

Childbirth Chatter



IN THIS ISSUE ...

Labour Plateaus • Understanding Failure to Progress • Starting Breastfeeding Right

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Childbirth Education Association Darwin

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knowledge • confidence • choice

A Word From the Committees

Welcome everyone.

We hope all is going great wherever you are in your parenting journey.

Childbirth Education Association and The Darwin Homebirth Group welcome you to the Wet Season edition of our twice yearly newsletter.

Both groups are run by volunteer committees who are parents just like yourselves, who live in Darwin, Palmerston and the Rural areas and have birthed locally through a variety of the 'places of birth' available in Darwin. We now want to support other families with evidence based information and social support programs that can empower and uplift.

Childbirth Education Association provides comprehensive birth preparation courses that can help families prepare for birth and have positive birth and early parenting experiences. We also run Pregnancy Yoga classes, a monthly Nurturing Newborns Group and other programs from time to time when funding is available. In our office at the Nightcliff Community Centre we have a wonderful library of evidence based books about pregnancy, labour, birth and early parenting that you are welcome to borrow for free. Please visit the office between 9am and noon Tuesday to Friday to borrow books or come along to pregnancy yoga on Thursday evenings and or Saturday mornings - you can access the library before or after the class.

Darwin Homebirth Group offer social meet-ups once a month and offer a hire service for birth pools, TENs machines and a CUB stool. They also advocate for women to continue to have choice around 'place of birth'. Did you know that for healthy women experiencing a normal pregnancy, Homebirth is statistically the best option to experience a normal physiological birth without medical intervention.

Both orgs are interested to hear from anyone who would like to join our management committees. Please don't hesitate to reach out if you think this role would be interesting to you.

Last year CEA received a major CBF grant to renovate the common areas at the Nightcliff Community Centre. **Thank you to the NTG Community Benefit Fund** for contributing to the ongoing wellbeing of many sectors of our community who use the community centre - these include Corrogated Iron Youth Arts, NT Mental Health Coalition, Integrated Disability Action, Inclusion Australia, Alcoholics Anonymous and various other groups that use the meeting rooms on occasion for classes and workshops.

Work is now well underway and things are slowly starting to take on a refreshed feel. The new kitchen is in place, painting has happened, new lighting, the bathrooms have been re-tiled and the new toilet cubicle partitions are being installed as I type. We are really looking forward to the final steps and the new flooring will be installed by the end of January.

If you enjoyed reading this newsletter please pass it on to other pregnant friends and support our orgs by spreading the word about what we do. Word of mouth is the main form of promotion for us and helps us survive on our tiny budgets.

All the best from all of us at CEA and DHBG

2024 CEA Committee

Juliet Barsden
Janelle Craggs
Jacqui Cleghorn
Kim Pemberton

2024 DHBG Committee

Mel Belyer
Karen Curr
Shana Murray
Carla Yeung
Summer Marriot
Jenelle Craggs

Thank you to Kat McNamara
MLA for Nightcliff - Greens NT
for your
assistance with printing

Cover Photo
Olivia Anne Snyder
Photography

Birth Preparation Courses

February Courses Fully Booked

March

Tuesday 4th, 11th, 18th, 25th
6pm to 8:30pm/9pm on 25th

April

Thursday 3rd, 10th, 17th, 24th
6pm to 8:30pm/9pm on 24th

Private courses are also available if these don't suit your schedule.

Early Parenting

March

Tuesday 25th 6:00pm to 9:00pm

April

Thursday 24th 6pm to 9:00pm

Please check www.ceadarwin.asn.au for course dates further into the future

All classes are held at the Nightcliff Community Centre

Birth Preparation

Course Outline

Session One: Pregnancy & Creating Your 'Mindset' For Labour & Birth
Welcome
Pregnancy - nutrition, self care, building your support group for early parenting
Birth Planning - a useful birth plan is not your ideal birth written down on paper
Informed Choice
Thinking about Pregnancy & Birth - not an illness or 'risk' but a normal healthy life event
Cultural Ideas Around Pregnancy & Birth - how this influences us
Fear Release Work
HypnoBirthing Explained
The Hormones of Labour
Rebozo for Pregnancy
Why Normal Birth is Important
The Importance of Your Due Date
Role of Your Birth Support Person
Roles of Care Providers - OB's, Midwives, Doulas
How/Why Does Labour Start? Physical/Emotional/Spiritual
Question Time

Session Two: Labour
Recap of Week One
Relaxation Meditation Practice
Induction - your choices around this, why, when, where, what to expect
The Cascade of Intervention
Hormones & Induction
Why Your Birth Environment Is Important
Creating Your Ideal Birth Environment
How Contractions Work
First Stage of Labour
Using Natural Birth Tools To Manage Labour
Active Birth Positions/Movement
Medical Pain Relief Options
Water
TENS Machine
'Birth Media' - every birth is unique
Question Time

Session Three: Birth
Recap of Week Two
BRAIN Decision Making Tool
Second Stage of Labour (Birth)
Directed Pushing vs Instinctive
Avoiding Tears
Post Partum Haemorrhage
Third Stage (Birthing Your Placenta)
The Importance of The First Hour After Birth
Gentle C-Section
More Labour Tools - soft touch massage, rebozo at birth, breathing, supported holds, vocalisation
Eating & Drinking In Labour
Instrumental Birth
The Importance Of Your Choice of Language & Communication
Why Have A Birth Plan?
How To Construct A Meaningful Birth Plan
Step By Step Through A Birth Plan
Question Time

Session Four: Early Parenting
Workshop - The Fourth Trimester For Baby, Mother & Family (3 Hour Session)
What Babies Need -
Physical, Emotional & Developmental
Your Baby's Experience Of The Fourth Trimester
Baby-Wearing
Breastfeeding
Baby & Parent Sleep
Developmental Milestones
What New Mums Need
Understanding Hormones
Brain Changes
Traditional Postpartum Practices
Mum's Experience Of The Fourth Trimester
Physical Recovery from Birth
Partner's & Team Building
Maintaining Your Relationship
Question Time

Check our website for on-line booking forms... www.ceadarwin.asn.au or email the office ... info@ceadarwin.asn.au

Birth Education Classes

Birth Preparation Courses are held over four weeks and encompass body, mind and spirit. Includes breastfeeding information.
Cost: \$260 for two participants

Private Birth Classes

You may prefer a more personalised course. Incorporating specific elements of our other courses. One that fits with your and your birth partners schedules.
Cost: Dependent on time - approx. \$80/hour

Early Parenting Workshops:

Designed to give parents-to-be knowledge and skills to enhance those first precious hours and weeks with your newborn. Topics include: normal infant behaviour, sleep and settling, breastfeeding, the infant microbiome, self care, team building for new parents and much more.
Cost: \$120 (includes partner or support person)

Please email the office for more details regarding any of these courses. info@ceadarwin.asn.au

Pregnancy Yoga Classes

Pregnancy Yoga: An antenatal yoga class with asanas appropriate for pregnancy. relaxation techniques, visualisation, pelvic floor exercises & strength work are included. The library will be open after the class. Classes are held Saturdays 11.30am - 12:45pm & Thursday evenings 5:30pm to 6:45pm

Cost: For either Yoga class \$17 or buy a 5 class pass for \$15.00 per class

Classes held at the Nightcliff Community Centre Boab Meeting Room

Nurturing Newborns Morning Teas

(Suitable for Babies from Newborn To Toddlers)

A chance to meet with other parents in a relaxed environment, have a cup of tea and share a delicious Petra's Raw Food Cake. Topics for each session are posted to facebook Please see the schedule later in this Newsletter.

Last Tuesday of every month 10am to noon
Nightcliff Community Centre
Cost: Free

CEA Library

Our library has an extensive collection of books, magazines, DVDs and CDs covering a wide range of subjects such as Pregnancy, Labour, Birth, Parenting, Vaccination, Exercise, Nutrition, VBAC, Waterbirth, Twins, Toddlers, Crying/Sleep, Special Needs Babies, Grief/Loss, Alternative Therapies, Fathers, Grandparents, Midwifery, Stories and more!

Physiological Labour Plateaus

A study released in May 2024 by midwife Marina Weckend and her co-authors highlighted the existence of natural pauses (physiological plateaus) during childbirth which can last a few minutes or several hours. These physiologically normal plateaus, if not treated as a valid part of the birth journey, can lead to interventions such as inductions (to 'speed up' labour), instrumental birth or caesarean section.

Physiological plateaus during normal labor and birth: A novel definition
Marina Weckend RM, MSc, PhD, Kylie McCullough RN, BSc(hons), Grad Cert Remote Health, PhD, Christine Duffield RN, BScN, MHP, PhD, Sara Bayes RM, RN, Dip HE (Adult Nursing), PG Dip (Midwifery), MMid, PhD, Clare Davison RM, RN, PG Dip (Midwifery), MPhil, PhD ... See fewer authors

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<https://doi.org/10.1111/birt.12843>

It is so important that women and their care providers understand that they may experience plateaus, and view this as a natural bonus – use this time to sleep, recharge, reboot and prime the brain with positive affirmations and encouragement.

In other countries they have changed active labour to 6cm, rather than 4cm, but Australia has not done the same. Making this change would enable women a lot more time to get to “active labour” and therefore less stress? Many women are being labelled with “failure to progress” before they are even in active labour.

A large study by Jun Zang in 2013 identified that before 6cms, many first-time mothers and even multiples went long periods without any dilation.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3660040/>

There is mounting evidence that a plateau in labour is normal and healthy, unfortunately this pause often results in “failure to wait” by care providers. Progress is invisible on the outside but on the inside, there are so many levels, functions and systems working and interweaving to facilitate progress – we can't know every facet of labour and birth because every woman is unique – no

two bodies or babies are the same and even more profound is that no two minds are the same.

Perhaps that plateau is to prepare the woman for the transition into motherhood – the change of dynamic in her relationship with her partner, outside influences and so much more. If the woman has another child, perhaps there is conflict about the change in being a mum to another little person, and maybe feeling she may not have enough love for both. Sometimes letting in fears and doubts can have an effect on her hormonal physiology, and the mind is a big part of that synchronicity for cervical dilation.

Birth is not just about the cervix.

The baby is instinctively participating in labour, so maybe they need this lull in dilation to evaluate their own progress while they are preparing to enter this new world and learn to survive. Perhaps they need to get into a better position, which is what the title suggests – that plateau allows baby to become more aligned in the pelvis for an easier transition down the birth canal. Baby may need to maneuver themselves around a bit more gently without the pressure of contractions, or perhaps they have been experiencing some intensity with contractions, so it is an opportunity for them to rest too, so if they are happy, let them be.

