

AN ULTIMATE GUIDE TO YOUR GROWING BABY By Dr Chua Yang

Pregnanc OURNEY

regnancy is a discovery adventure! As an expectant mother, you may be overwhelmed and confused by the many changes that your body goes through, but understanding these changes can help you face each new day with much wonderment and anticipation.

The very first confusion may occur at the consultation with your obstetricians. You are told to be eight weeks' pregnant but that just doesn't seem possible! Well, obstetricians calculate pregnancy dates from the first day of the last menstrual period, and we assess progress in terms of weeks. In other words, it's not referred to as a nine-month pregnancy but a 40-week process. Also, Baby was conceived at two weeks and the estimated date of delivery or the "due date" is at 40 weeks!

So let's take a virtual tour of this 40-week journey and find out what goes on with you and your baby during this phenomenal adventure.

The First Trimester

This is



the start of the menstrual period and the womb lining renews itself by shedding.



BABY

Of the thousands of follicles that has been lying dormant in

Mummy's ovary, one little follicle carrying half of Baby's genetic material now responds to the hormonal changes and rapidly grows and matures.

MUMMY

The womb lining regenerates and gets "plumped up" in anticipation of the arrival of baby.



BABY

The matured egg extrudes from the ovary in the process

of ovulation. That fastest swimming sperm carrying the other half of genetic material from daddy, finds this egg and fertilisation occurs. Baby is now a cell that is dividing in mommy's fallopian tube and makes its way towards the womb.



BABY

Baby is now a clump of cells called the blastocyst and

successfully implants itself in the womb. The outer cells become the placenta, derive blood supply from the womb lining and the inner cells develop to become various parts of Baby.

MUMMY

Large amount of progesterone is produced to support this pregnancy. You may start to "feel different", experience some breast tenderness and engorgement.



BABY

The brain and the backbone begin to form. The external

covering changes and begins to start the process of creating the placenta and the amniotic cavity (which will surround the placenta).

MUMMY

You miss your period and start to feel unusually tired. The lower part of your tummy feels bloated. A home pregnancy test will announce the good news!



BABY

The embryo now looks like a small "alien"! A primitive heart

starts to pump and there is colour! Little buds that will become the arms and legs appear this week. The site for the eyes and ears become evident.

On average, the Baby is about 3mm from the rump to the tip of the head.

MUMMY

If you didn't believe the several home pregnancy kits, a visit to the doctor's will confirm the pregnancy via the ultrasound scan!

Hormones are rising rapidly and you may start to experience some nausea.



BABY

The basis for Baby's brain, blood and nervous

systems are in place. Eyes, ears and mouth begin to form.

Tissues that will form the backbone and the abdominal muscles begin to develop.

Baby now measures 5 to 7mm in crown rump length.

MUMMY

Your doctor tells you the estimated date of delivery and you can't wait to start planning for Baby's arrival!



BABY

Baby's head takes shape and tiny dimples show

the future location of the eyes and ears. Little rays on the limbs start to form and will become fingers and toes. The digestive system starts to develop.

The tissue connecting the embryo to the uterus turns into an umbilical cord. Clusters of cells that will become the testis or ovaries appear.

The crown rump length is now 9 to 14mm.



You may feel hungry
but can't seem to put
much food in. There
may be unusual
cravings for
food you never
thought you
liked before.
Some
smells are
beginning
to bug you a

whole lot!

This is the time your hero steps in and volunteers to scout for food that you may find tolerable or appealing!



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WEEK

Baby now has reflexes and can move spontaneously. The thorax and abdomen are entirely formed. The lungs begin their development. The heart is now in the chest

cavity and beats strongly.

The head is becoming more prominent. The eyes can be seen behind the closed membrane layer that will become the eyelids

Fingers and toes are formed this week. Baby now measures 17 to 22 mm and weighs 2 g.

MUMMY

It is important that you take into consideration what your appetite allows you to take. If there is no nausea or vomiting, you should start to focus on a good balanced diet. But if "good food" only serves to induce vomiting, then it's not the time to be fussy about your nutrition. Remember that whatever you manage to hold down will be nutrition for your growing baby whereas the most beneficial food for Baby will not amount to much when they cannot be kept down!



