Prevention of Foodborne Diseases in Women

Planning to Become Pregnant, Pregnant and Lactating

食物環境衞生署
Food and Environmental Hygiene Department

食物安全中心
Centre for Food Safety

What are foodborne diseases?

Foodborne diseases encompass a wide spectrum of illnesses caused by the ingestion of foods and drinks contaminated with microorganisms or chemicals. The most common symptoms of foodborne diseases are gastrointestinal symptoms such as stomach cramps, vomiting, and diarrhoea.

How to prevent foodborne diseases in general?

To prevent you and your foetus/baby from foodborne diseases, the simplest way is to adopt proper food handling practices, i.e. applying the **5 Keys to Food Safety** in daily life from purchase, storage, preparation, cooking, and management of leftovers:

Key 1. Choose:

- Obtain food and ingredients from hygienic and reliable sources.
- Choose food before its expiry date (i.e. "use by" or "best before" date). Do not use food after its expiry date.

Key 2. Clean:

- Wash hands thoroughly before handling food and often during food preparation; after handling raw meat/poultry and before eating; after blowing nose, handling rubbish, changing nappies, playing with pets, etc..
- Clean cutting boards, knives, other utensils, washbasin and work surfaces with hot water and detergent upon handling food.

Key 3. Separate:

- In the refrigerator, store food in containers with lids to avoid contact between raw food and ready-to-eat food or cooked food. Store raw meat, poultry, and seafood below ready-to-eat food or cooked food to prevent juices from dripping onto ready-to-eat food or cooked food.

- Use different sets of utensils (e.g. cutting boards and knives) to handle raw food and ready-to-eat food or cooked food separately.

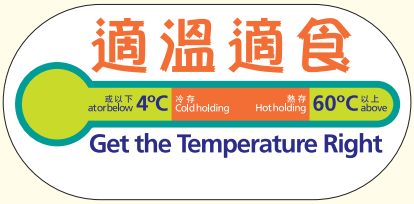
Key 4. Cook:

- As a general rule, food should be cooked thoroughly with core temperature reaching 75°C or above for at least 30 seconds.

- For meat and offal, make sure that juices are clear, not red, blood is not visible when you cut the cooked meat and offal.

Key 5. Safe Temperature:

- Consume cooked food promptly after cooking or keep it at above 60°C or at 4°C or below.
- Cool food from 60°C to 20°C as quickly as possible (within 2 hours); and from 20°C to 4°C within 4 hours or less if cooling food is required.



- As a general rule, if ready-to-eat food have been kept under room temperature after proper cooling:
  - for less than 2 hours, they can be refrigerated for final use later or used before the 4 hours limit is up.
  - for more than 2 hours but less than 4 hours, they should be used within the 4 hours limit is up and should not be returned to the refrigerator.
  - for more than 4 hours, they should be discarded.
- Reheat leftovers thoroughly until it is steaming hot before consumption.

What are the foodborne diseases of particular concerns to women planning to become pregnant, pregnant and lactating?

During pregnancy, the immune system is weakened; pregnant women are more susceptible to *Listeria* infection, which is caused by a foodborne pathogen called *Listeria monocytogenes*. Furthermore, some foodborne hazards, such as **methylmercury**, can affect the mother before and during pregnancy.

Listeria monocytogenes

What is a *Listeria* infection?

Listeria monocytogenes are commonly found in the environment (e.g. soil, water). Such bacterium can survive and multiply at temperature as low as 0°C, but can be easily destroyed under normal cooking temperature. Consuming *Listeria* contaminated food may lead to the development of a disease called listeriosis. Although listeriosis causes few or no symptoms in healthy people, it can be very dangerous for pregnant women. Infected pregnant women may transmit the *Listeria monocytogenes* to their foetus, thus leading to miscarriage, still birth, premature birth or serious illnesses in a newborn baby.

What are the symptoms of listeriosis in pregnant women and what should be done if such symptoms experienced?

In pregnancy, infected women may show flu-like symptoms, chills, fever, headache, back pain and sore throat. Even though some may be asymptomatic, the infection can still severely affect the unborn baby. You should consult doctor immediately if you have the above symptoms during pregnancy.

How to reduce the risk of listeriosis?

