



How accurate is my 'due date'?

Please note that this page is awaiting update

What is a 'due date'?

About 90% of pregnancies will naturally last between 37 and 42 weeks, and this period is referred to as "term pregnancy".

It is common to be given a single 'estimated due date' (EDD) which corresponds the point at which it is estimated that your pregnancy will have lasted 40 weeks. Only about 5% of babies will arrive on their due date and focusing on this single date can make the end of pregnancy quite stressful. It may be more helpful to be prepared for you baby arrive some time after 37 weeks, and to focus on 42 weeks as the time by which you have a good chance of having given birth.

Many women with longer pregnancies find that everyone is asking whether they have had their baby yet, and that health care workers start to suggest inducing labour. For some women this will be the right decision, but it is important to know that this is your decision to make. For more information you might like to have a look at the [AIMS Guide to Induction of Labour](#) (principal author Nadia Higson.)

How is a 'due date' estimated?

There are two methods doctors and midwives use to estimate a EDD:

- counting 280 days from the first day of your last monthly period
- estimating your baby's size from various measurements made during an ultrasound scan.

Charting temperature, monitoring mucus, using ovulation test kits and knowing times when you could have conceived, or having conceived by IVF may mean you have your own information about when you became pregnant.

Why does the accuracy of the 'due date' matter?

The EDD will be used to decide things like whether your baby seems to be growing too fast or slow, or when you will be offered induction to prevent a long pregnancy, so it's important to understand how firm a prediction it is. There is a tendency for midwives and doctors to talk as though the EDD written in your maternity notes is something definite, rather than an estimate which may or may not be accurate.

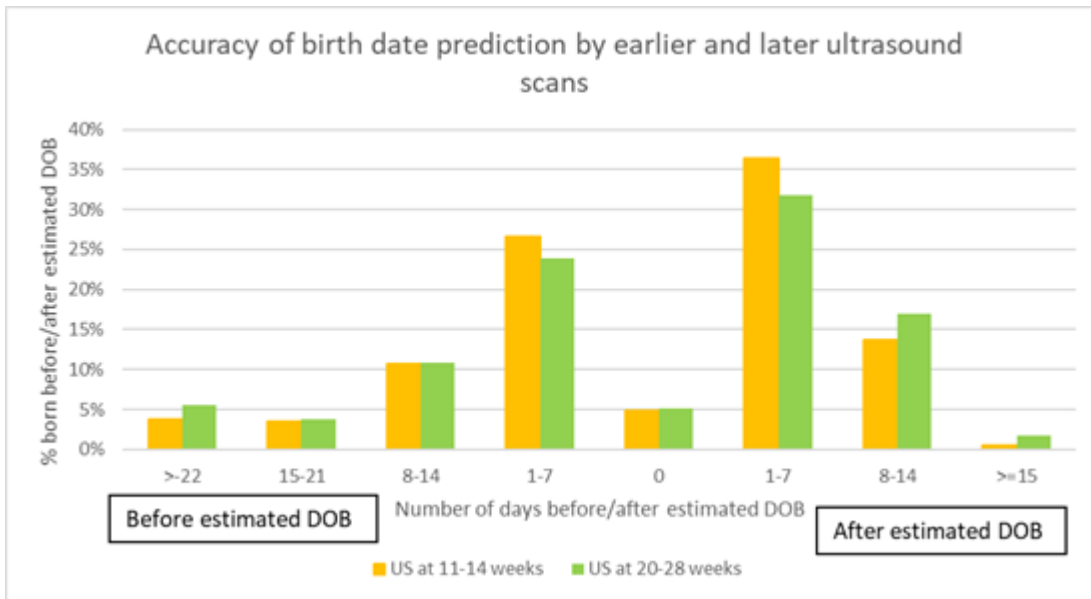
Induction of labour is routinely offered at 42 weeks of pregnancy (or in some circumstances even earlier) but if the EDD is too early, the baby might be born before s/he is fully prepared for life outside the womb.