BABY

Your baby, which was an embryo up until now, has

become a foetus. This week, the first bone cells begin to replace this cartilage. The bones for arms and legs begin to harden and joints begin to form. The face and jaw are also formed.

All of the vital organs are in place: heart, lungs, brain, intestines. However, they are all still immature and will develop further. The genitalia begin to form. Baby now measures 3 cm and weighs 3 g.

MUMMY

Baby has taken the human form and you can start to make out little hands and feet! WEEK

BABY

Baby will open his mouth for the first time.

Salivary glands and vocal chords begin to form. The eyes are completely formed, but the membranes that will be the eyelids keep them covered still.

Hands and feet develop rapidly. Heart is beating strong at around 150 beats per minute. Baby now weighs about 10 g.

MUMMY

The lower tummy feels increasingly full and bloated. Not being able to move your bowels daily makes it worse. Your sleep is disturbed by these discomforts and frequent leg cramps.

WEEK

BABY

The brain is developing fast and Baby's head is the biggest part of the body. All the organs, limbs and external genitalia are fully

formed. Having completed organogenesis (formation of organs) also implies that Baby is now less susceptible to external insults like chemicals and drug exposure.

Baby is now about 5 cm from head to rump and 7.5 cm if the expanding legs are taken into consideration.

Congratulations! You have reached the end of the first trimester and definitely start to feel the discomforts

You start to relax a little as everyone tells you that the pregnancy is now a lot more stable and the risk of miscarriage has significantly diminished.

Your doctor measures the baby's neck (nuchal translucency) to assess for risk of Down's Syndrome.

The Second Trimester



BABY

Baby is now able to swallow and urinate. All

the vital organs are formed and are functional. From now on they will grow in size and efficiency.

MUMMY

You don't feel as tired and light-headed and it is possible to resume some exercises.

You notice some darkening of the nipples and there is a dark line running down the tummy, the linea nigra.



BABY

The placenta begins proper function and the umbilical cord begins to take

the role of blood circulation.

Baby now measures 10 cm and weighs 45 g.

MUMMY

After making do with all the larger size and looser clothes you can find, you finally decide its time to go shopping for some funky maternity wear.



BABY

The neck is developed and the head is now

able to turn freely.

The lungs improve their efficiency and there are tiny movements, which are practices for breathing.

MUMMY

You have a blood test to assess for risk of having a Down's Syndrome.

Some of you experienced mothers can start to feel little flutters of baby movements.



BABY

Hand movements refine and

Baby is now able to clench the fist and bend the fingers.

There is rapid-growth in size and Baby now measures 14 cm and weighs 110 g.

MUMMY & DADDY

This is the appointment you have been waiting for. Your doctor will try to identify the gender of your baby!



Baby begins to hear! The surrounding amniotic fluid helps the external sounds travel. At this time, mother's heart, stomach and voice can be heard.

> However, these sounds may not be interpreted by the immature brain at this time.



MUMMY

If you are assessed to be at high risk of having Down's Syndrome baby, you would be scheduled for an amniocentesis, which comes with a small risk of miscarriage.



BABY

Baby now hears sounds from the external environment, but in a muffled manner.

If a loud noise is made near the mother, the baby may be sensed to "jump". Baby now weighs about 250 g.

MUMMY

You need larger bras! Those breasts are starting to enlarge and get engorged. Colostrum may start to form and you notice these slightly cloudy fluids sometimes staining your garments. This is the stuff your Baby's first meal is made of! The fluid is filled with nutrients and antibodies.



BABY

The little buds that will become adult teeth begin to appear

behind the structures that will become the milk teeth.

Baby is very active and is exploring the expanse of your tummy. But there is also very long sleep periods helping the accelerated growth.

MUMMY

You are advised you to keep your meals light and not to sit or lie down straight after a meal due.

You decide to take a stroll after every meal...window shopping for Baby stuff at lunch and just getting some fresh air and leg circulation after dinner.