During pregnancy, you should take the following precautions for the health of you and your foetus:

1. **Avoid high risk food that may contain *Listeria monocytogenes***, i.e. mostly refrigerated ready-to-eat foods, such as soft cheeses, deli-meats, pâtés, cold-smoked fish/ seafood, soft ice-cream, etc..
2. **Use ready-to-eat food as soon as possible**. Since *Listeria monocytogenes* can grow in low temperature (as low as 0°C), the longer the ready-to-eat food are stored in the refrigerator, the higher chance *Listeria monocytogenes* can grow.
3. **Be careful while eating out**. Only eat foods that are cooked to order and served hot. Do not eat foods that are served lukewarm. Avoid buffet-type meals. If this is not possible, choose hot foods only and avoid pre-prepared salads (e.g. those in salad bars).

Methylmercury

What is methylmercury?

Methylmercury is a heavy metal that can be found in fish, particularly larger predatory fish. If you are exposed to high levels of methylmercury before or during pregnancy, methylmercury may pass through your placenta into the foetus and harm your foetus or baby's developing nervous system.

What are the symptoms of methylmercury exposure and what should you do?

Public health concerns in relation to methylmercury in food are related to its potential to affect the nervous system. Both foetus' and children's developing nervous system are particularly susceptible to methylmercury, which can cause a decrease in Intelligent Quotient (IQ). Since the toxicity of methylmercury is chronic, you may not notice any symptoms. However, if you think you experience an adverse health effect due to exposure to methylmercury, consult your doctor immediately.

Do you need to avoid all fish to reduce the risk of methylmercury exposure?

Fish is an excellent source of many essential nutrients, such as omega-3 fatty acids and high quality proteins, for you and the developing baby. Consume a variety of fish as part of a healthy diet but avoid large predatory fish such as shark, swordfish, marlin, alfonsino and tuna (especially bigeye and bluefin species).

Why a good nutrition is important for you and your foetus?

A good nutrition is important to help you minimising the risk of developing a foodborne illness. Before you get pregnant, make sure that you are eating well by having a balanced diet of a variety of foods, especially foods rich in **folate** and **iodine**. During pregnancy and breastfeeding, you need additional **folate**, **iron**, **iodine**, and **calcium** to maintain good nutritional status and support your baby to grow and develop.

In addition, stop **smoking** or drinking **alcohol**, and limit foods or drinks containing **caffeine**. They may affect the development of your baby, leading to low birth weight, intellectual impairment, increase the risk of miscarriage, or reducing the absorption of some nutrients such as iron.

Folate

Folate (or folic acid) is a type of vitamin B which is water soluble. It helps to prevent anaemia. Adequate folate intake before conception and in early pregnancy prevents the development of spinal bifida (a neural tube defect) in foetus. Examples of foods rich in folate are green leafy vegetables (e.g. Choi Sum, broccoli, lettuce); green beans and pulses; and some fruits (e.g. orange, banana).

Iron

Iron is a type of mineral important for making red blood cells. Inadequate iron will cause anaemia and affect the growth and development of the baby. Some iron rich foods from animal sources (a better choice than the plant sources) are red meat (e.g. lean pork, lean beef) and liver (***Note:*** limit to <100g a week to prevent too much vitamin A which may harm you and your foetus). Iron can also be found in plant sources, such as green leafy vegetables and pulses.

Iodine

Iodine is an essential mineral needed to ensure the normal development of your baby's brain and growth. Some iodine rich foods are seaweeds (e.g. kelp soup, seaweed snack); iodised salt (***Note:*** limit the total salt intake to 5 g or 1 teaspoon a day, including salt from sauces, seasoning and other foods); seafoods (e.g. marine fish, prawns, mussels); eggs; as well as milk and milk products (e.g. cheese, yogurt).

Calcium

Calcium is an essential mineral needed to form bones and teeth in baby. Some calcium rich foods are milk and milk products (e.g. cheese, yogurt); beancurd; seafoods (e.g. shrimp, whitebait, canned tuna); sesame and nuts; and green leafy vegetables (e.g. Chinese mustard, broccoli, kale).

Centre for Food Safety
July 2012

Published by the Centre for Food Safety,
Food and Environmental Hygiene Department
(03/2013)