Foreword

It is important for pregnant women and your families to get adequate information about your pregnancy. The Family Health Service of the Department of Health has collated relevant information leaflets from different departments and organisations to produce this “Your Pregnancy Guide” for your easy reference.
‘Pregnancy e-link’ will deliver health messages related to fetal development, healthy eating during pregnancy and tips for infant care regularly to your e-mail box.

Subscribe at

http://s.fhs.gov.hk/preg
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Congratulations on your pregnancy and thank you for choosing the antenatal service of Maternal and Child Health Centres (MCHCs).

Antenatal check-ups are essential for your health and that of your baby. Antenatal service in Hong Kong is provided by the public (Hospital Authority and MCHCs) and the private sectors.

Antenatal Service in Maternal and Child Health Centres

Shared care programme between Hospital Authority and MCHC

A comprehensive antenatal shared-care programme is provided to pregnant women, in collaboration with the Obstetric Department of hospitals under the Hospital Authority (HA), to monitor the whole pregnancy and delivery process. To ensure the continuity of quality care, antenatal service clustering between MCHCs and hospitals under the HA of the same district is provided. Pregnant women should attend the MCHC having shared antenatal care with the obstetric outpatient service/hospital they plan to deliver.
**Note:** MCHCs only accept registration of pregnant women who will deliver in the designated shared care hospitals under the HA. Pregnant women should provide residential address proof for verification.

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<th>HA Hospitals with Antenatal Service</th>
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<th>First Registration</th>
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<td>Queen Elizabeth Hospital</td>
<td>Yaumatei MCHC, Kowloon City MCHC, Robert Black MCHC*, West Kowloon MCHC, Kwun Tong MCHC, Lam Tin MCHC, Tseung Kwan O Po Ning Road MCHC</td>
<td>At hospital</td>
</tr>
<tr>
<td>Pamela Youde Nethersole Eastern Hospital</td>
<td>Sai Wan Ho MCHC, Chai Wan MCHC, Anne Black MCHC</td>
<td></td>
</tr>
<tr>
<td>Prince of Wales Hospital</td>
<td>Fanling MCHC, Wong Siu Ching MCHC, Ma On Shan MCHC, Lek Yuen MCHC</td>
<td></td>
</tr>
<tr>
<td>United Christian Hospital</td>
<td>Lam Tin MCHC, Kwun Tong MCHC, Tseung Kwan O Po Ning Road MCHC</td>
<td>At hospital or MCHC</td>
</tr>
<tr>
<td>Tseung Kwan O Hospital (outpatient service only)</td>
<td>Tseung Kwan O Po Ning Road MCHC</td>
<td></td>
</tr>
</tbody>
</table>

* Robert Black MCHC will undergo renovation and close temporarily. The Antenatal Service of Robert Black MCHC will be transferred to East Kowloon MCHC. The date of service resumption at Robert Black MCHC would be posted on Family Health Service website (www.fhs.gov.hk) timely when available.
<table>
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<th>HA Hospitals with Antenatal Service</th>
<th>MCHCs with shared care</th>
<th>First Registration</th>
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<tr>
<td>Princess Margaret Hospital</td>
<td>West Kowloon MCHC&lt;br&gt;North Kwai Chung MCHC&lt;br&gt;Tsing Yi MCHC&lt;br&gt;Tung Chung MCHC&lt;br&gt;(Tung Chung town centre residents)&lt;br&gt;Tsuen Wan MCHC</td>
<td>At hospital or MCHC</td>
</tr>
<tr>
<td>Queen Mary Hospital / Tsan Yuk Hospital</td>
<td>Tang Chi Ngong MCHC&lt;br&gt;Sai Ying Pun MCHC&lt;br&gt;Ap Lei Chau MCHC&lt;br&gt;Cheung Chau MCHC&lt;br&gt;Mui Wo MCHC&lt;br&gt;Tung Chung MCHC (Discovery Bay &amp; Outlying Islands residents only)</td>
<td></td>
</tr>
<tr>
<td>Tuen Mun Hospital</td>
<td>Yan Oi MCHC&lt;br&gt;Tuen Mun Wu Hong MCHC&lt;br&gt;Madam Yung Fung Shee MCHC&lt;br&gt;Tin Shui Wai MCHC</td>
<td>At MCHC</td>
</tr>
<tr>
<td>Kwong Wah Hospital</td>
<td>No antenatal shared care with MCHC</td>
<td></td>
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As the procedure for registration of new cases is different among hospitals, please contact the Obstetric Department or the corresponding MCHC by phone or in person for more information.

Expectant mothers who are not Hong Kong residents must register at the HA hospital first. Please refer to the Hospital Authority website at www.ha.org.hk for details.

**Opening hours / Address / Telephone number of MCHCs**

Please refer to the Family Health Service (FHS) website at www.fhs.gov.hk
Fees and Charges in MCHCs

The list of charges payable, with effect from 26 June 2017, at Government polyclinics, clinics and other institutions is given below.

1. Patients falling into the following categories are eligible for the rates of charges applicable to Eligible Persons:
   (i) a holder of Hong Kong Identity Card issued under the Registration of Persons Ordinance (Chapter 177), except those who obtained their HKIC by virtue of a previous permission to land or remain in Hong Kong granted to them and for whom such permission has expired or ceased to be valid;
   (ii) children who are Hong Kong residents and under 11 years of age;
   (iii) other persons approved by the Director of Health.

2. For other patients, the rates of charges applicable to Non-eligible Persons will apply. The Director of Health will determine the eligibility of patients to whom the rates of charges will apply.

3. The Director of Health has powers to require a deposit of part or the whole of the fees likely to be incurred by any patient.

4. Unless otherwise specified or agreed by the Director of Health, all charges specified in this notice are payable in advance or on demand by the Director of Health.

5. The Director of Health has powers, in his discretion to waive, reduce or remit the whole or any part of the fees chargeable at any institution under his control or for the service of a Consultant or a Medical Officer outside a Government institution.

Charges for maternal health service in Maternal & Child Health Centres are listed as follows:-

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<th>Services</th>
<th>Eligible Persons (per attendance)</th>
<th>Non-eligible Persons (per attendance)</th>
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<tr>
<td>Antenatal</td>
<td>No charge</td>
<td>$1,190 (note)</td>
</tr>
<tr>
<td>Postnatal</td>
<td>No charge</td>
<td>$1,190</td>
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Note: For non local expectant mothers, please bring the “Certificate on Confirmed Antenatal and Delivery Booking” issued by the Hospital Authority

Fees and charges may be changed. Please refer to the Family Health Service website for latest information.

(Rev Jun 2017)
Documents/Forms to bring along to MCHCs

1. Valid Hong Kong Identity Card (For those without, please bring along valid travel document, spouse's identity document and marriage document [copies are acceptable]) note 1 note 2
2. Proof of address dated within the last 6 months
3. Result of pregnancy tests
4. Antenatal record (if available)
5. Completed “Antenatal Service - First Registration Form” (you can download the form from the FHS website at www.fhs.gov.hk or get a copy from any MCHC)
6. Urine sample note 3

Note 1: Proof of identity is required

Note 2: For non-local expectant mothers, please bring the Certificate on Confirmed Antenatal and Delivery Booking issued by the Hospital Authority

Note 3: Point to note when collecting urine sample:
1. Collect your urine sample before breakfast (drinking plain water is okay).
2. Prepare a clean wide-mouth bottle for collecting the sample.
3. Discard the first void urine as it is not appropriate for the test.
4. Wash your hands with liquid soap and water thoroughly when you prepare the second void.
5. Use a wet cotton wool pad or toilet paper to clean the vulva and remove any vaginal discharge.
6. Position yourself over the toilet and begin to pass urine.
7. Do not collect the first and the last part of urine.
8. Midway through the urination process, collect a sample of the urine with the wide-mouth bottle.
9. Tightly screw the cap back onto the container and wash your hands thoroughly.
10. You can eat as usual afterwards.
Either a “Certificate of Attendance” or a “Sick Leave Certificate” can be issued for each antenatal visit or post confinement treatment visit note ¹. Some employers accept Certificate of Attendance whereas others only accept Sick Leave Certificate. Therefore, you need to discuss with your employer about their policy beforehand note ².

**Note:**
1. “Sick Leave Certificate” is not issued for routine postnatal check-up, only Certificate of Attendance will be issued.

2. An administrative fee of HK$160 will be charged for every copy of “Certificate of Attendance” or “Sick Leave Certificate” requested after the day you received service in Maternal and Child Health Centres of the Department of Health.

Please contact staff of the Maternal and Child Health Centre for further enquiry.

For more details of Maternity Protection and Paternity Leave, please refer to the Labour Department website at www.labour.gov.hk
Prevention of Infectious Diseases (Rubella, Chickenpox and Fifth Disease) During Pregnancy

Rubella, Chickenpox and Fifth Disease are viral diseases. They are transmitted primarily through droplets or direct contact with infected respiratory secretions. They can also be transmitted from the mother to foetus during pregnancy.

**What you need to know about Rubella, Chickenpox and Fifth Disease**

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<th>Symptoms</th>
<th>Period of Communicability</th>
<th>Effect on the Foetus</th>
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<td>Rubella (German Measles)</td>
<td>12-23 days</td>
<td>May experience 1-5 day(s) history of low-grade fever, headache, malaise, enlargement of lymph nodes, upper respiratory symptoms and conjunctivitis followed by skin rash. The rash usually lasts for about 3 days, but sometimes the person might have no symptoms at all.</td>
<td>From 1 week before to 1 week after onset of rash.</td>
<td>Whether symptomatic or not, infection during the first 3 months of pregnancy may result in congenital rubella syndrome, e.g. deafness, eye lesions, heart malformations and mental retardation.</td>
</tr>
<tr>
<td>Chickenpox</td>
<td>10-21 days</td>
<td>Presents with fever and itchy skin rashes, rashes develop in crops over a period of 5 days and later as vesicles. The vesicles continue for 3-4 days, then dry up and form scabs.</td>
<td>2 days before onset of the rash and continuing until all lesions are crusted.</td>
<td>Infection during early pregnancy may be associated with congenital malformation of foetus. If the pregnant woman develops symptoms within 5 days prior to or 2 days after delivery, her baby is more likely to have severe illness which can be fatal.</td>
</tr>
<tr>
<td>Fifth Disease</td>
<td>4-20 days</td>
<td>Occurs mostly in children, with low-grade fever and tiredness. A typical facial rash with a “slapped cheek” appearance occurs in a few days. The rash usually resolves in 7-10 days. Symptoms are milder in adults and they may only have mild joint pain and swelling only.</td>
<td>Most infectious one week before onset of rash. Once the rash appears, the person is no longer infectious.</td>
<td>It can be transmitted from mother to foetus during pregnancy, causing abortion or foetal death.</td>
</tr>
</tbody>
</table>
How to prevent Rubella, Chickenpox and Fifth Disease?

Women are immune from these infections if they have acquired them during childhood or have received relevant vaccinations (e.g. rubella and chickenpox).

**Pregnant women who are non-immune** should avoid contact with patients diagnosed to have these diseases, and stay away from crowded and under-ventilated public places to minimise the chance of infection.

Women who are non-immune to rubella or chickenpox should consider vaccination after delivery.

What if I suffer from or suspected to have Rubella, Chickenpox or Fifth Disease during pregnancy?

**If you have the following conditions:**
• Fever or rash
• History of contact with someone suffering from Rubella, Chickenpox, Fifth Disease or other infectious disease in recent 4 weeks
• Suspect that you are suffering from any of these diseases

1. You should attend a general out-patient clinic or a private clinic for management of the disease.
2. **DO NOT** attend obstetric clinic or Maternal & Child Health Centre (MCHC) for enquiry or antenatal check-up until you are considered non-infectious. This is to prevent spreading of the disease to other pregnant women.
3. Please call the obstetric clinic or MCHC you have registered with to make special arrangement for your antenatal check-up.
Influenza Vaccine Safe and Effective - Give Your Baby an Extra Protection

(Source of information provided by the Centre for Health Protection, the Department of Health)

Influenza vaccine protects pregnant women and infants

Influenza vaccination in pregnant women can reduce the risk of both mother and infant from getting acute respiratory infections. It also reduces cardiopulmonary complications and the associated hospitalisations in pregnant women. Hence, the World Health Organization and the Scientific Committee on Vaccine Preventable Diseases of the Centre for Health Protection recommend pregnant women as the highest priority for influenza vaccination.

The inactivated influenza vaccine is safe and effective to both mother and foetus

The World Health Organization considers the inactivated influenza vaccine is safe in pregnancy and there is no evidence showing the vaccine can cause abnormality in the foetus even if given during the first trimester.

Pregnant women should get vaccinated now

Influenza is usually more common in periods from January to March and from July to August in Hong Kong. Hence, pregnant women should consult their doctors for vaccination as early as possible.

From 2016/17 onwards, the Government is going to provide free / subsidised vaccination for pregnant women.

Pregnant women who are Hong Kong residents can receive subsidised influenza vaccination from private doctors enrolled in the Vaccination Subsidy Scheme.
Pregnant women who are Hong Kong residents receiving Comprehensive Social Security Assistance or holding valid Certificate for Waiver of Medical Charges issued by the Social Welfare Department can approach your Maternal and Child Health Centres or the Hospital Authority antenatal clinics for free vaccination during antenatal sessions. Please bring along the Certificate of Comprehensive Social Security Assistance Recipients (for Medical Waivers) or Certificate for Waiver of Medical Charges.

* Please take note of the government’s announcement.

Centre for Health Protection website
www.chp.gov.hk

24-Hour Health Education Hotline of the Department of Health
2833 0111

Enquiry
2125 2125

Vaccination Schemes

(Jul 2017)
Prevention of Vector-borne Diseases

Common vector-borne diseases in human include dengue fever, Japanese encephalitis, malaria, scrub typhus and spotted fever. Mosquitoes are responsible for transmitting dengue fever, Japanese encephalitis, malaria and zika virus while scrub typhus and spotted fever are transmitted by mites and ticks respectively.

To prevent vector-borne diseases, pregnant women need to protect themselves from stings/bites of mosquitoes, mites and ticks, and help prevent their proliferation.

Protect yourselves against stings/bites

To lower the risk of infections spread by mosquitoes, pregnant women should stay indoors during peak times of mosquito activity (usually dawn and dusk).

The vectors transmitting scrub typhus and spotted fever are mainly found in the vegetated areas. Therefore, preventive measures should be taken when visiting rural areas to avoid getting bitten by these vectors.

Wear protective clothing such as loose, light-coloured long-sleeved tops and trousers.

Avoid using perfume which may attract mosquitoes.

Pregnant women may use DEET (20 - 30%) containing insect repellents. Please note the following points when using insect repellents:

- Apply insect repellents to clothing (long-sleeved tops and trousers) and exposed skin;
- Do not apply on wounds or irritated skin;
- Follow manufacturer’s instruction, reapply insect repellent if necessary;
- Take a shower or wash your skin when you return to indoor area;
- Wash the clothing applied with DEET with soap and water.

For more information, please visit the Centre for Health Protection website “Vector-borne Diseases”, http://www.chp.gov.hk/en/content/9/24/34622.html

(Rev. Jul 2017)
Zika Virus Infection

**Causative agent**

Zika virus infection is a mosquito-borne disease caused by Zika virus.

**Clinical features**

Most Zika virus infection is asymptomatic. The symptoms of Zika virus infection include skin rash, fever, conjunctivitis, muscle or joint pain and general malaise. These symptoms are usually mild and last for a few days.

The current major concern is the association with adverse pregnancy outcome (microcephaly) and neurological and autoimmune complications such as Guillain-Barré syndrome (GBS). The World Health Organization has concluded that Zika virus infection during pregnancy is a cause of congenital brain abnormalities, including microcephaly, and that Zika virus is a trigger of GBS.

Apart from GBS, acute disseminated encephalomyelitis (a disease of the central nervous system) was recently found to be one of the neurologic manifestations possibly resulted from Zika virus.

**Mode of transmission**

Zika virus is mainly transmitted to humans through the bite of an infected *Aedes* mosquito.

Zika virus has also been found in human semen and transmission by sexual contact has been confirmed. Other modes of transmission such as blood transfusion and perinatal transmission are possible.
Incubation period

Symptoms typically begin 2-7 days after the bite of an infected mosquito.

Management

There is no specific medication for Zika virus infection and the mainstay of treatment is symptomatic relief and prevention of dehydration. If symptoms worsen, they should seek medical care and advice.

Prevention

At present, there is no effective vaccine against Zika virus infection. To prevent Zika virus infection, members of the public are reminded to protect themselves from mosquito bites and help prevent mosquito proliferation. The public is also advised to take precautions to prevent sexual transmission of Zika virus.

As the impact of Zika infection on the pregnant woman and her foetus is still evolving, you are advised to refer to the website of Centre for Health Protection for the latest information.

Beware of Zika Virus Infection

**Special notes for pregnant women and women preparing for pregnancy**

- Should not travel to areas with ongoing Zika virus transmission*
- Those who must travel to any of these areas should arrange consultation with a doctor at least six weeks before the trip
- Use of mosquito repellent containing DEET during travel and returning from these areas for a period of at least 21 days are advised for all travellers including pregnant women
- Attend antenatal follow up regularly and tell the attending doctor history of recent travel
- Observe for symptoms of Zika virus infection and seek medical advice as soon as possible if feeling unwell
- abstain from sex with her partner who had travelled to affected areas, or else condom should be used throughout the pregnancy

**Prevention of sexual transmission**

**Special notes for All**

- Travellers should consider not having sex during travel to affected areas, or else condoms should be used
- Travellers returning from affected areas should consider abstinence from sex for at least 6 months upon return, or else condoms should be used

* This precautionary measure may be revised as more information becomes available. Individuals with further concerns regarding potential sexual transmission of Zika virus should contact their doctor for advice

* For details, please refer: Centre for Health Protection

(Rev 08 Sep 2016)
Notes on attending Maternal and Child Health Centres:

• Young children and pregnant women are at higher risk of having serious complications if they catch infectious diseases.

• You are advised to put on a mask when you attend MCHC.

• If anyone (including pregnant women, companions and children) has fever, rashes including vesicles, or has recently suffered from infectious diseases or been in contact with persons having infectious disease, please do not attend Maternal and Child Health Centres.

• You should phone the centre immediately for special arrangement.

• If you develop any of the above symptoms, you should attend general out-patient clinics or private clinics immediately for assessment.

Important Notice

DO NOT ENTER
Maternal & Child Health Centres

If anyone (including Parents, Companions, Pregnant Women and Children)
• have fever, rashes or vesicles or
• recently have infectious diseases or contact those who has the diseases.

STOP

Courtesy of Princess Margaret Hospital
Travel in Pregnancy

If you decide to travel during pregnancy, you have to prepare and plan carefully. You may encounter disease or unexpected obstetric problems such as preterm delivery during travel. You may also experience other problems related to travel such as food safety, infectious disease or even traffic accidents.

You should consider the following questions before you make a decision to fly and travel.

1. Is your trip necessary?
2. Does your travel insurance cover pregnancy or pregnancy related complications?
3. Does your travel insurance cover the intensive care for a newborn baby in case of preterm delivery or other complications?
4. Have you discussed with your obstetrician about your concern or medical problems?
5. What will be your plan if any unexpected conditions during travel delay your original schedule to return home?

When to travel?

You may experience symptoms of vomiting or even threatened miscarriage in the first trimester. On the other hand, travelling in the third trimester can also be tiring and uncomfortable. Airlines will not allow you to travel in late pregnancy. Please check with your airline and insurance company before you fly.

Second trimester may be a better option for travelling. In general, your chance of going into labour is higher the further along you are in pregnancy.

Please be aware that you may not be able to access the appropriate management of preterm labour or other obstetric conditions during air travel or travel during pregnancy.

Avoid travel when you are waiting for laboratory results; otherwise you may miss the chance to receive management promptly.
What are the risks or problems during flying?

a. Deep Vein thrombosis (DVT)
   DVT is a blood clot that forms in your leg or pelvis. It can be life threatening, especially if it goes to your lungs. There is a higher risk of developing DVT if you are pregnant and for up to six weeks after the birth.

   **Pregnant women with higher risk of DVT**
   - Obesity
   - Multiple pregnancy
   - Inherited thrombophillic disorder
   - Strong family history of DVT
   - Medical condition which increases risk of DVT

b. Nasal congestion or problems with your ears
   There is increased chance of having ear discomfort during flight. The changes in air pressure combined with blocked nose can cause you to experience discomfort in your ears.

c. Motion sickness
   You may experience more motion sickness during air travel.

What are the Tips for air travel?

1. Try to get an aisle seat and take regular walks around the plane.
2. Do in-seat exercises every 30 minutes
3. Wear loose and comfortable clothing and shoes
4. Drink plenty of water and cut down on drinks that contain alcohol or caffeine
5. Adjust your seatbelt so the strap lies below your bump
6. Wear graduated elastic compression stockings for any journey where the time seated is over 4 hours.
Under what circumstances is flying not advised?