Supposedly birthing women have now been freed from the tyranny of Friedmans Curve - an outdated model of how a woman's cervix should ideally dilate during childbirth - please refer to the next article in this newsletter for more information on how Friedmans Curve has impacted birth over the years. However, a long history of following Friedmans curve within hospitals has left a legacy that looks a bit like the scenario below ...

It's noted that a woman has stalled at 7cm after several consecutive vaginal exams. The woman and her partner notice the energy changing in the birth suite.

There seems to be an air of urgency now and

That energy is not beneficial for the birthing woman and her partner. They hear the whispers and recognise the conditioning language of 'failure to progress'. Next comes a shift in focus - more on an 'interventional birth' rather than a 'let's step back and leave mum alone to focus, trust and breathe!'

Having care providers speak in a way that leads a woman to believe her body is no longer working can affect that mental balance – internally the body is still working, experiencing a physiological plateau in labour doesn't mean that the cervix is failing.

What Care Providers and Birthing Women Can Do During a Plateau...

1. Have a sleep – world-renowned birth expert Sheila Kitzinger encourages women to have a sleep to give themselves every chance of restoring energy before things ramp up again;
2. Move around, change positions and even go for a walk, get some fresh air and enjoy being outdoors, particularly if you have been stuck in a birth suite for a while – you are not a prisoner after all;

3. Eat and drink to ensure that you stay hydrated and you have calories to burn, ready for the next part of labour;

4. Take a look at your birthing environment – are the lights turned off, the blinds closed, and does it feel safe and comfortable in your birthing space – a quiet, dark and undisturbed space away from interruptions;

5. Get into the shower or the bath and allow yourself to relax and recharge;

6. Massage can also help to relax the mind, body and emotions, while releasing endorphins, which will also help to increase the release of oxytocin – that wonderful labouring hormone that is needed to get labour active;

7. Hugging or cuddling with your partner can help you to feel calm and relaxed but more importantly safe. Even watching funny movies and laughter releases endorphins and oxytocin. Nipple stimulation or clitoral stimulation can also be an option for oxytocin release if you think this will be something you will enjoy.

PHYSIOLOGICAL PLATEAUS IN CHILDBIRTH

How often and when?

Common phenomenon, happens singularly or repeatedly **during the entire continuum of labour and birth**. More likely in women who birth their first child.

Why do they happen?

Primarily, a **self-regulation** of the mother-baby-couple (ensuring rest and adaptation during birth). Can also happen **in response to stimuli** (such as disturbances in the birth environment).

What is it?

A **temporary slowing or pausing** of one or multiple processes of labour (such as, contractions or dilation) with **no signs of pathology**.

How long?

Typically a few **minutes or hours**, but may last up to several days



CONCLUSION

Understanding physiological plateaus can help **prevent unnecessary interventions**, such as labour augmentation or caesarean sections. **Physiological plateaus are not labour dystocia.**

What happens next?

Plateaus **self-resolve** and labour resumes naturally. There is **no need for medical interventions**.



Friedman's Curve and Failure to Progress: A Leading Cause of Unplanned Caesareans

Have you ever heard someone say, “My pelvis was too small” or “I was diagnosed with Failure to Progress?”

The language of childbirth is filled with paternalistic terms that indicate the power differential between doctors and pregnant families, as well as the supposed inferiority of our bodies. The physician “delivers” the baby, birthing people are “not allowed” to eat or walk untethered during labor, our labors “fail to progress” or “stall,” our pelvises are “insufficient,” our pushing efforts are “inadequate,” we’re “too short” or “too fat”, or our babies are “too big” to birth vaginally.

The purpose of this newly revised Evidence Based Birth® Signature Article is to debunk myths about labor progress and pelvic shape, and to share evidence-based information about the variations of labor progress. What lengths of labour are normal? What factors can influence the length of labour? And what are true signs that intervention is needed?

In this article, we will answer these questions, along with reviewing the history of Friedman's Curve and the research that led to new timelines for “normal” labor. We will also discuss other methods used to assess labour progress, and how lots of factors, including foetal positioning, mobility of the pelvis, and racism, can play a role in the diagnosis of Failure to Progress.

What is Failure to Progress, and how common is it?

Failure to Progress is diagnosed when a healthcare provider states that labour is not progressing as quickly as they think it should. As you can imagine, this diagnosis can be very subjective—different providers have different ideas of how long is “too long”, and some providers are more patient (or impatient!) than others. We’ve heard many nurses and birth workers, who witness many different practice styles, refer to Failure to Progress as often being a “failure to wait”.

Around the world, and in different birth settings, there are many definitions of Failure to Progress. This vague diagnosis could mean that the dilation stage of labor is taking longer than expected; that labour has completely stopped; that the pushing stage of labor is slow; that the descent of the baby through the pelvis is slow; or that the baby's head is not fitting through the pelvis (sometimes called cephalopelvic disproportion or CPD).

These varying interpretations mean different rates of Failure to Progress depending on which definition is being used and where a birth is taking place. For example, Failure to Progress was the cause of about 42% of Caesareans in Queensland, Australia, and 34% of Caesareans in the United Kingdom. (Nippita et al. 2015). In the United States, Failure to Progress is the most common reason for primary (first) Caesarean deliveries (Boyle et al. 2013) as well as the most common reason that people who give birth at home with midwives are transferred to the hospital (Blix et al. 2014).

However, rates of Failure to Progress in planned home births are low—in a study of 16,924 planned U.S. home births, only 4% of people were transferred to the hospital for Failure to Progress (Cheyney et al. 2014). This rate is much lower than what is seen in hospital settings. According to an article published in American Family Physician in 2021, “abnormally slow or protracted labor accounts for 25% to 55% of all Caesarean deliveries” (Lefevre et al. 2021).

Another issue is that many people are inaccurately diagnosed with Failure to Progress when they're still in early labor, or before they push the length of time that research has shown to be within the range of normal (Alrais, et al. 2019).

Overall, it's difficult to diagnose “Failure to Progress” without a clear picture of what “normal” labour is – and the definition of normal has evolved over the years.

What is the history of Failure to Progress?

For many years, what we knew about the average length of labor was based on a graph called Friedman's Curve—a historical artifact from the 1950s that still affects birthing people today.

In 1955, Dr. Emanuel Friedman of Columbia University published a study that described the average amount of time it takes to dilate by centimeter based on his observation of 500 white patients at a single hospital in New York City (Friedman, 1955). The graph that he created from these people giving birth for the first time (and later in a similar study with people who had given birth before (Friedman, 1956)) went on to become known around the world as “Friedman's Curve.”

But let's pause for a minute...do the demographics of Dr. Friedman's study jump out to you? You may be wondering why Dr. Friedman only included white people in his study. Well, Dr. Friedman's work took place when hospitals were still formally segregated in the U.S.—in both the North and South. At the time, black patients were not allowed to be admitted to many hospitals.

Often, they were actively blocked from access to physicians and medication, even under dire/emergency situations. Some hospitals admitted black people in labour, but only to separate floors or wards (often the basement), where they did not have access to treatment options that white patients received under the same roof. Under these extremely challenging conditions, many black communities resisted by setting up their own hospitals, medical schools, and clinics (Reynolds, 2004).

It was not until the mid-1960s that hospitals faced pressure to desegregate in the U.S. and, even then, hospital administrations were still resistant to desegregation. In some hospitals, they only began offering care to black patients after the passage of Medicare, which granted federal funding solely to desegregated hospitals (the passage of this bill, by the way, was not supported by the American Medical Association) (NPR, 2015).

Today, the segregated history of U.S. healthcare has been largely erased (i.e. whitewashed) from the education of its predominantly white workforce of health care professionals. Out of curiosity, we looked for a written history of segregation at the hospital where Dr. Friedman carried out his study (New York Presbyterian Hospital, which used to be known as Sloane Memorial), but we could not find any books that mention segregation there. Their own website does not mention segregation or desegregation in their timeline.

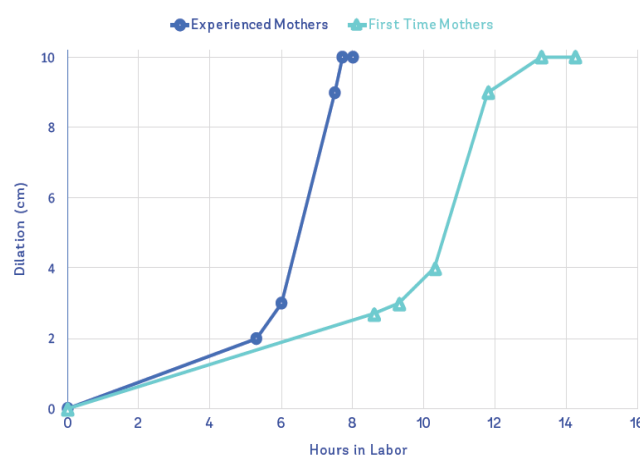
Back to more details about Dr. Friedman's study... What else do we know about the 500 participants in the study? Their ages ranged from 13 to 42 years old, and most (70%) were between the age of 20 to 30. More than half had forceps used on them during delivery (55%), and only nine (1.8%) gave birth by Caesarean. There were 14 breech births (2.8%), four twin births (0.9%), and four stillbirths or newborn deaths. The babies ranged in weight from 4 lbs. 9 oz. to 10 lbs. 6 oz., with most babies falling into a normal weight range (5 lbs. 8 oz. to 8 lbs. 13

oz.). Pitocin was used to induce or augment labor in only 69 people (13.8%).

Back then, "Twilight Sleep" was common practice for white birthing patients (it was usually not offered to Black patients), and so 117 of the participants (23%) were lightly sedated, 210 (42%) were moderately sedated, and 154 (31%) were deeply (sometimes "excessively") sedated with Demerol and Scopolamine. This means that 481 (96%) of the 500 people giving birth were sedated with drugs (Friedman, 1955).

The average length of time it took for these patients to get from zero cm to four cm was 8.6 hours (± 6 hours). Once they reached four cm, labour sped up—also known as "active labor"—and, at that point, they dilated a rapid average of three cm per hour (± 2 cm) until reaching nine cm. At nine cm, there was a slight slowing down before patients reached ten cm. The average length of time it took to get from four cm to ten cm was 4.9 hours (± 4 hours). The average length of pushing (second stage) was one hour (± 0.8 hours).

Figure 1: Friedman's Curve (1955-1956)



A depiction of Friedman's Curve, based on data from Friedman, E. A. (1955). "Primigravid labor; a graphicostatistical analysis." *Obstet Gynecol* 6(6): 567-589. and Friedman, E. A. (1956). "Labor in multiparas; a graphicostatistical analysis." *Obstet Gynecol* 8(6): 691-703.