Sometimes there are medical reasons such as pre-eclampsia which mean it may be better for a baby to be born as soon as they reach "term" (37 weeks of pregnancy). In that case, if the EDD is later than it should be that could mean that the birth is delayed unnecessarily.

Is ultrasound dating accurate?

There is quite a lot of evidence to suggest that when an ultrasound scan in the first trimester is used for the estimate instead of calculating from the last monthly period, the number of apparently "post-term" births (those which occur 15 days or more after the estimated date) is reduced. This suggests that in general ultrasound dating is more accurate in predicting the birth date than counting from the last monthly period^{1,2} but it is still only an estimate and may not always be accurate. A recent study³ of women who conceived by IVF and therefore knew when their egg was fertilised, found that the routine ultrasound dating scan consistently put their estimated birth date earlier than it should have been by an average of 3 days.

In any case, ultrasound does not give a very accurate prediction of the actual birth date. A study⁴ of women in Australia who went into labour spontaneously found that when the birth date was estimated from an ultrasound scan carried out between 11 and 14 weeks of pregnancy, only about 5% of women gave birth on the estimated date, and about 68% of women within a week either side of it – so that's quite a wide range of dates, and about a third of mothers who gave birth even earlier or later than this.



Dating from ultrasound scans done later than about 20 weeks is increasingly less accurate. As the chart shows, a scan at 20-28 weeks compared to one at 11-14 weeks resulted in more babies being born apparently “post-term” and more being born apparently premature (22 days or more before the estimated date). If a later scan predicts a date that is too early, this would make it appear that the pregnancy is lasting beyond 42 weeks, when in fact this is not the case. Similarly, if it predicts one that is too late, this could lead to a baby being classed as premature when s/he is not.

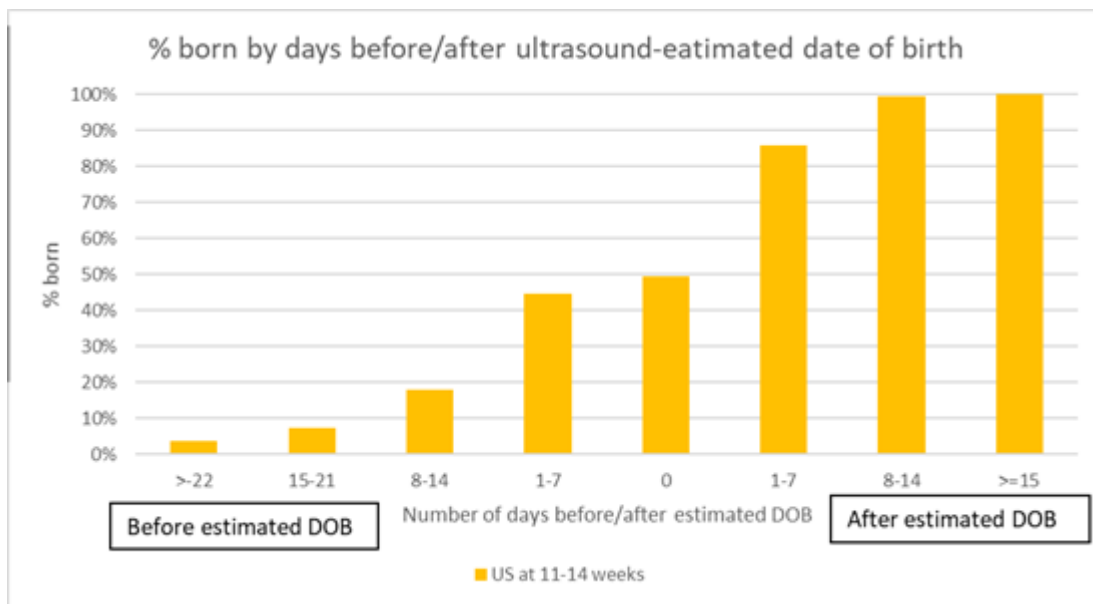
For this reason the American College of Obstetricians and Gynecologists has recommended that that due dates should only be changed in the third trimester in very rare circumstances. If the date in your notes has been changed because of a late scan, you might want to question how accurate that is likely to be.