1. Increased risks of preterm labour
2. Severe anaemia
3. Recent vaginal bleeding
4. Recent abdominal surgeries or fracture
5. Serious health problems
6. Other conditions as advised by your doctors.

Tips and consideration when you plan to travel

1. Choose the destination carefully
   - Avoid going to places with ongoing transmission of infectious disease (e.g. Zika virus, dengue fever)
   - Be aware of any medical facilities at your destination in case of any unexpected pregnancy-related or medical conditions
   - Discuss with your doctors for any need of vaccination or medication for the country you are travelling to

2. Beware of Vector-borne disease and food safety
   (Please refer to P.16 and P.165 for details on “Vector-borne diseases” and “Food safety”)

3. Take with you
   - Medication you are taking
   - Pregnancy notes
   - Travel insurance documents

Is it safe to use hot springs in pregnancy?

Pregnant women are likely to feel warmer and faint due to hormonal changes during pregnancy. When you are in a hot spring or sauna, your body is unable to lose heat by sweating and your core temperature will rise. As more blood flows to your skin to help your body cool down and less blood flows to your brain, you could faint more often. It is therefore better to avoid using saunas, hot springs and steam rooms during pregnancy.
First Antenatal Visit

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Antenatal check-up is important to safeguard the health of pregnant woman and her baby and to identify risk factors which may affect the pregnancy outcome.

**The Procedure**

**Registration at the Counter**

- Receive the following services as appropriate

**Body weight, height, blood pressure measurements and urine test**

- These are health indexes of both the mother and the foetus.
- Types of clothes worn affect the accuracy of body weight measurement. Pregnant women are advised to wear clothes of comparable thickness in subsequent visits.
- It is difficult to measure the blood pressure accurately if the clothes are too thick or the sleeves are too tight.
- Urine sample is tested for the presence of sugar and protein during routine check-ups.

(Please refer to p.29 for the correct method of urine collection)
Nurse Interview

- Medical and obstetric histories
  - Past health, history related to previous pregnancies, family history of particular diseases and health status of current pregnancy can help staff work out an antenatal care plan for you.
  - The first day of the last menstrual period is used to estimate the expected date of confinement. (If private USG report is available, please bring along the document for reference)

Health Assessment, Doctor Consultation

- Physical check-up, including abdominal palpation and detection of foetal heart beat (if appropriate).

Blood Taking (New Case only)
What is Glucosuria?

Why sugar is found in the urine of some pregnant women?

- Due to hormonal changes during pregnancy, it is common to find small amounts of sugar in urine which is saved after meals. Hence, it is important to save urine properly for antenatal check-up.

- If your urine is positive for sugar, medical staff will reassess your health condition and advise you to have urine retested or blood test for gestational diabetes.

Gestational Diabetes

- Generally speaking, if a pregnant woman has the following risk factors, her chance of having gestational diabetes is higher.
  - Advanced maternal age (over 35 years)
  - History of polycystic ovaries syndrome
  - History of gestational diabetes
  - Had delivered a baby with birth weight over 4 kg
  - Family history of diabetes in first degree relatives
  - Overweight

- Blood test is required for screening gestational diabetes for them.

- If a pregnant woman with gestational diabetes does not receive proper treatment, both she and her foetus can be seriously affected (e.g. the baby being large for its gestational age, premature birth, etc.), so follow dietitian and doctor advice on dietary control.

Appropriate physical activity can prevent gestational diabetes
For more details, please refer to page 166
Postnatal notes

- A previous diagnosis of gestational diabetes carries a higher risk of later developing type 2 diabetes.

- The majority of people with type 2 diabetes may not have any symptoms in the early stage, therefore those with history of gestational diabetes are advised to arrange regular checkups with their family doctor or enroll with our Women Health Service (please visit http://s.fhs.gov.hk/kdzgl for more information).
What is Proteinuria?

What does it mean if protein is found in the urine of pregnant woman?

- There are many causes for protein in the urine. The commonest reasons during pregnancy are urinary tract infection and contamination of the urine sample by vaginal discharge.

- Hence, it is important to save urine properly for antenatal check-up.

**Pre-eclampsia**

- Another important cause for protein in the urine is pre-eclampsia. This is a condition whereby blood pressure is often raised and usually occurs in later half of the pregnancy. Serious consequences can result without prompt and proper management. (Please refer to “Pre-eclampsia” page 77)

**The following is a correct method to collect urine:**

1. Collect your urine sample before breakfast (drinking plain water is okay).
2. Prepare a clean wide-mouth bottle for collecting the sample.
3. Discard the first void urine as it is not appropriate for the test.
4. Wash your hands with liquid soap and water thoroughly when you prepare the second void.
5. Use a wet cotton wool pad or toilet paper to clean the vulva and remove any vaginal discharge.
6. Position yourself over the toilet and begin to pass urine.
7. Do not collect the first and the last part of urine.
8. Midway through the urination process, collect a sample of the urine with the wide-mouth bottle.
9. Tightly screw the cap back onto the container and wash your hands thoroughly.
10. You can eat as usual afterwards.
Antenatal Blood Investigations

During the first antenatal visit, the following blood tests are offered to pregnant women

1. **Blood Grouping**

   It is important to know the blood group of the pregnant woman in case she needs a blood transfusion. The four main blood groups are O, A, B and AB.

2. **Rhesus (Rh) Factor**

   Rh factor is an antigen found in red blood cells. Individuals who possess this factor are classified as ‘Rh positive’ and those without it as ‘Rh negative’. Majority of the Chinese population are Rh positive. When a Rh negative mother is carrying a Rh positive foetus, problems can occur in the foetus such as haemolytic anaemia, oedema or even death. Regular blood test will then be needed.

3. **Haemoglobin and Mean Cell Volume**

   These tests help to find out whether the pregnant mother has anaemia. Mean cell volume (MCV) is a simple and easy test which helps to find out who has a higher chance of carrying the thalassaemia genes or iron deficiency anaemia. Hence, this test is included in the routine blood tests done for pregnant women. Please refer to page 33-34 for details.
4. Rubella Antibody

A woman who has received Rubella vaccine or contracted Rubella before conception should have developed immunity, that is, having Rubella antibodies. This can protect her from contracting Rubella during pregnancy. Rubella infection may cause foetal abnormalities. If the woman does not have Rubella antibody, she should receive Rubella vaccine after delivery.

5. Hepatitis B Antigen

About eight percent (8%) of the local population are Hepatitis B Virus carriers. Most of these carriers show no signs or symptoms of the disease. If the blood test is positive for Hepatitis B antigen, then the mother is a carrier. A mother who is a Hepatitis B carrier may transmit the virus to the infant at or around the time of delivery. The newborn should receive Hepatitis B vaccine and Hepatitis B immunoglobulin after birth so as to protect him against Hepatitis B infection.

For more information, please visit the website of the Viral Hepatitis Preventive Service of the Department of Health www.info.gov.hk/hepatitis/english/download_set.htm

6. Syphilis

Untreated syphilis in pregnancy may result in miscarriage or cause foetal congenital defects such as blindness or deafness. Therefore, early detection and treatment are necessary.
7. Human Immunodeficiency Virus (HIV) Antibody Testing

HIV can cause AIDS (Acquired Immune Deficiency Syndrome). The routes of transmission include sexual intercourse, blood contact or from an infected mother to her baby during pregnancy, delivery or breastfeeding. The transmission rate from an infected mother to her baby is 15%-40%. Early detection and antiviral treatment can reduce the risk of HIV transmission from mother to child by two-thirds.

Please contact medical staff if you have any queries concerning the above blood tests.
Mean Cell Volume & Thalassaemia

The blood test for mean cell volume (MCV) is a simple and easy test which helps to find out who has a higher chance of carrying the thalassaemia genes. This test is included in the routine blood tests done for pregnant women.

Thalassaemia

Thalassaemia is a common hereditary blood disorder which is caused by gene defect, and presents in two forms – thalassaemia major and thalassaemia minor.

About 8% of the population have the genes of thalassaemia. Most have only inherited one abnormal thalassaemia gene – these people have thalassaemia minor and are known as “thalassaemia carriers”. They usually do not have any symptoms and only a small proportion may be mildly anaemic. They do not require any special treatment.

Thalassaemia major

A person who has inherited more than one of abnormal thalassaemia genes suffers from thalassaemia major, which is a severe form of anaemia. There are two main types – alpha-thalassaemia (α-thalassaemia) and beta-thalassaemia (β-thalassaemia).

(i)  α-thalassaemia major can lead to intrauterine or neonatal death

(ii)  β-thalassaemia major sufferers, if without stem cells transplantation, generally have a shorter lifespan and require lifelong blood transfusion and special treatment.

If a pregnant woman is found to have MCV equals to or below 80 fl, she may be normal, suffering from thalassaemia or iron-deficiency anaemia. Therefore, father of pregnancy should receive the same blood test.

If MCV of the father of pregnancy is normal, it is unlikely that he is a thalassaemia carrier, and their foetus is also unlikely having thalassaemia major.
If both the couple have low MCV, they will be referred to the “Antenatal Specialist Clinic” or “Antenatal Diagnostic Clinic” for further blood tests.

If they are proven to be a thalassaemia carrier-couple, their child will have a 25% chance of suffering from thalassaemia major.

The doctor will make a confirmed diagnosis to guide subsequent discussion with the couple and management of the pregnancy.
Universal Antenatal HIV Testing – the Concern of an Expectant Mother

(Source of information provided by the Red Ribbon Centre, the Department of Health) PA/AS 3/ 01-06 (E )/WOM-INF

The Aim of Antenatal Check-up

The aim of an antenatal check-up is to ensure optimal health of a pregnant woman throughout her pregnancy. Early detection and appropriate management of health problems help preserve the well-being of both the mother and the foetus. Antenatal check-up generally includes blood testing for blood group, haemoglobin level, mean red cell volume, Rhesus factor, Rubella antibody, hepatitis B antigen, syphilis and HIV antibody.

One has to understand AIDS, its implications and the meaning of possible results before undergoing the HIV test.

AIDS – Acquired Immune Deficiency Syndrome

- AIDS is caused by the Human Immunodeficiency Virus, in short, HIV. After entering the human body, the virus replicates and destroys the lymph cells. It gradually lowers the body’s resistance, leading to opportunistic infections or even lymphoma and ultimately death.

- The routes of transmission include sexual intercourse, blood contact or from an infected mother to her baby during pregnancy, delivery or breastfeeding. The transmission rate from an infected mother to her baby is 15% to 40%

- Ordinary social contact, mosquito or insect bites cannot transmit HIV.
Universal Antenatal HIV Testing

- HIV test is included in the routine blood testing during antenatal check-up and no separate procedure is required.

- The HIV antibody test result could be **negative (-ve)** or **positive (+ve)**. The following is the interpretation of the results:

**HIV antibody negative (-ve) result**

- A negative result indicates that the tested person is not infected by HIV. However, one has to be aware of the problem of ‘window period’, the time between a person gets infected and the detection of HIV antibodies in the blood. When a person gets infected, the production of antibodies might not be high enough to be detected until three months later. In other words, the HIV antibody testing performed during the window period may give rise to a “false” negative result in which there is still a chance of transmitting the virus to the foetus.

- A pregnant mother who has a negative HIV blood result should continue with preventive measures to protect herself and the foetus against transmission of HIV. This includes practising safer sex such as condom use and refraining from needle-sharing in drug users.

**HIV antibody positive (+ve) result**

- A positive result means that the pregnant woman has got infected with HIV. There is a risk of transmitting the virus to the foetus and to her sexual partner through sexual intercourse.

**HIV antibody test result is strictly confidential.**
Early Detection – How does it benefit the baby?

For a pregnant woman, early detection of HIV infection can help reduce the risk of transmitting the virus to her baby.

- The usual practice is to administer oral antiretroviral therapy (ART) starting in the second trimester of pregnancy and intravenous ART during labour.
- In those indicated for Caesarean section, the risk of mother-to-child transmission may further decrease.
- Breastfeeding is strongly discouraged after birth.
- The baby has to continue oral ART and to be followed up by the paediatrician for several weeks after birth for prevention and early detection of complications.
- Once confirmed to be infected, the baby will be given appropriate treatment, and follow-up care to improve his/her health.

**Early detection and prompt intervention can reduce the risk of HIV transmission from the mother to the child by two-thirds.**

Early Detection – How does it benefit the pregnant woman?

The sooner the infection is detected, the better the outcome it will be.

- Apart from quality antenatal care, health care providers work together to develop the best management plan to achieve holistic care in the infected person.
- The pregnant woman may be offered ART to control the HIV disease.
- Through counselling, the pregnant woman will understand her physical and psychological capacity to cope with the disease, and reach consensus about continuation with pregnancy.
- The pregnant woman may choose to disclose her HIV status to her sexual partner or family. The health care worker will offer her and her family support and counselling.
- The infected mother will continue treatment and follow-up of the disease after delivery to prevent further complications and damage to her immune system. She will learn how to take care of her baby.

**For the protection of yourself and the baby, have the antenatal HIV testing. The sooner you know, the better it will be for you and your baby.**

**Should you have further queries about universal antenatal HIV testing and AIDS, please talk to your doctor or nurse. You are also welcome to contact our counsellor via the AIDS Hotline at 2780 2211.**

**For further information:**
AIDS Hotline: 2780 2211
Website: http://www.aids.gov.hk

**Other enquiries:**
Red Ribbon Centre – UNAIDS Collaborating Centre for Technical Support
Address: 2/F., Wang Tau Hom Jockey Club Clinic, 200 Junction Road East, Kowloon, Hong Kong.
Tel: (852) 3143 7200
Fax: (852) 2338 0534
Email: rrc@dh.gov.hk
What Do You Know about Prenatal Diagnosis?

Prenatal screening test can assess your risk (or chance) of having a baby with severe congenital condition and enable early management. In addition, the Hospital Authority offers prenatal screening for Down Syndrome according to the gestation of pregnancy.

What is prenatal diagnosis?

Prenatal diagnosis aims at detection and arrangement of appropriate management of severe diseases of the foetus. Management options may include:

- Direct treatment of the foetus inside the womb
- Preparations for optimal management after birth
- Termination of pregnancy

Prenatal diagnosis involves testing pregnant women who are at high risk of having babies with major congenital abnormalities or hereditary conditions. These include:

- Women who have given births to abnormal babies with congenital heart diseases, spinal defects, or other birth lesions.
- Women with family history of genetic diseases, such as haemophilia.
- Couples who are both thalassaemia carriers.
- Women who are considered to be at risk based on clinical assessment by their obstetricians.

Prenatal diagnostic tests have limitations and not all abnormalities and diseases can be detected by the current medical technology.
What do you know about prenatal diagnosis?

The method used is related to the type of abnormalities being considered. There are two main types of tests: (A) invasive tests to obtain foetal cells or foetal related cells for chromosomal and other analyses and (B) imaging to detect structural abnormalities.

(A) Invasive tests

For chromosomal abnormalities, direct culture of cell samples from the foetus by one of the following methods is performed at different gestational age: chorionic villus sampling, amniocentesis or cordocentesis.
**Chorionic villus sampling** –
It is performed between 10 to 13 weeks of gestation. A sample of placental tissue is obtained and the result of chromosomal analysis is usually available in 2-3 weeks.

**Amniocentesis** –
It is usually performed between 16 to 20 weeks of gestation. A sample of liquor surrounding the foetus is taken. Result of chromosomal analysis is usually available within 3 weeks.

**Cordocentesis** –
It is usually done after 20 weeks of gestation. A sample of foetal blood is taken from the umbilical cord. The result of chromosomal analysis is usually available in 5-7 days. *The test is particularly useful if an urgent result is desired.*

**How are these tests performed?**
All these procedures are performed under ultrasound guidance. A long needle is used to obtain the tissue sample inside uterus, which is subsequently cultured in the laboratory. Chromosomal abnormalities and some genetic or hereditary conditions such as thalassaemia major can then be diagnosed or excluded.

**Is the result reliable?**
Chromosomal analysis using the above methods is highly accurate. However, expert interpretation by specialist is mandatory because some chromosomal abnormalities are just normal variations and will not result in deficient physical or mental growth of the foetus.
Will these tests cause harms to the foetus?

Some invasive tests are associated with a definite but small risk of miscarriage of around 0.5% to 1.5% under the care of expert doctors, i.e. 1-3 out of 200 women receiving the invasive test will result in miscarriage.

If the result is normal, does it mean that the foetus is normal?

- Not all genetic or hereditary diseases can be detected by these methods due to limitations in medical technology.
- Structural defects or functional defects not related to chromosomal abnormalities will not be detected.

(B) Ultrasound examination

- The most useful test for detection of major structural abnormalities in the foetus is ultrasound examination.
- The detection rate for major structural abnormalities by ultrasound examination done between 18 to 22 weeks gestation is around 30-70%.
- Different abnormalities or organ systems concerned, experience of the doctor performing ultrasound as well as the resolution of the ultrasound machine affect the detection rate.
- If the abnormalities detected on ultrasound examination are suggestive of chromosomal disorders, further invasive test as mentioned above may be indicated.
If ultrasound examination is normal, does it mean that the foetus is normal?

- While a normal ultrasound examination implies that the chances of major structural defects in the foetus should be small, it does not exclude all possibilities of such defects.

- Some chromosomal abnormalities may not be readily detectable by ultrasound, so a normal ultrasound examination does not exclude these diseases.

How and where to get these prenatal diagnostic tests?

All pregnant women are encouraged to discuss with their doctors if they have genuine concerns that their foetus could be abnormal.

Prenatal diagnosis and counselling service is available at all major obstetric units under the Hospital Authority. Couples requesting prenatal diagnostic and counselling services should approach the Hospital Authority hospitals with obstetric services in their districts, or they can be referred to one of these clinics through their own doctors, Maternal and Child Health Centres, or other private clinics.

(This leaflet is prepared by the Department of Health and the Hospital Authority)

FHS-MH9A (Rev. Feb 2013)
Points to note

• Should you have any private dating ultrasound arranged, please show us for reference. If you already have a Down syndrome screening test performed at a private clinic, it is generally recommended not to repeat the test.

• If you would like to undergo other screening or diagnostic tests, you should approach organisations outside the Hospital Authority.

• Join one screening program only. If you join more than one screening program, the results may be confusing and may cause unnecessary anxiety.

• For twin pregnancy, Down syndrome screening is available only in first trimester.

Most pregnancies are normal but about 2% are complicated by congenital anomalies. Down syndrome is one of the anomalies that can be detected before birth. This leaflet aims to help you understand Down syndrome, available tests offered by the Hospital Authority (HA), and to help you decide whether you want the screening tests for Down syndrome or not.

What is Down syndrome?

About 1 in 700 newborn babies have Down syndrome. Most of us have 23 pairs of chromosomes in each cell. Individuals with Down syndrome have one extra chromosome 21 in their cells. Down syndrome occurs most often by chance and is seldom inherited from parents. Drugs, X-rays or other environmental exposure does not incur Down syndrome.
Down syndrome is a condition with mental deficiency and certain physical features different from other people. Some children with Down syndrome have abnormality such as heart defects. With special care and education, some of them can integrate into normal schools and lead semi-independent lives.

**Is there any advantage knowing if my baby has Down syndrome before birth?**

This would allow parents and doctors to discuss options to the best interest of the family.

**How can I tell whether my baby has Down syndrome before birth?**

A logical approach is to undergo a screening test to assess your risk (or chance) of having a baby with Down syndrome. The test does not harm you or your baby. It projects an estimated risk of your baby having Down syndrome, which is a more accurate estimate than that derived from your age alone.

The Hospital Authority provides two screening tests according to the duration of pregnancy:

**First trimester screening** –

You will undergo an ultrasound examination at 11 to 13 weeks and 6 days of gestation. A blood test will be performed during the same period of pregnancy to measure your Pregnancy Associated Plasma Protein A (PAPP-A) and human chorionic gonadotrophin (hCG) levels. The test detects around 80-90% of Down syndrome pregnancies. This test is not suitable for you if you are pregnant for more than 14 weeks.

**Second trimester screening** –

If you are pregnant for more than 14 weeks, you will undergo the blood test at 16 to 19 weeks and 6 days for alpha-fetoprotein (AFP) and human chorionic gonadotrophin (hCG). This test detects around 60-70% of Down syndrome pregnancies.
For the above tests, about 5% of women will get a positive result, while about 95% will get a negative result.

<table>
<thead>
<tr>
<th>Down syndrome screening test</th>
<th>1\textsuperscript{st} trimester screening 11-13 weeks 6 days</th>
<th>2\textsuperscript{nd} trimester screening 16-19 weeks 6 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuchal measurement by ultrasound examination</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Maternal serum PAPP-A &amp; hCG</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Maternal serum AFP &amp; hCG</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Detection rate</td>
<td>80-90%</td>
<td>60-70%</td>
</tr>
<tr>
<td>False positive rate</td>
<td>5%</td>
<td>5%</td>
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</tbody>
</table>

The screening result will be ready within 2 weeks after the blood test. If the test result is negative, you will not hear from us. The report will be filed with your antenatal test results in your antenatal record.