Using today's standards for research, Dr. Friedman's study would be considered unethical because of the many invasive vaginal exams performed on sedated/sleeping patients. The sedation may have also substantially sped up labor, and the common use of mid-forceps meant that babies were often pulled out while they were still higher up in the pelvis. Also, none of the patients in Dr. Friedman's study had epidurals, which are known to slow down the labor process (Alexander et al. 2002, Frigo et al. 2011).

Most researchers today believe we should no longer apply Friedman's Curve to labours because too many things have changed since 1955. Epidurals are used instead of sedation; Pitocin is used much more frequently; people giving birth today are older and tend to weigh more; and forceps-assisted births are rare (Laughon et al. 2012).

Use of the Partograph in Low-Income Countries

Today, Dr. Friedman's work lives on in the concept of a labour curve or partograph (also called a partogram or partogramme depending on the country where it is being used). While prior physicians and researchers had studied the overall length of labor, it was Dr. Friedman who introduced the concept of plotting centimeters of cervical dilation over time.

The original design of the partograph was based on the results of Dr. Friedman's study, and both the original and a more modern version with a longer timeline are still commonly used today (Hofmeyr et al. 2021). The basic principles are the same, and data points include cervical dilation, foetal heart rate, descent of the baby's head, and vital signs of the birthing person. An 'alert' line and an 'action' line indicate when the care provider should consider intervention or transfer to a hospital.

While evidence supporting widespread use of the partograph is mixed, it is considered by many to be an important tool for people giving birth in countries defined as "low income" according to the World Bank. Specifically, when people are labouring at long distances from hospitals, are not using electronic foetal monitoring, and have limited or no access to technology (such as anesthesia and surgery), the World Health Organization (WHO) recommends use of the partograph to assess if a labor is abnormal and could be heading down a dangerous path for the birthing person or baby. It is thought that proper use of the partograph can ensure that life-threatening complications such as obstructed labor are identified and treated (Dalal et al. 2018).

What changed in the 2010s?

In the early-to-mid 2010s, there was a public health push to lower the Cesarean rate in the U.S., and this was accompanied by some major shifts in defining normal labour. Researchers who were studying labour progress noticed that labour usually speeds up at about six centimeters (cm) of dilation (instead of at four cm as Friedman had described decades earlier). This discovery resulted in a new definition of when active labor begins: six centimeters (this is sometimes referred to by the phrase, "Six is the new four.") New research also showed that, before someone reaches six cm dilation, it is normal for labor to progress very

slowly or with no noticeable pattern (Zhang et al. 2010).

In 2014, the American Congress of Obstetricians and Gynecologists, together with the Society for Maternal Foetal Medicine, published new guidelines on labour progress. Their new "normal" length of labour is longer than Friedman's definition, and there is more room for flexibility, such as when an epidural is being used. In addition, new timelines were developed to define when labour progress is abnormally slow—and new terms and definitions were proposed (such as the diagnosis of "labour arrest"), along with an attempted elimination of the vague label "failure to progress."

Zhang's Study Serves as the Basis of New Guidelines

In one important study published in 2010, researchers looked at the labour records of more than 62,000 people from 19 hospitals across the U.S. Participants were included if they gave birth vaginally at term to a single baby who was positioned head-down, if the babies were born healthy, and if the labours started spontaneously (were not medically induced). Most of the birthing people had interventions during their labours—overall, about half of them had their labours "augmented" or sped up with oxytocin (Pitocin), and 80% had epidurals (Zhang et al. 2010).

The researchers found that on average, people did not rapidly dilate starting at four cm like Dr. Friedman saw back in 1955. Instead, active labour was reached at around six cm. This was true for both people giving birth for the first time and those who had given birth before, although those who had given birth before tended to dilate faster once they reached active labour (six cm). The average time it took to dilate during active labour was about half an hour for each centimeter (and faster for those who had given birth before). The vast majority of people (95%) took less than two hours to dilate one cm during active labour.

Interestingly, researchers found that before six cm, many people (both people giving birth for the first time and those who had given birth before) went long periods without any dilation—and this was within the range of normal in the sample. For example, those labouring took an average of 1.8 hours to get from three cm to four cm, but the top 5th percentile of the sample (still in the range of normal) took as long as 8 hours. On average, people took 1.3 hours to get from four cm to five cm, but the top 5% took seven hours. Remember: all these people went on to give birth vaginally to healthy babies.

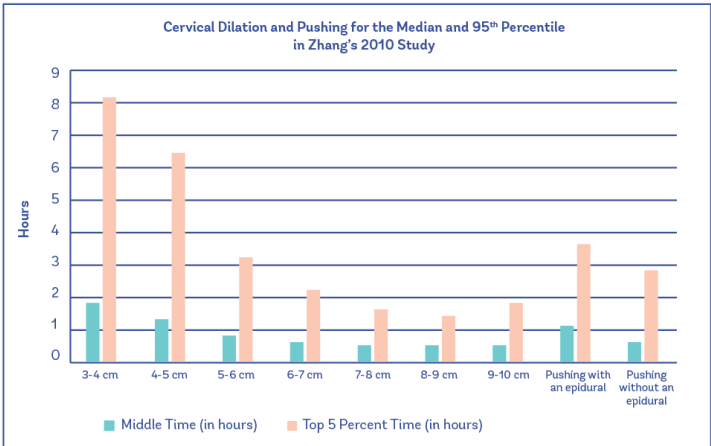
When it came to pushing, or the "second stage" of labour, first-time parents pushed for an average of

1.1 hours with an epidural and 0.6 hours without an epidural. At the very extreme end of normal, some first timers (the 5% that pushed the longest) pushed for 3.6 hours with an epidural and 2.8 hours without an epidural. Those that had given birth before had much shorter pushing phases—on average, they spent less than 30 minutes pushing with an epidural, and about 15 minutes without an epidural.

Other researchers have also confirmed that, for various reasons, including an older and heavier population and different clinical practices, labour lasts longer today than it did in Dr. Friedman’s time.

More current studies like this one show that if we continue to apply Friedman’s Curve to birthing people today, we are saying that half of all people have “abnormally” slow labours. This creates an expectation for people giving birth for the first time to dilate much faster than today’s average, and applying these standards means that many people are being diagnosed with Failure to Progress when what they are experiencing is normal.

Here is a graphical representation of some of the results from Zhang’s study:
This bar graph shows the amount of time (in hours) that it took for both the middle of the study group



and the slowest five percent of the study group to dilate (per centimeter) and to push. Bottom line: the fastest, middle, and slowest times are ALL versions of “normal” labour in this study group!

So, what are the current evidence-based definitions of normal and abnormal labour?
Because of all the updated research that has come out in the past ten years, the newly proposed

definitions of normal and abnormal labour look quite different than the old definitions. In 2012, new definitions for normal and arrested labour were issued out of the NICHD/SMFM/ACOG workshop on preventing the first Caesarean (Spong et al. 2012). These definitions were reaffirmed in the 2014 “Preventing the Primary Caesarean” guidelines (ACOG, 2014). Table 1 shows a comparison.

Diagnosis	Old Definitions	New Evidence-Based Definitions
Labor Dystocia	A slow, abnormal progression of labor. ¹	This term is not used in the new guidelines. ^{2,3}
Failure to Progress	A woman term first-time mother in the lack of progress in cervical dilation, the lack of descent of the baby's head, or both. ⁴	This term is not used in the new guidelines. ^{2,3} The guidelines state, “A prolonged latent (early) phase... should not necessarily indicate for cesarean delivery.” and “Slow but progressive labor in the first stage of labor should not necessarily indicate for cesarean delivery.” ²
Active labor	When the cervix is between 3 cm and 4 cm dilated, this is when you should see the beginning of a rapid acceleration in cervical dilation.	“Cervical dilation of 6 cm should be considered threshold for active phase of most people in labor. Thus, before 6 cm of dilation based on standards of active phase, progress should not be applied.” and “In both spontaneous as well as induced labor, the diagnosis of arrested labor should not be made before the patient has attained the active phase.” ²
First stage labor arrest	Diagnosed when someone is in active labor (at least 3 cm to 4 cm) and has contractions with no change in dilation for more than 2 hours. ¹	Can be diagnosed ONLY if someone has reached 6 cm and their water has broken, plus one of the following: 1) there has been no cervical change for 4 or more hours of adequate contractions, or 2) no cervical change with at least 6 or more hours of inadequate contractions with oxytocin augmentation. ² If the laboring person is <6 cm dilated, then they need additional time and/or interventions before an arrest of labor can be diagnosed, because they are still in early labor. ²
Second stage labor arrest	Can be diagnosed when pushing takes >3 hours in people giving birth for the first time with an epidural, >2 hours in people giving birth for the first time without an epidural, >2 hours in people who have given birth before with an epidural, >1 hour in people who have given birth before without an epidural. ¹	There is no specific maximum length of pushing time that can be spent pushing. ² Labor arrest in the second stage can be diagnosed if there has been no improvement in descent OR rotation of the baby after: 34 hours in people giving birth for the first time with an epidural, 33 hours in people giving birth for the first time without an epidural, 33 hours in people who have given birth before with an epidural, 32 hours in people who have given birth before without an epidural. ² Informed physicians can consider manual rotation of the baby's head prior to moving on to the use of vacuum, forceps, or Cesarean. ²
Failed Induction of Labor	“Labor progression did not significantly improve with an active induction of labor compared with people who have spontaneous onset of labor. Allowing at least 12-18 hours of active (early) labor before diagnosing a failed induction may reduce the risk of cesarean delivery.” ⁵	Failure to have regular contractions (every 3 minutes) and failure of the cervix to change at least 1 cm in 24 hours of any tocolin (and if the water has been broken, if possible). The time length does not include cervical ripening which may precede the 24 hours of any tocolin. ^{2,3}

ACOG Committee on Practice (2003). ACOG Practice Bulletin Number 49, December 2003: Dystocia and augmentation of labor. *Obstet Gynecol* 102(6): 1445-1454.
Spong et al (2012). Preventing the first cesarean delivery: summary of a joint Eunice Kennedy Shriver National Institute of Child Health and Human Development, Society for Maternal-Fetal Medicine, and American College of Obstetricians and Gynecologists Workshop.” *Obstet Gynecol* 120(5): 1181-1193.
ACOG, SMFM, Caughey, A. B., et al. (2014). “Safe prevention of the primary cesarean delivery.” *Am J Obstet Gynecol* 210:179-193.
ACOG Committee on Practice (2009). ACOG Practice Bulletin No. 107: Induction of labor. *Obstet Gynecol* 114(2 Pt 1): 386-397.

With the new guidelines eliminating the diagnosis of Failure to Progress, did things get better?

