

## AVOIDING INFECTIONS WHILE YOU ARE PREGNANT - EATING SAFELY AND BEING CAUTIOUS WITH ANIMALS

(Information compiled by Dr.I.J.Papapetros for use by his patients)

### INTRODUCTION:

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In Australia today, there are a wide variety of foods available and they are amongst the safest in the world by international standards. However, 11,500 Australians still get sick with food poisoning or an incidence of approximately 1 in 5000. To put this in perspective, Australians eat 20 billion meals per year and 99.98 per cent of those meals are clean, safe food. <sup>1</sup> They range from simple fresh foods to a variety of frozen foods or ready to eat meals that need little preparation. With television, radio and the press, most people would be aware of the dangers of food poisoning, and there has been much written on how to avoid it. Cleanliness and care are foremost in handling and heating foods and it is important to pay attention to these if you want to avoid unpleasant illnesses. **This is particularly important when you are pregnant.**

**It is very important** that you do not become over-anxious about the possibility of acquiring these infections because the diseases they cause are very rare and it is unlikely that you or your unborn baby will be affected. However, there is **no** room for complacency and it is sensible to take the simple precautions given in the following information to reduce the risk to yourself and your baby. Pregnancy is a unique time in a woman's life and an opportune time for her to learn not only about nutrition but nutritional safety.

For further information on diet, including vitamin intake, see the additional literature supplied. The notes that follow are mostly common sense much of which you will already know. However, they are designed as a starting point on which you can build on. It includes some tips on general food safety and on safe contact with pets and animals

### Background Information on Food. <sup>2</sup>

Food is produced in the primary industry sector (agriculture, aquaculture, fishing) and continues through manufacturing and retail to be prepared and consumed by the Australian public. Organisms causing foodborne illness can enter this food production chain at any stage. In addition, the many factors that can contribute to foodborne illness such as inadequate storage conditions are rarely confined to one sector alone. Primary producers, manufacturers, retailers and consumers all need to be aware of foodborne disease and share the responsibility for ensuring food safety. The causes of the rising incidence of foodborne disease can be attributed to different patterns of food consumption resulting from greater diversity of food available and changing consumer demand as well as changes in food manufacturing, retail, food distribution and storage. In some instances the emergence of new food pathogens have been identified and increasing numbers of more susceptible individuals such as occurs primarily in the very young, the elderly and the immunocompromised. **Remember however, that although**, serious disease or death from foodborne illnesses **is rare** especially in young healthy pregnant women there is no room for complacency.

In the past, food was produced and consumed locally. Traditionally, Australian food was simple and well cooked. Today, the pattern is fewer meals cooked at home and more reliance on ready-to-cook, ready-to-eat foods and takeaway meals. A trend towards eating fresh unprocessed foods and processed foods without preservatives permits the growth of foodborne pathogens. Minimally processed and extended shelf life food also carry inherent risks to increased contamination. Cultural diversity within Australia has contributed to a far wider selection of food, incorporating a greater range of ingredients. Raw foods of animal origin are increasingly being included into our diet. For example, raw fish, popular in Japanese, Korean and several other cultures has become increasingly popular with Australian consumers who may be unaware of the different handling and storage techniques used in the traditional preparation of these raw foods or the risks of foodborne disease.

Food products are now available from diverse sources and food is often transported over large distances and/or handled many times between its points of production and consumption. Refrigeration is frequently used as a means of preservation. In contrast to the sterility achieved with canning, refrigeration allows the survival of microorganisms. The belief that food would remain safe if kept cold has been challenged with the realisation that some pathogens like *Listeria monocytogenes* grow well in some refrigerated foods, and can reach populations as high as 10 cells/gram without the product showing adverse signs of spoilage.

In Australia, between 1985 and 1996, there were 128 outbreaks of Foodborne disease which involved 5,952 people. The causes fell mainly into 6 categories.

These include

1. Improper Holding Temperatures (20%)  
(food stored too long or too warm)
2. Inadequate cooking (27%)
3. Cross contamination (19%) - see explanation in footnote next page  
(eg. Contaminated equipment)
4. Food from an unsafe source (19%)
5. Poor personal hygiene (9%)
6. Others (6%)

It is in the context of this background that the following information has been collated.

