

UNC Center for Maternal & Infant Health

"If we are to achieve results never before accomplished, we must employ methods never before attempted."

Francis Bacon

PRETERM PREMATURE RUPTURE OF MEMBRANES (PPROM)

WHAT IS PREMATURE RUPTURE OF MEMBRANES?

Your baby is surrounded by a sac of amniotic fluid. Some people call it the *bag of waters*. In most cases, this sac breaks during labor. Preterm premature rupture of membranes occurs when your water breaks before labor begins and more than three weeks before your due date. You may notice a gush of fluid, a slow leak or a trickle from the vagina.

WHY DOES IT HAPPEN?

The reason why this happens is not known. There is nothing you could have done to cause or prevent this. Preterm premature rupture of membranes probably occurs for many different reasons. Women who smoke cigarettes, have had bleeding during pregnancy or whose water broke before they went into labor in a previous pregnancy are more likely to have PPROM. Uterine contractions, too much amniotic fluid (*polyhydramnios*), or infections can cause the membranes to weaken and break.

HOW OFTEN DOES IT HAPPEN?

Preterm premature rupture of membranes occurs in 2 out of every 100 pregnancies.

HOW IS IT DIAGNOSED?

If you are leaking a lot of amniotic fluid, the diagnosis is easy. The doctor will do a

pelvic exam to look for amniotic fluid leaking from the cervix. A speculum will be inserted much like when a Pap smear is done. A fluid sample will be taken. The fluid will be tested by putting a drop on special paper. Amniotic fluid will cause this paper to change color. The fluid can also be tested by looking at a drop under the microscope. When amniotic fluid dries, it looks like a fern pattern. An ultrasound will tell if there is less amniotic fluid around your baby.

WHAT HAPPENS NOW?

You and your doctor will talk about whether it would be better for the baby to be born now or to keep growing inside you. Rupture of membranes very early in pregnancy (less than 24 weeks gestation), can be treated with bed rest at home and returning to the hospital when the baby is around 24 weeks gestation. Babies born prematurely after 24 weeks have grown enough to live outside of you. In cases where the membranes have ruptured very early, less than 20 weeks gestation, you may make the choice to deliver your baby. However, these babies are too young to live on their own.

If your membranes break after 24 weeks gestation and your due date is not close, you will probably need to stay in the hospital. The doctors and nurses will watch for any signs of infection or other problems.

If your due date is close, the birth of your baby at this time may be best because the risk of the baby being born is less than the risk of keeping the baby inside you.



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No matter when your due date is, if you or the baby show signs of infection or other problems, the baby will need to be delivered.

WILL I DELIVER PREMATURELY?

It is likely that you will deliver prematurely. Delivery within one week is common. There is no way to tell how long the pregnancy will continue after your membranes break.

IF I DON'T DELIVER RIGHT AWAY, HOW LONG WILL I HAVE TO STAY IN THE HOSPITAL?

You should plan on staying in the hospital until your baby is born. If all goes well, your labor will be induced about five weeks before your due date (35 weeks gestation).

WHAT WILL BE DONE FOR ME IN THE HOSPITAL?

The treatment you receive will include monitoring of the baby's heartbeat once or twice a day. Two belts will be placed around your belly for about 30 minutes to record the baby's heart beat and any uterine contractions.

Bed rest is important to help prevent any problems. You may get up to go to the bathroom, but should remain in bed the rest of the time. Amniotic fluid will leak from the vagina when you get up. Do not worry. Your baby will keep making amniotic fluid during pregnancy.

Antibiotics are given to prevent infection. They are usually given into a vein (IV) for several days. After this, you can take them by mouth for a few additional days.

If you are less than 8 months pregnant, you may be given betamethasone. This medicine is given twice as a shot, 24 hours apart. It helps the baby's lungs to develop and lessen the chance of breathing or other problems after birth. Betamethasone can increase your blood sugar, so your doctor may want to check your blood sugar level, if you are diabetic.

HOW WILL THIS AFFECT MY PREGNANCY?

PPROM can lead to other problems such as premature labor, infections of the mother or baby, kinking of the umbilical cord, delivery of the umbilical cord before the baby (*prolapsed cord*), and poor growth of the baby's lungs.

The sac around your baby helps to protect the baby from germs that normally live in the vagina. When this sac breaks, these germs can cause an infection in the mother and/or baby. This is called *chorioamnionitis*.

The umbilical cord could get pinched with less fluid to protect it during uterine contractions or when the baby moves. In rare cases, the umbilical cord can come out of the vagina before the baby is born (*prolapsed cord*). An emergency delivery would be needed because the baby would not be able to get oxygen.

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Without enough amniotic fluid, the baby's lungs may not grow well. If the lungs are too small, (this is called *pulmonary hypoplasia*), it may be hard or impossible for the baby to breathe after birth. There is no way to predict this problem.

If you have a backache, pelvic pressure, abdominal pain, vaginal bleeding, or your baby is moving less often, you should tell your nurse or doctor immediately. Your baby may need to be delivered soon.

HOW WILL MY BABY BE DELIVERED?

Unless there are other problems with your health or your baby's health, you will have a vaginal delivery. A cesarean delivery would be needed if the umbilical cord is born before the baby or if the baby is not in a head down position.

WHAT CAN I EXPECT AFTER MY BABY'S BIRTH?

The biggest risk to the baby after PPRM is prematurity. Infection can also be a problem. If there is a chance that your baby will need specialized care after birth, the staff from the Newborn Critical Care Center (NCCC) will be at your delivery to care for your baby. They will continue to care for your baby, if needed. If your baby does not need special care, the baby will go to the newborn nursery.

How much care your baby will need after delivery depends on many factors such as gestational age, length of time the membranes were ruptured and whether the

baby has an infection. Your baby will probably need antibiotics and may need help breathing. Every case is different.

If your baby is born at or near your due date and has no problems, you can expect the baby to go home with you. Many premature babies go home when they reach about 36 weeks gestation. Some babies go home before or after this time. If a baby has been doing well and just needs to grow bigger, the baby may be transferred to a hospital closer to your home. The baby's doctors and nurses will keep you informed of how your baby is doing and will work closely with you so that your baby can go home as soon as possible.

QUESTIONS?

If you have questions about PPRM or your care at the NC Women's Hospital, please feel free to ask your doctor or nurse for more information.

Notes:

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