In 2013, before the new guidelines were released, researchers published a report about 38,484 people who had their first Caesarean (primary Caesarean) in the U.S. during a six-year period. The overall primary Caesarean rate in the study was 21.3%, and the Caesarean rate among people giving birth for the first time was 30.8%. One-third (35%) of the primary Caesareans in the overall sample were due to a diagnosis of “Failure to Progress,” or slow progress in labour. Nearly half (41.3%) of the Caesareans in people giving birth for the first time were due to Failure to Progress. This means that from 2002 to 2008, approximately one in ten (13%) of all people giving birth for the first time in the U.S. had a Caesarean for Failure to Progress (Boyle et al. 2013).

Research from the U.S.:

In 2018, after the new guidelines came out, researchers published a study investigating whether the new “Safe Prevention of the Primary Caesarean” guidelines were being followed by physicians at a single academic medical center in the U.S. (Alrais et al. 2019). They found that, of the Caesareans that occurred because of a “Failure to Progress” diagnosis during the year-long study period, over half did not meet the criteria from the new guidelines.

Even more troubling, the research showed that care providers were less likely to follow the updated guidelines if they were attending a weekend versus a weekday birth (possibly because they did not want to be at the hospital on a weekend). In the Caesarean births where the new, longer definitions of labor arrest were used, there was no increase in adverse outcomes for the birthing person or baby. In other words, at this hospital, there were no major safety issues with using new guidelines that allow for longer labours.

Research from Italy:

In 2016, researchers in Italy enrolled 419 patients in a prospective study in which half of the participants had standard care based on Friedman’s Curve, and the other half were given a new model of care that followed the ACOG/SMFM’s new consensus guidelines. People could be included in the study if they were giving birth for the first time and were pregnant with a single baby in head-first position. They could be in

spontaneous labor at term or having an induced labour post-term (Ragusa et al. 2016).

With the old care model, not only was Friedman’s Curve used to define normal and abnormal labour, but food was banned, and laboring people were usually restricted to bed and told to push on their backs. With the new care model, Friedman’s Curve was used as a screening tool, but providers were instructed to have more patience with labour and carry out further assessments before they decided on surgery or medical intervention. In addition, labouring people who had the new model of care were encouraged to walk during labour and to push and give birth in the position they found most comfortable. They were also given free access to food and drink and the care providers used a standardized protocol to diagnose foetal distress.

Birthing people who received the old model of care (strict adherence to Friedman’s Curve) had a Caesarean rate more than twice as high as those in the new model of care group: 22.2% vs. 10.3%. Those in the new model of care group also had fewer interventions overall including Pitocin augmentation or having their water artificially broken. The percentage of newborns with low Apgar scores or low umbilical cord pH was higher in the old model of care group (2.3% vs. 0.5%). The average length of labour was the same in both groups. In summary, the old model of care group had more interventions with almost the same outcomes.

Dr. Friedman Continues to Defend the Curve

Despite a large consensus that it is time to use new definitions, Dr. Friedman, who was still publishing at the time of writing this article, continues to adamantly defend the use of Friedman’s Curve. As part of his criticism of the new guidelines, Dr. Friedman made the point that overall Caesarean rates in the U.S. have not come down after the new guidelines were published.

It is true that a huge rise in Caesarean rates in the U.S. occurred between 1976-2007. The Caesarean rate eventually plateaued at around one in three in 2007 and has remained stable since that time (Sakala et al. 2020). The U.S. Caesarean rate continues to hover around 32-33%, despite the new guidelines that were supposed to help lower the Caesarean rate (Cohen and Friedman, 2020).

However, the lack in change of Caesarean rates from 2007 to present could be because, as we have seen, many providers have not truly adopted the new guidelines yet. It's also possible that any potential decline in the Caesarean rate due to the new guidelines may be balanced out by an increase in Caesarean rates from other causes.

What can make labour move faster or more slowly?

As we have seen in the research covered so far, it is not easy to apply a specific curve or timeline to all labors and births, because each person has unique factors that can lengthen or shorten their labour.

May lengthen labor:

- *Epidural use may lengthen both labour (Alexander et al. 2002, Frigo et al. 2011) and pushing (AnimSomuah et al. 2011)
- *Heavy sedation (Friedman 1955)
- *Being overweight or obese (Kominiarek et al. 2011; Carlhall 2013; Kawakita et al. 2016)
- *Advanced maternal age (Sheiner et al. 2002a; Timofeev 2013)
- *Having labour medically induced (Sheiner et al. 2002a) (Vahratian et al. 2005)
- *Giving birth for the first time (Zhang, Landy et al. 2010), (Sheiner et al. 2002a)
- *Posterior positioning of the baby (i.e. OP, sunny-side up) (Gardberg & Tuppurainen 1994, Senecal et al. 2005)
- *Baby's head is tilted sideways (i.e. asynclitic) (Malvasi 2015)
- *Being confined to a bed (Lawrence et al. 2013)
- *Dehydration (Dawood et al. 2013)
- *Being a survivor of sexual assault (Nerum et al. 2010)
- *Giving birth to twins (Leftwich et al. 2013)
- *Premature rupture of the membranes (PROM, sac of water releases before labour begins) (Sheiner et al. 2002a)
- *Being pregnant with a big baby (Sheiner et al. 2002b)
- *Maternal health problems such as gestational diabetes, hypertension or preeclampsia, low amniotic fluid or high amniotic fluid levels, having had a previous infant die during or shortly after labor, and infertility treatment (Sheiner, Levy et al. 2002a; Sheiner et al. 2002b)
- *Having a successful external cephalic version for a breech baby (Basu et al. 2016)
- *Having been diagnosed with Failure to Progress in a previous birth (Tobias et al. 2015)

May shorten labour:

- *Not having an epidural during labour (Alexander et al. 2002, Frigo et al. 2011) and pushing (AnimSomuah et al. 2011)
- *Pitocin augmentation/acceleration (Bugg et al. 2013)
- *Having given birth before (Zhang, Landy et al. 2010; Sheiner et al. 2002a)
- *Upright positions— during labour (Lawrence et al. 2013) and pushing (Gupta et al. 2012)
- *Baby's head is "engaged" in the pelvis and pressing directly on the cervix (Moberg, 2014)
- *Doula support (Bohren et al. 2017)
- *Pelvic mobility (Dehghan et al. 2014) (Calais-Germain, 2003)
- *May lengthen or shorten labour, or may not change anything at all:
- *Artificially breaking the waters (AROM) (Friedman 1955; Smyth et al. 2013)
- *Size and shape of the birthing person's pelvis (Haeusler et al. 2021)

Can the size or shape of someone's pelvis influence the way they labour?

You can think of labour like a negotiation or dance between baby and pelvis. There are many factors that influence how a baby and pelvis 'fit' together and the ease with which a baby can move through a pelvis.

These factors include but are not limited to:

- *Mobility of the pelvis (Dehghan, 2014, Calais-Germain, 2003)
- *Position of the labouring person (upright, laying down, side-lying, etc.) (Lawrence et al. 2013, Gupta et al. 2012)
- *Position of the baby in relation to the pelvis (Gardberg & Tuppurainen 1994, Senecal et al. 2005, Malvasi 2015)
- *Whether baby's head is "engaged" or sitting on top of the cervix (Moberg, 2014)
- *The cascade of hormones at play in labour (Dehghan et al. 2014)

There can be a big difference in the labour of someone who is upright and using an open pelvis position (for example, sitting on a birthing ball while leaning forward) as compared to someone who is labouring in bed with their pelvis and sacrum (i.e. tailbone) in a more closed position. In fact, through computational modeling, researchers have found that pelvic outlet diameters in pregnant people can increase by 6.1mm from front-to-back and 11mm from side-to-side when a pregnant person



Squatting is shown to increase the pelvic outlet diameter in pregnant women

is squatting (Hemmerich et al. 2019).

Many people think of the pelvis as solid and inflexible, but the pelvis is a complex of three joints (two sacroiliac joints and the pubic symphysis) that can shift and open slightly. This is particularly true because the hormone relaxin, released during pregnancy and labour, softens the ligaments and connective tissues, allowing the pelvis to have even more mobility and flexibility. This helps to further widen the diameter of the pelvic inlet and outlet spaces that make up the birth canal, and makes more room for the baby to come down and out (Dehghan et al. 2014).

A birthing person's emotional state can also impact the way their pelvis opens (or does not open) in birth. For example, a past experience of trauma, not feeling safe in their birthing space, experiencing microaggressions during labour, or experiencing a fight or flight response can cause a nervous system reaction that negatively impacts pelvic mobility. The psoas muscle, which attaches to the spine and helps us stand and walk upright, helps with this type of subconscious regulation in our bodies. Integrative and Indigenous healers and bodyworkers often refer to the psoas as the soul muscle for its perceptive, bio-intelligent properties (Menakem, 2022). Why are so many people told

that their babies cannot “fit” through their pelvis? For many years of human history, diseases like scurvy and rickets were widespread. Scurvy and rickets are caused by deficiencies in diet and thus a lack of essential nutrients (vitamin C and D), so they inhibit proper bone development. These differences are not genetic or due to differing pelvic shapes, but due to lack of access to nutritious foods to eat, especially during childhood when your bones are growing. Thus, for a long time, severe pelvic malformations made it impossible for some babies to be born vaginally.

Historical ideas about “racial” pelvic shapes also influenced peoples’ beliefs about the concept of a baby not fitting through a pelvis. In the late 1800s and early 1900s, pelvic structure was a marker of hereditary worth and having a small pelvic cavity was thought of as a sign of “biological inferiority” according to some physicians (O’Brien, 2013). Horrifically, forced (and in some cases secret) sterilizations were performed on certain Indigenous people in Mexico, with the idea that they should not be allowed to give birth due to their smaller stature. In the 1930s, and updated in the 1940s, the Caldwell-Moloy classification system introduced the concept of four different categories of pelvic shape (Caldwell and Moloy, 1938). The categories were defined as:

Gynaecoid - This translates to “woman type” in Greek and, according to the authors, is the most ideal/“normal” shape to have. It is characterized by a round or slightly oval shaped pelvic brim with a wide sub-pubic arch and a sacrum tilted toward the back of the body (posterior).

Android - This translates to “man type” in Greek. It has the widest front-to-back diameter at the brim-closer to the sacrum (back) than the pubis (front). The sacrum is tilted toward the front of the body (anterior), and the pelvic cavity is widest at the top and most narrow at the bottom (also called funnel-shaped).

Anthropoid-This translates to “human-like” in Greek, and was used to refer to animals similar to humans, or considered “ape-like” and inferior for giving birth. The shape is thought to be longer, narrower, and more oval than other categories, and was often assigned by physicians to women of African descent.

Some of the more obvious racial and gender stereotypes are now left out of medical textbooks (such as the reference to the word “ape”), but the theory of distinct pelvis shapes has carried on for decades, uninvestigated and unquestioned.

