternity Hospital:

Maternity Assessment Unit/Triage Number:

Heena and her daughter Aleeha. Henna experienced PPROM at 16 weeks of pregnancy and Aleeha was born at 30 weeks of pregnancy. Aleeha is 9 days old in the photograph

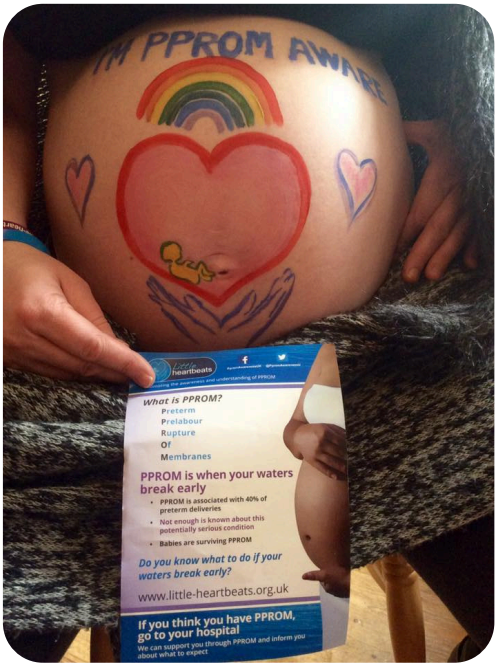
If you have concerns about your care please contact the Patient Advice and Liaison Service (PALS) at your hospital.

Common questions

Here are some prompts you may want to know more about:

- Can or should I get a sick note?
- What should I be doing during the day after PPROM?
- Is there anything I can change about my lifestyle to help the outcomes for me or my baby?
- Are there any research studies I can take part in?
- Why has PPROM happened to me?
- How will my baby be cared for if they are born early?
- Does this have any implications for my future health or future pregnancies?
- How will my baby be born? Is Caesarean birth, induction of labour or waiting for natural labour the best for my baby and me?

Bed rest is not normally recommended because it hasn't been shown to improve outcomes for women or babies, but some women do choose to reduce their activities. If your activities are reduced a lot consider with your healthcare team whether you need medications to reduce the chance of blood clots.



This photograph is courtesy of Ciara Curran - founder of the charity Little Heartbeats.

What can I do to help?

Very little research has been done on practical steps that women can do to improve the outlook after PPROM.

Steps for general pregnancy good health are still likely to be of benefit after early PPROM:

- Avoid going to sleep on your back. Try to go to sleep on your side, either left or right.
- Eat a healthy diet. Follow the advice of 'Start for Life', healthy eating in pregnancy: www.nhs.uk/start-for-life/pregnancy/healthy-eating-in-pregnancy
- Reduce, and ideally stop, smoking or vaping.
- Limit your caffeine intake to less than 200mg a day. This is about 2 cups of instant coffee.

Steps that might help reduce the chance of infection after PPROM:

- Feminine hygiene - wear clean cotton underwear, change pads every 4 hours (whilst awake), avoid perfumed intimate soap
- Do not place anything into the vagina, for example tampons
- We recommend no sex
- No swimming
- Opinions are mixed about whether women should have baths after PPROM. There is a concern that the bath water could enter the vagina and the womb, but this hasn't been shown in research studies. Showers are considered safe.

Having a pregnancy complicated by PPROM before 24 weeks' of pregnancy is a difficult time. Everyone has other pressures in life too, before PPROM. If there are other areas of your life where you can reduce your commitments, so that you can focus on yourself, this may help.

How can I contact other women who have experienced PPROM?

The patient support and advocacy group, Little Heartbeats, support women and their families who experience PPROM. They have 24/7 help available and have a global reach helping women all over the world who experience PPROM.

They have a closed Facebook group and website with real life stories.

They also provide care packs to help you through PPROM, regardless of choices and outcomes

https://www.little-heartbeats.org.uk

@PpromAwarenessUK

@PpromAwarenessU

Little heartbeats

www.little-heartbeats.org.uk

Who can I contact about this leaflet?

This leaflet has been developed for patients alongside the NHS Northwest regional guideline for Preterm Prelabour Rupture of Membranes (PPROM). The regional guideline is to guide healthcare professionals. This leaflet aims to empower women experiencing PPROM in their pregnancy and provide a guide for them, their partners, and families about the condition.