BABY

Hair begins to grow and the teeth are now in the jawbone.

Baby has distinct and unique identity as the fingerprints ar developed.

At this time, Baby is half the final length but only abou-12% of the final weight at birth.

MUMMY

Today is the appointment for a detailed ultrasound scan. This scan aims to rule out serious structural abnormalities such as heart defects, skeletal anomalies, etc.



BABY

Hair appears. A downy light hair called "lanugo" is in

place to help baby maintain a constant body temperature. This hair will have mostly disappeared by the time of birth.

MUMMY

For those of you who have not started using oils or creams to prevent stretch marks, you may start to notice them on your tummy, thighs and breasts.

You were told that they only pale and fade after delivery but usually do not disappear altogether.



BABY

The brain and all senses are developing very rapidly. Muscles

are getting stronger too and you can definitely feel these!

The chest muscles are getting Baby ready for breathing actions and the lungs are maturing day by day.

MUMMY

Varicose veins are common; piles, develop and tends to bleed if stools are not kept soft and regular; and congested vulva giving an uncomfortable engorged swollen feeling.



BABY

Your Baby is producing the amniotic fluid that is all

around and also swallowing it back. This swallowing action sometimes results in cough or hiccups, which can be felt by mommy. They are transient, regular, almost pulsatile movements, which can be mistaken for a heartbeat.

MUMMY

Baby is getting heavier and that stretchy feeling in the groin can be quite unbearable!



BABY

Hearing is now developed and acute. External sounds can be

heard really well and exposing baby to calming soothing music may help those sounds to register and provide a sense of security even after birth.

Baby now measures 30 cm and weighs 650 g.

MUMMY

Antenatal classes have started. Do pick up as much parenting skills as you can!



BABY

Vernix, a white oily, creamy substance coats the body and

protects the skin from being soaked in amniotic fluid. This fluid increases in acidic content with more urine input from the baby. The vernix will mostly dissolve by the time of delivery but enough of it will help to lubricate as baby negotiates the birth canal on the way out.

MUMMY & DADDY

Both Mommy and Daddy can now feel baby's movements! Great joy for daddy who can now feel the movements through your tummy.



BABY

During this week, Baby's eyes will begin to open and

even blink. If Baby were to be born now, there would be a 50% chance of survival with proper medical care.

Baby now weighs 850 g.

MUMMY

Leg cramps seem to appear more frequently. This may be due to circulation changes and water retention. It could also be due to inadequate water intake. Many pregnant women drink less water to avoid frequent visits to the bathroom and this can lead to dehydration.



BABY

Baby opens eyes periodically. Eyebrows and eyelashes are in place!

MUMMY

As you increase in weight, and this weight is mostly in the front of your body, take care not to arch your back more and more. This would result in muscle spasm and backaches. Posture is very important at this stage. Remember always to encourage a slight forward pelvic tilt and to pick things by bending the legs rather than the back.



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BABY Baby now manages regular rhythmic

breathing movements. Little boys have their testicles descend into the scrotum, Baby measures 35 cm and weighs about 1200 g.

MUMMY

As Baby gets heavier, the weight of the womb may compress on your large blood vessels and impede circulation back to the baby. As such, it is beneficial to sleep sideways.



The Third Trimester



BABY

Baby's hearing has developed further, and

is now able to distinguish even softer voices. Baby's heartbeat increases when mummy and daddy's voices are heard!

MUMMY

Remember not to carry heavy things and to ensure good ventilation when exposed to fumes from new paint.



BABY

Baby is putting on more fat to maintain body temperature at birth. If prematurely born at this

time, there is already a very good chance of survival. Baby now weighs 1.5 kg.

MUMMY

It is common to start feeling Braxton-Hicks contractions. They are usually irregular and reasonably painless. As the final weeks approach, these contractions may become more frequent and intense.



BABY

Baby's movements feel different because space is running out. The legs are folded at the knees and the arms

are crossed, with the chin resting on the chest.

If not turned around yet, Baby will probably make this manoeuvre this week and get into position for the big move out through the birth canal!