In 2015, an Australian study sought to re-test the accuracy of Caldwell-Moloy’s classifications of the four shapes (Kuliukas et al. 2015). They took CT scans of 64 randomly selected, consenting people who identified as women, and plotted their pelvic characteristics on a graph to see if they clustered into categories resembling the four pelvis shapes. However, instead of clustering in distinct “types” or “categories,” the data were equally spread across what the authors call a “nebulous cloud of variation,” with many pelvises representing combinations, such as gynecoid posterior pelvis with an android fore-pelvis. Rather than trying to determine pelvic shape or making assumptions based on someone’s body-type, race or gender expression, the researchers recommend considering pelvic inlet, outlet, and mid-pelvis characteristics as just one of a long list of factors that can influence labour.

What is pelvimetry?

Today, pelvimetry may be used to determine the size and shape of a birthing person’s pelvis. In theory, pelvimetry is supposed to help doctors to determine if a particular pregnant person will “be able” to give birth vaginally. The idea is that, by measuring a pregnant person’s pelvis, care providers may be able to prevent unnecessary emergent Caesareans by determining before

labour if it is likely that a baby “cannot fit” through a pelvis. If a care provider determines that the size of the baby and the size of the pelvis are not a good fit (called a cephalopelvic disproportion or CPD), then a Caesarean delivery could be planned. The rationale of this approach is that a planned Caesarean delivery carries less risk overall for the birthing person and baby than an urgent Caesarean that could occur if a CPD is diagnosed in labor.

Pelvimetry can be done through a physical assessment in which the care provider does a vaginal exam and feels the various pelvic bones for placement and shape. It can also be done through imaging such as an x-ray or MRI. These different methods carry varying risks—a physical exam may be extremely uncomfortable for the birthing person; an x-ray may expose the baby to dangerous radiation; and an MRI is too costly to be used as regular screening tool. Since rickets and scurvy are mostly diseases of the past, and true pelvic malformation is extremely rare, it’s questionable whether screening all pregnant people is more helpful or harmful. In most cases, this is not standard protocol.

Evidence on Pelvimetry

In a Cochrane review from 2017, researchers combined the results of five studies on pelvimetry (Pattinson, et al. 2017). Each trial had a slightly different design, but the researchers’ overall goal was to see if measuring pelvises in pregnancy could help prevent emergent Caesareans. Pregnant people could be included if their baby was in a head-down position, and they were at or near term.

The results of these trials are considered low quality or very low quality because blinding of the pregnant person and care providers was not possible in their design, which means there is the potential for bias.

In total, records of pelvimetry studies from 1,159 pregnant people were reviewed. In these trials, X-ray was the only type of imaging used. The patients who had X-ray pelvimetry were compared to the patients who did not have X-rays. The no X-ray group was made up of patients who had a clinical pelvimetry exam (defined as a physical exam) or no pelvimetry exam. There were no trials that compared clinical pelvimetry exams to not having a pelvimetry exam. There were also no trials that assessed other imaging methods such



The Darwin Homebirth Group is a collective of parents who share the philosophy that pregnancy, labor and birth are normal, natural family centered events.

Our members are passionate about women having real and informed choices in regards to where, with whom and how they birth. This way women can feel supported, safe, empowered and in control of their birth experience.

The fully funded Government Homebirth Service gives women the opportunity to have a known, qualified and experienced midwife care for them at home before and after the birth.

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as MRI or CT scan.

In these 5 trials, pregnant people who had an X-ray exam to measure their pelvis (X-ray pelvimetry) were 34% more likely to have a Caesarean delivery than pregnant people who had a physical exam or no pelvimetry assessment. There were no significant differences in health outcomes for birthing people or babies between the two groups. The authors concluded that patients who had X-ray pelvimetry exams were more likely to have Caesarean deliveries and that, because there was no improvement in health outcomes, there are not significant data to support the use of X-ray pelvimetry exams in all pregnant people. The authors encourage further studies in this area to determine if there is a useful purpose for pelvimetry studies in some specific situations. However, it's important to note that X-rays of the pelvis during pregnancy are almost never used today because of the known harms of radiation on the pregnant person and fetus.

Is it harmful to have a labor with a long first stage?

What are the risks to birthing people and babies?

Research on long labors in people giving birth for the first time:

In one study, researchers looked at 10,000 people giving birth for the first time at a single hospital between 1990 and 2008 in the U.S. (Cheng et al. 2010). They excluded all people who had Caesareans for foetal distress from this study, so none of the babies were diagnosed with foetal distress before birth. Babies who were born after a first stage of labor that took longer than 30 hours (the top 5th percentile, or the longest 5% in the sample) were more likely to be admitted to the neonatal intensive care unit (NICU) compared to the labors in the 5th to 95th percentiles (9.8% vs. 4.7%). However, there was no other relationship between long labours and other poor newborn outcomes—including Apgar scores, umbilical cord pH, meconium aspiration, infection, shoulder dystocia, or birth trauma.

Birthing people with the longest labours were more likely to have an infection of the uterus (23.5% vs.

12.5%) and to have a Caesarean (13.5% vs. 6.1%), but there was no increase in the risk of postpartum hemorrhage. The authors did not describe the number of vaginal exams that participants received, which is important, because a higher number of vaginal exams could have contributed to higher infection rates among the people with long labors. (For more information about the risk of vaginal exams after the waters have broken, see the Evidence Based Birth® article on PROM).

Research on long labours in people who have given birth before:

A second study focused on varying lengths of labour in people who had given birth before (i.e. people who are “multiparous”) at 7 hospitals in the Northeast U.S. (Wang et al. 2020). In this study, researchers looked back in time at the medical records of multiparous birthing people who were pregnant with a single baby in head-first position, and who planned on a vaginal delivery. There were 7,109 participants in the study. The length of labour was divided into first and second stages and further separated into categories as follows: less than 6 hours, 6-11.9 hours, 12-17.9 hours, 18-23.9 hours, and 24 hours and over. The start of labour was defined as the onset of regular, painful contractions.

Researchers looked at adverse outcomes in both birthing people and their babies to see if there were any trends related to the length of labour. For birthing people, there was no association between the length of the first stage of labor and Caesarean delivery or postpartum hemorrhage.

There was an increased risk of two outcomes with a longer first stage of labour—instrumental deliveries and severe tears. Instrumental deliveries are a known risk factor for more severe tearing, so let's look at those numbers more closely:

The study group with labors under 6 hours had instrumental deliveries at a rate of 2.3%. Those with labors between 12 and 17 hours had an instrumental delivery rate of 4.3%, and those with labours over 24 hours had an instrumental delivery rate of 7.3%. It follows that severe tearing rates would increase in people who had instrumental deliveries—and this rate did increase, though not

In those with labours under 6 hours, 1.1% experienced severe tearing, and in those with labours over 24 hours, 2.3% experienced severe tearing. So, not all the people with instrumental deliveries had severe tearing. Because there were no other recorded complications in the people who had long labours, it's not clear why they had more instrumental deliveries.

In babies who experienced longer labour in this study, there were not increases in any of the measured health outcomes which included shoulder dystocia, Apgar scores below 7, neonatal resuscitation, and assisted ventilation. In fact, the babies with the highest rate of transfer to the NICU were the babies in the shortest labour group (4.6% in the longest labor group vs. 5.4-7.0% in the other, shorter labour groups).

Qualitative research about long labours:

The third study we reviewed is different from the others because there is a qualitative component—meaning that there are open-ended questions to describe the experiences of the people who gave birth (Gaudernack et al. 2020). In this study, researchers in Norway looked at the effect of labour duration on birth experience. A questionnaire was sent to people who gave birth for the first time at a university hospital during the study period from late 2012 to late 2014. Birthing people were eligible to be included in the study (and thus received a questionnaire in the mail) if they were full term and pregnant with one baby in the head-first position at the time of their hospital admission. Those who gave birth by elective Caesarean were excluded. Most (71%) of eligible participants responded to the questionnaire, for a total of 459 participants.

In this study, a “long” labour was defined as a first stage of labour over 12 hours. Those with labours over 12 hours had lower scores in two self-reported categories: “own capacity” and “perceived safety.” Birthing people who laboured for more than 12 hours were also more likely to disagree with the statement “Labour and birth went as I expected”.

One of the authors’ hypotheses was that a longer labour could increase patients’ ideas about electing for a Caesarean delivery in subsequent pregnancies, but this did not turn out to be the case. The only two scenarios that increased wishes for a Caesarean delivery in future pregnancies were

operative delivery (using a vacuum or forceps) and intrapartum (unplanned) Caesarean delivery.

The factors most associated with negative feelings about labour in this study were induction, postpartum hemorrhage, and operative delivery.

In terms of health outcomes and interventions, there were some notable differences between the 12+ hour labour group and the 12 hours or less group. The 12+ hour labour group had almost double the rate of Pitocin augmentation (98.8% versus 55%) and use of epidurals (96.5% vs. 58.4%). Epidurals are more common when Pitocin is used, so it could be that the “longer” labor caused the care provider to order Pitocin to speed things up, which in turn made contractions more painful and caused more birthing people to request epidurals.

The 12+ hour labour group also had more unplanned Caesareans (21.2% vs. 8.3%), more operative vaginal births (37.6% vs. 22%), and more cases of postpartum bleeding >500mL (38.8% vs. 20.4%). Because health outcomes for birthing people and babies were not collected in this study, it is not clear if the increase in Caesareans and operative vaginal deliveries were the result of complications or simply time management tools. In addition, heavier postpartum bleeding is more common with Caesareans and instrumental deliveries. So, again, it is not clear if the additional bleeding was the result of the “long” labours themselves or because of the increased use of Caesareans and instrumental deliveries with longer labours.

The researchers point out that the questionnaire they used did not have specific questions about the early phase of labour and that participants’ ideas about labour and birth “going as expected” were impacted by their expectations and knowledge of what labour would be like. Another important note on this research is the rate of interventions.

The overall induction rate was about 25% (lower than what we see in a lot of birth settings), and the operative vaginal delivery rate was 25% (much higher than what we see in most birth settings). Also important: active labour in this hospital was defined as 5cm, which is not in line with the older or current guidelines (4cm and 6cm, respectively), and may have caused some unnecessary diagnoses of long labour.



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What about Failed Inductions of labour? How is this diagnosed?

In the past, there was no consensus in the medical community on what criteria made up a “failed induction.” However, the question of how to define or diagnose a failed induction is important, because more than four out of ten people giving birth for the first time in the U.S. have their labours medically induced (Laughon et al. 2012).

Although researchers have found that elective inductions don’t increase the Caesarean rate in controlled study conditions (Grobman et al. 2018), other researchers have looked at real-world settings and found substantial rises in Caesarean rates when induction is compared to spontaneous labour (ACOG, 2019).