**Does a negative screening test result guarantee a normal baby?**

No. A negative screening test result indicates that the chance of your baby having Down syndrome is small. It does not guarantee a normal baby.

**Can I ask for a diagnostic test if the screening test result is negative?**

In HA, a diagnostic test will only be offered to woman with positive screening test result. Women who would like to have chorionic villus sampling or amniocentesis should approach private doctors or hospitals.
If my screening test result is positive, how can I confirm if my baby has Down syndrome before birth?

You need to undergo a diagnostic test in the form of amniocentesis or chorionic villus sampling. A diagnostic test will tell you accurately whether the baby has Down syndrome or not. This involves introducing a needle under ultrasound guidance into the uterus to draw amniotic fluid or placental tissue. The materials contain cells from the pregnancy for chromosomal study. Amniocentesis is usually performed between 16 to 20 weeks, and chorionic villus sampling is usually performed before 13 weeks. They are associated with a 0.5-1.0% risk of miscarriage.

Can I ask for a diagnostic test without having the screening test first?

No. Women who would like to have chorionic villus sampling or amniocentesis should approach private doctors or hospitals instead.

What will happen if the foetus is confirmed to be abnormal?

The doctor will explain to you and your spouse about the nature of the abnormality, its effect on the foetus and the risk in future pregnancies. You can discuss with the doctor about available support from the hospitals and other organisations and be better prepared for the birth of your baby. If the pregnancy is not more than 24 weeks of duration, you may also seek advice from your doctor about the possibility of lawful termination of pregnancy under the laws in Hong Kong.

Must I have the screening test?

The screening test is absolutely voluntary.
Foetal Development in Early Pregnancy

**Early pregnancy**

As a mother to be, it is important for you to take in adequate nutrients, including folic acid and iodine, to give your growing baby a head start.

**From ovulation, fertilisation to implantation**

At around week 4-5, you probably just found out you are pregnant. After implantation, the embryo grows and develops within the lining of the womb. Your baby’s brain, spinal cord and heart have begun to form.

The heartbeat can be detected on ultrasound at around 6-7 weeks of pregnancy. By the end of the eighth week, all major organs and body systems have begun to develop.
9-13 weeks of pregnancy

You may start to have nausea and vomiting, especially in the morning. Small frequent meal may help your symptoms. During this time your breasts will have got bigger, so consider wearing a supportive bra.

At 9 weeks of pregnancy, the baby is about 22 mm long from head to bottom. Face is slowly forming. There is a mouth and tongue, with tiny taste buds, and intestines begin to form. The hands and feet are developing.

At 10 weeks, the heart is now fully-formed. It beats 180 times a minute which is much faster than your own heart.

You may feel frequency of urine because the bladder being compressed by the uterus. Please refer to the “Tips for frequency of urine” on p.53. Should you have pain or find blood when passing urine, please consult your doctor as soon as possible.
- Most of the minor ailments in pregnancy will spontaneously subside after delivery. Therefore, you do not need to worry too much.

- Herbs and medicines should be avoided especially during early pregnancy because they can enter the foetal circulation through placenta. Some medications exert toxic or teratogenic effect on the foetus. One should always seek doctor’s advice before taking any medications.

**Nausea and Morning Sickness**

- Nausea is very common in the early weeks of pregnancy. Adjusting your dietary habits may help to ease the discomfort.

- Some pregnancy complications and medical diseases like multiple pregnancy, molar pregnancy and thyrotoxicosis can lead to severe vomiting.
- Severe vomiting may result in dehydration and electrolyte imbalance. Please seek medical attention immediately when you have the following symptoms:
  • Cannot eat any food in 24 hours
  • Weight loss
  • Concentrated urine or no urine output in 8 hours
  • Severe discomfort, weakness, dizziness, confusion or fits
  • Bad tummy pain, fever, vomiting blood

Tips
- If possible, eat some dry food like bread, biscuit, low-fat food, carbohydrate-rich food (e.g. rice, noodle, mashed potatoes) and try some sour drink (e.g. lemonade, plum juice). Avoid eating deep-fried or greasy food, garlic and other spices and avoid drinking coffee.

- If you feel sick first thing in the morning, give yourself time to get up slowly. Avoid brushing your teeth and tongue immediately after eating. Keep windows open for good ventilation. Get plenty of rest and sleep whenever you can. Feeling tired can make the sickness worse.

- Eat small amounts of food often rather than several large meals, say every 2-3 hours. Don’t stop eating. Drink plenty of fluids in between meals to avoid stomach fullness.

- Quit smoking and ask family members to stop smoking as well.

**Doctor may prescribe anti-emetic drugs if you have severe symptoms**
Constipation

- This affects 10-40% of pregnant women. Progesterone lowers intestinal muscle tone and movement of colon. There is also an additive effect of increase in reabsorption of water from bowel mucosa.

Tips

- Drink at least 8-12 cups of fluid everyday in the form of water, milk, juice or soup. Warm or hot fluid is particularly helpful.
- Increase fibre intake by eating more whole grain breads and cereals, vegetables, fruits and legumes such as beans, split peas and lentils.
- Maintain an active lifestyle with regular exercise such as walking and swimming.
- Avoid all laxatives except those prescribed by doctors.

Heartburn

- This is very common during pregnancy. The relaxation effect of progesterone on the oesophageal sphincter results in reflux of acidic fluid to the oesophagus, causing irritation and heartburns.
- Fatty diet worsens the condition because dietary fat lowers the oesophageal sphincter tone further.

Tips

- Eat small, low-fat meals frequently. Chew the food well and eat slowly.
- Avoid spicy food.
- Avoid lying down, bending and stooping after eating. Elevate the head of the bed. Wear loose-fitting clothing.
- Do not take any antacids without consulting a doctor.
Frequent Urination

- This is the result of increase in blood flow to kidneys by 50% during pregnancy and the relaxation effect of progesterone on smooth muscle of the urinary tract.
- Besides, the urinary tract of the pregnant woman is more susceptible to infection. Urinary tract infection may lead to nephritis and preterm delivery if not treated properly. If you have frequent urination and pain while passing urine or you pass any blood, you should seek medical advice early.

Tips
- You should never restrict fluid intake because this may increase the chance of urinary tract infection.
- In case you have a urinary tract infection, you should take a course of antibiotics according to the doctor’s instructions.
- If you have recurrent or persistent urinary tract infection, you should seek medical consultation early. This could be related to underlying anatomical problem of the urinary tract or kidneys.
Breast Changes During Pregnancy

During pregnancy, hormones in your body are preparing your breasts for lactation. You may experience enlargement of the breasts, nipples and areolas. The breast tissue may extend up into the armpit, and some women may have additional breast tissue (accessory breast tissue) under the arm.

You may find darkening of the nipples and areolas due to hormones that affect pigmentation of the skin.

You may also find veins along your breasts more noticeable due to increased blood supply to your breasts.

Small glands on the surface of the areolas called Montgomery’s tubercles will become raised bumps.

Tips

Your breasts will continue to grow throughout the pregnancy. This can cause discomfort and sometimes pain.

This can be helped by wearing a well-fitting bra.

You may need to change your bra to fit the growth of your breasts every trimester.
The milk ducts are growing and being stretched as they fill with milk early in pregnancy. All this causes your breasts to be more sensitive, particularly your nipples. This may cause you discomfort.

**Colostrum**

Your breasts may start leaking a yellowish, thick substance known as colostrum. It can happen as early as 14 weeks into your pregnancy.

Women who do not experience colostrum secretion in pregnancy still produce milk for their baby after birth.

**When should you seek medical care?**

If you notice any of the following, it is advisable to seek medical advice:
- new lumps
- pain (especially if it locates at one place or gets worse)
- redness
- skin or nipple changes such as thickening, dimpling or ulcers
- any coloured substance (other than colostrum) from your nipple
- discrete lump in the armpit

( Please refer to the details of “Breast awareness” in FHS website at [http://s.fhs.gov.hk/7g38e](http://s.fhs.gov.hk/7g38e) )
Smoking Harms Your Family

Smoking does not just cause harm to the smoker himself, but also to his colleagues, friends and family members. Secondhand smokers bear the risk from both the mainstream smoke and the sidestream smoke.

Foetus and children as Passive Smoker

Smoking in pregnant women is definitely harmful to the foetus, causing:
- Stillbirths and early neonatal deaths
- Increased risk of pre-term delivery
- Increased risk of having low birth weight babies, and
- Some studies showed that carcinogenic substances from tobacco smoke may pass through the placenta to the foetus

Studies have shown that secondhand smoke causes Sudden Infant Death Syndrome (SIDS), and increases the risk of lower respiratory illnesses (pneumonia, bronchitis) and asthma among infants as well as children. So a smoke-free environment is vital to babies.

Smoking may cause permanent damage to your children.
You can change it.
STOP smoking NOW!
Dear Mom and Dad,

Quit smoking now, please! You really have no idea what miseries we children of smokers have to go through.

- Because you smoke, our home is always full of smoke and smell of cigarettes. We can’t breathe.
- Because you smoke, it makes us cough and our eyes watery. It’s also bad for our health and increases our risk of getting bronchial disorders.
- Because you smoke, people around you feel upset or uncomfortable. And look at your tarry teeth! Your breath stinks and wrinkles are all over your faces.
- Smoking makes you bad role models. We always have to fight off the desire to smoke like you do.
- Cigarettes are very costly. You two have been quarrelling over money matters all the time, and we seldom get to buy our toys.
- Smoking also decreases your ability to exercise and ages you fast. No wonder you don’t want to take us for a walk.
- The Government warns that “Smoking can kill”. We don’t want to be orphans.

Extra risks of respiratory ill health due to passive smoking at home in children who have never had active smoking

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<thead>
<tr>
<th>Extra Risk %</th>
<th>Nasal symptoms</th>
<th>Throat symptoms</th>
<th>Cough</th>
<th>Phlegm</th>
<th>Wheezing ever</th>
</tr>
</thead>
<tbody>
<tr>
<td>17%</td>
<td>35%</td>
<td>54%</td>
<td>44%</td>
<td>12%</td>
<td></td>
</tr>
</tbody>
</table>

(Data from Hong Kong Council on Smoking and Health - Report No. 5: Smoking and Passive Smoking in Children 1998)

Information shows that in children, secondhand smoke can increase the risk of respiratory tract infections, cough, phlegm and wheezing.
Other studies also show that household secondhand smoke exposure makes baby in the first 3 months of life most prone to infectious disease. Besides, secondhand smoke also associates with a higher risk of admission to hospital for infectious illness for children up to 8 years of age.

But most importantly, under parental influence, children of smokers are more likely to smoke than those of non-smokers.

So, for your children’s sake, quit smoking now!

Studies have shown that using Nicotine Replacement Therapy (NRT) or individual counselling increases the chance of success in smoking cessation compared with self effort.

Smoking Cessation Hotlines:
Integrated Smoking Cessation Hotline of the Department of Health  1833 183
Smoking Counselling & Cessation Centres of the Hospital Authority  2300 7272

Websites:
Tobacco Control Office of the Department of Health  http://www.tco.gov.hk
Oral Health for the Expectant Mother
(Source of information provided by the Oral Health Education Unit, the Department of Health) (L010-08)

1) When is the appropriate time for dental check-up?

(a) Prior to a planned pregnancy

Once pregnancy is being planned, you should visit the dentist for dental check-up. The dentist will treat all your dental problems and advise you the relevant oral health care for expectant mothers so that you will have a peace of mind during pregnancy.

(b) 4-6 months pregnancy

Expectant mothers should keep the regular dental check-up during pregnancy, preferably at 4-6 months of pregnancy. During this period, the foetus is usually more stable and the size is still small. On the other hand, the mother’s vomiting is less serious. However, it is necessary for the expectant mother to tell her dentist that she is pregnant so that he will make appropriate arrangement during dental treatment.

2) Will X-ray examination affect the foetus?

X-ray aids the diagnosis of oral diseases whenever necessary. The expectant mother could be rest assured with X-ray examination because the dosage of dental X-ray is very low and the dentist will take all the necessary precautions to assure the safety of the foetus.
3) Can the expectant mother receive complicated dental treatment?

During pregnancy, the pregnant women should avoid the more complicated dental treatment, such as extraction of wisdom tooth, root canal treatment etc. They should be arranged before or after the pregnancy.

4) What are the changes in the oral health condition of the expectant mother and how to take care of her oral health?

(a) Hormonal changes

The hormonal changes during pregnancy will cause an exaggerated reaction of the gums to the toxins secreted by the dental plaque bacteria. The gums will become red and swollen and bleed easily. This phenomenon is called “Pregnancy Gingivitis”. To prevent it, the expectant mother should remove dental plaque adequately by toothbrushing so as to maintain good oral health.

(b) Craving for sweet and sour food

Pregnant women may crave for sweet and sour food during pregnancy. However, bacteria in plaque will make use of the dietary sugar to produce acid and cause tooth decay. Moreover, minerals in the teeth may also be washed away by acidic food, thus reducing the thickness of the enamel.
In order to protect her teeth, the expectant mother should use fluoridated toothpaste for toothbrushing. It is because fluoride can:

- help repair the early tooth decay
- strengthen the enamel, making it more resistant to acid attack
- prohibit the activities of the plaque bacteria so as to reduce the acid production by plaque

If the expectant mother craves for food, she should seek the dentist’s advice concerning the effective ways of protecting her teeth, which may include the use of fluoridated mouthwash to resist the acid attack by dental plaque.

5) Will tetracycline affect the foetus?

From the 4-6 months of pregnancy, the deciduous dentition of the foetus begins to form. Therefore, the intake of tetracycline, an antibiotic, by the expectant mother may lead to the deposition of tetracycline in the deciduous teeth, resulting in the teeth turning yellowish-brown or bluish-grey in colour. However, the discoloration depends on the type, duration and dosage of the tetracycline taken. Thus, it is necessary for the expectant mother to tell her doctor that she is pregnant so that he will prescribe medication appropriately.
Miscarriage

Miscarriage refers to the situation where an early pregnancy ends unexpectedly. It is a very common complication in early pregnancy. Some women may not even notice that they have ever been pregnant.

Twenty to twenty-five out of 100 pregnant women may experience slight vaginal bleeding in early pregnancy. A proportion of them will be diagnosed as miscarriage but the rest may progress to term.

Don’t worry, a history of vaginal bleeding in early pregnancy, or which we call threatened miscarriage, will not affect the growth and development of the foetus and will not increase the chance of congenital abnormalities.

How can a woman know she has a miscarriage?
- Most of the miscarriage occurs from 6 to 12 weeks of pregnancy or earlier.
- Some women may experience some bleeding from the vagina and there may be some pain in the tummy.
- In other women, the content of the uterus may be expelled spontaneously; they may experience more bleeding and pain.
- There are also women who have no symptoms at all and the condition is picked up during check-up.
Is it common? Why does it happen?

Miscarriage is a very common condition.
- Most miscarriage occurs when the foetus is abnormal or the uterine environment is hostile for the growth of the foetus.
- Some herbs or drugs may affect pregnancy but it is hard to say whether miscarriage is directly caused by these medications since it is a very common phenomenon. Therefore it is important to avoid taking any unnecessary medications or herbs once a woman is aware she is pregnant.
- Miscarriage is not caused by physical activities like swimming, dancing, working out in gymnasium or practising yoga.
- Unless food is contaminated by bacteria, women seldom have miscarriage due to specific food intake.
- Normal sexual activities such as caressing and intercourse are not harmful and will not increase the chance of miscarriage.

Recurrent Miscarriage

Generally speaking, one miscarriage should not predispose a woman to another.
- Recurrent miscarriage is defined as loss of 3 or more consecutive pregnancies.
- Approximately 1 in 100 women has the problem of recurrent miscarriage.
- A proportion of these women will have a persistent underlying cause for their recurrent pregnancy loss.
- Some of these causes are treatable. Please consult your obstetrician for details.

(This leaflet is prepared by the Department of Health and the Hospital Authority)

FHS-MH7A (Rev. Feb 2013)
If a pregnant woman feels pain in the tummy, or notice vaginal bleeding, she should seek medical consultation without delay.
- She can go to her family doctor, private obstetricians, gynecologists or emergency departments of hospitals for assessment.
- Ultrasound scan will be used to assess the foetus’ condition and this causes no harm. Diagnosis of miscarriage is confirmed if the foetal heart is not beating or if the foetus does not grow. Therefore, several scans for foetal growth monitoring may sometimes be necessary before the doctor can confirm a diagnosis.

Management of Miscarriage

What can be done before a miscarriage is confirmed?

Medical Treatment
No medical evidence has shown that medication including hormones of any type is effective.

Bed Rest
Staying in bed cannot prevent spontaneous miscarriage. However, bed rest is still advisable when a pregnant woman bleeds heavily.

What should be done if miscarriage has been confirmed?

Admission
If miscarriage is confirmed, evacuation of the uterus is usually suggested to remove the non-viable foetus in order to stop bleeding and to avoid infection.
Evacuation of Uterus

- A narrow suction cannula is inserted into the womb to suck the tissues out.
- It can be performed under local or general anaesthesia.
- Variable degrees of pain may be experienced after the operation, in which case painkillers can help.

Physical Recovery after Miscarriage

- It is normal to have some vaginal bleeding in the first few days after complete miscarriage or evacuation of uterus.
- Normal daily activities and physical activities can be resumed once the woman feels physically recovered, that is, usually a week or two after the miscarriage.
- Sexual intercourse can be resumed after bleeding has stopped completely.

Reminder after Operation

If there is heavy bleeding, prolonged vaginal bleeding lasting for more than two weeks, fever, or pain in the tummy after operation for miscarriage, immediate medical attention should be sought.
Psychological Recovery after Miscarriage

- It is crucial to understand that no one, including the woman herself, is to be blamed.
- It is common to have mood disturbances like shock, sadness, depression, anxiety, sense of failure and loss of self-esteem after miscarriage.
- She is encouraged to share her feelings with someone she can trust, e.g. partner, relatives, good friends or medical and paramedical staff to help her recovering from her grief.
- Good days always follow stormy and rainy days. One should always adopt an optimistic attitude and never be overcasted by the shadow of miscarriage.

Planning for Next Pregnancy

It may be better to wait for two or three months before trying to get pregnant again. This gives time for the woman to recover to her best possible shape for the next pregnancy, both physically and emotionally.

(This leaflet is prepared by the Department of Health and the Hospital Authority)
# Subsequent Visits

## Points to Note

## Health Advice

- Foetal Development in Middle Pregnancy
- Minor Ailments in Middle Pregnancy and Their Management
- Pre-eclampsia
- Baby's Movements
- How to Deal With Painful or Itchy Vulva?
- What is Vaginal Candidiasis Infection?
- Antenatal Exercise
- Perinatal Mental Health
- Healthy Sex Life Before & After Childbirth
Points to Note

MCHCs provide regular routine antenatal check-ups for pregnant women under shared care with HA. The service covers the following aspects:

- Urine test for protein and sugar
- Body weight and blood pressure measurement
- Abdominal palpation to monitor the growth and position of foetus
- Detection of foetal heart beat
- Assessment of oedema

Antenatal Check-up Schedule in MCHCs / HA:

<table>
<thead>
<tr>
<th>Gestational weeks</th>
<th>Routine check-up</th>
<th>Other examination (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-24 weeks</td>
<td>Every 6 weeks</td>
<td>▲ Antenatal blood investigations * Prenatal Screening for Down syndrome (11-19 weeks)</td>
</tr>
<tr>
<td>24-28 weeks</td>
<td>Every 4 weeks</td>
<td>▲ Oral Glucose Tolerance Test (if necessary)</td>
</tr>
<tr>
<td>28-36 weeks</td>
<td>Every 2-4 weeks</td>
<td>▲ Group B Streptococcus screening test (35-37 weeks) (if necessary)</td>
</tr>
<tr>
<td>36-40 weeks</td>
<td>Every 1-2 weeks</td>
<td>*Past term assessment</td>
</tr>
<tr>
<td>41 weeks</td>
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</tbody>
</table>

* Service provided by Obstetrics Department of the Hospital Authority
▲ Service provided by Obstetrics Department of the Hospital Authority or MCHC

Note:
1. This timetable serves as reference only. Health professionals may arrange alternative schedule according to your clinical condition.
2. Obstetrics Department of the Hospital Authority may offer structural ultrasound or prenatal screening according to the individual condition of the pregnant woman.
Foetal Development in Middle Pregnancy

**Middle pregnancy**

Your tummy will be more obvious at this stage and you may develop a dark line down the middle of your tummy, which is normal skin pigmentation. Common minor problems can include backache, indigestion and piles.

**14-17 weeks of pregnancy**

At 14 weeks, the baby is about 85mm from head to buttom. The baby can swallow bits of amniotic fluid, which is passed out as urine by kidney.

They start to hear and become sensitive to light at 15 weeks.

