

## Pre-labour Rupture of Membranes: impatience and risk



Amniotic sac and fluid play an [important role in the labour process](#) and usually remain intact until the end of labour. However, around 10% of women will experience their waters breaking before labour begins. The standard approach to this situation is to induce labour by using prostaglandins and/or syntocinon (aka pitocin) to stimulate contractions. The term 'augmentation' is often used instead of 'induction' for this procedure. Women who choose to wait are usually told their baby is at increased risk of infection and they are encouraged to have IV antibiotics during labour. In my experience most women agree to have

their labour induced rather than wait. I wonder how many of these women would choose a different path if they were fully informed about the available evidence. Please note that this post is *not* about premature rupture of membranes (before 37 weeks) – this situation is not a variation of normal physiology. The rush to start labour and get the baby out after the waters have broken is fairly new. When I first qualified in 2001 the standard hospital advice (UK) for a woman who rang to tell us her waters had broken (and all else was well) was: "If you're not in labour by [day of the week in 3 days time] ring us back." Over the following years this reduced from 72 hours to 48 hours, then 24 hours, then 18 hours, then 12 hours and now 0 hours. You might assume that this change in approach was based on some new evidence about the dangers involved in waiting for labour. You would be wrong.

This post is mostly based on a couple of Cochrane reviews because hospitals are supposed to base their policies/guidelines on research evidence. Obstetricians also tend to have great respect for research evidence – certainly more than other forms of knowledge midwives also use (experience, intuition, witchcraft etc.). I've found that a 'good' research review waved about with a smile works wonders when going against an institutional norm. However, please note that research reviews are only as good as the research reviewed. Research is not conducted in a vacuum, and the questions that are asked, and the methods used, tell us a lot about the social and cultural context of knowledge, and what is valued. For example in most trials the 'doing nothing' group is the experimental group and the 'routine intervention that was previously introduced without evidence' is the control group. You can read more about research bias in maternity care in [this post](#).

## Outcomes: induction vs waiting

### For Baby



A [Cochrane review](#) comparing planned (induced labour) vs expectant (waiting) management concluded that neonatal infection 'may be' reduced.

Unfortunately, the research reviewed was not great: *"Only three trials were at overall low risk of bias, and the evidence in the review was very low to moderate quality."* Indeed all of the evidence in the review was rated 'low quality' except the

evidence demonstrating no difference in the rate of death for babies between inducing vs waiting (this was the only 'moderate quality' research).

Whilst the review reports a slight increase (less than 2%) in 'definite or probable' neonatal sepsis, this needs to be unpicked a little. Once the 'probable' portion was removed in the analysis the difference was no longer significant. It would be very interesting to know how many of the suspected (probable) cases of sepsis were merely care providers being cautious and making assumptions. For example, some symptoms associated with sepsis can be caused by other interventions – epidural increases the chance of a high temperature in both mother and baby; a stressful labour (and syntocinon) can result in low blood glucose in the newborn. It is common practice to assume infection until proven otherwise and treat accordingly. The fact that there was no difference in Apgar scores between the groups increases my suspicions in this area. Infected babies are much more likely to have a poor Apgar score and require resuscitation at birth.

The review goes on to state that: "...evidence about longer-term effects on children is needed." And there is increasing evidence about the risks of the [induction process](#) for babies that needs to be considered by women when making a decision.

### For mother

The Cochrane review did find a slight increase (1%) in the absolute risk of uterine infection for mothers who waited for labour. Bear in mind that these studies were done in hospitals which are not the best setting when attempting to avoid infection. If a uterine infection is identified early it can usually be effectively treated with antibiotics. I used to see quite a few uterine infections as a community midwife in the UK doing postnatal home visits – mostly after forceps or ventouse births. However, if the symptoms are missed, or the woman does not have access to antibiotics; or the infection is antibiotic resistant, a uterine infection can be life-threatening.

The report found no difference in the rate of caesarean sections. However, the stats for first-time mothers are not separated out. This is frustrating because induction increases the chance of caesarean significantly for first time mothers (see [this post](#)). Women who have previously given birth have no increased chance of caesarean with induction. When you mix the two groups together (like most research does) you miss the outcomes for those first-timers. Interesting only 2 of the studies in the review looked at uterine rupture – a greater risk for women who have previously laboured.

### The experience: induction vs waiting

Only one of the trials in the Cochrane review bothered to ask women what they thought of their experience (no surprises there). In this trial, women who had their labour augmented were more likely to tick the box saying that there was 'nothing they disliked in their management'. There are huge limitations when using surveys to assess experiences, and a good qualitative study is needed here. For example, how can a woman compare one experience (induction) against an experience they did not have (physiological labour) – you don't know what you don't know. Also, if a woman believes she is protecting her baby against infection by inducing labour this may influence her perception of the management. The Cochrane review states that no trials reported on maternal views of care, or postnatal depression.

Only two of the reviewed studies (one very old 1996) looked at women's views of care during both options. They used quantitative measurements ie. women answered questions using a scale. These studies found that women preferred induction. This in contrast to qualitative research examining women's experiences of induction (see [this post](#)) and illustrates a problem with quantitative research – you find out what by not why. For example, what did these women understand about their situation and options? If they felt that their baby was in danger and they were doing the safest thing by inducing they would be more likely to prefer that option.