Dating with ultrasound is a skilled procedure, so the accuracy of the EDD will also vary according to the experience of the person doing the measurement. Oddly, even when someone has very good reason to know when they became pregnant (because they were using an ovulation test, or has an IVF pregnancy, for example) midwives and doctors will often put more faith in the ultrasound measurement if the two are very different. If you believe that your estimate of your due date is more accurate, you may find it is quite hard to convince people of this. You may want to use your own knowledge about the length of your pregnancy when making decisions, rather than the figure written in your notes.

How useful is a 'due date'?

There is growing evidence⁵ that labour normally starts when the baby sends chemical signals to the mother's body to say that s/he is ready to be born. It's possible that if your labour hasn't started, this is because your baby needs a bit longer to develop in the womb.

The concept of "being overdue" implies that all babies are "due" after the same length of pregnancy. We know that not all babies teethe, or learn to walk at the same time, so why should all babies be ready to be born after the same number of weeks in the womb? In fact, there is plenty of evidence that there is variation in this, as in anything else to do with human beings. In the study described above⁴ when mothers went into spontaneous labour only 5% of their babies were born on the estimated date of birth, and around half were born after it.



Other studies have suggested that average length of pregnancy is 40 weeks plus 3-5 days after date of the last monthly period, with birth tending to be a couple of days later, on average, for first babies than for subsequent ones^{6,7}.

The length of pregnancy can be affected by many factors including genetics, ethnicity and length of the menstrual cycle. These are discussed below.

How might genetics affect the length of your pregnancy?

It seems that some people are genetically programmed to have longer than average pregnancies, and some to have shorter ones. Recent research has identified several genes which are associated with length of pregnancy and the likelihood of a pre-term birth⁸ and so underpin this natural variation.

The genetic heritage of both parents seems to affect the length of pregnancy. In a study⁹ which looked at parents in Norway for whom birth data was available, fathers who were born at 42 weeks themselves

had babies who were born, on average, 2 days later than those of fathers born at 37 weeks. For mothers the effect was even more pronounced. Those born at 42 weeks birthed their babies, on average, 4 days later than those born at 37 weeks. This suggests that if you know the number of weeks of pregnancy at which you and your baby's father were born that should give you an idea of whether your pregnancy is likely to be a bit longer or shorter than average.

It's been estimated that half your chance of having a longer pregnancy is accounted for by your genetic heritage¹⁰. It's been shown that if your mother or sister had longer than average pregnancies it's more likely that you will also do so^{10,11}. Similarly, if you have had a longer pregnancy before, there's more chance that any further pregnancies will be of similar length^{7,10}. It's also more likely that you will have a repeat of a longer than average pregnancy if your baby has the same father as the previous one, demonstrating again the contribution that the father's genes make¹⁰.

All of this means that a longer pregnancy may be normal for some people, and that their babies just need a bit longer than others to get ready for the world outside.

How might your ethnicity affect the length of your pregnancy?

As it is linked to genetic heritage, it is to be expected that the typical length of pregnancy will also vary for people of different ethnic backgrounds. For example, those with black or Asian ethnic heritage appear to have slightly shorter pregnancies on average than those of white heritage¹². However, this is only "on average". There will be a wide range of pregnancy lengths within any one ethnic group as well as considerable overlap between different groups.

How might your menstrual cycle affect the length of your pregnancy?

One reason why dating from the last monthly period may be less accurate than ultrasound is the fact that not everyone's monthly cycles are the same length.

In one very interesting study⁷ the researchers followed a group of mothers from before they became pregnant and measured their hormones daily. This meant that they knew exactly when each woman ovulated (released an egg from the ovary), when their egg was fertilised, and when the embryo implanted in the womb. This showed that the date when a mother went into labour spontaneously was affected both by the length of time from the first day of her last menstrual period until she ovulated, and by how long it then took for the embryo to implant.

If your menstrual cycles is longer than the average of 28 days you are likely to have pregnancies that appear to be a bit longer than average and vice versa. The time it takes from fertilisation until the embryo implants also seems to vary a bit and that too could affect how long it is until your baby is ready to be born.