At 16 weeks, the nervous system continues to develop. The hands can reach each other or form a fist.
18–24 weeks of pregnancy

From 18 weeks onwards, the baby is more active, and you may start to feel first movements, which is like soft fluttering sensation. Your baby may also respond to sound from the outside world, such as music. The sucking reflex develops, and the fetus may suck his or her thumb.

At 21 weeks, your baby weighs around 350 grams. The brain is rapidly developing. The eyes begin to open. The lungs are fully formed but not yet functioning.

25–28 weeks of pregnancy

Stretch marks may develop as your tummy becomes big quickly. These stretch marks can also develop on breast and thigh. You may feel more easily hungry than before. You should maintain a sensible, balanced diet and avoid excessive weight gain.

Indigestion or heartburn are common at this stage, so frequent small meals can be helpful. You may also become tired easily and experience some swelling in your face, hands or feet.

Your baby weighs around 1 kg at 28 weeks, and his or her brain, lungs and digestive systems are formed but not fully mature. Your baby can respond to touch and sound.
Minor Ailments in Middle Pregnancy and Their Management

During pregnancy, the rapidly rising hormones, like oestrogen, progesterone and prolactin, change the maternal body into a suitable environment for the foetus. Most of these bodily changes are normal.

- Most of the minor ailments in pregnancy will spontaneously subside after delivery. Therefore, pregnant women do not need to worry.

- Herbs and medicines should be avoided especially during early pregnancy because they can enter the foetal circulation through the placenta. Some medications exert toxic or teratogenic effect on the foetus. One should always seek doctor’s advice before taking any medications.

Leg Cramp

- This usually occurs at rest and therefore can affect sleep. It usually results from muscle tension.

- Sometimes severe vomiting can lead to low level of calcium and potassium in blood, resulting in cramps.

- If severe vomiting presents at the same time, hospitalisation for electrolyte replacement may be necessary.

Tips

- Stretch your leg, point your toes towards your head (fig 2)

Prevent leg cramps

Leg exercise: Sit with back supported by pillow or head rest of bed. Rest the feet on two pillows, move the ankles up and down, inward and outward, then combine these movements by making a circle. Repeat 10 times. (Please refer to “Antenatal Exercise” page 82)
**Varicose Veins**

- Varicose veins are swollen veins that bulge near the surface of the skin, usually in legs, sometimes in vulva during pregnancy.

**Tips**

- Avoid standing for long periods of time
- Avoid sitting with your legs crossed
- Wear flat shoes instead of high heel as your calf muscles move better and foster healthy circulation
- Sit with your legs up as often as you can, to ease the discomfort
- Sleep with your legs higher than the rest of your body – use pillows under your ankles or put books under the foot of your bed
- Do foot exercises and other antenatal exercises, walking and swimming, which will help your circulation
- Try compression stockings. To prevent blood from pooling in your legs, put the stockings on before getting out of bed in the morning, while you’re still lying down. It makes it easier for blood to flow up toward your heart.
Low Back Pain

- The gradually growing foetus and the enlarging uterus exert greater and greater pressure on the spine and the pelvis. Low back pain is very common as pregnancy advances.

Tips

- Wear comfortable footwear and avoid high heel shoes.
- Keep the spine straight and maintain correct postures while sitting and standing.
- Sleep by lying sideways and rest the back on a wedge to support the lower back.
- Practise antenatal exercise. (Please refer to “Antenatal Exercise” page 82-85)
- Physiotherapy and pelvic corset can help to reduce low back pain. Please consult your doctor if the pain becomes severe.
Haemorrhoid (Piles)
- As the uterus grows larger in later pregnancy, pelvic pressure increases and haemorrhoid may result.
- Pelvic pressure is even higher during vaginal delivery and the haemorrhoid may become bigger.
- Very often, the haemorrhoid will subside spontaneously a few months after delivery.

Tips
- Drink adequate fluid every day and consume a high fibre diet to avoid constipation.
- Apply local application to soothe the pain.
- Consult doctor if there is large amount of bleeding while opening the bowel.
Skin Problems

Itchy Rash

During pregnancy, the skin becomes more sensitive and sometimes itchy because of the hormonal changes. You may notice some tiny, slightly raised, red spots or slightly bigger wheals especially over your tummy, legs and buttock. In most cases, there is nothing to worry about and it would go away several weeks after delivery.

Tips

- Try not to scratch as this could worsen the itchiness and might cause skin infection
- Avoid showering with hot, steamy water, rubbing the towel against your skin and using excessive soap
- Wear loose, cotton clothing
- Apply adequate amount of moisturizers

If you have the following symptoms, you should seek medical advice immediately. It could be related to obstetric cholestasis or pregnancy complications.

- Vesicles
- Severe and persistent itching which might have affected sleep
- Fever, jaundice (yellowing of the whites of the eyes and skin), the colour of your urine darken, joint pain

Acne

You may have exacerbation of acne when you are pregnant due to the hormonal changes.

Tips

- Keep your skin clean.
- Avoid eating hot and spicy food.
- You should consult a doctor instead of using over-the-counter medications for worsening acne. Some acne medications could lead to malformation of your baby.
Stretch Marks (Striae)

- Stretch marks are often the result of the rapid stretching of the skin. Many pregnant women develop striae during the second half of pregnancy, especially those bearing heavier baby or with multiple pregnancy.

- It commonly appears on the skin of tummy, thighs and breasts. Initially, it appears as pink, as the baby growth, it turns purple. After delivery, it gradually turns white. Yet, it might never disappear completely.

Tips

- Up till now, no cream is found to be effective in preventing striae completely.

- Keeping the skin well moisturised by applying lotion or olive oil helps to decrease the severity of striae.

- Striae will gradually fade after delivery. Postnatal exercise can help to tighten the skin in abdomen. (Please refer to “Postnatal Exercise” page 129-134)
Pre-eclampsia

This is an uncommon but serious complication that occurs during the second half of pregnancy or soon after baby is delivered.

Risk factor for developing Pre-eclampsia:

- Medical history of diabetes, hypertension or systemic lupus erythematosus
- Obstetric history of pre-eclampsia
- Family history of this condition
- Advanced maternal age
- Having been at least 10 years since your last pregnancy
- Multiple pregnancy
- Overweight

Apart from oedema, the pregnant woman may have high blood pressure (above 140/90mmHg) and protein in urine. Other symptoms include:

- Bad headaches
- Vision problems such as blurred vision or lights flashing before the eyes
- Bad pain just below the ribs or vomiting

If you have the above symptoms and signs, you should seek urgent medical consultation for monitoring and treatment. It could lead to fits, liver, kidney and respiratory failure and bleeding problems. It is life-threatening if left untreated.

Prevention

- Adequate calcium intake and physical activity can prevent gestational hypertension (For more information about on calcium and physical activity, please refer to P.151 & P.166)
- However, if you have any signs or symptoms of pre-eclampsia, you should have bed rest instead of exercise!
Baby’s Movements

Generally speaking, pregnant woman can feel her baby’s movements starting about 18 to 24 weeks. For woman who has given birth before, she can feel this even earlier. As the baby grows, the movements will become more obvious and regular.

Pregnant woman won’t feel small movements of her baby, such as thumb sucking or stretching of fingers and toes. She will feel kicking, rolling movements and perhaps hiccups (small rhythmic twitches) during the last trimester (after 28 weeks) of the pregnancy. All these movements are most obvious in the last months of pregnancy and should be felt up to the time she goes into labour. Some women may not feel their babies move as much as or as strong as other mothers do, even though their babies are doing well.

Should pregnant woman record kick counts?

Being aware of the baby’s movements each day is a very good habit. However, there is no need to keep a written record of the baby’s movements routinely. Before birth, babies have sleep and wake cycles similar to those of a newborn baby. All healthy babies will be quiet or asleep for short periods of time which usually last less than 90 minutes. You will feel movements best when you relax while lying or sitting. You will feel your baby’s movements least while standing, walking or if you are busy with other things.

Points to Note

If you cannot feel the baby’s movements by 24 weeks of gestation, you should consult a medical professional. Moreover, if you feel a decrease in the normal daily activity of your baby’s movements during pregnancy, you should find a quiet place, lie on your side and concentrate on baby’s movements. If you feel less than 10 baby’s movements in two hours, you should consult your doctor or birthing hospital for further assessment immediately.
How to Deal With Painful or Itchy Vulva?

Genital skin is very sensitive and it is important to prevent it from getting irritated by chemicals or physical means. Consult a doctor as soon as possible if you feel itchy or burning pain over the vulval area. Do not use over-the-counter medications without seeing a doctor.

Vaginal Discharge

Almost all women have more vaginal discharge in pregnancy. It should be clear and white and should not smell unpleasant.

You should consult a doctor if you have the followings. You might have a vaginal infection.
- The discharge is coloured or with blood
- The discharge smells strange
- You feel itchy or sore

Hygiene

- Do not wash genitals excessively. Treat the skin of the genital areas very gently.
- Do not use douches.
- Do not use bubblebath or any perfumed creams, soaps or feminine hygiene products.
- Avoid getting shampoo on the vulval area.
- Plain water / saline can be used for cleaning and soothing the symptoms.
- Urinate before the bladder is full. After using the toilet, wipe from the vulva to the back. This may help to prevent the bacteria that normally live in your rectum from getting into your vagina. Rinse the vulva with water after urination.
- Use soft, white, unscented toilet paper.
- Use 100% cotton menstrual pads and tampons.
Clothing and Laundry
- Wear cotton underwear and loose fitting pants or skirts.
- Do not wear pantyhose (wear thigh or knee high stockings instead).
- Ensure the underwear and any clothing that come into contact with vulva is rinsed well.
- Do not use fabric softener on undergarments because the chemicals will stay in the fabric, causing irritation to the vulval skin.

Sexual Intercourse
- When the vulva is itchy, do not use lubricants or petroleum jelly.
- Avoid intercourse when there is pain in the genitals.
- Gently apply ice or frozen gel pack wrapped in a towel onto the vulval skin to relieve burning sensation, if any, after intercourse.
- Urinate to prevent infection and rinse the vulva with cool water immediately after intercourse.

Physical Activities
- Avoid exercise that put direct pressure on the vulva e.g. cycling.
- Gently apply a frozen gel pack wrapped in a towel onto the vulval skin to relieve symptoms after exercise.
- Don’t swim in highly chlorinated swimming pools and avoid the use of hot tubs.
- Remove wet bathing suits and sports clothes promptly.

Everyday Living
- Use a foam rubber ring for long periods of sitting.
- Try to intersperse different positions with periods of standing.
- The sensation of genital area can be affected by emotion. Symptoms can appear worse at time of stress. Adequate rest, listening to soft music and performing stretching exercise can help to lessen the severity of vulval discomfort.

What is Vaginal Candidiasis Infection?

- Genital Candidiasis is common in women of childbearing age and it is caused by the overgrowth of a naturally occurring yeast-like fungus called Candida albicans in the genital area.

- Under normal conditions, small amount of Candida is always present in the vagina. If there is a change in the acidic environment of the vagina, there will be overgrowth of Candida, women may have a higher chance of getting vaginal candidiasis infection.

- Changes in the levels of female hormones during pregnancy, such as oestrogen, increase your chances of developing thrush.

- Factors other than pregnancy that can cause overgrowth of the Candida include:
  - You are using antibiotics.
  - You are suffering from diabetes mellitus.
  - Your immune system is weakened by an immunosuppressive condition, such as infection of Human Immunodeficiency Virus.

Is treatment necessary for Vaginal Candidiasis?

- Some women have vaginitis symptoms such as increase yellowish or cheesy vaginal discharge with vulva itchiness, vaginal soreness, or discomfort during sexual intercourse. In severe cases, the vulva, perineum and groin areas may have inflammation and lesions, accompanied by acute pain.

- If you have signs and symptoms of vaginal Candida infection, please seek advice from a General Outpatient Clinic or private doctor. After consultation, please follow your doctor’s instructions for the appropriate medication such as vaginal pessaries, topical cream or oral medication.

- It can recur after treatment.

- Please refer to “How to deal with painful or itchy vulva” for the suggestions to prevent vaginal candidiasis.

Does my partner need any treatment?

- There is no evidence to support treatment of asymptomatic partners.

- If your partner becomes symptomatic at the same time, you should both undergo treatment in order to prevent cross infection.
I. Purposes of antenatal exercise

Antenatal exercise aims at preventing low back pain and enhancing physical and psychological preparation for delivery by means of joint stretching and muscle strengthening.

II. Guidelines for antenatal exercise

- Breathe smoothly, work gradually according to your capability
- Work twice or thrice a day and repeat each set of movements ten times in every session
- Antenatal exercise may begin when pregnancy reaches 16 to 20 weeks
- Physiotherapist may make modifications to the exercise according to your physical conditions

Note: This leaflet is only a brief introduction to antenatal exercise

III. Types of antenatal exercise

(1) Pelvic floor exercise

- Sit on a chair with your back against the seatback
- Tighten the vaginal, urethral and anal muscles as if trying to withhold urination or defecation. You can also do this exercise in a standing position.

Pelvic floor exercise enhances the control and support of pelvic floor muscles. It helps you prepare for childbirth and prevents uterine prolapse, urinary incontinence and haemorrhoid.
(2) Back and abdominal exercise

- Sit on a chair with your back against the seatback
- Breathe naturally
- Tighten the abdomen and then press the pelvis downwards to flatten your low back against the seatback. Hold for 5 seconds, and relax

This exercise helps you by correcting the low back and pelvic posture. It strengthens your abdominal muscles and prevents back pain.

Note: Practise good posture in daily activities

(3) Ankle exercise

- Sit on a chair with your back against the seatback
- Start with one ankle and turn the foot upwards and downwards. Each up-and-down movement is counted as one time. Repeat ten times
- Rotate the ankle to draw an inward or outward circle. Each circular movement is counted as one time. Repeat ten times
- Repeat the same steps at the other ankle
- Ankle exercise helps reduce leg swelling and varicose vein, thus alleviating the problem of leg cramps
(4) Lower limbs relaxation exercise
- This exercise enhances the flexibility and strength of inner thighs and pelvic muscles. It helps you get accustomed to the delivery position and prevent thigh spasm during delivery.
- Sit on a stable low chair against a wall and spread your thighs sideways. Hold for 5 seconds and relax.

Note:
1. It is suitable for pregnant women with tight thighs.
2. Do not pull apart the thighs.
3. Please note that this exercise is not suitable for those with pain over the pubic bones.

(5) Breathing exercise
- Breathing techniques for pain relief during labour. Exhale before inhale is suggested.

A. Abdominal breathing
- Suitable for mild pain.
- Breathe in through the nose and feel the abdomen expand. Then breathe out through the mouth.

B. Lower costal breathing
- Suitable for medium pain.
- Put your hands on the lower rib cage. Breathe in through the nose and feel your chest expand. Then breathe out lightly through the mouth.
C. Apical breathing

- Suitable for severe pain
- Cross your hands below the clavicles with your mouth slightly open. Breathe in through the nose and the mouth. Breathe out lightly as if trying to flicker the flame of a candle without blowing it out, and feel the upper lungs moving slightly up and down

* During contractions, try to relax and control your breathing
* In between contractions, rest and relax as much as you can in the most comfortable position

Points to Note in Daily Life

- When you lift an object, bend your knees with the strength of your thigh muscles and keep your low back straight by tightening the abdominal muscle, and then straighten your knee joints to lift the object
- To get up in bed, lie down sideways with both legs hanging over the edge of the bed, and then push up your body by straightening both arms
- Tighten your abdomen and keep your back straight when sitting or standing

You are advised to join an antenatal exercise class organised by Physiotherapy Department.

(This leaflet is prepared by the Department of Health and the Hong Kong Physiotherapy Association)
Importance of antenatal and postnatal mental health

Emotional problems during antenatal or postnatal period would affect mothers’ mental state, daily functioning, work performance, her marital relationship and baby’s development.

During pregnancy, mothers suffering from depression could have a higher risk of miscarriage and premature delivery. Research findings suggested that when mothers had depressive or anxiety symptoms during their pregnancy, they would have a much higher risk of having postnatal depression and their infants showed more difficulties in emotion regulation and behavioural control.

After delivery, because of the hormonal changes, role change, challenges in baby care and family problems, mothers could have a higher risk of suffering from mood disorders. Postnatal depression could affect mothers’ ability in taking care of their baby and have impact on infants’ physical health, cognitive development as well as emotional and behavioural development. The partners of mothers with postnatal depression also had higher risk to suffer from emotional disturbance. Thus, it is very important to take care of the mental health of women from antenatal to postnatal period.

Emotional disturbances can happen in antenatal period

Getting pregnant brings a lot of excitement to the family. Yet it should not be overlooked that mothers could have different emotions during pregnancy, which include anxiety, helplessness and irritability, etc. Pregnant women could experience a lot of physical changes and discomfort. Their lifestyle could have
to be adjusted. Their emotions, therefore, could be affected. Pregnant women could also have a lot of worries about the fetal development or the childcare arrangement after delivery.

Research findings suggested that some factors were related to antenatal anxiety and depression, such as self-esteem of the mother, her marital relationship, in-law relationship and social support. To maintain emotional health during pregnancy, mothers should learn to appreciate herself, particularly her effort paid in coping with the demands and to accept the limitation during pregnancy. She could also talk to other mothers to enhance social support, or talk to someone she could trust to relieve her distress. If the emotional disturbance persists, mothers should seek professional help as early as possible.

**Major risk factors of postnatal depression**

The exact causes of postnatal depression are unknown. Research findings indicated that the factors listed in the table below are correlated with an increasing risk of postnatal depression:

<table>
<thead>
<tr>
<th>Clinical Factors</th>
<th>Psychosocial Factors</th>
<th>Obstetric- and baby-related factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Previous psychiatric conditions which include depression and anxiety disorders&lt;br&gt;• Antenatal depression or anxiety</td>
<td>• Anxiety-prone personality&lt;br&gt;• Lack of social support&lt;br&gt;• Poor marital relationship&lt;br&gt;• Dissatisfied in-law relationship&lt;br&gt;• Domestic violence&lt;br&gt;• Financial difficulties&lt;br&gt;• Stressful life events</td>
<td>• Perinatal complications&lt;br&gt;• Emergency caesarean section&lt;br&gt;• Previous miscarriage / difficulties in conception&lt;br&gt;• Unplanned pregnancy&lt;br&gt;• Baby born with congenital diseases/ premature birth</td>
</tr>
</tbody>
</table>
There are three main categories of postnatal mood problems: (1) postnatal blues, (2) postnatal depression and (3) postnatal psychosis, each of which differs in its prevalence, clinical presentation, level of severity and management.

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<thead>
<tr>
<th>(1) Postnatal Blues</th>
</tr>
</thead>
<tbody>
<tr>
<td>• It affects about 40% - 80% of postnatal women</td>
</tr>
<tr>
<td>• It is a transient state characterized by mood swings, tearfulness, troubled sleeping and irritability. The symptoms usually occur around day 3 to day 5 after childbirth</td>
</tr>
<tr>
<td>• The symptoms are relatively mild and often settle spontaneously within days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(2) Postnatal Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>• It affects about 13% - 19% of postnatal women</td>
</tr>
<tr>
<td>• Symptoms are similar to a depressive episode experienced at other times. The onset is usually within 6 weeks but can also occur anytime within a year after childbirth</td>
</tr>
<tr>
<td>• Most of the mothers with postnatal depression recover if they could be identified early and receive proper treatment and support by family</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(3) Postnatal Psychosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• It affects about 0.1% - 0.5% of postnatal women</td>
</tr>
<tr>
<td>• Prominent features include hearing non-existing voices, bizarre thoughts of being harmed by others and ideas of self-harm or baby-harm. Symptoms usually occur within 14 days after childbirth</td>
</tr>
<tr>
<td>• This is a psychiatric emergency. Urgent referral to a psychiatrist or attending Accident and Emergency Department of hospital is necessary</td>
</tr>
</tbody>
</table>
Early identification of postnatal depression

Major symptoms of postnatal depression include:

- Persistent period of low mood, such as feeling depressed and sad, crying without reason or wanting to cry but have no tears
- Loss of interest in almost all activities (even lose interest to her child)
- Disturbance in appetite
- Sleep problems
- Fatigue or loss of energy for most of the time
- Difficult to concentrate or make decision
- Feeling guilty, worthlessness and hopelessness
- Excessive worries and irritability

Should the above symptoms persist for 2 weeks or more and have significantly affected the woman’s daily functioning, seeking professional help is needed as soon as possible.
Tips on prevention

- Proper preparation before pregnancy which includes appropriate family and financial planning.

- Have realistic expectations for parenthood to help adjustment to life after delivery.

- Learn more about pregnancy, childbirth and childcare to minimize anxiety through various means, e.g. joining childcare and parenting workshops in Maternal and Child Health Centre, participating in relevant talks and workshops arranged by other organizations, etc.

- Have more experience sharing with other parents and enhance social support.

- Cultivate effective communication with partner and other family members to improve understanding and support.

- Get enough rest and sleep, e.g. arranging household and childcare help after childbirth.

