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The Assessment of Progress

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Midwife Rachel Reed asks whether it is time for change in the way we look at stages of labour

The idea that birth should be efficient originated in the 17th century when men used science to redefine birth.1 The body was conceptualised as a machine and birth became a process with stages, measurements, timelines and mechanisms. This belief continues to underpin our approach to childbirth today.

In current midwifery texts labour is divided into three distinct stages, and further divided into phases within those stages. The first stage of labour involves regular and coordinated uterine contractions accompanied by cervical dilatation. This stage includes three phases: latent, active and transitional. The second stage of labour begins when the cervix is fully dilated and ends when the 'fetus is fully expelled from the birth canal'.2 Again, the second stage is further broken down into three phases: latent, active and perineal. 'The third stage of labour is the period from the birth of the baby through to delivery of the placenta and membranes and ends with the control of bleeding'2 This categorisation allows practitioners to measure progress through the stages and create limits and boundaries around what is considered 'normal'.

The tool used to measure labour in hospital settings is the partogram, which is largely based on a study carried out in the 1950s by Friedman3 where he plotted the cervical dilatation of 100 women having their first baby in an American hospital. He found that the average rate of cervical dilation was 1.2cm per hour, but that this rate was not linear. In other words, most women gave birth within twelve hours of the commencement of labour, but there was variation in their individual dilation patterns. In the 1970s Philpott and Castle modified Friedman's graph to provide guidance for practitioners working in a remote area of Rhodesia. Their intention was to reduce the incidence of poor outcomes associated with obstructed labour in this particular setting.4 They added an alert line, a transfer (to hospital) line and an action (augmentation) line to Friedman's graph. The resulting partogram is now a practice tool used in hospitals worldwide to monitor the progress of normal labour. A cervical dilatation rate of less than 1cm per hour is considered 'abnormal' according to most hospital policies. However, some hospitals are more generous and will consider a rate of 0.5cm per hour normal for women having their first baby.

Since use of the partogram became widespread, researchers have found that Friedman's graph does not represent normal labour progress. In contrast, research has found that cervical dilation patterns vary widely between individual women, and the average length of labour is much longer than in Friedman's findings.[5,6,7,8,9]

A recent Cochrane Review into partogram use in labour concluded that: 'On the basis of the findings of this review, we cannot recommend routine use of the partogram as part of standard labour management and care'.[10] This evidence-based recommendation is yet to be reflected in maternity care. Instead, women have their labours managed in order to follow a partogram with limits and boundaries. Fewer than 50% of women having their first baby will manage to meet the narrow criteria of 'normal progress' and avoid augmentation of their labour.[7] The World Health Organisation estimates that the rate of obstructed labour is between 3 and 6% worldwide[11] and so a significant number of women are experiencing unnecessary intervention during their labour.

Methods used to augment labour carry risks and alter the physiology of birth. Amniotomy (artificial rupture of membranes) does not reduce the length of labour, and may increase the chance of having a caesarean section.[12] Intravenous syntocinon can increase contractions and shorten labour, but requires careful monitoring of mother and baby because of the potentially dangerous side effects[13]

When augmentation fails to improve the progress of cervical dilatation, a caesarean section will be performed for 'failure to progress'. Time limits on the second stage of labour result in midwives implementing directed pushing to get the baby out before they must notify an obstetrician. Directed pushing (Valsalva manoeuvre, sometimes called purple pushing because a woman is encouraged to hold her breath and push hard) does not significantly reduce the length of the second stage.[14] However, it does increase the risk of damage to the pelvic floor and perineum, and is associated with fetal hypoxia, in no small part due to oxygen starvation when mum holds her breath. If directed pushing does not improve progress, or the baby shows signs of stress due to hypoxia, the birth will be assisted using forceps or a ventouse. Most hospitals have policies regarding the length of time between the birth of the baby and the birth of the placenta. These vary from hospital to hospital, but failing to meet the deadline will often result in the placenta being manually removed.

The concept of managing women's labours to follow a partogram relies on the premise that it is even possible to assess the progress of labour. I challenge the notion that it is possible to identify where stages of labour start or end, or to accurately predict the future progress of a labour. Physical changes in the cervix and uterus occur during pregnancy, and the onset of labour is a gradual happening.15 Therefore, identifying an exact time of labour onset is not possible. The definition of 'established labour' includes regular rhythmic contractions occurring at least three every 10 minutes, lasting for 45 seconds and accompanied by progressive dilatation of the cervix.16' 2 However, women's contraction patterns are as unique as their bodies. At home births, I have observed women have infrequent, irregular contractions throughout their entire labour and give bir th spontaneously. Therefore, contraction pattern is not necessarily a good indication of how a cervix is dilating.