As with the general guidelines on labour progress, guidelines for induction management have evolved to be more flexible and longer with the aim of reducing unplanned Caesarean births.

Current ACOG guidelines on induction:

In their 2009 guidelines on elective induction, ACOG recommended at least 12 to 18 hours of latent (early) labour before a diagnosis of failed induction (ACOG, 2009). But in their 2014 consensus guidelines, a new and longer definition was proposed. The current ACOG guidelines, which were reaffirmed in 2019, state that, if the health of the baby and birthing person allow, Caesarean deliveries for failed induction should be avoided unless the latent phase of labour is at least 24 hours and oxytocin (Pitocin) has been administered for 12-18 hours after membrane rupture. The above timeline does not include cervical ripening, which is recommended in the guideline for those with an unfavorable cervix as multiple studies have proven that it lowers the rate of unplanned Caesareans (ACOG, 2019).

What other factors play a role in Failure to Progress Diagnoses?

A summary statement from the 2012 NICHD/SMFM/ACOG joint workshop on preventing the first Caesarean declared that non-medical factors also play an important role in Caesareans that are performed for Failure to Progress:

Time limits, labour and delivery scheduling issues, operating room staff availability, and limited space and resources to support long labours and

inductions are all factors that encourage providers to label (or mislabel) a person’s labour as Failure to Progress. Other factors that lead to an overabundance of Failure to Progress diagnoses include care provider fatigue, high workload, and sleep deprivation. In addition, evidence has shown that Caesarean rates for Failure to Progress go up when the care provider knows that they can go to sleep, or when they could be doing office hours instead of participating in a long labour and vaginal birth (Klasko et al. 1995, Spetz et al. 2001, Spong et al. 2012).

The workshop summary also stated that there are financial incentives to diagnosing Failure to Progress:

“Financial incentives and disincentives related to work efficiency and staffing workload may also tilt the scale toward more liberal performance of scheduled Caesarean deliveries. Given the time required to monitor a complicated labour, there is a financial disincentive to persevere when labour does not proceed efficiently or if borderline foetal heart patterns are present. Evidence suggests that doctors who are salaried and participate in profit sharing, thus reducing the financial incentive to limit the time spent managing labor, have lower Caesarean rates.”

To stop over-diagnoses of “Failure to Progress,” the following recommendations were made:

- *Care providers should stick to proper, current definitions of labour arrest, and avoid using the vague term “Failure to Progress” (see Table 1 for definitions)

- *Birthing people should be given adequate time for both labour and pushing—and “adequate” time is much longer than what has traditionally been “allowed” in the past

- *Inductions should only be labeled “failed” after at least 24 hours of Pitocin (plus water broken, if possible)—this clock should not start until after cervical ripening, if necessary, is completed

- *Birthing people—particularly those giving birth for the first time—with an unripe cervix should not be induced unless the induction is medically necessary

- *Each care provider should receive feedback from their hospital on how often they improperly diagnose labour arrest or “failed induction”

If someone is diagnosed with Failure to Progress, are there any other options beside Caesarean?

First, it is important that the proper definitions for “labour arrest” are used (see the Table 1). Evidence suggests that if a person is in normal labour (not induced), and if they are less than six cm when their labour has stalled, then this is not true “labour arrest” and they should simply receive supportive care.

Supportive care may mean continued observation, Pitocin augmentation if needed, or discharge from the hospital (discharge is recommended if labour has stopped, water is intact, and birthing person and baby are both in good condition). If first-stage labour arrest is diagnosed after the birthing person has reached at least six cm, medical options include breaking the water, Pitocin augmentation, and/ or allowing the person to continue to labour, as long as both the birthing person and baby are healthy (Spong et al., 2013; Shields et al., 2007). Obviously, there will be cases of labour arrest where a Caesarean becomes necessary.

Based on a thorough review of the evidence, authors Goer and Romano suggested using four preventive “P’s” to deal with some outside factors that may cause labour to slow down in the first place (Goer and Romano, 2012). These “P’s” include:

Permission: Give the labouring person permission to move about, eat and drink when they want to, and use whatever positions they find comfortable. Natural behaviors should not be restricted “unless there is a compelling medical need to do so and the person has made an informed choice to comply with the recommended restrictions”

Physical environment: The birthing space should be large enough for the labouring person and their support team. There should be private places to walk, tubs and showers for water therapy, and birth balls and other props that encourage upright positioning. The labouring person should have a say in the physical aspects of their environment, including lighting, sound, and the people who come in and out of the room.

Practices: Practices that restrict mobility—such as being hooked up to continuous electronic foetal monitoring or IV fluids—should not be used unless medically necessary. If these practices become necessary, care providers should try to lessen their impact on the labouring person’s mobility.

For example, portable electronic monitors could be used so that the labouring person can remain mobile, instead of requiring them to lie in bed; or a peanut ball could be used to help position a person with an epidural.

People: Care providers should be supportive, nonjudgmental, and respect the birthing person’s autonomy. Birthing people should feel free to express their emotions or needs “without fear of being judged or pressure to comply with staff preferences or expectations”

The Summary

The definition of a “normal” length of labour that has been used since the 1950s is obsolete. The new, evidence-based definitions of normal labour, labour arrest, and failed induction should be used, and the vague term “Failure to Progress” should be abandoned.

If the labouring person and baby are both healthy, and as long as the length of labour does not qualify as an arrested labour, labouring people should be treated as if they are progressing normally.

Pregnant people who are being medically induced should be given more time to complete the early phase of labour. Cervical ripening agents should be used to begin inductions for those with an unfavorable cervix, and this should not be included in the timeline of their induction.

Six centimeters—not four centimeters—should be considered the start of the active phase for most people and caregivers should keep in mind that normal early labour (before six cm) sometimes includes a “resting” period in which there may be no change in dilation for hours. People may decide, together with their caregivers, to delay hospital admission until active labour.

Assumptions should not be made about a pregnant person’s stature nor the size or shape of their pelvis and how these factors could impact their ability to give birth vaginally. To help with this: the four pelvic categories should be taught only as they apply to the history of obstetrics and gynecology and as an example of how racist ideas can persist in medicine.

Updated on May 25, 2022 by Rebecca Dekker PhD, RN, Ihotu Ali, MPH, & Erin Wilson, MPH. Updated in 2017 by Rebecca Dekker PhD, RN & Anna Bertone, MPH. Originally published on August 28, 2013 - www.evidencebasedbirth.com



TWO SEASONS DOULA

holistically holding women & their families through their birthing journey

Doula [pronounced: Doo-lah] is Latin for servant to woman. A birth doula journeys with women and their families through pregnancy, birth and postpartum.

Each doula has their own values, beliefs, life experience and reasons for choosing to walk alongside women in their birthing journey.

My journey began after the birth of my two children, my first was born via planned caesarean due to breech and my second was a very disempowering VBAC.



I realised quite quickly that many women were experiencing traumatic births and as a result, disconnected postpartums. There was an undeniable demand for grounded, respectful and deeply informed support in the birth space.

Someone to journey with you, to be a known and trusted space in your birth and to witness your transition into motherhood.

WHY HIRE A DOULA?

- Emotional & Spiritual Support
- Known & trusted in your birth space who knows and respects birth and your body
- 39% decrease in chance of caesarean
- 10% decrease in chance of using pharmaceutical pain relief
- 31% less likely to experience birth experience dissatisfaction
- 15% increase in likelihood to experience spontaneous labour

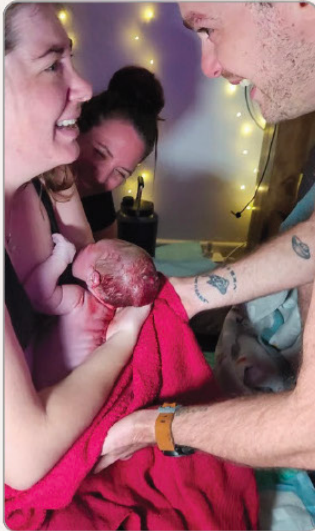
If you'd like to get in touch or find out more - I offer free 30 minute VIBE CHECKS or SCAN THE QR CODE and head over to my website

@twoseasonsdoula



MiD

Midwives in Darwin



Midwives in Darwin is a private practice maternity service, offering midwifery continuity of care for families in the top end. MiD offers a range of pregnancy, birth (& homebirth) and postpartum services to help families have positive journeys into parenthood. We truly believe when a woman receives individualised, holistic maternity care from a known midwife, a strong and empowered mother is born! And happy, empowered mothers nurture happy and healthy families. Happy families make for beautiful communities.

Have you considered investing in a private midwife for your journey? Private midwives are shown to increase satisfaction in care, reduce rates of birth trauma and improve outcomes for women and babies!



To learn more visit:
www.midwivesindarwin.com.au
or follow us on social handle
[@midwivesindarwin](https://www.instagram.com/midwivesindarwin)



Kind Words

"It was quite a ride but words can not express our gratitude for Claire's support and the wonderful service MiD provides to women and families in our community!"

Establishing Your Milk Supply - Starting Out Right

The art of breastfeeding is something that you learn by doing, and it gets easier with practice. In the old days, young women grew up seeing their family members and friends nurse. Breastfeeding was the norm, unlike today where we live in a bottle feeding culture. In today's society, many women have never seen anyone nurse a baby. The idea of taking classes or reading books to learn about breastfeeding would have made our great grandmothers laugh, but in today's world, it makes sense to learn as much as you can about breastfeeding before your baby is born.

If possible, attend a prenatal or birth education class. In depth birth classes will help you understand the hormones of birth and how the human body works to prepare and maintain milk supply as your baby grows.

There are many books about breastfeeding on the market, and some are better than others. If you only buy one resource book, *The Womanly Art of Breastfeeding* is by far the best, even if it does have a cheesy name. It not only contains detailed information about all aspects of nursing your baby, but also goes into detail about nutrition, starting solids, attachment parenting, and weaning. This is a book that you will refer to over and over again, not just during the early days of breastfeeding.

One thing is for sure: childbirth and breastfeeding are two experiences that no amount of reading, attending classes, joining Facebook groups, or watching videos can really prepare you for. Each mother and baby is a unique pair and everyone's experience of early parenting is different. In reality, there is no such thing as an "average" baby. Breastfeeding is also impacted by how a woman's birth experience goes. Normal physiological birth involves a cascade of hormones that facilitate breastfeeding immediately after birth. Births that involve medical interventions may make the first breastfeeds more challenging. For this reason most care providers now recommend breast pumping from 37 weeks to 'bring in' a mother's milk. This way, breastfeeding is more likely to go smoothly no matter which pathway her birth may take.