- Spare some time for leisure and relaxing activities, e.g. going for a walk or calling friends.

- Have a healthy diet. Do not smoke and avoid beverages containing alcohol.
Ways to seek help

- Consult family doctor or obstetrician for preliminary assessment and management, and if necessary, referral to specialist services.
- See psychiatrist or clinical psychologist in private sectors for professional assessment and treatment.
- See social worker or counselor for assessment and referral.
- Should mothers suffer from postnatal mood problems, they could contact the Maternal and Child Health Centre in their residential area to make appointment with nurses for initial assessment and referral to suitable services.

Counseling services / hotlines

<table>
<thead>
<tr>
<th>Service</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Samaritan Befrienders Hong Kong</td>
<td>2389 2222</td>
</tr>
<tr>
<td>Suicide Prevention Services</td>
<td>2382 0000</td>
</tr>
<tr>
<td>Social Welfare Department 24-Hour Hotline</td>
<td>2343 2255</td>
</tr>
<tr>
<td>Hospital Authority Mental Health Direct (24 Hours)</td>
<td>2466 7350</td>
</tr>
</tbody>
</table>

Others

- Department of Health:
  - Family Health Service 24-Hour Information Hotline | 2112 9900
  - Family Health Service Breastfeeding Hotline       | 3618 7450
  - 24-Hour Health Education Hotline                  | 2833 0111
  - Family Health Service Website                      | www.fhs.gov.hk
  - Primary Care Directory                              | www.pcdirectory.gov.hk
  (You can find a family doctor that suits your need using the Directory)
Can sex life go on during pregnancy? Will the foetus be affected?

- Being affected by nausea and/or vomiting during early pregnancy, the growing belly and the misconception that sexual activities affect the foetus, sex desire of the expectant mother may be suppressed.

- Unless signs of miscarriage show up in the first trimester or placenta praevia (means placenta lying in the lower part of the uterus) is diagnosed in the mid or late trimesters, sexual intercourse will not increase the chance of miscarriage. An expectant mother can continue with her sex life. The process of intercourse does not affect the foetus if overly vigorous gestures and pressure on the abdomen are avoided.

- Distending pain in the lower abdomen, vaginal bleeding or leakage of amniotic fluid are abnormal signs during sexual intercourse. If any of these occur, sexual activities have to be stopped immediately and medical consultation should be sought as soon as possible.

- From 36th week of pregnancy onwards, vaginal intercourse is undesirable due to the risk of premature rupture of membrane.

What postures can be used for sex life during pregnancy?

- During early pregnancy, all postures can be adopted (see diagrams).

- When an expectant mother reaches her second trimester, with a growing and protruding belly, she should pay attention not to have her abdomen under pressure or gestures that are too vigorous. Postures suitable to use include face side-by-side, kneeling back as well as face-to-face sit-up.

- In late gestation, rear entry can be adopted and partner should show his care and affection as support.

- Apart from lovemaking, the couple can attain sexual satisfaction and physical pleasure by other means such as cuddling, caressing and kissing.

- Use of condom during intercourse can reduce the chance of contracting sexually transmitted diseases.
Safe posture for gestation

Posture for early gestation
Normal position: Man supports his body with his arms
Stretching position: Avoid deep penetration and pressure on woman’s belly

Posture for mid gestation
Face side-by-side position: Shallow penetration, no pressure on woman’s belly
Kneeling back position: No pressure on woman’s belly, man can control the depth of penetration
Face-to-face sit-up position: Woman can control the depth of penetration

Posture for late gestation
Back side-by-side position: Shallow penetration, no pressure on woman’s belly
Caressing the head & neck
Massaging man’s genitalia
When can sex life be resumed after delivery?

- After giving birth, the body needs some time to revert back to pre-pregnancy state. This period, called puerperium, generally lasts for 6 weeks.

- When puerperium is over, lochia will clear, uterus will return to its natural size, uterine lining will recover, cervix will close, vaginal membrane will return to normal and wound on abdomen or perineum will be healed. At this time, sex life can be resumed if the mother is emotionally and physically ready.

What should be noted in resuming sexual intercourse?

- When resuming sexual intercourse after delivery, the mother will sometimes experience dryness in her vagina as well as mild pain or strange feeling at the perineum. The reasons are mostly psychological. She can get used to it gradually after a few times of intercourse and these discomforts will fade away naturally.

- Overly vigorous gestures and deep penetration at the early resumption of sex life should be avoided. Priority should be given to what feels good for the mother.

- Medical examination should be sought if there is bleeding, pain or difficulties during intercourse.

Will the wound be ripped apart by sexual activities after delivery?

- Generally speaking, the perineal wound will be healed after the puerperium. Therefore sexual intercourse will not result in wound gaping.
- Obstetric departments of HA run regular antenatal exercise classes; pregnant women may contact MCHC or HA for details
- Some obstetric departments of HA offer accompany labour, please contact your obstetric hospital for arrangement
# Late Pregnancy

## Points to Note

- Prevention of Neonatal Group B Streptococcus Infection 97

## Health Advice

- Foetal Development in Late Pregnancy 101
- Minor Ailments in Late Pregnancy and Their Management 103
What is Group B Streptococcus?

Group B Streptococcus (GBS) is a type of bacteria which normally lives in the intestine, urinary and reproductive tracts of men and women. It can be found in 10-30% of pregnant women’s vagina or rectum. Most pregnant women who are colonised with GBS have no symptoms or health effects. A small number may develop urinary tract infection caused by GBS. It is not a sexually transmitted disease.

How does GBS infection affect the baby?

The most serious health effect of GBS is that a woman colonised with GBS late in her pregnancy can pass it to her baby. It is the commonest cause of severe early onset infection in newborn infants with high rate of illness and death (5-10%). In Hong Kong, the incidence of early onset GBS infection in newborn is around 1.0 per 1000 births. Baby may have early or late-onset of GBS infection.

For early-onset GBS infection, the signs and symptoms usually occur within hours of delivery. These include:

- Breathing problems, heart and blood pressure instability
- Gastrointestinal and kidneys problems
- Lung infection, blood infection and meningitis are the most common

For late-onset GBS infection, the signs and symptoms occur within a week or a few months of delivery. Meningitis is the most common symptom. However, late-onset GBS is not as common as early-onset.
How can I find out if I have GBS?

The Hospital Authority antenatal clinic and Maternal and Child Health Centre of the Department of Health will provide GBS screening for all eligible and pregnant women. This screening is done between 35 and 37 week of pregnancy. The test involves a swab of both the vagina and the rectum. The procedure is quick and should not be painful. The sample is then taken to the laboratory where a culture is analysed for any presence of GBS. A woman may test positive at certain times and not at others as the bacteria can be present in your body on and off. Therefore it is preferred to perform the test between 35 to 37 weeks, which is the time closest to your delivery.

Non-eligible pregnant women can undergo screening either in a HA clinic (with extra charge), in private sector or in Mainland China.

What if I test positive for GBS? How can my baby be protected from infection?

Not every baby who is born to a mother with a positive test for GBS will become ill. Around one of every 100 to 200 babies whose mothers carry GBS will have signs and symptoms of infection.

If you are test positive for GBS, we recommend giving you intravenous injection of antibiotics during delivery which can greatly reduce the chance of your baby becoming sick.

For GBS carriers, taking antibiotics before labour starts is not an effective way to get rid of the bacteria. As they naturally live in the intestine, the bacteria can come back after the antibiotic treatment. The most effective way to prevent baby's infection is to give the antibiotic during labour.
Is GBS screening recommended for every pregnant woman?

In certain conditions, the baby would have a higher risk of infection. These include:

- Previous baby affected by GBS infection
- Mother has urinary tract infection due to GBS during pregnancy
- GBS colonisation before 35 weeks

Under these conditions, we recommend injection of antibiotic during labour and screening is not necessary.

Is there any other condition that I need antibiotic injection for prevention of GBS infection in my baby?

In case your GBS status is unknown and if any of the following condition is present, we recommend you to have antibiotic during labour. The conditions include:

- Gestation less than 37 weeks
- Maternal fever with temperature equal to or higher than 38°C
- Water broken for more than 18 hours

Would the antibiotic injection cause any side effect for me?

We would check against your allergic history before giving you the appropriate antibiotic. You are reminded to report any signs of allergy such as skin rash, swelling or difficulty in breathing. The chance of severe allergic reaction causing life-threatening situation is very low.
Can my baby’s infection be totally prevented if I receive antibiotic during labour?

Although antibiotic treatment during labour helps to prevent early-onset GBS infection, it is not 100% and does not always prevent late-onset GBS infection. Babies may pick up GBS from people they come in contact with or through other means.

Does my baby need treatment after birth if I am a GBS carrier?

Your baby will be under the paediatrician’s care after birth. Whether the baby needs any antibiotic treatment depends on a number of factors, including:

- Any sign of infection of the baby?
- Is the baby born at term?
- How much antibiotics you have received before birth of the baby?

Paediatrician will decide individually base on the investigations or treatment that the baby needs.

(This leaflet is prepared by the Department of Health and the Hospital Authority)
29–36 weeks of pregnancy

As your baby grows, there is less space for your lungs and you may feel breathless. Leg cramps at night are common, and you may find it difficult to sleep. You may also note you need to pass urine a lot. You will feel more backache as the fetus grew and compressed on your spine and pelvis.

Your baby continues to be very active and may have hiccups. She/he gains weight very quickly. The different regions of the brain are forming. Your baby’s bone continue to be harden, but the skull remains soft and flexible for delivery. Taste buds develop, and the fetus can taste sweet and sour.
By 35 weeks, the baby is usually lying with their head downwards, in preparation for birth. The lungs are maturing and getting ready to function outside the uterus at 36 weeks.

You may feel irregular tightening over your womb – known as Braxton-Hicks contraction, which is normal part of pregnancy. However, if you feel more frequent, regular, painful contractions or other associated signs of labour (such as show or leaking), you should consult your doctor or go to the hospital.

37–40 weeks of pregnancy

The fetus drops lower into the pelvis. More fat accumulates, especially around the elbows, knees, and shoulders.

From 37 weeks onwards, your baby is considered fully matured (full term) and labour contractions can begin at any time.
Minor Ailments in Late Pregnancy and Their Management

Oedema

- The rapidly rising oestrogen level during pregnancy causes water retention. As a result of gravity, most of the water accumulates in the legs. About 80% of the pregnant women have ankle swelling (oedema).

- After delivery, oestrogen level returns to normal, the accumulated water would be excreted from the body.

- If you develop ankle, hand or facial swelling suddenly or the swelling worsen rapidly, say within a few days, this might be a signs of pre-eclampsia (please refer to P.77). You should see a doctor immediately.

Tips

- Wear comfortable shoes of a slightly bigger size than that before pregnancy.

- Elevate the legs comfortably on a footstool or pillows while resting.

- Avoid taking diuretics because these medications will lower your blood pressure. The placental blood flow will be decreased and the oxygen and nutrient supply to the foetus will be impaired.
Frequent Urination

- This is the result of increase in blood flow to kidneys by 50% during pregnancy and the relaxation effect of progesterone on smooth muscle of the urinary tract.

- Besides, the urinary tract of the pregnant woman is more susceptible to infection. Urinary tract infection may lead to nephritis and preterm delivery if not treated properly. If you have frequent urination and pain while passing urine or you pass any blood, you should seek medical advice early.

- As uterus becomes larger in late pregnancy, the urinary bladder will be under pressure and causes frequency in urination.

Tips

- You should never restrict fluid intake because this might increase the chance of urinary tract infection.

- In case you have a urinary tract infection, you should take a course of antibiotics according to the doctor’s instructions.

- If you have recurrent or persistent urinary tract infection, you should seek medical consultation early. This could be related to underlying anatomical problem of the urinary tract or kidneys.
# Preparation for Motherhood

## Health Advice

- Prepare the Bag for Delivery 106
- Breastfeeding 107
- Providing a Safe Environment for Your Baby 109
- Preparation for Your Newborn 111
When the due date is approaching, you are recommended to pack everything you need for delivery in a bag in case you need to go to the labour room in a hurry.

**What to put in the bag:**
For the mother: a cup, toiletries, slippers, maternity pads, mesh pants, absorptive underpad, nursing bra and antenatal record
For the baby: new-born diapers and fragrance free wet tissue paper
Breastfeeding

Breastmilk is the best natural food for your baby. The longer the babies are fed on breastmilk, the greater the benefits for the health of mothers and babies. According to the World Health Organization’s (WHO’s) recommendation, babies should be breastfed exclusively in the first six months and continue to have breastmilk together with solid food in their diet until two years old or above.

The Benefits of Breastfeeding

- Breastmilk provides all the essential nutrients that meet the baby’s needs in the first 6 months of life
- The proteins in breastmilk are easily digested and absorbed
- Breastmilk contains many antibodies and immunoglobulins, which help to enhance the immunity of the baby, and reduce the chance of having allergic conditions and infections
- During breastfeeding, the close and intimate contact between the mother and baby greatly enhances mother-infant bonding
- Breastfeeding is more hygienic, convenient, economical and environmentally friendly than bottle feeding

How to Start

1) Preparation During Pregnancy

- Learn more about breastfeeding from various means
- Discuss with medical staff and family members about your choice to feed your baby
- Participate in antenatal discussion on infant feeding conducted in Maternal and Child Health Centre and antenatal breastfeeding talk/workshop conducted by your hospital
When you consider feeding your baby with formula milk, you should be aware of the followings:
- Formula milk does not provide babies with any antibodies. Powdered infant formula is not a sterile product. Inappropriate preparation and handling may put the baby at risk of infection
- Infant formula is costly. Parents need to spend a considerable sum on the milk powder
- Your body will make less breastmilk once you start to feed your baby with formula milk. You may find it difficult to switch back to breastfeeding

Please read “Love ☘ Starts from breastfeeding” or contact health professionals for more information.

2) Grasp the “Golden Hour” of Skin-to-skin Contact

- Suckling is the basic instinct of newborn babies. The first hour after birth is the golden time for your baby to try breastfeed as he is in the most alert state and the sucking reflex is the strongest at that time
- Put the baby to your chest after drying his body with a towel immediately after birth. This allows direct skin-to-skin contact and facilitates him to find your breasts and enjoy the first taste of the colostrum
- Skin-to-skin contact can give the baby emotional security and warmth and help to stabilise his heartbeat and breathing. You can also enjoy the special bonding between you and your baby

Tips of Success

1) Rooming In
- Let you observe his needs and feed him conveniently

2) Let Your Baby Take the Lead in Feeding
- Most newborns require frequent feeding of up to 8-12 times a day in the first few months. Feed him according to his needs

3) Family Support
- Family support is very important. Research showed women with support from their partners and families continue breastfeeding for six weeks is 8.5 times higher than those without support

4) Seek Medical Help
- Seek help from health professionals when you are in doubt
Providing a Safe Environment for Your Baby

While you are busy preparing for your baby's arrival or taking care of your newborn, have you ever thought of your baby’s safety? Here are some simple but important tips to help you set up a safe home environment for your baby.

Sleep

1. Place your baby on her back to sleep
2. It would be best for your baby to sleep in a cot
3. If you need to share bed with your baby, place him in a basket and give him a separate blanket
4. Adults should not take alcohol or drug if they share bed with the baby
5. Do not sleep with your baby on sofa
6. Put your baby to sleep in light and comfortable wear
7. Baby's face and arms should not be covered by blanket
8. Do not put any items (other than beddings) in your baby’s bed
9. Do not place your baby to sleep on soft and fluffy objects like quilt, soft pillow, sheepskin or bean bag
10. Keep baby’s sleeping area well-ventilated with a comfortable temperature
11. Provide a smoke-free environment to your baby
12. The distance between the vertical bars of the baby cot should be less than 6 cm (2.5 inches)
13. The mattress should be well fitted with the baby cot without any gaps
14. Never leave your baby alone on the bed or sofa without guards
15. Buckle the safety straps and keep the wheels locked when you put your baby in a stroller
16. Front baby carriers are not recommended for babies under 3 months

Bathing

1. Use a baby bath basin for bathing your baby
2. Put cold water in before hot water and test the water temperature with your elbow when preparing to bathe your baby
Feeding

1. Breastfeeding is known to protect against sudden infant death syndrome
2. If formula milk is used, only infant formula is suitable for babies younger than 6 months
3. All feeding equipment (including feeding bottles, teats, tongs) are sterilized before use
4. Each formula feed is freshly made
5. Do not reheat milk in a microwave oven
6. Check the milk temperature before feeding the baby
7. Keep your baby away from hot water at all times

To know more about Home Safety information, please visit the “child health home safety” webpage http://s.fhs.gov.hk/74rnt

Online Version Watch Video
Preparation for Motherhood

It is understandable that first-time parents can feel anxious on taking up a new role. Do allow more time to prepare for the new arrival. You may want to consult experienced relatives or health professionals who can help you adjust to your new role as parent.

I. Get Ready Before the Due Date

1) Baby’s Clothing

- Clothes made of 100% cotton can prevent skin allergy.
- Woollen underwear is better worn between cotton clothes.
- Clothes in simple style with loose collars and sleeves are preferable.
- Shoes are not necessary and socks are good enough to keep the baby warm.
- Have several large towels ready for wrapping the baby after bath and during sleep.
- Have cloth nappies or disposable nappies ready.

2) Baby Crib

- Choose a crib that meets safety standard:
  • The distance between the bars should be less than 6 cm;
  • The mattress should fit snugly within the crib;
  • Top of the crib rail should be at least 60 cm from the top of the mattress;
  • The crib should be finished with unleaded paint;
  • The boards should be solid and smooth with no cutouts.
- Babies do not need pillows. Do not place fluffy comforters, heavy blankets, stuffed toys in the crib with an infant. These can cause smothering.
- Never leave your baby unattended in the crib with the side-rail lowered. Make sure the side-rail is locked and cannot be accidentally released before you leave.
3) Baby Stroller
- Be sure that the stroller has brakes.
- Do not hang bags on the handles of the stroller.
- Use seat belt and harness to strap the baby in the stroller properly.

4) Baby Car Seat
- Use a baby car seat that meets safety standard when driving with your baby. Follow the manufacturer's instructions carefully when installing a car seat. Once the baby is in the harness, adjust the straps so that they fit snugly.

II. Learn About General Baby Care

1) Feeding
- When the baby cries, or sucks hastily, air will be swallowed and gathered in the stomach. Small amount of milk may spit up with air from the stomach after feeding.
- To decrease spitting up, you can try to:
  • increase the frequency of burping;
  • hold the baby upright or elevate the head of the mattress after burping;
  • avoid feeding the baby when she is too hungry or overfeeding her.
- Hiccup is normal and common and will be gone after a while. Burping helps. Let the baby feed on the breast for a longer while or feed the baby (if on bottle feeding) with small amounts of water may stop the hiccup.
2) Pees and Poos

- Stool passed out in the first few days of life is dark green in colour and is called meconium.

- Breastfed babies pass loose yellow stool more frequently than formula-fed babies, sometimes after every feed. As they get older, they may pass stool on alternate days or once every few days. It is normal as long as the stool is soft and wet.

- Formula-fed babies pass soft green, yellow or greenish yellow stool more regularly and in larger amount than breastfed babies.

- When the baby has diarrhoea, she will pass frequent and watery stool. There may be blood or mucus in the stool. Keep the nappy and bring the baby to the doctor as soon as possible.

- When the baby has constipation, the stool will look dry and hard. Check if the milk is prepared with correct proportion of water and powder; or if the baby is too hot and sweating too much. If the condition persists, bring the baby to the doctor. Do not use medication of any kind without consulting the doctor.

3) Cleaning

**Baby bath time**

Bathing baby is a basic task for every parent. To better prepare you for the task and to make the bath time easier, you can view the video “Baby bath time”. Remember it is important to support your baby’s head and neck during bath time.

**Cleaning baby’s face**

Clean your baby’s face with water only because baby’s skin is very sensitive. You can start by cleaning the eyes first. Dip a cotton ball in cool boiled water and squeeze out the excessive water. Gently wipe from the inner to the outer corner of your baby’s eye. Use a new cotton ball for each wipe. For details, you can view the video “How to clean your baby’s eyes”.

To clean your baby’s nose, you can wipe gently around the nostrils. Wipe the outer ear surface and behind the ears. Do not put anything inside your baby’s nostrils or ear canals because it may cause damage to them. Lastly, you can gently clean the rest of your baby’s face. Do not miss out cleaning the skin folds of his neck and chin.

**Cleaning the umbilical cord stump**

The umbilical cord stump usually falls off between 5 to 10 days after birth. In some babies it may take 3 weeks or longer. Parents need to keep the stump clean and dry. Use a cotton bud soaked with cool boiled water to clean the base of the umbilical cord stump. Remember to clean it gently to avoid bleeding. Do not use any dressing to cover the umbilicus (belly button) or apply any medication. Please refer to the leaflet “Care of the Umbilical Cord” for details.