MUMMY

As Baby increases in size and stretch is felt all around, the diaphragm also gets pushed upwards. To ease this, limit yourself to small meals to help minimise the contribution of stretch by a filled stomach. Propping up in bed to sleep helps relief breathlessness as this helps the diaphragm stay down and keep pressure away from the lungs.



BABY Baby's skin gets less

wrinkly and

the lanugo and vernix start to disappear. Baby also starts to get chubbi and approaches 2 kg in weight.

MUMMY

You may feel more tired now because of the weight gain. If you continue to exercise frequently and stay activ this can be controlled. On the other hand, sitting excessively will result water retention, which worsens the weight gain and tiredness.



BABY

Although still premature and a little weak, baby is fully

formed and almost the same proportions as birth.

MUMMY & DADDY

Less than two months to go before the big pop! It is time to think about names! You plough through all the books on names you can find. This is your first gift to your Baby...a name for life, a name to be proud of!



BABY

Most Baby's organs are mature now.

Head hair starts to grow. Baby now measures 43 cm and weighs 2.3 kg.

MUMMY

Before Baby's head is engaged, the stretch and discomfort at the ribs can be quite unbearable and sleep is disturbed by a sensation of breathlessness.



BABY

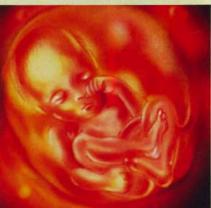
This week, the Baby's weight gain is considerable, becoming more and more chubby. Most of the protective lanugo and vernix start to

disappear leaving only a minimal coat for lubrication during the birthing process.

Baby's lungs are mostly matured and baby now weighs 2.5 kg.

MUMMY

The Baby's head will soon be engaged and you will feel "lightened". Breathlessness and heartburn will be relieved with this.





BABY

Over the last trimester, Baby has been taking in your antibodies and will

develop some protection from what you have passed on.

The rate of growth slows down but Baby still grows and now measures 46.5 cm and weighs 2.7 kg.

MUMMY

As Baby's head gets engaged, your bladder will feel the pressure and you will need to frequent the bathroom much more, both during the day and night. This situation feels familiar ...you experienced similar discomforts during the first trimester when the whole womb is exerting pressure on your bladder.



BABY

Baby has reached full term! The fingernails have grown to

the tips of the fingers and toes. All organs are mature. Baby now weighs 2.9 kg.

MUMMY

You have made it to full term! It starts to get really exciting as you finalise your birth plans with your doctor. You are careful to note the possible ways by which labour starts and take



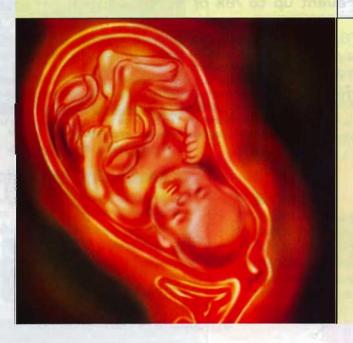
BABY

Baby's lungs are ready to expand, reflexes are fully developed, and

adipose tissues are in place under the skin for temperature control. Baby, measures 50 cm and weighs about 3 kg.

MUMMY

Pelvic ligaments are softening resulting in a stretchy feeling in the groin area. This process prepares the pelvic bones to spread apart allowing the Baby's head to come down lower and eventually through the birth canal.





WEEK 40

BABY

Baby's growth continues to slow as the placental reserves start to run out. As the Baby's metabolic rate slows, the amniotic fluid may be

relatively diminishing.

Baby's wake and sleep rhythm is established and this pattern may continue in the first few weeks of life.

Baby now measures on average 51 cm and weighs 3.3 kg for girls and 3.5 kg for boys.

MUMMY

It is a waiting game from now. You may have started your leave to relax at home and make final home arrangements to receive Baby. The bag is packed for hospital and all is ready. It is also important to monitor and be confident that baby is as active as before!

Good luck! You will soon begin your journey in motherhood!

Dr Chua Yang is a consultant obstetrician & gynaecologist with A Clinic for Women.