Here are some basic things you can do from the beginning to help get breastfeeding off to a good start:

Breastfeed early. Put your baby to the breast as soon as possible after birth, while his/her suckling instincts are strongest. The bathing and measuring and temperature taking can wait. Babies are most

alert during the first hour after a physiologically normal birth, and soon settle into a sleepy stage that can last for hours or even days. Try to take advantage of this early alert period. Early feedings, before your milk comes in, give him a chance to practice while your nipple is soft and easy to grasp. Even if they doesn't latch on and nurse during the first few minutes, he or she still gets a chance to nuzzle and smell and lick the nipple and areola, and that's good practice for later on. Any suckling at all helps contract your uterus, reduces bleeding, and helps speed up delivery of the placenta.

Nurse often. Sleep in the same room with your baby within arms reach, and learn to recognize feeding cues (such as wriggling around, rapid eye movements, putting hands in the mouth). Try not to wait until they are crying before you offer the breast. When he/she is crying and upset, they are less likely to be willing to settle down and nurse, and may respond by shutting down and falling asleep. Crying is a late feeding cue, so learn to recognize the early ones.

Newborns usually need to nurse 10-12 times or more in 24 hours. The more they nurse, the sooner your milk will come in, and the more milk your body will produce. Make sure that you offer the breast at least every two to three hours during the day, with no more than one four hour stretch during the night. Since newborns tend to be sleepy, you may have to wake him up for feedings. If you are separated from your baby after birth, or if he or she doesn't nurse well, use a hospital or professional grade pump to stimulate and maintain your milk supply.

Nurse for comfort as well as nourishment. Newborn babies have a strong need to suckle, and the breast is nature's best tool to keep baby happy. Babies nurse for lots of reasons, and they are all valid. You really can't overfeed a tiny newborn, so put them on the breast whenever they fuss. One of the greatest things about nursing is that you always have a way to soothe your baby – it works if he's hungry, tired, lonely, sick, or scared. Don't be afraid to use the breast as a pacifier – it works, makes your baby happier, builds your milk supply, and forces you to stop and rest.

Plan to spend most of your time nursing in the early weeks. Try to get a shower and brush your teeth and remember to eat, but don't take on anything much beyond that.

If friends and family members want to help, let them take care of you while you take care of the baby. While



everyone wants to hold the baby and give you a break, the most helpful thing they can do at this stage while you're resting and building your milk supply is to cook, clean, run errands, entertain older children, etc. There will be plenty of opportunities later on for them to play with the baby.

Set up a 'nursing station' in the living room and the bedroom. Get all the supplies you will need together so you don't have to move once you get settled: pillows, nappies, change of clothes, towel or cloth diaper for leaks or spit up, nursing pads, wipes, change of crib linens, bottle of water, laptop, cell, remote control, book to read, etc.

Don't limit the time baby spends at the breast. Let him or her nurse as long as interested. He or she needs to nurse long enough to get the high calorie hindmilk that comes later in the feeding, after the milk lets down. Especially in the early days of nursing, it may take several minutes for the let down reflex to 'kick in'.

Offer both breasts at a feeding. Nurse at least ten to fifteen minutes on the first side, then burp and offer the other breast. Next feeding, begin with the breast nursed on last. Many babies will only take one breast at a feeding once your supply is well established, especially if you have a plentiful supply, but in the beginning, you need to stimulate both breasts.

Avoid artificial nipples and supplemental feeding during the early weeks of nursing, if at all possible. While some babies switch back and forth from breast to bottle

easily from the first day, many babies will become nipple confused if you introduce artificial nipples before they have mastered the art of breastfeeding.

Don't worry about your baby starving before your milk comes in. Colostrum, the yellow fluid that your breasts start producing during pregnancy, is the perfect first food for your baby and will meet all nutritional needs for the first couple of days until your milk comes in.

Colostrum is an amazing substance that provides important immune factors that newborn infants can't receive anywhere else. It is easy to digest, and is full of antibodies and immune factors. During the first couple of days after your baby is born, they will take in only teaspoons of this precious fluid. Their immature kidneys are not meant to handle large volumes of fluid at this time, and the colostrum has a laxative effect that clears the meconium (the black tarry first stool) out of the system. Excreting the meconium will help avoid becoming jaundiced.

Your baby is born with extra fluid in his tissues, and will pee and poop it out during the first day or so. Most babies will lose some weight in the first couple of days after birth. The average three and a half kilo baby will lose about 7% of his birth weight. This is normal, and they will quickly regain weight in a few days once your milk comes in.

Babies don't need water, even when it is hot outside. Human milk contains plenty of water.

Giving formula supplements at this early stage can cause all kinds of problems, including a decrease in your milk supply. Formula takes longer to digest than breast milk, so your baby stays full longer and is less likely to nurse as often as he needs to stimulate your supply. While many babies tolerate formula well, the younger your infant is when he is exposed to artificial milk, the greater the chance of allergies or digestive problems. The longer you wait to introduce formula (if you introduce it at all), the better.

If supplemental formula is medically indicated, (and it rarely is), it's best to use alternate feeding methods rather than bottles - such as cup, syringe, tube, or finger feeding.

Make sure that your baby is latched on correctly and is nursing effectively. The mouth should be open wide, lips flanged out, tongue extended over his gum and under your nipple. He or she should have not just the nipple but some or all of the areola (the dark area around the nipple) in the mouth as well. Try to see that they cover more of the areola with the lower lip than with the top lip – this way, they can get their lower jaw under the pockets of milk behind the areola and get the milk out more efficiently. Baby should be pulled in close with chin and nose nearly touching the breast. His or her whole body should be facing yours, tummy to tummy, so that they doesn't have to turn the head to nurse.

Learn signs of effective, nutritive nursing. Look for a long, drawing, rhythmic motion along the jaw- line, and a wiggling at the temple. You should be able to hear swallowing after your milk comes in. Some babies will stay on the breast for long periods of time, but will 'flutter suck' ineffectively in their sleep, and won't get the milk they need or supply you with the stimulation to produce more.

Learn how to tell if your baby is getting enough milk. This is very important, since you can't measure breast milk like you can formula. Keep track of urine and stool output, and check weight early and often.

For the first couple of days, your breasts will produce sticky yellow or gold colostrum. Your milk will 'come in' two to five days after birth, usually on the third day. Once your milk comes in, you will produce transitional milk – a mixture of colostrum and mature milk, which may be yellowish and creamy looking. During the next week or so, less and less colostrum is produced, and by the time your baby is two weeks old, mature milk has replaced the transitional milk and no more colostrum is produced.

Get as much rest as you possibly can. During the first few couple of days after your baby arrives, both you and your baby are recovering from the stress of giving

birth and being born. Babies tend to be sleepy during this time, and while you will be sleepy as well.

BE PREPARED for days three and four. They are usually the roughest, and the time when most mothers are likely to give up and switch to formula. Many mothers tearfully call me on day three or four and say "But we did so well in the hospital! He nursed and slept, and everything was fine. Now he's fussy, my nipples are sore, my breasts are hard, and I don't know what to do!"

There are many reasons for this: the physical stress your body has been through (you often just don't feed good) – even with a natural childbirth with no complications, you are still physically drained, and you may be dealing with additional stresses like constipation, hemorrhoids, episiotomy stitches, or recovering from a c-section, and the hormonal upheavals, sleep deprivation, and overwhelming pressure of being the one person totally responsible for the nourishment of this new little person in your life.

It's normal for babies to become agitated and fussy on the third or fourth day. Because they are born with extra fluid in their tissues, they really aren't super hungry during the first day or two, but nurse for comfort and because they loves to suckle. Babies even suckle their own fingers while they're in the womb.

Once babies pee and poop out the extra fluid, they experience hunger pangs for the first time. Their little tummies rumble and growl, and they don't like this new feeling one bit. They will soon figure it out, but it is a learning process. Be patient and hang in there.

Don't be surprised if your baby is jaundiced. Most infants are jaundiced to some degree. Nearly half of full-term infants, and four out of five premies will become clinically jaundiced (skin and eyes have a visible yellowish tint). In the vast majority of cases, newborn jaundice is a normal process, which many researchers feel may even serve protective functions, such as guarding the infant from the effects of oxygen free radicals. It makes sense that something that occurs in the majority of babies so routinely may be part of nature's plan for the human infant.

Be prepared for growth spurts. These are periods of time when your baby wants to nurse constantly (or cluster feed), and never seems satisfied. These periods of rapid growth can be frustrating for both of you, but babies grow so quickly that sometimes they need to nurse more frequently in order to send your breasts the signals they need in order to produce more milk.

Typically, growth spurts occur around 7-10 days, 3 weeks, 6 weeks, 3 months, and 6 months. Remember that they rarely last longer than a few days to a week.

Once frequent feedings build up your supply, nursing will go back to a more predictable schedule.

The most important thing is that you make sure your baby gets enough to eat while you lower your stress level and regain your strength. Go easy on yourself as breastfeeding is a learnt skill and takes time to master.

Even if you only nurse your baby for a few days or a couple of weeks, you are still providing important immune factors.

Very few mothers who make it through the first two weeks of nursing will give up at that point. That's just when you are over the hump and things are starting to get easier. Most breastfeeding problems (sore nipples, engorgement, latch on problems, etc.) will be resolved after the first two weeks.

If you have been feeding every one to two hours around the clock, and your baby doesn't go any longer stretches than that in twenty-four hours, consult a Lactation Consultant if this pattern continues longer than a few days. The baby who nurses 'constantly' for several hours, then sleeps for a four or five hour stretch, is probably still getting in his minimum of eight feedings in twenty-four hours, and is likely to be getting enough to eat. However, if he nurses 'constantly' around the clock with no long stretches between feedings and never seems satisfied, he may not be getting enough milk for a variety of reasons, and a consultation to discover the cause is indicated.

Know When to Ask for Help

Your baby is not latching on well, or nursing just doesn't 'feel right'.

Your breasts are engorged, or you are having breast or nipple pain, especially after the first couple of weeks. Breastfeeding is not supposed to hurt!

Your baby is several days old and is not having 6-8 wet nappies and several bowel movements in each 24 hour period.

Your baby is sleepy and hard to wake up for feedings.

He or she is nursing less than 8 times in 24 hours.

There are special circumstances such as jaundice, prematurity, low weight gain, cleft lip/palate, or neurological problems.

You develop a breast infection (mastitis) or plugged ducts.

You intend to return to work or school, or to be separated from your baby due to travel or hospitalisation.

You have any questions or problems related to breastfeeding.

Remember that the majority of breastfeeding problems can be solved if you are strongly committed to nursing your baby, and you receive advice and encouragement from a knowledgeable breastfeeding professional. Don't ever be afraid to ask for help, but make sure that whoever you're asking knows what they're talking about. Remember that breastfeeding is a specialist field and it is unlikely your GP will have the necessary depth of knowledge on this topic.