**Preventing Nappy Rash**

Clean the buttocks with wet soft cloth every time you change the nappy. Keep the buttocks dry. Applying a thin layer of petroleum jelly may help prevent nappy rash. In case there is nappy rash, exposing the buttocks in air as long as possible (10-15 minutes) before wrapping the nappy can help the skin heal. If condition becomes severe, consult the doctor.

**4) Home Environment**

- Keep windows open and maintain a comfortable room temperature.
- Keep your home clean. Avoid using carpet.
5) Neonatal Jaundice
This is a normal physiological condition. The baby's skin looks lemony yellow after the first few days of life. This condition usually resolves without treatment in 1-2 weeks. If the bilirubin level rises persistently, treatment will be required. Parents should bring their babies to the Maternal and Child Health Centre or family doctor for assessment soon after discharged from hospital. Please refer to the leaflet “Newborn Jaundice” for details.

6) Sudden Infant Death Syndrome (SIDS)
SIDS is the sudden unexpected death of a baby during sleep and usually occurs in the first 6 months. The cause is unknown. Although SIDS is rare in Hong Kong, it is important to minimise its occurrence by keeping the baby lying on her back and never wrap the baby too tight. Exposure of baby to secondhand smoke may also increase the risk of SIDS. Please refer to the leaflet “Protect Baby from Sudden Infant Death Syndrome (SIDS)” for details.

7) Prevention of Infection
- Keep the living environment clean and avoid going to crowded area.
- Bathe the baby everyday and clean the umbilical cord.
- Wash hands before and after touching the baby.
- Bring the baby to the Maternal and Child Health Centre or family doctor for vaccination according to the recommended immunisation schedule.
8) Others

- Newborns’ neck muscles have not fully developed yet. Always remember to support the baby’s neck with your arm or palm when holding the baby.
- Babies have different sleeping patterns. Her sleeping pattern will become more regular with time.
- The baby expresses her needs by crying. You should observe the reason for her crying and respond immediately. When the baby feels safe and enjoys the tender loving care, bonding between she and you can be established.

III. Choosing a Childminder

The childminder should be capable and understand the baby’s needs and development. Even if your baby is being taken care of by a childminder, you should spend quality time with her. You should also maintain good communication with the childminder and agree with her the child care practices.

If you want to learn more about child care and parenting. Please refer to the “Happy Parenting” series distributed by Maternal and Child Health Centres.
## Post Delivery

### Points to Note
- Clinical Genetics Service Information Leaflet on Newborn Screening

### Health Advice
- Postnatal Care and Family Planning
- Contraceptive Knowledge Everybody Should Know
- Postnatal Exercise
- Pelvic Floor Exercise
- Women’s Mental Health: Feeling Different
Clinical Genetics Service Information
Leaflet on Newborn Screening

(Information provided by Clinical Genetics Service, the Department of Health) (Rev. 2013)

The Genetic Screening Unit of Department of Health provides newborn screening

Target:
Babies born in Hong Kong public hospitals

Conditions screened:
1. Glucose-6-phosphate Dehydrogenase (G6PD) Deficiency
2. Congenital Hypothyroidism

Reason:
- No obvious symptoms at the early stage
- Early detection and treatment could help to prevent physical and mental impairment in these babies
**Fee:**
Free

**Method:**
Testing the umbilical cord blood of all target babies

**If result is normal:**
Parents will **not** be informed

**If result is abnormal:**
Parents will be informed within 2 weeks:

1. **Confirmed Glucose-6-phosphate Dehydrogenase (G6PD) Deficiency**
   Parents will be informed and counselled by Genetic Screening Unit or hospital staffs

2. **Congenital Hypothyroidism**
   * **Suspected Congenital Hypothyroidism**
     Parents will be informed by Genetic Screening Unit or hospital staffs for reassessment, including blood taking and physical examination
   * **Confirmed Congenital Hypothyroidism**
     Babies will be referred to hospitals for further management

3. To facilitate follow-up management, the screening results will be stored in Electronic Health Record System of the Department of Health, using the babies’ and the mothers’ personal information.

**Babies born in private hospitals**
Are also entitled to the screening.
Parents could consult their Obstetricians or Paediatricians for further information

Hotline: 2361 9979
Website: http://www.cgs.dh.gov.hk
Postnatal Care and Family Planning

Pregnant women feel relieved after delivery and their body system will revert to the pre-pregnant state. This period usually lasts for 6 weeks and is called puerperium. Proper care is important during this period. A postnatal check up should be carried out after the puerperium to ensure complete recovery. Moreover, this is now high time for a couple to discuss the method of contraception for family planning in order to achieve a good foundation for the future family life.

What is lochia?

Uterus will revert back to pre-pregnant size after delivery. The wasted tissue passes out from the vagina is called lochia.

- In the first few days to 1 week, lochia amount is heavy and appears as reddish colour.
- The colour of lochia will turn to pink colour and last for another week.
- Finally it will turn to a whitish discharge and gradually subside.
- Usually it takes 2 to 6 weeks to clear from lochia.
- Breastfeeding can stimulate the brain to secrete more hormone that helps the uterus to contract and revert back to normal size. The period of lochia passing will be shortened. However, for those who breastfeeding their babies just briefly, after they stop breastfeeding, the lochia may change from pink or white back to red colour before it gradually subsides.
When should one consult a doctor?

If the amount of lochia increases and with foul smelling, or there is fever and lower abdominal pain, then a doctor should be consulted for proper examination and management.

When will menses return?

- It will usually return in 4-6 weeks for mothers not breastfeeding. For mothers who breastfeed their babies, menses will return later.
- Even when menses has not yet returned, the couple should practise reliable contraception when they resume sexual intercourse.

Why do I have frequent urination and burning pain during urination?

Frequent urination or burning / scalding pain during urination can be symptoms of urinary tract infection, which is not uncommon among postnatal women. Please consult a doctor if you have any of these symptoms.

Why is there excessive hair loss?

- During pregnancy, much scalp hair is in the growing phase. After delivery, the condition changes and the hair will revert into resting phase. Thus apparently much hair is lost.
- This condition lasts for 4 to 20 weeks after delivery. It will recover completely within 6 months of delivery without any treatment. Therefore no need to worry.
- Hair loss will be less marked with successive pregnancies.
What is the dietary advice after delivery?

- One should keep a balanced diet and choose food from the five basic food groups namely milk and alternatives, meat, fish, eggs and alternatives (including beans), vegetables, fruits and grains (rice, noodles and bread). Adequate portions from these five basic food groups will allow the mothers to recover from delivery and prepare her for lactation.

- Since the liver function of the newborn babies may be immature, breastfeeding mothers should avoid consuming any medication without doctors’ advice.

How to take care of the perineal wound?

- Clean the wound every time after urination and bowel opening with shower.

- Frequent change of napkin and maintenance of personal hygiene can speed up the recovery of the wound.

- If the wound opens up or there are signs of infection, consult the doctor.

How to take care of the abdominal wound?

- If there is no sign of gaping or infection after the stitches are removed, then one can bathe and shower as usual.

- If the wound is red, swollen, hot, aches, or has fluid oozing out, one should consult the doctor for proper examination and management without delay.
When can sex life be resumed after delivery?

- After giving birth, the body needs some time to revert back to pre-pregnancy state. This period, called puerperium, generally lasts for 6 weeks.
- When puerperium is over, lochia will clear, uterus will return to its natural size, uterine lining will recover, cervix will close, vaginal membrane will return to normal and wound on abdomen or perineum will be healed. At this time, sex life can be resumed if the mother is emotionally and physically ready.

What should be noted in resuming sexual intercourse?

- When resuming sexual intercourse after delivery, the mother will sometimes experience dryness in her vagina as well as mild pain or strange feeling at the perineum. The reasons are mostly psychological. She can get use to it gradually after a few times of intercourse and these discomforts will fade away naturally.
- Overly vigorous gestures and deep penetration at the early resumption of sex life should be avoided. Priority should be given to what feels good for the mother.
- Medical examination should be sought if there is bleeding, pain or difficulties during intercourse.

Will the wound be ripped apart by sexual activities after delivery?

Generally speaking, the perineal wound will be healed after the puerperium. Therefore sexual intercourse will not result in wound gaping.

When should contraception be used?

Although ovulation usually will not occur in the first 4 weeks after delivery, in order to avoid pregnancy, couple should use reliable contraception once they resume sexual intercourse. Maternal & Child Health Centres provide professional contraceptive advice to women.
Contraceptive Knowledge Everybody Should Know

Hormonal Methods:
Hormonal methods are suitable for most women to use. Clients should consult a health care professional before commencing any of these methods.

Pills

How it works
- Contain hormones, act by suppressing ovulation
- There are 2 main types:
  (i) combined type contains both estrogen and progestogen
  (ii) progestogen only

How you use it
- Take the pills at the same time every day

Helpful Tips
- Contraceptive effectiveness: Effective to very effective (91 - 99.7%)*
- Common side effects: May have nausea, breast tenderness and change of your periods, i.e. irregular, increase or decrease in menses

Injectable

How it works
- Contain hormones, act by suppressing ovulation
- There are 2 main types:
  (i) Combined type contains both estrogen and progestogen
  (ii) progestogen only

How you use it
- For combined injectable, you need to have a shot every 1 month
- For progestogen only injectable, you need to get a shot every 12 weeks
Helpful Tips
- Contraceptive effectiveness: Effective to very effective (94 - 99.8\%)*
- Common side effects: May have nausea, breast tenderness and change of your periods, i.e. irregular, increase or decrease in menses

Patch

How it works
- Contains estrogen and progestogen, act by suppressing ovulation

How you use it
- Four weeks as one cycle
- Change the patch on the same day of the week for 3 weeks and then stop for one week

Helpful Tips
- Contraceptive effectiveness: Effective to very effective (91 - 99.7\%)*
- Common side effects: May have nausea, breast tenderness and change of your periods, i.e. irregular, increase or decrease in menses

IUD:

Intrauterine device (IUD)

How it works
- By prevent fertilization and implantation of the fertilized egg in the womb
- There are 2 main types:
  (i) Copper bearing IUD
  (ii) IUD that contain hormone

How you use it
- Put in woman’s uterus by a trained health professional and regular follow-up is required
- Depend on the model of IUD, it can use for contraception for 5 - 10 years

Helpful Tips
- Contraceptive effectiveness: Very effective (99.2 - 99.8\%)*
- Common side effects: May have pain during menses and increase menstrual flow after insertion of IUD
Barrier Methods:

Condoms for Men / Women

Use of condoms can reduce the risk of sexually transmitted disease including Human Immunodeficiency Virus (HIV)

How it works
- Prevent sperms from entering the womb

How you use it
- Man put a new condom on the erected penis every time before he has sex
- Woman put a new condom in her vagina every time before she has sex

Helpful Tips
- Contraceptive effectiveness
  - For male condoms: Moderately effective to effective (82 - 98%)*
  - For female condoms: Moderately effective to effective (79 - 95%)*
- Majority of the condoms are made of latex. People with latex allergy can use condoms made of polyurethane
- Please consult your doctor for emergency contraception as soon as possible if condom slips or broken during sex

Others:

Spermicide

How it works
- Inactivate and kill sperms

How you use it
- Women put the spermicide in her vagina every time before she has sex
- Avoid vaginal douching 6 hours after having sex

Helpful Tips
- Contraceptive effectiveness: Less effective to moderately effective (70 - 80%)*
- There are different forms: tablets, vaginal film, vaginal sponge, etc
- Some spermicide cannot use together with condom, please consult health care professionals for details
Permanent Methods:

Sterilization for Women
- Female sterilization is a minor operation by tying or cutting the fallopian tubes
- It is a permanent form of contraception

Helpful Tips
- Contraceptive effectiveness: Very effective: (> 99.5%)*

Sterilization for Men (Vasectomy)
- Vasectomy is a minor operation by cutting the vas deferens.
- It is a permanent form of contraception

Helpful Tips
- Contraceptive effectiveness: Very effective: (> 99.8%)*

Emergency Contraception (EC):
- Include emergency contraceptive pills and copper bearing intrauterine device
- Can be used in the following situations
  - Having unprotected sexual intercourse
  - Slipped or broken condom during sex
  - Delay in receiving injectable contraception
  - Missed your oral pills
  - Your IUD loosened or slipped out

Emergency Contraceptive pills (EC pills)

How it works
- By stop or delay the release of egg from ovary
- Should be taken as soon as possible after the index sexual activity
- The earlier the intake of EC pills, the higher the efficacy

Helpful Tips
- Failure rate: affected by the intake time and other factors
- Cannot be used as a regular contraceptive method
Copper bearing intrauterine device (Use as EC)

How it works
- Should be inserted within 5 days after the index sexual intercourse in suitable clients after assessment by health care professional
- In suitable clients, it is more effective when compared with EC pills
- Can be used as ongoing contraception

Helpful Tips
- Failure rate: Less than 1%

Family Planning Service
- Most MCHCs provide consultation and appropriate contraceptive methods to women of childbearing age to enable them to decide freely and responsibly the number and spacing of the children
- MCHCs provide appropriate and effective regular contraceptive methods and emergency contraceptive service

*Contraceptive Efficacy*: The percentages show how well each method for most users who use the method for a year. Some methods work well only when the users use them the right way.


FHS-WH 4A (Rev May 2014)
Postnatal Exercise

Guidelines for postnatal exercise

- Postnatal exercise is as important as antenatal exercise. Its duration needs not be long but it should be done twice or thrice a day. Repeat each set of movements about ten times in every session.
- Keep your breathing smooth, work gradually according to your capability.
- A physiotherapist may make modification to the exercise according to your physical conditions.

Note: This leaflet is only a brief introduction to postnatal exercise. You are advised to join a postnatal exercise class organised by physiotherapy department.

Purposes of postnatal exercise

- Strengthen pelvic floor muscle to prevent incontinence.
- Prevent low back pain.
- Speed up the restoration of body shape.
- Stimulate blood circulation and enhance appetite.
- Maintain vitality and self-confidence which make you feel good.

When should I start postnatal exercise after delivery?

Two days after normal delivery, you can get off the bed to walk around and do postnatal exercise. If you had a caesarean section, you should not begin until advice is sought from a physiotherapist or a doctor.
**Types of postnatal exercise**

**Pelvic floor exercise**
- Lie on your back
- Bend your knees
- Put your feet together with your knees about 1 feet apart
- Tighten the vaginal, urethral and anal muscles as if trying to withhold urination or defecation

You can also do this exercise in sitting or standing position.

**Back and abdominal exercise (1)**
- Lie on your back and bend your knees with your feet slightly apart
- Breathe out and tighten your abdomen. Press your pelvis downwards to flatten your low back against the bed

5 seconds
Back and abdominal exercise (2)

- Lie on your back
- Bend your knees and keep them together. Tighten your abdomen and flatten your low back against the bed. Bring both knees to right side so as to let your right knee touch the bed as far as possible
- Return to the starting position and rest
- Repeat but turn to the left

5 seconds
Back and abdominal exercise (3)
- Lie on your back and bend your knees
- Tighten the muscles of your hips, upper back and low back
- Lift your hips to straighten your low back. Hold for a while and lower your hips slowly

Back and abdominal exercise (4)
- Kneel on all fours, keeping both hands and the knees on the floor
- Tighten your abdominal muscle and round your back. Then flatten your back slowly
Back and abdominal exercise (5)
- Lie on your back and bend your knees, keeping your feet together
- Tighten your abdomen, and press your pelvis downwards to flatten your low back against the bed
- Lift your head and shoulders just off the bed with both hands touching the knees, hold for a while, and lie down slowly

![Back and abdominal exercise (5)](image)

Back and abdominal exercise (6)
- Lie on your back and bend your knees, keeping your feet together. Tighten your abdomen, and press your pelvis downwards to flatten your low back against the bed
- Lift your head and shoulders to make the right shoulder point towards the left knee. Touch your left knee with both hands, hold for a while, and return to the starting position slowly
- Repeat to the right

![Back and abdominal exercise (6)](image)
Points to Note in Daily Life

(1) **Back Care**
To lift an object or hold a baby, remember to bend your knees and keep your low back straight with the strength of your thigh muscles, and then straighten your knee joints to lift the object or the baby.

(2) **Proper way to get up in bed**
Lie down sideways with both legs hanging over one edge of the bed. Push up your upper body by straightening both arms and get up.

(3) **Proper standing posture**
Keep your back straight and tighten your abdomen.

(4) **Proper sitting posture**
Keep your back straight with your feet flat on the floor.

(5) **Take sufficient rest and do appropriate exercise**

(This leaflet is prepared by the Department of Health and the Hong Kong Physiotherapy Association)

FHS-MH12A (Rev. Jan 2014)
Pelvic Floor Exercise

Purpose

- Strengthen pelvic floor muscles for better bladder and bowel control
- Prevent or correct prolapse (drooping) of bladder, uterus or bowel due to weakening pelvic floor muscles
- Prevent urine leakage when you cough, sneeze or jump
- Improve muscle tone, especially during pregnancy and postnatal period so as to prevent stress incontinence after delivery
- Increase vaginal tone that may help to improve sex life

What are pelvic floor muscles?

The pelvic floor is made of layers of muscles stretching from the pubic bone in the front to the base of spine at the back. It consists of 3 groups of muscles surrounding the urethra, vagina and rectum.
What causes pelvic floor muscle weakness?

- Multiple childbirth
- Being overweight or obese
- Chronic constipation
- Persistent heavy lifting
- Chronic coughing
- Changes in hormonal levels at menopause
- Normal ageing

Becoming familiar with your pelvic floor muscles

- While you are passing urine, try to stop your urine flow midway. **Hold for 3 seconds and then relax.** If you are able to control the urine flow, it means you can master this skill successfully.

  **Remember!** This only helps you to become familiar with your pelvic floor muscle. You **should NOT** do it very often as it may cause problems with correct bladder emptying.

- While you are concentrating on tightening the muscles around your vagina, you should have a ‘**tightening and lifting inward**’ feeling. You may be unable to feel this at the beginning if your pelvic muscles are weak.

- To know the muscles that control your anal sphincter, tighten the muscles around your anus as if you are holding flatus. **Hold for 3 seconds and then relax**.

![Diagram of pelvic region with labelled parts: Uterus, Bladder, Pubic bone, Vagina, Spine, Bowel, Pelvic floor muscles]
- Once you are able to identify the above muscle groups, you may start practising the following pelvic floor exercise

**How to perform pelvic floor exercise?**

- Lie, sit or stand with your knees slightly apart
- First relax your thighs, buttocks and abdomen
- Concentrate and use all 3 different groups of pelvic floor muscles together, i.e. the urethral, vaginal and anal muscles
- Tightening this group of muscles slowly as if you are trying to withhold passing urine or flatus. You should have a ‘tightening and lifting inward’ feeling

**‘Long Squeezes’ or ‘Slow Contractions’**

When you have tightened your muscles to your limit, hold the contraction for 10 seconds, release gradually, rest for 10 seconds and then repeat the above steps. These are called ‘long squeezes’ or ‘slow contractions’, which help to build up the endurance of the muscle group.

**‘Short Squeezes’ or ‘Quick Contractions’**

You can also do the same exercise quickly and hold the contraction for a second or two and then relax. These are called ‘short squeezes’ or ‘quick contractions’, which helps your muscles react quickly to sudden pressure (from coughing, sneezing or jumping) on the bladder.

Start with 3 cycles every day; for each cycle, you may combine ‘slow contractions’ and ‘quick contractions’.

For ‘slow contractions’, contract, hold and release the muscles up to 10 to 30 times; for ‘quick contractions’, contract, hold and release the muscles up to 5 to 10 times.
When to perform the exercise?

For beginners, do it while you are lying down on the bed; when you are getting used to it later, you can do it while you are sitting or standing during your daily living, e.g. doing housework.

Important Notes

- You should squeeze and lift the pelvic floor muscle (do not push as if you are passing faeces)
- Don't practise the pelvic floor exercise during urination
- Don't hold your breath or stop breathing while doing the pelvic floor exercise
- Don't squeeze other muscles at the same time as you squeeze your pelvic muscles, for example, the back muscles or the buttocks
- Don't give up! Sometimes it takes 2 to 6 months to notice the improvement
- Incontinence can have many causes. Seek advice from your health care providers if you have any queries
Women’s Mental Health: Feeling Different

(Source of information provided by the Central Health Education Unit, the Department of Health) (Rev. 2004)

Health and You

Good health is the balance of physical, mental and social health, which is facilitated by a proper lifestyle. A healthy life originates from a sound mind and body. Therefore, physical, mental and social health are equally important.

Women nowadays have various social roles to play. They are often under stress from work and family. Fulfilling the requirements of each role and leading a healthy life at the same time is not easy. Women should pay attention to their mental health as well as physical health so as to enjoy a life of good health and happiness.

What is Good Mental Health?

A woman in good mental health is efficient and confident. She embraces her very being and enjoys life. She is not troubled by negative feelings (such as anxiety, depression, anger, displeasure, hatred and jealousy) or uneasy feelings that are persistent and on-going. She finds life meaningful and purposeful. She has the ability to tackle problems. For her, things are always under control, and problems and the surroundings are channels through which she can bring her talents into full play.
Ways to Maintain Good Mental Health

1. Be Positive and Optimistic

Be optimistic. Embrace everything with a positive attitude and learn from occasional failures. These are the ways to a happy life.

