

# Meconium-Stained Amniotic Fluid

Meconium is your baby's first stool. If the baby passes this meconium stool before birth, it may lead to complications, especially breathing problems. If meconium is found in the amniotic fluid that surrounds your baby in the womb, a careful examination for possible respiratory distress (breathing difficulties) will be done, and treatment will be started if needed.

## What is meconium-stained amniotic fluid?

The amniotic fluid is the liquid that supported and cushioned your baby in the womb during pregnancy. Meconium is the first stool (bowel movement), which is normally passed soon after birth.

If your baby passes the meconium before birth (while still in the womb), it stains the amniotic fluid a brownish color. This is most common in babies who suffer “stress” in the womb, often related to not getting enough oxygen or to infection.

If the baby inhales any of the meconium, it can lead to a potentially serious complication called *meconium aspiration syndrome*. This refers to the meconium getting into the lungs and causing breathing (respiratory) problems. It occurs in only about 5% of babies with meconium-stained amniotic fluid. Meconium aspiration may lead to serious complications, depending on how much meconium was in the fluid and how much of it your baby inhaled. With appropriate treatment, sometimes including mechanical ventilation to aid in breathing, most babies recover from this syndrome completely.

## What does it look like?

Meconium may be seen staining the amniotic fluid at birth. Meconium stains may also be on your baby's skin. Meconium is a thick, dark green, sticky material. The amount and color of staining depend on how much meconium got into the amniotic fluid and when it occurred.

- If your baby inhaled any of the meconium, he or she may have symptoms of meconium aspiration syndrome, which include difficulty breathing:
  - Breathing very fast.
  - Working very hard to breathe. You may see your baby's chest moving up and down with each breath (“retractions”) or hear grunting noises (more severe cases).

- Blue color of the skin (cyanosis—a sign of severe breathing problems).
- Severely affected babies or those who were “stressed” in the womb may be less active or limp.
- Chest x-rays often show inflammation of the lungs (pneumonia).
- Over the first few days, your infant may develop respiratory distress. If symptoms are severe, he or she may need mechanical ventilation to assist in breathing.
- Some babies develop a *pneumothorax*. This is an air leak from the lungs into the chest. It can put pressure on the lungs and can cause part of the lung to collapse, leading to more difficulty breathing.
- *Not all infants with meconium-stained amniotic fluid inhale meconium or develop breathing difficulties.* Your baby will receive close examination and follow-up to detect or prevent any problems.

## What puts your child at risk of meconium-stained amniotic fluid?

- Meconium-stained amniotic fluid is fairly common; it occurs in 10% to 15% of births. Only a small percentage of these babies develop meconium aspiration syndrome or breathing problems.
- Meconium staining is most common in infants who are delivered late (past their “due date”) or after a difficult labor.

## Can meconium-stained amniotic fluid be prevented?

Careful monitoring during labor and delivery may help to reduce the risk of meconium aspiration. If meconium staining is present, prompt treatment may help to prevent more serious breathing problems.

## How is meconium-stained amniotic fluid treated?

If your baby has meconium staining of the amniotic fluid, immediate evaluation is needed to detect and treat any complications.

- Infants who have thick meconium staining and/or difficulty breathing are checked for meconium in the throat and airway. If present, the material is suctioned (removed) using a device called a laryngoscope.

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- Suctioning of the throat is done *only* if the baby is having difficulty breathing or is not as active as he or she should be. If the baby seems to be breathing normally and is normally active, trying to remove meconium by suctioning may actually increase the risk of complications.
- The doctor will carefully assess your baby's breathing. Your baby may need additional oxygen, often given through small tubes placed a short distance into the nose (nasal prongs).
- Some babies with meconium aspiration need *mechanical ventilation*. A tube is placed in the airway (trachea) and connected to a machine, which pumps oxygen into the lungs to help your baby breathe. When needed, mechanical ventilation may reduce the severity of respiratory distress. Your baby will be moved to a special newborn intensive care unit (NICU) for constant care and attention.
- Other treatments are sometimes needed:
  - Some babies with severe breathing problems receive surfactant, a substance that helps the lungs inflate more easily.
  - In very severe cases, specialized treatments may be needed to ensure your baby is getting as much oxygen

as possible. *Extracorporeal membrane oxygenation* (ECMO) is a treatment that supplies oxygen directly to your baby's blood instead of to the lungs.

- In babies with meconium aspiration syndrome, it can be difficult to tell if infection is present. Most babies are started on antibiotics until the doctor is sure there are no problems with infection (such as pneumonia).
- Your baby is monitored closely, especially to be sure he or she is getting enough oxygen. Changes in treatment may be needed over the first few days, for example, if respiratory distress or pneumonia develops.

Although meconium aspiration can be a serious problem, most babies recover completely. Breathing should begin to get better within a few days. Some babies with severe disease that resulted in not receiving enough oxygen may have some brain injury.



### **When should I call your office?**

Call our office if you have any questions about this condition or about your infant's treatment.