<sup>1</sup>Grant Tambling Parliamentary Secretary for Health and Aged Care Senator Regulatory Impact Statement, "Food Safety Standards - Costs and Benefits", prepared by the Australia New Zealand Food Authority (ANZFA). 1999

<sup>2</sup> Foodborne Disease, Towards reducing foodborne illness in Australia - December 1997 Technical Report Series No. 2 From the Foodborne Disease Working Party for the Communicable Diseases Network Australia and New Zealand

## GENERAL FOOD SAFETY: - Avoid Cross Contamination <sup>3</sup>

Recent research has shown that most cases of food poisoning in Australia are caused by meals eaten away from home. Micro-organisms are responsible for most food poisoning cases and not lingering residues of diseases as is often thought. Incorrect handling of food is the main cause for food poisoning whilst lack of food care education is another equally important contributing factor.

It is important to understand that normal healthy people are the major carriers of microbiological threats. In fact, it is estimated that 30 to 50% of Australians are carrying the staphylococcus micro-organisms. Our bodies, which includes our face, arms, hands and legs, are not sterile and it is part of our normal existence to be carriers of potentially harmful micro-organisms. Remember too, just as micro-organisms are present on our bodies, so too they are present naturally in or on most foods. The problem is not so much in being carriers, but in how more or different micro-organisms can be transmitted into food where if not handled carefully, they may multiply into toxic doses and cause food poisoning.

Australia's food products are of a high standard. Nevertheless, it is important to understand that one cannot be complacent and rely on others entirely. One needs to be on their guard in all sorts of situations where lack of understanding and/or carelessness, these micro-organisms may be transferred to food which will support their growth. Such foods include dairy foods, meat and poultry especially.

### THE SITUATIONS IN WHICH ONE NEEDS TO TAKE CARE INCLUDE:

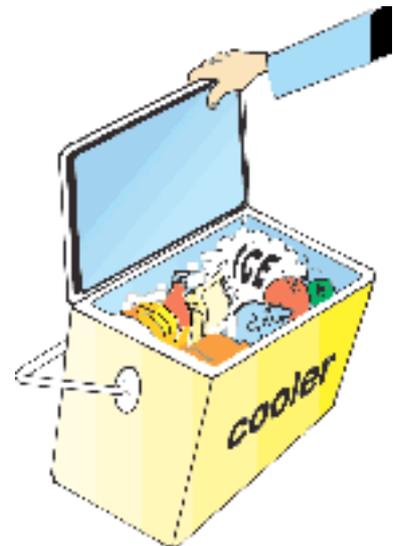
#### 1. PURCHASING FOOD:

Check for cleanliness in food shops and eating places. Dirty staff and conditions in public areas are probably a clue that things are worse in the kitchen where no one will see them.

Check that hot food is kept hot. Food in bain maries should be steaming. Reheating lukewarm food is no guarantee of safety. In a restaurant it's not the plate that needs to be hot, it's the food served on it.

Check that cold food is kept cold. Chilled food should be stored below or behind the load line in open refrigerated cabinets in your supermarket. Never buy chilled food from a shop that stores it at room temperature.

When shopping, buy your cold food last and get it home fast especially in summer. Keep an Esky in your car to keep chilled and frozen food cold, especially if travelling more than 30 minutes to get home.



#### Situations in which to take Care.

##### a. Take-Aways/Restaurants for immediate consumption

Firstly, when purchasing food from Take-Aways, it is important to take particular care that those handling and preparing your food firstly, are using utensils and not their hands to handle the food. Although gloves are often used by the merchant, in some instances for example money is also handled with the same gloves on. Secondly, be aware that the food you are purchasing is fresh and has not been heated and reheated several times. Apart from the increased likelihood of such food having an increased risk of food poisoning, it is likely also to be less nutritious if it has been reheated.