Assessing the progression of the 'first stage of labour' also relies on knowing what the cervix is doing. Some hospitals no longer have a policy of routine vaginal examinations in labour, perhaps reflecting concerns about the practice. 17 Even when vaginal examination remains an element of routine management, the timing of assessments is usually four-hourly. A vaginal examination only reveals what the cervix is doing at the time of the examination. It cannot provide information about what the cervix was doing before, or what it will do in the future. For example, a woman's cervix may be only 3cm dilated but she could birth her baby within an hour of this assessment. Another woman's cervix may be 9cm dilated but her baby may not be born for another 6 hours. Using a vaginal examination to determine the start of the second stage is also inaccurate. If a midwife examines a woman at 3pm and finds that her cervix is fully dilated, does that mean her second stage started at 3pm? What if her cervix had been fully dilated at 2pm but the midwife didn't know? There is only one accurate time recording that can be made during labour - the end of the second stage because the baby is born. Although a time can be recorded for the birth of the placenta, the third stage ends with 'control of bleeding', which is open to interpretation.

Despite the inability to accurately measure the stages of labour, maternity documentation requires this information to be recorded. Partograms, birth summaries and perinatal data forms require midwives to record the hours and minutes a woman spends in each stage of labour. The result is creative documentation and some interesting conversations between midwives. Such as: 'What time would you say second stage started?' 'Umm not sure - she was making grunty noises around 5.30pm...' 'OK, I'll put 6pm.' And between midwives and women: 'What time would you say your labour established?' 'I don't know. The contractions were really hurting by 7am then I came into hospital.' 'Hmmm well you had your baby at 9am, so you must have been doing something before 7am... I'll put 6am.'

Midwives also manipulate the paperwork to fit policies, protect women and avoid getting into trouble. For example, recording the cervix as being 9cm dilated rather than fully dilated to buy more time for the woman. Or ignoring an hour's worth of spontaneous pushing before recording the start of the second stage. These strategies allow midwives to complete the required paperwork whilst protecting the woman from unnecessary interventions.

However, these strategies also support and maintain the structures that impose time limits. These

fabricated times are recorded in standard maternity documentation and then sent to organisations that collect and analyse the data to provide information about labour and birth. By manipulating records midwives are helping maintain the myth that labour has distinct stages which can be measured accurately.

Perhaps more impor tantly, though, they are re-defining women's birth experiences, often in contrast to the woman's own experience. For example, recording the length of a labour only from the onset of 'established labour' disregards the hours or days that a woman may have experienced contractions before being considered to be in established labour. Abandoning the concept of stages and the notion of accurate assessment may improve outcomes and reflect women's experiences of birth more honestly. However, individual midwives may find it difficult to practise against the cultural norm. Midwives who practise openly and autonomously within a medicalised system often experience ridicule and bullying[18, 19] Therefore it is not surprising that most midwives continue to bend the rules rather than break them.

There appears to be no simple solution to this situation. The concept of stages of labour and assessment of progress is deeply embedded in our birth culture and practice. Perhaps change could begin with an open dialogue between women, midwives, obstetricians and policy makers regarding a move to a more evidencebased approach to childbirth.

Individual midwives can also make a difference, and should support each other to do so. The content of parent education sessions can be changed to focus on what Downe and McCourt refer to as 'unique normality'[20] rather than descriptions of the stages of labour. Midwives can share the evidence with each other and midwifery students, and highlight the failures of the current situation rather than sustaining acceptance.

If enough midwives write 'not applicable' on paperwork rather than making up a time, there will be evidence that the documentation needs to change. Experience of observing non-augmented labours will assist midwives to develop their understanding of normal birth, and their ability to identify a truly obstructed labour. These changes may be challenging but the result could be a better approach that respects women's uniqueness and embraces the unpredictable nature of birth.

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21. *Editor's note: The third stage of labour is comprehensively discussed in the fully revised, updated AIMS booklet Birthing Your Placenta: the third stage, published 2011, reviewed on page 24.*