

## How accurate is your Due Date?

### How are due dates calculated?

The standard calculation is called Nägele's Rule. This was developed in the 1850's by a Dr. Nägele, who determined that the average human pregnancy was 266 days from conception, or 280 days (40 weeks) from the start of the last menstrual period. To calculate this, begin with the first day of your last period (LMP). Add 7 days, then subtract 3 months.

**((LMP + 7 days) - 3 months) = Expected Date of Delivery**

**EX: ((April 1 + 7 days) - 3 months) = January 8**

This "rule" doesn't take into account the fact that many women are uncertain of the date of their last menstrual period, not all women have 28 day cycles, and not all women ovulate on day 14 of their cycle.

### Another Calculation

In 1990, researchers (Mittendorf, et al) re-examined this issue for modern American women. Results indicated that, for first-time Caucasian moms, an average pregnancy lasts 274 days from conception (approximately 288 days from the last menstrual period).

This research and other studies also show us many other factors influence the length of pregnancy, including: mother's age, weight, ethnicity, prenatal care, prenatal nutrition and smoking, number of prior pregnancies, and more.

Mittendorf shows an average pregnancy is 269 days for mothers who've given birth before. Non-Caucasian moms have shorter pregnancies than Caucasian moms; for example, African-American women average 266 days.

So, to calculate "Mittendorf's Rule". Begin with the starting date of the last menstrual period. Add 15 days for first time Caucasian mom, or add 10 days if you're non-white or this is not your first baby. Then subtract 3 months.

**((LMP + 15 days) - 3 months) = Expected Date of Delivery**

**EX: ((April 1 + 15 days) - 3 months) = January 16**

### What other methods can tell what the gestational age is / how many weeks pregnant someone is?

Those calculations predict a due date based on the date of conception. If the date of conception and the date of the last menstrual period are unknown, there are several other ways to determine how far along the pregnancy is.

Ultrasound: Ultrasound can be used to examine the baby's development, and determine his/her age based on which systems are fully developed. If ultrasound is performed in the first trimester, it can indicate fetal age within a range of 3 – 5 days. Later in pregnancy, it is less accurate. Up to 20 weeks, the margin of error is 7 – 10 days. By the third trimester, an ultrasound date can be off by as much as 3 weeks in either direction. Therefore, a baby that appears "term" (40 weeks) may be anywhere from 37 – 43 weeks.

Heart Tones: Fetal heartbeat can be heard through Doppler starting at 9-12 weeks and by stethoscope at 18-20 weeks.

Fundal height: A physician or midwife can measure mom's belly, specifically the distance from the symphysis pubis joint to her fundus (the top of her uterus). Fundal height can indicate the size of the baby, which can give insight about fetal age. Typically, from week 24 to week 34, fundal height in centimeters correlates with weeks of gestation. For example, at 28 weeks, the fundus is probably about 28 cm. This is not an exact measurement, and several factors can affect its accuracy.

Quickening: Some believe the baby will come five months after quickening, the first time the mother feels the baby move. This is hard to evaluate, as women can be more or less sensitive to these sensations, and may notice them at different times in their pregnancies. (First time mothers typically notice movement around 18-20 weeks. Mothers who have been pregnant before notice it as early as 16 weeks.)

### "Expected Date of Delivery" versus Actual Date of Delivery

Even if you know your exact date of conception, and the exact gestational age of your baby, and know the "average" length of pregnancy, it is still difficult to predict exactly when *your* baby will be born. A normal pregnancy can last anywhere from 37 to 42 weeks. Only 4% of babies are actually born on their "due dates". 6-10% of babies are born early – prior to 37 weeks; 4-14% of pregnancies last more than 42 weeks.

### So, when will your baby be born?

If this leaves you very confused, just realize that predicting due dates is a very inexact science.

I always tell my students: make sure you have everything ready for your baby and for your birth by two weeks before your due date. But then have some really fun and exciting projects to keep you busy for up to two weeks after your due date, that way you don't feel too frustrated if your baby comes a little later than "expected."

By Janelle Durham, 2002. Sources: "How long is too long?" by Penny Simkin, *Childbirth Forum*, Spring 1993. Abstract for "The Length of Uncomplicated Human Gestation" by Mittendorf et al *Obstetrics & Gynecology*, V.75, N.6, June 1990. "When will my baby be born?" found at <http://pregnancy.about.com/library/weekly/aa042197.htm> "Pregnancy past your due date" by Terri Isidro-Cloudas on americanbaby.com