##### b. Supermarkets for home consumption.

When purchasing food from Supermarkets, it is important to be aware of SHELF TIMES and USE-BY DATES. It is a good idea to spend a little extra time examining each package to determine their shelf times and use-by dates. Even if the items fall within these times they should be examined as they may have been stored at temperatures above those for safe storage before they were shelved. Look for certain defects such as imperfectly sealed or opened items and swollen items before you buy them. This way you will save yourself both time and money. As mentioned above, on the way home, if you have many cold items, do not delay getting home especially in summer or if there is to be a delay, take along an Esky to keep temperature changes to a minimum. Make sure that these items go straight into the refrigerator as soon as you get home.

<sup>3</sup> Avoiding cross-contamination means keeping food clean. Make sure that microbes do not have a chance to hitchhike from raw material onto cooked food, or from your body, or pet, to cooked food. Wash hands thoroughly before preparation, after going to the toilet, and after handling pets and raw food. Use soap and warm water, rubbing for 30 seconds. In between handling raw and cooked foods, wash utensils such as tongs, knives and chopping boards with hot soapy water. Use separate chopping boards for cooked and raw foods. Don't thaw foods at room temperature. Thaw frozen food completely in the refrigerator, or in a microwave oven if cooking immediately.

**The CSIRO recommends the following shelf times for the following foods:**

Seafood	3 days	Meat	3-5 days	Poultry	3 days	Minced meat	2-3 days
Fruit Juices	7-14 days	Milk	5-7 days	Cream	5 days	Butter	8 weeks

**2. HANDLING FOOD AT HOME INCLUDING PREPARATION AND RECYCLING OF FOOD**

**FROZEN FOODS**

A large proportion of one’s shopping comes from supermarkets and the purchase of frozen food represents a large proportion of their shopping. Hence it is important to have some knowledge of frozen foods and how to handle them safely. Freezing food and holding it at a very low temperature, around -18°C (0°F) almost completely stops deterioration. Thawing or even a rise in temperature without thawing stimulates chemical and microbiological activity and spoilage may occur. Remember, frozen foods should be put in the freezer section of the refrigerator (or the freezer) as soon as you get home from the shop. Long-term storage of commercially frozen foods in the home with an ordinary refrigerator is hard to justify. It is better to buy frozen foods as required because some home freezers do not hold food at a sufficiently low temperature to maintain high quality over a long period. Small quantities of bought food can, however, be held frozen for a few weeks at temperatures of -15°F to -12°C (5-10°F) without serious loss of quality.



**COOKING HINTS FOR FROZEN FOODS**

Some frozen foods, particularly vegetables, should be used direct from the frozen state. Frozen vegetables usually have been blanched before freezing and need only be lightly cooked before serving. Large cuts of frozen meat and poultry need to be thawed before use. This should be done in the refrigerator at a temperature below 4°C (40°F) to stop the growth of food poisoning bacteria. At least 24 hours in the refrigerator is usually required to thaw reasonably sized portions of foods such as whole chickens or rolled roasts. Special care is necessary when thawing and cooking turkeys or large pieces of meat—more than 3 kg. If frozen meat has to be used at short notice it should still be thawed before cooking. This can be done under cool running water without unwrapping the meat. However, if you have to cook the meat before it has completely thawed, allow extra cooking time and ensure (by using a good meat thermometer) that the temperature in the middle of the joint has reached 71°C (160°F). Smaller cuts of meat such as steaks and chops can be fried or grilled direct from the frozen state. Generally speaking, thawed food should not be refrozen. It can be stored safely in the chilling section of the refrigerator for up to 48 hours if it has been thawed properly under controlled conditions in the refrigerator.

**WARNING:** Meat, poultry or fish which has been thawed out of the refrigerator should never be put back into the refrigerator for use later. If it cannot be cooked immediately it should be thrown away because in the meantime it may have developed a large population of food poisoning organisms.

**Cooking and reheating**

Cook food properly (to at least 75°C or steaming hot) and keep hot food steaming hot (above 60°C).

Most food poisoning bacteria will grow at temperatures between 5°C and 60°C - known as the Temperature Danger Zone. Keeping food out of the Temperature Danger Zone will slow down or prevent their growth.

Heating foods to above 75°C will kill most foodborne bacteria and viruses that can cause illness. Particular care should be taken with rolled or stuffed meats, mince, sausages and whole poultry, all of which should be cooked thoroughly right through to the centre as bacteria are distributed throughout these foods. Steaks, chops and whole roasts however can be cooked to preference.