The Australian Breastfeeding Association is a great resource for breastfeeding support. Call 1800 mum 2 mum (1800 686 268) or check their website for resources galore. www.breastfeeding.asn.au. Free support, 24 hours a day, 7 days a week

Article by Anne Smith
International Board Certified Lactation Consultant



Darwin Homebirth Group - 2025 Social Meet-Ups

Darwin Homebirth Group is a collective of parents and supporters who believe every woman should have the choice of where and how she births. Our monthly meet-ups are a great chance to meet like-minded families in a family-friendly environment and talk about all things pregnancy, birth and parenting.

Did you know we are a volunteer-run organisation?

DHBG committee is an excellent opportunity to be involved in the Darwin birth community. Our volunteer committee meets four times a year and plan events and initiatives that support birth choices and local families. If you feel aligned with our ethos and would like to contribute and meet new friends in the process, please get in touch via our socials. You do not need to have had a homebirth or be a parent to join the group or committee, we are inclusive of all birth experiences.

The Darwin Homebirth Group also have birth pools, TENs machines and a CUB Stool for hire at very competitive rates.

If you would like to hire equipment, please email dhbginfo@gmail.com with your estimated due date and we will send out all relevant information and add you to the booking schedule.

Up-Coming Meet-ups:

February 23rd at Saltwater Cafe at the Museum

March 30th at Howard Springs Splash

May 25th at Cafe De La Plage at Casuarina Beach

June 6th at The Motherhood at Cullen Bay
(International Homebirth Day)

from 9:30am to 11:30am

Please note no meet-up in April due to the long weekend.

Further details will be shared on Facebook and Instagram.

We look forward to seeing you there.



Microbiome Nutrition and Pregnancy: Nurturing the Next Generation

Pregnancy is a transformative journey that brings significant changes to a woman's body, including shifts in hormone levels, metabolism, and immune function. One of the most fascinating aspects of this transformation is the role of the microbiome—the community of trillions of microorganisms living in and on our bodies. Emerging research suggests that the microbiome plays a crucial role in pregnancy and can significantly influence both maternal health and foetal development. Understanding microbiome nutrition during this vital period can help expectant mothers make informed dietary choices that promote a healthy pregnancy.

What is the Microbiome?

The microbiome consists of bacteria, viruses, fungi, and other microorganisms that inhabit various parts of our body, including the gut, skin, and vaginal canal. Each individual has a unique microbiome that can be influenced by diet, environment, and lifestyle. During pregnancy, changes in a woman's microbiome occur as her body adapts to support the growing foetus.

Microbiome Nutrition: Key Components for Expecting Mothers

To support a healthy microbiome during pregnancy, it's essential to focus on nutrition. Here are some key components of microbiome-friendly diets:

1. Probiotics

Probiotics are live bacteria that provide health benefits when consumed in adequate amounts. Fermented foods rich in probiotics, such as yogurt, kefir, sauerkraut, and kimchi, can help maintain a healthy gut microbiome. Pregnant women may benefit from including these foods in their diets, as they can help prevent digestive issues and enhance immune function.

2. Prebiotics

Prebiotics are non-digestible fibres that feed beneficial gut bacteria. Foods high in prebiotics, such as bananas, onions, garlic, asparagus, and whole grains, can promote the growth of good bacteria in the gut. Including a variety of prebiotic-rich foods can help create a diverse microbiome, which is crucial for overall health.

3. Fibre-Rich Foods

A diet high in fibre supports digestive health and promotes a healthy microbiome. Foods like fruits, vegetables, legumes, nuts, and seeds provide essential nutrients while also fostering a diverse microbial

community.

4. Omega-3 Fatty Acids

Omega-3 fatty acids, found in fatty fish, flaxseeds, and walnuts, have anti-inflammatory properties that can benefit both maternal and foetal health. These fatty acids may also play a role in the development of the foetal brain and immune system.

Practical Tips for Expectant Mothers

1. **Diverse Diet:** Aim for a varied diet that includes different colours and types of fruits and vegetables to ensure a wide range of nutrients and promote microbiome diversity.

2. **Stay Hydrated:** Adequate hydration is essential for digestion and nutrient absorption. Drinking enough water can help support a healthy microbiome.

3. **Consult a Professional:** Before making significant dietary changes or starting new supplements, consult with a degree qualified clinical nutritionist or naturopath to ensure the choices align with your individual health needs.

Nurturing a healthy microbiome during pregnancy is crucial for both maternal and foetal health. By focusing on microbiome nutrition—incorporating probiotics, prebiotics, fibre-rich foods, and healthy fats - expecting mothers can create a supportive environment for their own well-being and that of their developing baby. As research continues to unfold, understanding the intricate connections between the microbiome and pregnancy will empower women to make informed choices that promote health for themselves and their future generations.

Jacqui Cleghorn (BchHS MHN)
Certified Practicing Nutritionist





Nurturing Newborns Morning Teas

Morning teas provide a comfortable, baby-friendly environment to explore gentle parenting techniques. Each topic provides insights into how to meet your baby's needs while still looking after yourself.

Morning teas are held monthly at the Nightcliff Community Centre and suit babies from birth to around 18 months. Older siblings are welcome to join us. Refreshments Provided. No need to book, please just come along.

Parents in their last trimester of pregnancy are encouraged to attend as a wealth of useful information can be learned from experiencing parent-baby interactions first hand.

Topics & Dates for 2025

- **February**, Tuesday 25th - Soothing, Settling and Sleep Through the First Year of Life
- **March**, Tuesday 25th - Baby-wearing
- **April**, Tuesday 29th - Baby-led Weaning
- **May**, Tuesday 27th - Forming a Secure Attachment With Your Baby
- **June**, Tuesday 24th - Understanding Development Through Baby's First Year
- **July**, Tuesday 29th - Soothing, Settling and Sleep Through the First Year of Life
- **August**, Tuesday 26th - Baby-wearing
- **September**, Tuesday 30th - Singing Bowl Vibrational Relaxation Session for Mums and Bubs
- **October**, Tuesday 28th - Baby-led Weaning
- **November**, Tuesday 25th - Travelling With Your Baby

Morning Tea Dates

When

Last Tuesday of Every Month
10am to Noon

Where

Meeting Room at the Nightcliff Community Centre

Cost

Free of Charge

Other details

Refreshments Provided
No need to book please just come along



Modern Cloth Nappies

how and why guide

Because there is
No Planet B!



A climate emergency was declared
by the City of Darwin in 2019.

You can take simple steps to preserve our local environment (and the planet) for our children. Just by switching to modern cloth nappies you can significantly reduce the amount of toxic plastic sent to landfill.



Childbirth Education Association
www.ceadarwin.asn.au

Financial Benefits

Savings on your first baby **\$2,190.00** or more



Savings on your second baby **\$2,790.00** or more



TOTAL SAVINGS \$4,980.00 or more



These figures are based on the average disposable costing 51cents and each baby using 6000 nappies from birth to toilet trained.

20 high quality modern cloth nappies will cost you \$600 and around \$210.00 in washing costs over 3 years.

For modern cloth nappy demonstrations
contact info@ceadarwin.asn.au

How to Use A Modern Cloth Nappy

1 Attach, fold or stuff absorbent insert into waterproof outer



2 Fit snug but comfortable to your baby using clips or velcro



3 Change every 3-4 hours for pee only



4 Change immediately for poop



5 Knock poop into toilet (use a liner for infant poop if needed)



6 Place used nappies in a 'dry' bucket with a sealed lid until wash time (within 48 hours)



7 Warm or cold wash without fabric softener



8 Line or rack dry (fast drying). Inserts can go in the dryer if needed.



Modern Cloth Nappy Parents
Saving the Planet One Baby at a Time

Environmental Impact

Each baby will use an estimated 6000 disposable nappies, high in plastics and chemicals, from birth to toilet training.

From your kerbside bin your baby's disposable nappies end up in landfill where they take up to 500 years to break down.

As disposable nappies break down they emit the greenhouse gas methane and the toxic liquid leachate.

Leachate is a particular problem in Darwin due to our high rainfall.

Rain water is trapped in the piles of rubbish at Shoal Bay. This water sits in contact with the plastics and chemicals in the plastic nappies. As the piles of rubbish slowly decompose toxic water is released and leaches into our soil and water supplies.

Across Australia 1.5 billion nappies enter landfill each year.

You will need just 20 modern cloth nappies to last a baby from birth to toilet training. These can be re-used for a second and even third baby.

After 2 or 3 babies the eco friendly bamboo absorbent insert is ready to be composted and the PU lined outer can be donated and used again by another family who can purchase absorbent inserts separately.

Other Considerations

Disposable nappies use 2.3 times more water to produce than what it takes to wash cloth nappies for one year.

Home washed reusable nappies use less energy over the life cycle than any other nappy system.

There is no difference in the incidence of nappy rash between modern cloth nappies and disposables. Some baby's have less nappy rash with modern cloth.

The chemical 'smell' of disposables is caused by the absorbent gel material. The fumes, emitted as you open the nappy, can cause respiratory issues and have been linked to childhood asthma.

Modern cloth nappies look cute.

You are setting a good example for your baby and other parents regarding sustainability.

You can feel better about yourself knowing you are doing a good thing for your child's future.

Please note: If you use biodegradable disposables they will only break down if you leave them 'open' in the trash - if you 'fold' your baby's soiled biodegradable disposable into a neat triangle and seal using the sticky tabs the biodegradable components will be trapped inside the plastic outer and will not break down.

Biodegradable nappies still go to landfill, but are designed to break down in a commercial hot composting environment.

Biodegradable disposable nappies take approximately 50 years to break down in landfill (if they are not folded into a triangle.)

Modern Cloth Nappy Parents
Saving the Planet One Baby at a Time

Scan QR code to watch video on how to use modern cloth nappies.



Learn about modern cloth nappies

<https://www.governmentnews.com.au/multi-million-dollar-answer-to-darwins-wastewater-problem/>

[https://www.darwin.nt.gov.au/sites/default/files/publications/attachments/City of Darwin Waste and Resource Recovery Strategy.pdf](https://www.darwin.nt.gov.au/sites/default/files/publications/attachments/City%20of%20Darwin%20Waste%20and%20Resource%20Recovery%20Strategy.pdf)

<https://www.semanticscholar.org/paper/Life-Cycle-Assessment:-Reusable-and-disposable-in-O'Brien-Olive/b062e7ae6289cd4ea8998f6fe5276a6a8c96928>

<https://www.australiannappyassociation.org.au/are-cloth-nappies-as-bad-for-the-environment-as-disposable-nappies/>

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