If there is a glass half filled with water, an optimist would be happy that there is still half a glass left. She would feel at ease and continue working and moving ahead with enthusiasm. On the other hand, a pessimist would be worried that there is only half a glass left, not daring to move forward. The same half a glass of water means very differently to optimists and pessimists because of the way they see it.

Don’t worry too much. Things will be set right when the right time comes. Life consists of ups and downs. There is no need to be annoyed by the downs.

2. Try Your Best

Most working women with families find it exhausting to take good care of their careers and families at the same time. Full-time housewives may feel insignificant when they see their friends become successful in their careers while they themselves are doing tedious and monotonous housework every day.

In fact, what matters is that you have tried your best in the role you chose. You don’t have to compare yourself with others.

Single women enjoy job satisfaction. Housewives enjoy a warm family life. Working women with families can also lead a happy life both at home and at work if they have reasonable expectations on themselves.

A practical expectation is a dream. An impractical expectation is a fantasy.

Appreciate your areas of strength. Praise yourself for your achievements.
3. Communicate and Find Common Interests

Hong Kong people are busy. Leading busy lives means couples are spending less time together and having less communication with each other. Therefore, you should treasure every moment you spend with your spouse and create joyful moments to maintain the intimacy. Send your spouse a card or go on a trip together occasionally to experience again the romance and sweetness of dating.

Find activities or conversation topics of common interest to enhance communication. A happy marriage is sustained by the quality rather than the quantity of the time together. Therefore, treasure every moment with your spouse!

*Create joyful moments and give your spouse surprises to make life more delightful.*

*Don’t work all the time. Spend some time sharing.*

4. Friends are Important

Life is stressful. Women often devote themselves to their careers and families and ignore the cultivation of friendship. When there is a crisis, there would be no one whom they can share their worries with.

Friends can share the bits and pieces of your life. When you are down, friends are there to help and support you. Keep in touch with old friends and make more new friends. You will benefit from the friendship one day.

*Take the initiative to make more friends and build a support network.*

*Let others be your friends and be a friend to others.*
5. Fill Your Leisure Time with Hobbies

You need a break every now and then. Take some time to do something you like every day no matter how busy you are. Activities that foster creativity, such as gardening, knitting and making handicrafts, bring you tranquility and are far more enriching than watching television.

Reading and continued education equip you with new knowledge. For a sense of achievement, you may consider voluntary services or the charity. No matter what you do, remember not to make yourself too tired or busy. Don’t let hobbies become a job.

*Play an active part in your life. Take the initiative to upgrade yourself.*
*Take time for leisure. Don’t be a slave to work or family.*
### Check out Your State of Mental Health

What kind of person are you? If you have more unhealthy attitudes than healthy attitudes, seek improvement now to make life healthier and happier!

<table>
<thead>
<tr>
<th>Healthy Attitudes</th>
<th>Unhealthy Attitudes</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://via.placeholder.com/60" alt="Smiley" /></td>
<td><img src="https://via.placeholder.com/60" alt="Sad" /></td>
</tr>
<tr>
<td>You are always carefree and optimistic.</td>
<td>You are always worried.</td>
</tr>
<tr>
<td>You like to chat with others.</td>
<td>You are always silent.</td>
</tr>
<tr>
<td>You are calm.</td>
<td>You lose your temper easily.</td>
</tr>
<tr>
<td>You speak gently.</td>
<td>You speak harshly and sternly.</td>
</tr>
<tr>
<td>You embrace your very being.</td>
<td>You always blame yourself.</td>
</tr>
<tr>
<td>You care for others.</td>
<td>You are selfcentered.</td>
</tr>
<tr>
<td>You acknowledge your weakness with a positive attitude and are willing to improve.</td>
<td>You don’t acknowledge the reality and don’t seek improvement.</td>
</tr>
<tr>
<td>You lead a regular and orderly life.</td>
<td>You don’t manage your time properly.</td>
</tr>
<tr>
<td>You try to create a warm family</td>
<td>You ignore the importance of warm family</td>
</tr>
</tbody>
</table>

For more health information, please call our 24-hour health education hotline (Cantonese, English and Putonghua) **2833 0111** or visit the website of the Central Health Education Unit of the Department of Health at [http://www.cheu.gov.hk](http://www.cheu.gov.hk)
Eating a healthy and balanced diet, having regular physical activity and maintaining a healthy weight gain are essential to ensure your baby develop in the optimal nutritional environment. After delivery, provide your baby the prime nutrition and protection against infection with breastmilk. This also benefits the long term health of both you and your baby.
10 Key points for Healthy Eating During Pregnancy and Breastfeeding

1. Eat a variety of foods, avoid picky eating
2. Choose more whole-grain foods; eat more vegetables and fruits
3. Consume a moderate amount of meat, fish and milk & alternatives
4. Choose more fish that are rich in omega-3 fatty acids but low in methylmercury
5. Consume foods that are rich in iodine, folate, calcium and iron
6. Reduce consuming foods of high fat content, and food & drinks with added sugar
7. Pay attention to food safety
8. Have at least 30 minutes of physical activities everyday
9. Have sun exposure to obtain enough vitamin D
10. Take a prenatal multivitamin/multimineral supplement containing iodine. Consult health care professionals for guidance

Breastfeed Straight After Birth for the Benefit of You and Your Baby
Nutrients that Are Important for You and Your Baby

During pregnancy and breastfeeding, your body has a higher demand for nutrients. The extra demand can be met by making smart food choices. However, you do not need to eat for two. Overeating can make you put on too much weight and puts you at risk of gestational diabetes and other complications.

Key Points about Changes in Nutritional Needs

<table>
<thead>
<tr>
<th>Stage</th>
<th>Key Points about Changes in Nutritional Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st trimester of pregnancy (the first 13 weeks)</td>
<td>Demand for folate, vitamin A and iodine increases</td>
</tr>
<tr>
<td>2nd and 3rd trimester of pregnancy (14th to 40th weeks)</td>
<td>The requirement for energy and protein increases for the growing baby*. Apart from folate, vitamin A and iodine, there is a higher demand for iron, zinc and omega-3 fatty acids, and a mild increase in calcium requirement</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>The body needs an extra of 500 kcal energy a day. Sufficient intake of protein, folate, iodine, zinc, vitamin A and DHA are required to ensure an adequate level of nutrients in your breastmilk</td>
</tr>
</tbody>
</table>

* Report of a Joint FAO/WHO/UNU Expert Consultation 2011 recommended an extra energy requirement of 285 kcal and 475 kcal per day during the second and third trimester respectively assuming the pre-pregnant physical activity level is maintained.
Avoid taking supplements containing large quantities of vitamin A

- Taking large amounts of vitamin A supplements, such as cod liver oil, for long period of time can damage the liver
- Excessive intake of vitamin A can cause birth defects

**Talk with your doctor or pharmacist when you plan to take vitamin or mineral supplements**
Iodine

- Iodine is necessary for the normal functions of the thyroid gland.
- Iodine is essential for your baby’s growth and brain development.
- Iodine deficiency may cause serious health consequences for the baby.
- Demand for iodine increases during pregnancy and breastfeeding. The World Health Organization recommends pregnant and lactating women should consume 250 micrograms iodine a day.
- You should consider taking a prenatal multivitamin/multimineral supplement that contains iodine, as it is difficult to get sufficient iodine from food alone when you are pregnant or breastfeeding. (refer to next page)

### Food source of iodine

- Seaweeds, marine fish and seafood (including prawns, mussels and oyster), egg yolk, milk and milk products are main food sources of iodine.
- Seaweeds are rich in iodine content.
- Kelp, in particular, contains a very high level of iodine. Consume kelp in moderation and no more than once a week. Overconsumption of kelp for a long time can have an adverse effect on the thyroid function.

<table>
<thead>
<tr>
<th>Food</th>
<th>Iodine*(μg)</th>
<th>Food</th>
<th>Iodine*(μg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Chicken egg (63 g)</td>
<td>18</td>
<td>Seaweed snack 1 g</td>
<td>34</td>
</tr>
<tr>
<td>Skimmed milk 250 ml</td>
<td>20</td>
<td>Golden thread (fish) 100 g</td>
<td>36</td>
</tr>
<tr>
<td>Yoghurt 100 g</td>
<td>29</td>
<td>Horsehead (fish) 100 g</td>
<td>35</td>
</tr>
<tr>
<td>Prawn 100 g</td>
<td>44</td>
<td>Canned sardines 100 g</td>
<td>19</td>
</tr>
<tr>
<td>Mussels 100 g</td>
<td>140</td>
<td>Big Eyes (fish) 100 g</td>
<td>18</td>
</tr>
</tbody>
</table>

* Source: Risk Assessment Studies, Report No 45, Dietary Iodine Intake in Hong Kong Adults. July 2011. Centre for Food Safety, Department of Food & Environmental Hygiene, HKSARG.
Healthy Eating During Pregnancy and Breastfeeding

If you have an active or a past thyroid problem and you become pregnant, you should inform your attending doctors as soon as possible. Your requirement for iodine is higher during pregnancy too. Since increase in iodine intake may affect the thyroid functions, you should follow the doctor’s advice in consuming iodine-rich foods or iodine supplements. You may need a close monitoring of the thyroid function too.

How can I get adequate iodine?

- Consume foods that provide you iodine, including seafood, eggs, milk and milk products;
- Consult your doctor or pharmacist and take a prenatal multivitamin/multimineral supplements containing iodine;
- Use iodised salt in place of table salt for cooking. Add the salt just before serving the dish. Be careful to limit the salt use;
- You can consume kelp and the soup occasionally, or choose seaweed snack as your snacks regularly. Choose seaweed snacks with lower sodium and fat content.
Iron

- Adequate iron intake ensures normal foetal growth and brain development and prevents anaemia during pregnancy and after delivery.
- You need more iron in the third trimester to build up the iron reserve for the growth of the baby in the first few months of his life.
- Foods rich in iron are usually also rich in zinc. Zinc is important for your immune functions and foetal development. It also helps wound healing.

Food sources of iron

- Meats include: pork, beef, poultry, fish, eggs and livers. Livers are rich in iron, yet they contain a high level of vitamin A. It is advisable to limit intake to 100 g a week.
- Green vegetables such as choy sum, bok choi, spinach.
- Dried beans such as lentils, red kidney beans, chickpeas, etc.
- Nuts such as almond, cashew nuts, etc.
- Iron fortified foods such as breakfast cereals and oats. Choose those lower in sugar.

Vitamin C

- Vitamin C helps your body absorb iron from foods. Include a source in your diet such as fresh vegetables and fruits, e.g. oranges, kiwi fruits and strawberries.
**Calcium**

- Calcium is the building block for bones and teeth
- Pregnant and lactating women require 1000 mg of calcium daily
- Inadequate calcium intake during pregnancy may increase the risk of preterm labour and gestational hypertension
- During pregnancy and breastfeeding, you are advised to consume 2 glasses of milk or calcium-fortified soy milk each day and choose calcium-rich foods such as dark green leafy vegetables and tofu

**Food sources of calcium**

- Milk, cheese and yoghurt. Choose low fat varieties
- Calcium-fortified soy milk, tofu which is made traditionally with calcium salt
- Dark green vegetables, such as choy sum, kale, bok choy, mustard green, broccoli
- Sesame seeds and nuts
- Dried shrimps, small dried fish and fish eaten with bones (such as sardines)

**Calcium in the dark green leafy vegetables is better absorbed than that of milk. Most of the calcium is found in the leaves rather than the stalks.**

<table>
<thead>
<tr>
<th>Foods provide 300 mg calcium</th>
<th>Calcium content of other foods*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup of milk</td>
<td>2 slices of whole wheat bread</td>
</tr>
<tr>
<td>2 slices of cheese</td>
<td>15 g of almond</td>
</tr>
<tr>
<td>150 g of yoghurt</td>
<td>An orange</td>
</tr>
<tr>
<td>300 g choy sum</td>
<td>10 g of dried anchovies</td>
</tr>
<tr>
<td>1 cup of calcium-fortified soy milk</td>
<td>10 g of dried small shrimps</td>
</tr>
<tr>
<td>1/2 block of tofu set with calcium salt</td>
<td>100 mg</td>
</tr>
<tr>
<td></td>
<td>40 mg</td>
</tr>
<tr>
<td></td>
<td>60 mg</td>
</tr>
<tr>
<td></td>
<td>59 mg</td>
</tr>
<tr>
<td></td>
<td>55 mg</td>
</tr>
</tbody>
</table>

*Source of data: website of the Centre for Food Safety*
How can I get adequate Vitamin D

- Most of the vitamin D you need is made in your skin when you are exposed in sunlight
- Window glass, sunscreen and skin pigments block UV rays of the sunlight and reduce vitamin D production
- For most people, 5 to 15 minutes of sun exposure of hands, face and arms, about 2 to 3 times a week during the summer months is sufficient to keep vitamin D level high. People with darker skin need longer sun exposure
- In winter, you may need longer sun exposure because the sunlight is generally less strong.
- You can obtain some vitamin D by eating fatty fish (such as salmon, sardines, eel), eggs, liver, milk and milk products added with vitamin D. However, diet alone is usually not sufficient to meet your need.

Pregnant women who have too little sunlight exposure should seek medical advice about vitamin D supplements.
They are:
- Women in clothes covering the arms and face most of the time
- Women staying indoors mostly
- Women who have a darker skin tone and limited exposure to sunlight
Omega-3 Fatty acids

- Omega-3 fatty acids include DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid). DHA is important for the development of the brain and the eyes of your baby.

- Oily fish, such as salmon, sardine, jade perch, eel and yellow croaker etc. are rich in omega-3 fatty acids. Some fish that are available in the local markets, like golden thread, Pacific saury and pomfret, also contain a moderate level of omega-3 fatty acids.

- Vegetarians and others who avoid fish can consume foods rich in alpha linolenic acid (ALA), such as flaxseeds, walnuts and canola oil. DHA and EPA can be made from ALA in our body to a certain extent.

- You can consider taking DHA supplement if you do not eat fish. Talk with your doctor, nurse, dietitian or pharmacist.

Issue of methylmercury in fish

- Fish is the major source of methylmercury in our diet. High level of methylmercury may damage the developing brain of foetus, infant and young child.

- Consume fish in moderation and eat from a variety of fish can reduce the risk.

- Choose fish that are low in methylmercury, such as: salmon, sardine, Japanese jack mackerel, Chub mackerel, golden thread, Pacific saury, pomfret, grass carp, mud carp, grey mullet, horse head, big eyes, etc.

- Fish of smaller size (less than 600 g or one catty), farmed fish and freshwater fish generally have lower level of methylmercury.
Q: Can I eat canned tuna?

Methylmercury levels in canned tuna are lower than in fresh tuna, largely due to the species or the smaller-sized of fish used. Skipjack tuna, a variety that is often canned, tends to contain lower levels of methylmercury. Consuming 4 or 5 cans of skipjack tuna within one week may exceed the tolerable weekly intake of methylmercury. Species with higher level of methylmercury, such as albacore tuna, may also be canned. Therefore, it is important to read the label carefully before purchasing and limit the intake.

Avoid eating large predatory fish and fish with high levels of methylmercury, including:

Shark, swordfish, marlin, king mackerel, bluefin tuna, bigeye tuna, albacore tuna, yellowfin tuna, splendid alfonsino, orange roughy, yellowback seabream and dash-and-dot goatfish, etc.

* Data source: The First Hong Kong Total Diet Study: Metallic Contaminants, and Advice for Pregnant Women, Women Planning Pregnancy and Young Children on Fish Consumption. January 2013. Centre for Food Safety, Department of Food & Environmental Hygiene, HKSARG.
Healthy Eating During Pregnancy

- Consume a variety of foods
- Eat grains, vegetables, fruits, meat, fish, eggs, milk products (or the alternatives of milk products) every day
- Choose nutritious foods
- Avoid foods and drinks with added fats and sugar but low nutrient content e.g. soft drinks, sweetened drinks, cakes, cookies, pastries, ice-cream, processed foods like sausages and instant noodles

How should I eat to meet the demand of pregnancy?

- In the first trimester (the first 13 weeks), your body needs slightly more calories. You do not need to eat more than taking an extra piece of whole-meal bread, or a cup of low sugar calcium-fortified soy milk or low fat milk per day. You should take a prenatal multivitamin/multimineral supplement containing iodine and folic acid
- In the second and third trimester (14th to 40th week), your body requires more calories and nutrients. While eating a bit more, it is important to improve the quality of diet by eating a variety of foods. Refer to the suggestion on the next page
# Meal Plan for a Balanced Diet

The meal plan food of a pregnant woman, having a normal BMI and of a weight 45 to 60 kg before pregnancy, who maintains light physical activity is outlined in the following table.

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Servings per day</th>
<th>Example(s) of a serving</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before Pregnancy &amp; 1st Trimester</td>
<td>2nd &amp; 3rd Trimester</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grains</td>
<td>3 to 4</td>
<td>3 ½ to 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetables</td>
<td>3 or more</td>
<td>4 to 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruits</td>
<td>2 or more</td>
<td>2 to 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat, fish, eggs and alternatives</td>
<td>5 to 6</td>
<td>5 to 7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
If you are expecting more than one baby or have gestational diabetes, you should discuss what and how much to eat with your dietitian.

**What are the better choices**

- Choose brown rice and whole-meal bread instead of white rice and white bread
- Whole-grain foods are rich in vitamins and dietary fibre. It provides a longer satiety effect and prevents constipation

- Choose more dark green leafy vegetables
- Go for vegetables of different colours as well, such as carrots, pumpkins, bell peppers, tomatoes, egg plants, cauliflowers, etc

- Remove the skin and trim the fat from meat or poultry
- Choose non-fried and low-salt soy products
- Choose fish of lower methylmercury level (refer to page 153)
- Avoid choosing preserved or processed foods
<table>
<thead>
<tr>
<th>Food Group</th>
<th>Servings per day</th>
<th>Example(s) of a serving and better food choices</th>
</tr>
</thead>
</table>
| Milk and alternatives       | 1 to 2           | **One serving provides 300 mg calcium**  
Milk products: choose products that are low-fat or fat-free  
- 1 cup of milk  
- 2 slices of processed cheese  
- 1 carton (150 g) of yoghurt  
**Other calcium rich foods:**  
- 1 cup of calcium-fortified soy milk  
- 1/2 block of firm tofu (set with calcium salt)  
- 1 bowl of tofu pudding  
- 3 sardines with bones  
- 3 tablespoons of sesame  
- Dark green leafy vegetables:  
  200 g: kale, bok choi  
  300 g: choy sum |
| 2nd & 3rd Trimester         | 2                |                                                                                                |
| Oil, fat, sugar, salt       | in moderation    | - Vegetable oils are recommended for cooking  
Limit to 2 teaspoons a meal  
- Use iodised salt. Limit salt intake to no more than 5 g (1 teaspoon) a day |
| 2nd & 3rd Trimester         | in moderation    |                                                                                                |
| Fluid                       | 6 to 8 cups      | - Adjust according to the weather and exercise level  
- Includes water, thin soup |
| 2nd & 3rd Trimester         | 8 cups           |                                                                                                |
## Vegetarian Eating and Pregnancy

- A vegetarian diet can meet the needs of your pregnancy as long as you take care to include enough protein, iron, vitamin B12 and calcium-containing foods.
- You can choose from the following foods:

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protein</strong></td>
<td>Eggs, dried beans (soy bean, lentils, red kidney beans, etc.), tofu, soy products, nuts and seeds</td>
</tr>
<tr>
<td><strong>Iron</strong></td>
<td>Eggs, nuts, seeds and beans</td>
</tr>
<tr>
<td></td>
<td>Breakfast cereals fortified with iron, e.g. oats, and whole wheat bread</td>
</tr>
<tr>
<td></td>
<td>Dark green leafy vegetables, such as spinach, Chinese spinach, bok choi, choy sum and kale, etc.</td>
</tr>
<tr>
<td></td>
<td>Include vitamin C-rich fruits and vegetables in meals to increase iron absorption</td>
</tr>
<tr>
<td><strong>Calcium</strong></td>
<td>Milk, cheese, yoghurt</td>
</tr>
<tr>
<td></td>
<td>If you do not consume milk products, choose calcium-fortified soy milk, tofu set with calcium salt, non-sugar added fruit juice fortified with calcium</td>
</tr>
<tr>
<td><strong>Vitamin B12</strong></td>
<td>Plant foods do not provide vitamin B12. Consume eggs or milk. Choose breakfast cereal added with vitamin B12 and consider taking vitamin B12 supplements if you consume plant food only</td>
</tr>
<tr>
<td><strong>Omega-3 fatty acids</strong></td>
<td>Canola, walnut, safflower, flaxseed, canola oil</td>
</tr>
<tr>
<td></td>
<td>Nuts and seeds, such as sesame, flaxseed</td>
</tr>
</tbody>
</table>

Vegetarian mothers are advised to discuss with the healthcare professionals about the needs for vitamin and mineral supplements.
A heaped tablespoon of nuts (15 g) provides about 90 kcal, which is the same amount of energy as from 3 pieces (20 g) of soda crackers. However, the 15 g nuts contains more vitamin E, zinc, iron.