When cooking a large batch of food for storage and later consumption, subdivide into shallow containers and refrigerate immediately. Cooked food should be refrigerated as soon as possible and not allowed to cool at room temperature first. Some cooked food such as casseroles can also be frozen.

Reheat food until it is steaming hot throughout. Where possible, use a thermometer to check that it has reached 75°C.

Cooking is not a cure-all solution. Some bacteria can produce a poison or toxin in the food that is not destroyed by heating. You can't rely on cooking to make poorly handled food safe. Also, once cooked, disease-causing microbes can easily reinfect food.



## **SAFE AND UNSAFE TEMPERATURES**

The temperature at which a food is kept for any time is extremely important. Between 4° and 60°C (40°F and 140°F) is the DANGER ZONE because this is the temperature range in which food poisoning bacteria may grow. To reduce the risk of food poisoning, IT IS IMPORTANT to keep the time food spends in the DANGER ZONE of rapid microbial growth as short as possible.

**REMEMBER:-** the shorter the time foods, including cooked foods, spend between 4° and 60°C (40°F and 140°F) the less are the chances of food poisoning. If food is to be served hot after cooking it should be kept above 60°C (140°F) . If the food is not to be eaten immediately after cooking, it should be cooled in the refrigerator to below 4°C (40°F).

The same precaution should be taken with fried and barbecued meats, particularly chicken bought from take-away food shops. If this type of food is not to be eaten straight away, it should be kept either below 4°C (40°F) or above 60°C (140°F), to avoid growth of any harmful bacteria.

## **TO AVOID FOOD POISONING**

In order to avoid transferring bacteria from the raw to the cooked meat, never handle cooked and uncooked meats together.

Do not cut them up with the same utensils or use the same boards without thoroughly washing the board and the utensils, and, of course, your hands!

Cooked meats eaten cold are a common cause of food poisoning because organisms have been transferred back to the cooked product via knives, cooking boards and hands contaminated by fresh meat.

Place hot food directly in the refrigerator to cool. You may be reluctant to do this but modern refrigerators can cope with the load. Provided the dish is covered you will not frost up the refrigerator.

Serve food to be eaten cold direct from the refrigerator. This applies particularly to seafoods, meat and vegetable salads, rice salads, desserts and cakes containing cream or imitation cream.

Avoid excessive handling of food because bacteria are always on our bodies. Although 'fingers were made before forks', suitable utensils should be used to serve food and, of course, everyone handling food should be scrupulous in their personal cleanliness.

## **Cleaning**

Wash dishes as soon as possible when you have finished eating. If you have left them to soak in water, ensure they are well washed afterwards. After washing, allow dishes to air dry.

If a tea towel is used, change it for a clean one when it becomes soiled or wet.

Disinfect chopping boards used for raw food at least once a week in a solution of weak bleach made from a teaspoon of bleach in a litre of water, or anti-bacterial cleaning products. Better still put them in the dishwasher.

Clean all work surfaces and utensils well. Unclean surfaces can harbour harmful microbes.

Keep clothes clean and dry.

Clean dishcloths regularly in a solution of bleach or by putting them in the dishwasher with a load.

## **CANNED FOODS**

Most canned foods have been sterilized during processing, which means any contaminating organisms originally present on the food have been destroyed and the cans need only be stored in a cool place. But watch for swollen or leaking cans. This indicates some failure in processing and the contents of the can should not be tasted. Any doubtful can should be reported to the manufacturer to alert him that other cans may be in a similar condition. Products such as canned ham which are marked 'Store below 4°C (about 40°F) must be stored in the refrigerator. The ham has not been fully sterilized because prolonged heating adversely affects the texture of the meat, The same applies to some imported canned meats and fish products and all labels should be read carefully before the food is stored. Once cans are opened, the same storage precautions for the contents of the can as for fresh food applies. This is because contamination is possible as soon as the can is opened. The contents of the can should NEVER be stored in the can. Instead, they should be taken out, put in a plate, covered and stored as for fresh food.