This leaflet was created on behalf of the Northwest Neonatal Operational Delivery Network, Cheshire & Merseyside and Greater Manchester & Eastern Cheshire Local Maternity and Neonatal Systems.

Leaflet development group:
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Dr Angharad Care, Obstetrics and Gynaecology Academic Clinical Lecturer, University of Liverpool
Dr Laura Goodfellow, Obstetrics and Gynaecology Academic Clinical Lecturer, University of Liverpool

Ciara who experienced PPROM at 22 weeks of pregnancy.

We would like to thank the women and families who contributed to this leaflet in honour of the babies who survived and those that did not. All photographs shared with permission and thanks.

We welcome feedback and suggestions for improvement. Please email PPROMinformation@gmail.com

This leaflet is written in memory of Sinead and to honour all the PPROM surviving babies and all PPROM babies gone to soon

Survivors

Isaac (PPROM 20+2, birth 29+6 weeks)
Tiana (PPROM 16+4, birth 29+6 weeks)
Theo (PPROM 18, birth 28 weeks)
Remy-Mae (PPROM 16/19, birth 26+4 weeks)
Maria (PPROM 12, birth 26 weeks)
Arthur (PPROM 24, birth 24+6 weeks)
Lily (PPROM 30, birth 34+3 weeks)
Carter (PPROM 23, birth 32 weeks)
Oscar (PPROM 19 weeks, birth 34 weeks)
Carson (PPROM 19+5, birth 27+4 weeks)
Adam and Josephine (PPROM 18+3, birth 28+3 weeks)
Brielle (PPROM 22, birth 24 weeks)
Lilly (PPROM 21+4, birth 22+2 weeks)
Marnie (PPROM 15+5, birth 37+2 weeks)
Oscar (PPROM 21, birth 26+1 weeks)
Leo (PPROM 18, birth 32+2 weeks)
Remy (PPROM 19, birth 30+1 weeks)
Aidan (PPROM 17, birth 26+2 weeks)
Poppy (PPROM 23+2, birth 36 weeks)
Evelyn (PPROM 20, birth 28 weeks)
Blake (PPROM 22+2, birth 24+4 weeks)
Anya (PPROM 22, birth 26 weeks)
Lilly (PPROM 21+4, birth 22+2 weeks)
Matilda (PPROM 18, birth 29 weeks)
Linden (PPROM 17, birth 36+2 weeks)
Charlie & Faith (PPROM 15, birth 28 weeks)
Avanni (PPROM 18+3, birth 22wks +6 weeks)
Delilah (PPROM 15, birth 27+6 weeks)
Riley (PPROM 20+5, birth 28+3 weeks)

In memory of

Loki (PPROM 16, birth 29+6 weeks)
Brooke (PPROM 17, birth 33 weeks)
Danny (PPROM 20, birth 20+5 weeks)
Sophia Marie (PPROM 16+5, birth 30 weeks)
Jamie (PPROM 20+5, birth 21+6 weeks)
Ethan (PPROM 20, birth 20+4 weeks)
Lukas (PPROM 18, birth 24+3 weeks)
Edward (PPROM 22+5, birth 23+1 weeks)
Harper-Rose (PPROM 19+5, birth 24+3 weeks)
Tonya (PPROM 18+4, birth 18+6 weeks)
Amaya (PPROM 18+4, birth 19+6 weeks)
Ivy-Mae (PPROM 19+5, birth 24+5 weeks)
Vera-Jean (PPROM 17, birth 21+5 weeks)
William (PPROM 20, birth 25 weeks)
Albie (PPROM 23, birth 32+5 weeks)
Noah (PPROM 18+1, birth 18+5 weeks)
Freya (PPROM 18, birth 27+3 weeks)
Arabella (PPROM 21, birth 24 weeks)
Libi (PPROM 18+3, birth 22+4 weeks)
Haniya (PPROM 18+5, birth 19 weeks)
Kaiden (PPROM 18+3, birth 18+5 weeks)
Willow (PPROM 20+5, birth 20.5 weeks)
Angie Santos (PPROM 18+4, birth 19+6 weeks)
Fraser (PPROM 20+5, birth 21+6 weeks)
Adriel (PPROM 18+4, birth 18 +6 weeks)
Marwa (PPROM 15+3, birth 16+2 weeks)
Mirhan (PPROM 15, birth 15+3 weeks)