### Antibiotics – just in case?

A [Cochrane review](#) of antibiotics for pre-labour rupture of membranes at or near term concluded that: *"There is not enough information in this review to assess the possible side-effects from the use of antibiotics for women or their infants, particularly for any possible long-term harms. Because we do not know enough about side-effects and because we did not find strong evidence of benefit from antibiotics, they should not be routinely used for pregnant women with ruptured membranes prior to labour at term, unless a woman shows signs of infection."*

The [National Institute for Clinical Excellence \(UK\) guideline](#) states *"If there are no signs of infection, antibiotics should not be given to either the woman or the baby, even if the membranes have been ruptured for over 24 hours."*



## Oral thrush

So it appears that women and babies are being given high doses of antibiotics during labour without sufficient evidence to support the practice. In addition, these antibiotics may have short term, and long term side effects. As a student midwife I was asked by a mother what would happen if her unborn baby was allergic to antibiotics. I had no idea and asked the Consultant... after a long and complex answer I realised he didn't know either. I am guessing that most side-effects are more subtle than anaphylaxis. The effect I most often see is [oral thrush in the baby and co-existing nipple thrush](#) – and subsequent breastfeeding problems. However, more worrying are the potential long term problems associated with antibiotic exposure – most likely due to the [disruption of gut microbiota and the integrity of the immune system](#). Another issue is the development of antibiotic resistant bacteria due to the overuse of antibiotics, which can result in infections (e.g. uterine) being difficult to treat.

### Choosing to wait

Women need to be given [adequate information](#) so that they can make the decision that is right for them. I'm not sure most women are fully informed, and instead are told their baby is 'at risk'. As we know, you can get a mother to do anything if she believes it is in the best interests of her baby. So what happens if a woman chooses to wait for labour?



Most women (79%) will go into labour within 12 hours of their waters breaking and 95% will be in spontaneous labour within 24 hours ([Middleton et al. 2017](#)). Ashlee whose birth I recently attended has given me permission to share her experience and photos here. Ashlee's daughter Arden taught both her family and her midwives about patience and trust. We waited 63 hours from waters breaking to welcome her into the world. After a 2 hour, 20 minute labour she was gently born through water and into her mothers arms (notice the [nuchal cord](#)). I wonder how different this birth would have been if Ashlee had chosen to follow hospital guidelines. Instead she weighed up the information for herself and chose to stay home amongst her own familiar bacteria, and let her daughter decide when she was ready to be born.

*Suggestions for waiting:*

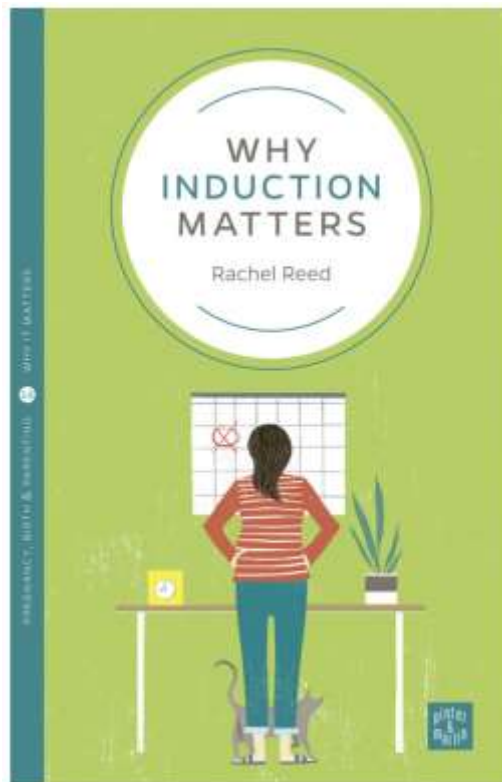
- View the situation positively – we are all getting time to prepare for the birth and the arrival of baby. She can use the time to relax, sleep and be pampered.
- The vagina self cleans downwards. Reduce the chance of infection by not putting anything into the vagina ie. no vaginal examinations. If a vaginal examination is absolutely necessary sterile gloves must be used.
- Some women like to boost their immune system with nutritional supplements (eg. vitamin C, echinacea, garlic).
- Be self-aware, connect with your baby and let your midwife/care provider know of any changes eg. feeling unwell, a high temperature, if the amniotic fluid changes colour or smell, any reduction in the baby's movements etc.
- I have observed Acupuncture and Bowen Therapy encourage contractions. However, if the cervix is not ready the contractions will fizzle out. If the cervix is ready, it may be enough to kick start labour. Nipple stimulation will also stimulate oxytocin (and clitoral stimulation will too).
- Most importantly trust the process. Birth will happen.
- Once the baby is born – keep baby skin-to-skin with mother to reduce the chance of infection by allowing the baby to become colonized by his mother's bacteria (this applies to all births).
- After birth be aware of signs of infection. Mother: fever, raised pulse, feeling unwell, smelly vaginal discharge, uterine pain. Baby: fever, noisy breathing, change in colour (pale), listless.

## Summary

The research evidence regarding induction for rupture of membranes is poor. Giving antibiotics in labour 'just in case' is not supported by current evidence, and may cause problems for baby and mother. Women need [adequate information on which to base their decisions](#) regarding the management, or not, of this situation. Women who choose to wait for labour should be supported and to do so.

**You can read more about induction in my book [Why Induction Matters](#)**





**Reference:** This article was published in Midwife Thinking on January 11 2017. The original can be found here:

<https://midwifethinking.com/2017/01/11/pre-labour-rupture-of-membranes-impatience-and-risk/>