If you know when you ovulated or when you conceived (because you were using a test kit for this, for

example, or if you conceived by IVF) then counting from there may give a more accurate measurement than counting from the start of your last period. In this study, the average time from ovulation to birth was 267 days (38 weeks and 1 day) and 90% of the mothers had given birth by 40 weeks after they ovulated.

What else might affect the length of your pregnancy?

The same study also found that each year of a mother's age added one day on average to the length of her pregnancy, and that her own birthweight also made a difference of 1 day for every 100g.

Summary

The 'due date' is only a rough estimate of when your baby is likely to be born. It may be more helpful to think about the range of dates from 37 to 42 weeks when it is likely that you will give birth.

Your family history, ethnicity and other personal factors can all affect how long your pregnancy will last.

Author: Nadia Higson

Reviewed by: Debbie Chippington Derrick

Published Date: February 2020

Review date: February 2022

References

1. Taipale P. and Hiilesmaa V. "Predicting delivery date by ultrasound and last menstrual period in early gestation." *Obstet Gynecol.* 2001 Feb;97(2):189-94. www.ncbi.nlm.nih.gov/pubmed/11165580
2. Whitworth M. et al Cochrane Review: "Routine compared with selective ultrasound in early pregnancy" (2015) www.cochrane.org/CD007058/PREG_routine-compared-selective-ultrasound-early-pregnancy
3. Knight B. et al "Assessing the accuracy of ultrasound estimation of gestational age during routine antenatal care in in vitro fertilization (IVF) pregnancies" *BMUS Volume: 26 (1): 49-53* 2018. <https://journals.sagepub.com/doi/full/10.1177/1742271X17751>
4. Khambalia A.Z. et al "Predicting date of birth and examining the best time to date a pregnancy." *Int J Gynaecol Obstet.* 2013 Nov;123(2):105-9 www.ncbi.nlm.nih.gov/pubmed/23932061
5. Gao L. et al "Steroid receptor coactivators 1 and 2 mediate fetal-to-maternal signaling that initiates parturition" *J Clin Invest.* 125(7):2808-24 2015 www.jci.org/articles/view/78544
6. Smith G.C.S. "Use of time to event analysis to estimate the normal duration of human pregnancy"

Human Reproduction, Volume 16, Issue 7, 1 July 2001, Pages 1497–1500

academic.oup.com/humrep/article/16/7/1497/693431

7. Jukic A.M. et al “Length of human pregnancy and contributors to its natural variation” Hum Reprod. 2013 Oct; 28(10): 2848–2855. www.ncbi.nlm.nih.gov/pmc/articles/PMC3777570/

8. Zhang G. et al “Genetic Associations with Gestational Duration and Spontaneous Preterm Birth.” N Engl J Med 2017; 377:1156-1167

https://www.nejm.org/doi/full/10.1056/NEJMoa1612665?query=featured_home

9. Lie R.T. et al “Maternal and paternal influences on length of pregnancy. “Obstetrics & Gynecology. 107(4):880-885, APR 2006”

https://journals.lww.com/greenjournal/fulltext/2006/04000/Maternal_and_Paternal_Influences_on_Length_of.22.aspx

10. Oberg A.S. et al “Maternal and Fetal Genetic Contributions to Postterm Birth: Familial Clustering in a Population-Based Sample of 475,429 Swedish Births” American Journal of Epidemiology, Volume 177, Issue 6, 15 March 2013, Pages 531–537 academic.oup.com/aje/article/177/6/531/160108

11. Mogren I. et al “Recurrence of prolonged pregnancy.” International Journal of Epidemiology, Volume 28, Issue 2, 1 April 1999, Pages 253–257 academic.oup.com/ije/article/28/2/253/655234

12. Patel R.R. et al “Does gestation vary by ethnic group? A London-based study of over 122,000 pregnancies with spontaneous onset of labour.” Int J Epidemiol. 2004 Feb;33(1):107-13.

<https://academic.oup.com/ije/article/33/1/107/66810>