## **DEHYDRATED OR DRIED FOODS**

Dehydrated foods do not readily go bad while dry, but they are deteriorating slowly all the time, particularly once the packets are open to the air. Dehydration inhibits the growth of microbes by removing water but it does not make foods sterile and these foods may carry a high level of contaminating micro-organisms which become active again in the presence of water. Rehydrated dried foods —those to which water has been added — need to be treated as highly perishable and kept in the refrigerator. Dried foods should be stored in a cool place away from obvious sources of heat such as a stove or direct sunlight. Dried foods will keep in an unopened container for about six months at 21° - 24°C (70° - 75°F). They must be inspected regularly for insect infestation as this is a constant problem. If possible store opened packages or dried fruits in the refrigerator to maintain quality for a longer period. Dried soups rehydrated as a base for savoury dips for parties should be kept in the refrigerator. Once the soup mix is combined with other moist ingredients conditions are right for the growth of bacteria. Stocks and gravies made from dehydrated ingredients should also be kept in the refrigerator.

## Storage

- Keep cold food cold (refrigerated at 4°C or below).
- Check the temperature of your refrigerator is 4°C or below.
- Check the temperature of your freezer is -18°C or below.
- Store food outside the temperature danger zone.
- Cover foods before refrigerating and store raw foods below cooked foods.
- Promptly cool any leftovers and use within two to three days.

## Frozen Storage Life ( Source: CSIRO)

Product	Approximate Frozen Storage Life* (-18°C)
Beef Roasts	4 - 6 months
Ground Beef (Mince)	2 - 3 months
Sausages	1 - 2 months
Beef Steaks	3 - 4 months
Beef Casserole	2 - 3 months
Lamb Roast (Whole)	4 - 6 months
Lamb Chops	2 - 3 months
Lamb Casserole	2 - 3 months
Offal	1 month
Pork Chops	3 - 4 months
Pork Roast	4 - 6 months
Bacon	1 - 2 months
Whole Chicken	4 - 6 months
Chicken Portions	3 months
Lean Fish (e.g. Whiting)	4 months
Oily Fish (e.g. Mackerel)	3 months

## THE INFECTIONS TO BE DISCUSSED & HOW TO AVOID THEM INCLUDE THE FOLLOWING:

1. Listeriosis
2. Salmonellosis
3. Toxoplasmosis
4. Milk borne infections

### 1. LISTERIOSIS

Listeriosis is caused by bacteria (germs or bugs) called *Listeria monocytogenes* (listeria). It can be isolated from soil, water, sewage, manure contaminated vegetables, cheese, deli meats and pate. However, it is a very rare disease and there is no need to avoid these foods before you know you are pregnant or after the baby is born, including when you are breast feeding. It has been estimated that *Listeria* may be present in 1-5% of faeces (including animal faeces) and therefore it is very important that proper hygiene measures are kept in the handling of foods whilst cooking and washing the food especially those grown in soil. During pregnancy, there may be no symptoms or in its mild form, a febrile illness that resembles influenza (flu) or pyelonephritis and needs a blood culture to make the diagnosis if suspected. It is important to take special precautions to avoid listeriosis while you are pregnant because even with the mild form of the illness in the mother, it can result in miscarriage, still birth, or severe illness in the new-born baby.

### Cheese

Certain ripened soft cheeses such as the camembert, brie, and the blue-veined varieties are the ones to watch as high levels of *Listeria* may be found in these varieties. It is best however, to avoid these these sorts of cheeses if you are pregnant, but you can still enjoy hard cheeses, as well as cottage cheese, processed cheese and cheese spreads as cheese is important to eat during pregnancy for your necessary Calcium requirements.

### Pate

Pate is liver and liver should not be eaten during pregnancy for other reasons such as the very high content of vitamin A which can cause congenital defects in the baby. However, there may be high levels of *Listeria* in some types of pate and therefore to be on the safe side, it is best not eat any type of pate whilst you are pregnant.

### **Ready to eat meals and Ready to eat poultry**

Listeria has been found in very small amounts in ready-cooked meals and ready to-eat poultry. These ready-cooked foods are often kept cold (not frozen) for the customer either to eat cold or reheat at home. While you are pregnant, it is best to avoid these foods, but if you do eat them, you should reheat them thoroughly until they are piping hot rather than to eat them cold.