To prevent gaining weight excessively, avoid foods and drinks containing empty calories, such as chips and crisps, French fries, soft drinks, cookies and cream cakes, instant or fast foods, etc. These foods are high in sugar or fat but lacking other nutrients.
Practise Healthy Eating When Dining out

- Choose main dishes with vegetables, or order a side dish of vegetables
- Order steamed, boiled or grilled dishes, instead of those that are fried or sautéed in sauces or gravy to cut down the intake of fat
- Avoid preserved foods or processed meats, such as sausages
- For beverages, ask for water or unsweetened drinks
- Eat slowly to avoid overeating

Q: Can I drink coffee or caffeine-containing drinks during pregnancy?

- Coffee and tea contain caffeine. Too much caffeine may increase the risk of low birth weight and miscarriage.
- Caffeine level of some brewed coffee and Hong Kong-style milk tea in local restaurants is high. One may get too much caffeine by drinking a cup. You are advised to limit coffee and strong tea drinking and consider the decaffeinated options
- You should also limit the intake of other foods and drinks containing caffeine, e.g. soft drinks, chocolates or tea. To reduce the risk of too much caffeine, you should also avoid energy drinks.

Reference: Centre for Food Safety. Caffeine Content in Coffee and Milk Tea Prepared in Local Food Premises.

Q: Do I need formula milk designed for pregnant women?

- A balanced diet with a variety of foods can meet the nutritional requirements of pregnancy. You need to top up for iron, iodine or other micronutrients, you can consider taking prenatal multivitamin/multimineral supplements
- Maternal milk formulae have higher calorie content than low fat milk. Extra calories may cause excessive weight gain. Consider taking milk formula only when you have difficulty in taking other foods
Q: Is it true that avoidance of seafood and beef during pregnancy and breastfeeding can prevent my baby from developing eczema?

- Current scientific researches show that avoidance of milk, beef, peanuts, seafood and other potential “food allergens” does not protect the babies from developing atopic dermatitis (eczema) or other allergic diseases
- On the contrary, dietary restriction may lead to poor maternal weight gain and increase the risk of nutritional deficiency in mothers and babies
- Therefore, unless you are allergic to beef and seafood etc., avoidance is unnecessary during pregnancy or breastfeeding

Q. Does restricting water intake and limiting salt in diet help relieve leg and hand swelling in late pregnancy?

- The limbs swell up because of water retention which happens as a result of the increase in female sex hormones level after mid pregnancy. It is not related to how much water you drink or salt you take
- A healthy pregnant woman does not need to restrict water intake
- However, you should limit the daily salt intake to no more than 5 g (i.e. a teaspoon) irrespective of whether you have leg or hand swelling. Since most foods contain some quantity of salt, you should use less salt or condiment when cooking
Foods to Avoid When Pregnant or Trying to Get Pregnant

1. **Alcoholic beverages**
   - These include beers, wines, spirits and liqueurs
   - Alcohol is a toxic substance and can cause cancer
   - Exposure to alcohol can seriously affect your baby's development

2. **Fish that contains high levels of methylmercury** (refer to page 154)
   - Examples include shark, marlin, swordfish, alfonsino, king mackerel, some species of tuna and other large predatory fish.
   - Methylmercury can adversely affect a baby's growing brain and nervous system.

3. **Raw or undercooked meat, seafood and eggs**
   - All foods should be cooked thoroughly
   - When eating out, make sure the food is actually hot when served

**Ensure foods are cooked thoroughly:**

- For meat and poultry: the juice should be clear, not red; blood should not be visible when you cut the cooked meat
- Egg yolks are not runny
- Bring soups and stews to a boil for at least 1 minute before serving

**Q: Can I eat ice-cream during pregnancy?**

You should avoid eating soft serve ice-cream to protect yourself from listeria infection. Other ice-cream can be contaminated by germs when it is not handled or stored properly. You should be cautious.
Avoid high risk food that may contain *Listeria monocytogenes*

- Chilled ready-to-eat seafoods & cold meat
  - Raw seafoods (such as sashimi and oysters)
  - Smoked seafoods (such as smoked salmon)
  - Pates
  - Deli meats
- Refrigerated ready-to-eat salads (from salad bars, supermarkets or delicatessens), and sushi with salad
- Soft ice-cream
- Soft cheeses, such as Feta, Brie, Camembert, Blue Cheese
- Unpasteurized milk and foods made from unpasteurized milk
- Prepackaged refrigerated foods that have passed their shelf life

**Q: Is it safe to eat sliced cheese, cheese spread, or hard cheeses?**

If refrigerated and stored under suitable temperatures, they can be safely consumed.
1. Wash your hands and utensils thoroughly before handling foods
   - Prevention of toxoplasma infection
     The faeces of pets (such as cats) or soil may contain toxoplasma gondii. If the pregnant woman is infected with toxoplasma gondii, the foetal brain and growth can be affected. You should keep pets out of the kitchen, wear gloves when gardening or handling the faeces of pets, and wash your hands thoroughly afterwards.

2. Separate the raw from the cooked food
   - Use separate utensils (such as knives and chopping boards) to handle raw and ready-to-eat or cooked food. Store them separately.

3. Cook foods thoroughly (please refer to page 163)

4. Store food under safe temperatures
   - Food should be refrigerated at 4 degree Celsius or below, or held hot at 60 degree Celsius or above
   - Do not leave cooked food and left-over foods at room temperature for more than 2 hours. Keep them refrigerated
   - Reheat leftovers thoroughly until it is steaming hot before consumption

Q: Can I eat homemade vegetable salads?
Yes. You should make sure that the vegetables and fruits are washed thoroughly, and consume the salad as soon as possible. If refrigerated, it should be consumed within the same day.

Q: What precautions should I take when eating take-away cooked chicken?
You should make sure that it is steaming hot when you buy it and consume it immediately. If it is not eaten immediately, refrigerate it within 2 hours. Reheat it thoroughly before eating and finish it within the same day.

Visit the Centre of Food Safety website for more food safety information.
Staying Physically Active During Pregnancy

Benefits of exercise

- Reduces fatigue, backaches, swelling and varicose veins. Improves posture and muscle strength
- Alleviates insomnia, mental stress, anxiety and depression
- Helps prepare your body for labour and childbirth

Consequences of lack of physical activity

- Decline in muscular and cardiorespiratory fitness
- Excessive weight gain
- Higher risks of pre-eclampsia and gestational diabetes mellitus
- More varicose veins
- Low back pain

Have at least 30 minutes of physical exercise daily. It can be accumulated from separate sessions. Outdoor exercise helps boost the level of vitamin D in the body.
Suitable exercise for pregnant women

Do not exert yourself. The appropriate intensity level is that you should be able to carry out conversation while exercising. For example:

- Brisk walking
- Swimming
- Cycling on a stationary bike
- Doing housework

Take the following precautions when you exercise:

- Make sure the weather and the environmental conditions are suitable
- Have a companion when you swim or having outdoor exercise
- Reduce the intensity of exercise when approaching the due date
- Avoid sudden and vigorous exercise if you have had no regular exercise before pregnancy. You should consult your doctor concerning your fitness
- Avoid exercise that require lying flat on your back after 16 weeks of pregnancy. The enlarged uterus compresses onto the great vein which will interferes with blood circulation
- Terminate the exercise if you notice any discomfort. Consult a doctor if the condition persists
- Pregnant women with heart or respiratory disease, having risk of preterm labour or any complications should consult their doctors regarding their fitness for exercise
Weight Gain During Pregnancy

During pregnancy, you should consume a balanced diet, have regular physical exercise, and maintain an appropriate and gradual weight gain.

- In the first trimester (up to 13 weeks), there is little weight gain. The total weight gain ranges from 0.5 to 2.0 kg
- In the second and third trimester (14th to 40th week), the average weekly weight gain ranges from 0.4 to 0.5 kg

How much weight should I put on?

The recommended weight gain during pregnancy is related to your BMI just before pregnancy. Your pre-pregnant BMI is calculated by:
Your weight before pregnancy (kg)÷Height (m)÷Height (m)

<table>
<thead>
<tr>
<th>BMI before pregnancy</th>
<th>Weight gain during pregnancy* (applicable to Chinese women)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 19.0</td>
<td>13 to 16.7 kg</td>
</tr>
<tr>
<td>19.0 to 23.5</td>
<td>11 to 16.4 kg</td>
</tr>
<tr>
<td>Above 23.5</td>
<td>7.1 to 14.4 kg</td>
</tr>
</tbody>
</table>


Example:
A woman weighed 59.0 kg before pregnancy and with a height of 1.58 m
Her BMI before pregnancy = 59.0 kg ÷ 1.58 m ÷ 1.58 m
Her BMI was 23.6
Her recommended weight gain ranges from 7.1 to 14.4 kg
**Excessive Weight Gain During Pregnancy**

Excessive weight gain may have the following consequences:

<table>
<thead>
<tr>
<th>Mother</th>
<th>Baby</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Gestational diabetes</td>
<td>- Abnormally large babies and related complications</td>
</tr>
<tr>
<td>- Pregnancy-induced hypertension</td>
<td>- Increase in risks of obesity, diabetes mellitus, high cholesterol, high blood pressure, cardio- and cerebro-vascular diseases in adulthood</td>
</tr>
<tr>
<td>- Difficult delivery and increase in chances requiring Caesarean section</td>
<td></td>
</tr>
<tr>
<td>- Difficulty in returning to pre-pregnant body weight, running a higher risk of developing diabetes, hypertension, heart disease later on if one is persistently overweight</td>
<td></td>
</tr>
</tbody>
</table>

**Q: What do I do if I put on weight too quickly?**

- Cut down on intake of food high in fats and sugars to reduce calorie intake
- You should have physical exercise for at least 30 minutes a day
- Drink water instead of sweetened drinks
- Cut back on cakes, pastries, crisps, cookies, chocolate, candies, ice-cream and other desserts
- Limit deep-fried foods including French fries, potato chips and instant noodles
- Opt for low-fat/skimmed dairy products
- Trim the fat on meat and remove skin from poultries
- Use low fat cooking methods: steaming, boiling, baking, grilling, light stir-frying

*eat mindfully*
I was already overweight before pregnancy. What can I do?

You should not try to lose weight during pregnancy. This brings harm to yourself and your foetus. Changing some of the habits is helpful:

- Eat regularly and adopt a balanced diet (refer to page 156-158). Include grains, vegetables, fruits, meat and alternatives, and milk products in your meals.
- Consume whole grain foods and eat more vegetables.
- Reduce intake of empty calories, including junk snacks, soft drinks or other foods high in fats or sugars.
- Exercise for at least 30 minutes a day, such as engaging in brisk walk, swimming, etc. This helps control your weight.

Poor Weight Gain During Pregnancy

Poor weight gain during pregnancy may result in poor foetal growth, low birth weight and increase the health risk in the child’s later life.

Q: What do I do if my weight gain is slow?

During the first trimester, it is normal that there is little weight gain.

Some may have a mild weight loss due to a poor appetite and morning sickness. To ensure adequate intake, one can eat smaller meals and have regular snacks. Choose nutritious foods for snacks. e.g. a sandwich of whole-meal bread, dried fruits or nuts. Maintain adequate fluid intake. Appetite and weight gain will be generally improved in the second trimester.

Poor weight gain in the later half of pregnancy may indicate that the foetus is not growing normally. In depth assessment is necessary.
Eating Well During Breastfeeding

- Breastfeeding mothers need an extra 500 kcal energy a day
- Take foods rich in folate, iodine, zinc, vitamin A and DHA, and increase intake of meat moderately to ensure adequate nutrient level in your breastmilk

Eating well during breastfeeding

- Eat a variety of foods but avoid overeating
- Choose whole grains, and eat more vegetables and fruits
- Consume a bit more meats, fish, eggs than before pregnancy. Choose fish rich in omega-3 fatty acid but low in mercury content
- Eat seafoods that provide you with iodine. Consume kelp occasionally. Consider taking a multivitamin/multimineral supplement containing iodine if you have problems with these foods
- Drink appropriate quantity of milk and the alternatives
- Ensure adequate water intake
- Limit drinking coffee, strong tea and avoid caffeine containing drinks
- Do not smoke or consume alcoholic drinks
- Consult a registered Chinese medicine practitioner before taking traditional herbal medicine or health tonics

Regular physical activity

- Have at least 30 minutes physical exercise daily. Being physically active helps your weight return to the level before pregnancy. It also benefits your mental and physical health
- Spend some time outdoors to maintain an adequate vitamin D level

Refer to page 146 “Nutrients that Are Important for You and Your Baby” for suitable food choices
### Daily Food Plan for Lactating Women

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Servings Per day</th>
<th>Example(s) of a serving*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains</td>
<td>4 to 5</td>
<td>1 bowl of rice</td>
</tr>
<tr>
<td>Vegetables</td>
<td>4 to 5</td>
<td>1/2 bowl of cooked vegetables</td>
</tr>
<tr>
<td>Fruits</td>
<td>3</td>
<td>An apple, an orange or 2 kiwi fruits</td>
</tr>
<tr>
<td>Meat and alternatives</td>
<td>6 to 7</td>
<td>40 g raw meat/fish/chicken, or 1 egg, or 1/4 block of firm tofu</td>
</tr>
<tr>
<td>Milk and alternatives</td>
<td>2</td>
<td>1 cup of skimmed milk or calcium-fortified soy milk</td>
</tr>
<tr>
<td>Oil, fat, sugar, salt</td>
<td>in moderation</td>
<td></td>
</tr>
<tr>
<td>Fluid</td>
<td>10 cups</td>
<td>1 cup of water or thin soup</td>
</tr>
</tbody>
</table>

1 bowl = 250-300 ml; 1 cup = 240 ml

*refer to page 156-158

### What food should I avoid when I breastfeed?

- Breastfeeding moms should take a diet of a variety. If you and your baby do not have food allergy, you do not need to have any food restriction apart from avoiding eating fish of high methylmercury levels.
- Some babies may get upset after their mothers consume strong flavoured and gas-producing food such as garlic, curry or spices. If this happens to your baby, then eat less of these foods.
- Caffeine containing drinks can affect babies and may keep them awake. It is important to limit coffee, strong tea and some types of soft drinks. Try the decaffeinated options.
- You should avoid alcohol because of its adverse effect on health. Alcohol disrupts breastmilk flow. It passes through breastmilk and impairs your child’s development. If you are breastfeeding but need to drink alcohol on special occasions, you must be cautious to limit to a small amount and avoid nursing the baby within 2 hours.
Recipes of Iodine-rich Dishes

Fried Eggs with Scallops, Seaweed and Garden peas

Ingredients (for 2 persons)

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden peas</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Scallops</td>
<td>12 pieces</td>
</tr>
<tr>
<td>Eggs</td>
<td>3</td>
</tr>
<tr>
<td>Shredded snack seaweed</td>
<td>1 tablespoon</td>
</tr>
<tr>
<td>Ginger</td>
<td>2 slices</td>
</tr>
<tr>
<td>Garlic</td>
<td>2 pieces</td>
</tr>
</tbody>
</table>

Seasoning

<table>
<thead>
<tr>
<th>Seasoning</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt</td>
<td>2/3 teaspoon</td>
</tr>
<tr>
<td>Pepper</td>
<td>1/3 teaspoon</td>
</tr>
</tbody>
</table>

Method:

1. Whisk the eggs. Add garden peas, salt and pepper and mix well.
3. Stir in the scallops. Pour in the egg mixture and stir-fry quickly till done.
4. When serve, put the shredded seaweed on top.

The recipes are provided by the Centre for Nutritional Studies, the Chinese University of Hong Kong
Website: www.cns.cuhk.edu.hk
Fried Kelp with Chicken Fillets

**Ingredients** (for 2 persons)

- Chicken fillet — 150 g
- Dried Kelp — 10 g (15x20 cm in size), soaked and cut into strips
- Green & red bell peppers
- Ginger — 2 slices
- Garlic — 2 pieces

**Seasoning**

(A)
- Salt — 1/3 teaspoon
- Pepper — 1/3 teaspoon

(B)
- Soy sauce — to taste
- Cornstarch — 1 teaspoon
- Sugar — to taste

**Method:**

1. Cut chicken fillet into strips. Marinade with seasoning (B) for 15 minutes.
3. Stir in bell pepper and kelp. Add seasoning (A) and stir-fry till all are done. Then serve.

Preparing the dried kelp: Clean the dried kelp under running water to remove the salt crystals and sand. Soak it in water for 1 hour and then cut into fine stripes.
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Audio-visual Resources

Two dimensional quick response code (QR code) is now available for access to Family Health Service website. You can install QR Code scanning software to get the latest antenatal care, child care and breastfeeding audio-visual resources.

Antenatal Care

Information on antenatal care for pregnant women

http://s.fhs.gov.hk/o5e6l

Antenatal Care

http://s.fhs.gov.hk/ibsz2

Diet and Nutrition for Pregnant Women

http://s.fhs.gov.hk/59oux

Parents-to-be must view
Child Care

Ways to carry a baby
http://s.fhs.gov.hk/n7s29

How to clean your baby’s eyes
http://s.fhs.gov.hk/oxqjj

Cleaning the umbilical cord
http://s.fhs.gov.hk/xfx8h

Changing diapers tips
http://s.fhs.gov.hk/qa1in

Skills in burping
(Cantonese version only)
http://s.fhs.gov.hk/a6jne

Trimming baby’s nails
http://s.fhs.gov.hk/y5b7r
How to soothe a crying baby

http://s.fhs.gov.hk/dstpm

Development from birth to 1 Month
(Cantonese version with English subtitle only)

http://s.fhs.gov.hk/x2b8d

Baby bath time

http://s.fhs.gov.hk/e2qs0

Cleaning your baby’s mouth

http://s.fhs.gov.hk/6sjin
Breastfeeding

Breastfeeding
http://s.fhs.gov.hk/ambt7

Sharing from a breastfeeding mother
http://s.fhs.gov.hk/kw75c

Breastfeeding: benefits
http://s.fhs.gov.hk/ithmd

Is breastfeeding easy?
http://s.fhs.gov.hk/eawh4

Is my milk enough?
http://s.fhs.gov.hk/51d9v

But my nipples are flat...
http://s.fhs.gov.hk/st76x
Hunger cues
http://s.fhs.gov.hk/rheg0

Is supplementation needed?
http://s.fhs.gov.hk/81wbl

Skill outline
http://s.fhs.gov.hk/xvxu6

Mother and baby’s nursing position
http://s.fhs.gov.hk/abwuu

Bring the baby to the breast
http://s.fhs.gov.hk/104so

Good attachment
http://s.fhs.gov.hk/m2ypj
### Health Information

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<td><a href="http://www.fhs.gov.hk">www.fhs.gov.hk</a></td>
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<td>Primary Care Directory, Department of Health</td>
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<td>Central Health Education Unit, Department of Health</td>
<td><a href="http://www.cheu.gov.hk">www.cheu.gov.hk</a></td>
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<td>Clinical Genetic Service, Department of Health</td>
<td><a href="http://www.cgs.dh.gov.hk">www.cgs.dh.gov.hk</a></td>
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<td>Tobacco Control Office, Department of Health</td>
<td><a href="http://www.tco.gov.hk">www.tco.gov.hk</a></td>
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<td>Hong Kong Breastfeeding Mother’s Association</td>
<td><a href="http://www.breastfeeding.org.hk">www.breastfeeding.org.hk</a></td>
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<td>Hospital Authority</td>
<td><a href="http://www.ha.org.hk">www.ha.org.hk</a></td>
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### Community Resource

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<td>Social Welfare Department</td>
<td><a href="http://www.swd.gov.hk">www.swd.gov.hk</a></td>
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### Birth Registration

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<td>GovHK</td>
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### Hotlines of the Department of Health

- **24-hour Health Education Hotline**: 2833 0111
- **Family Health Service Breastfeeding Hotline**: 3618 7450
- **Family Health Service 24-hour Information Hotline**: 2112 9900

### Counselling Services or Hotlines for Mood Problems

- **Social Welfare Department 24-Hour Hotline**: 2343 2255
- **Hospital Authority Mental Health Direct (24 hours)**: 2466 7350
- **The Samaritan Befrienders Hong Kong**: 2389 2222
- **Suicide Prevention Services**: 2382 0000
- **Primary Care Directory, Department of Health**
  - **Website**: www.pcdirectory.gov.hk
Reminder

If any of the following conditions occur, one should consult the doctor or attend Accident and Emergency Department of hospital immediately:

- water breaking
- vaginal bleeding
- persistent abdominal pain
- severe oedema that accumulates within short time
- severe headache
- significant decrease in baby’s movements