

What is the process for labour to start?

As mothers everywhere will tell you, labour is definitely no easy feat. Every experience is different, and depending on the type of pregnancy, the duration of labour can vary greatly. After approximately nine months of pregnancy, the wait is finally over and your body readies itself for the delivery of your little one. But how does your body prepare for such an undertaking?

The communication between you and your baby's body, along with various molecules and chemicals turns out to be key in beginning this amazing process. Labour is initiated through a change in the uterus from what is known as an anti-inflammatory state to a pro-inflammatory state. This essentially means that your body harnesses the power of the immune system during labour and causes the release of certain molecules and chemicals. This switch to turn on the immune system is caused by the activation a complex system and involves structured communication between the placenta, fetal lungs, fetal membranes and your uterus – The question is – what starts it all off?

If you happen to be one of the women whose pregnancy goes past 40 weeks with no sign of your baby's arrival, you understand how hard waiting can be. You probably feel as though you will be pregnant forever. Everyone around you is impatient for news of your baby's arrival. Your LMC may even start hinting about induction dates if your baby isn't born by a certain time. If you aren't keen on being induced, you might feel the pressure to start getting labour going naturally. Maybe your sister had a Thai curry the night her baby was born, or your neighbour swears that her water broke right after she had acupuncture, whatever may help to get your baby out, then it's okay, right?

What's going on in there that needs all this time? Humans, like all mammals, we need to put the finishing touches on lung development before being born. It's this final stage that researchers have discovered holds the key to when labour begins.

Fetal Lung Development

While in the uterus, babies are not breathing air like us, they receive oxygen via placental blood. While the lungs begin to develop early in pregnancy, the process continues all the way through the pregnancy. Around 24 – 28 weeks of pregnancy, your baby's lungs begin to produce a substance called surfactant. This substance is made of fats and proteins, and is critical for your baby to be able to breathe when they are born. Surfactant is a soapy-like substance. It coats the inside of the lungs and keeps the air sacs (alveoli) open. The alveoli is where gas exchange in the lungs occurs – oxygen is taken up by the blood and carbon dioxide is released and then exhaled - think about this amazing process and how many times you have breathed during reading this column. The last stage of lung development begins around 36 weeks of pregnancy, and it continues until your child is about 8 years old. This is called the aveolar phase, when the lungs form millions of alveoli.

What Causes Labour To Start?

During late pregnancy, the uterus has an increased number of immune cells, these help fight lung infections for your unborn baby by effectively sweeping up any viruses or bacteria that might be present. A protein found in lung surfactants activates these cells which begin to migrate to the uterus wall. Once there, a chemical reaction takes place, stimulating an inflammatory response in the uterus that begins the process of labour.



Along with the protein, hormones are also key to the process of labour, so it is not a surprise that the pregnant mother is a specimen of hormonal firepower! Fluctuating hormones – such as the reduction of progesterone and the increase in oestrogen – signal the oncoming of labour itself, and another hormone called oxytocin which is released by your baby, helps initiate labour. High levels of oxytocin are associated with lovemaking, nurturing a baby, releasing of breastmilk and labour contractions - hence why it's often referred to as the "Love Hormone"

Interestingly the mother's body, as it nears labour, also increases the production of the hormones called endorphins. Endorphins levels can alter the perception of pain and stress. They are also associated with a feeling of well-being. The body naturally produces endorphins to help you cope with the pain of labour. Our bodies are amazing.!

If we ever do figure out what exactly causes labour to begin we may be able to prevent babies being born too early. Human mammals need at least 266 days to grow inside their mother to live well outside our uterus.

Thank goodness we aren't elephants, they need 660 days!!



**WHAT?
660 DAYS!!**