### **Sheep**

As with all animals, appropriate hygiene measures should be carried out when handling sheep. Indeed, it is best not to handle sheep at all during pregnancy and you are advised not to help with lambing, or milk ewes that have recently given birth, or touch the afterbirth, or come into contact with new-born lambs. The reasons for this is that in the same way that sheep may miscarry or give birth to sick lambs following infection with listeria, pregnant women may do the same.

## **2. SALMONELLOSIS**

One of the commonest causes of food poisoning is Salmonellosis. It is caused by bacteria called Salmonella which have contaminated the food. An enteritis (bowel inflammation) is contracted and symptoms include diarrhoea and/or vomiting and/or abdominal cramps. Although it may not have any direct effect on your unborn child, it is sensible to do your best to avoid this distressing illness while you are pregnant. Salmonella is particularly associated with poultry and eggs, and therefore you should take particular care when handling and preparing these foods.

### **Eggs**

Everyone is advised not to eat raw eggs or foods with uncooked egg in them. However, if you are pregnant you are also advised to eat only eggs which are cooked until both the white and the yolk are solid. Young children should not eat partially cooked eggs either. If you intend to follow a recipe which requires eggs to be only partially cooked or not cooked at all, then use pasteurised egg products - either in liquid or dry form - which can be bought in many food shops.

### **Poultry and Raw Meat**

Poultry and raw meat can be contaminated with bacteria which cause food poisoning. Such bacteria are destroyed when you cook food at high temperatures, because heat kills bacteria. However, the raw food can contaminate other cooked foods in the kitchen during preparation of a meal if you are not careful. Therefore take special care when handling meat and poultry that have not yet been cooked.

- Always wash your hands before preparing any food and afterwards.
- Do not let raw meat and poultry or the juices from them touch or drip on to any other foods (especially food that will not be heated before eating).
- Always cook meat and especially poultry thoroughly before eating them to make sure any bacteria are destroyed.

## **3. TOXOPLASMOSIS**

As with Listeriosis, Toxoplasmosis can result in miscarriage, still birth, or severe illness in the new-born baby. It is a rare illness as most women are immune to it by the time they conceive. To cause problems in pregnancy, it must be acquired in a woman who is not immune to it and it is transmitted through encysted organisms by eating raw or undercooked meat and through contact with infected cat faeces. It is usually unnoticed in the mother, but it can sometimes cause a mild flu-like illness.

**Meat** Do not eat any raw or undercooked meat - and don't forget to wash your hands thoroughly after handling raw meat.

**Vegetables & Salads** Always wash these carefully to remove any soil and dirt which can carry the infection if it has been fouled by cats.

**Goat's milk** Goat's milk may occasionally carry toxoplasma, so if you drink goat's milk while you are pregnant, it should be pasteurised, sterilised or UHT (ultra-heat-treated).

### **Contact with cats and kittens**

While you are pregnant, wash your hands after handling cats or kittens, no matter how clean they may seem. Cat litter trays need to be kept clean. Where possible get someone else to change the soiled litter and clean out the tray. If this isn't possible and you have to change it yourself, always wear rubber gloves when doing so. Only the soiled part of the litter needs to be removed, which must be done within 24 hours of soiling. Wash the gloves afterwards and then wash your hands thoroughly as well. Avoid contact with stray cats and kittens.

**In the garden** Always wear gloves when gardening. This is to protect your hands from contamination which may be present in garden soil if it has been fouled by cats. Wash your hands after gardening even if you have worn gloves.

**Sheep** Sheep may miscarry or give birth to sick lambs following infection with toxoplasma. Pregnant women should not help with lambing, or milk ewes that have recently given birth, or touch the afterbirth, or come into contact with new-born lambs.

#### 4. MILK BORNE INFECTIONS

Besides the infections already mentioned, milk that has not been heat-treated, ie not pasteurised, not sterilised, or not UHT, may carry other harmful germs.

**Milk** Unpasteurised cow's milk should be avoided. This milk has not been heat-treated & may therefore contain harmful organisms. You should avoid these risks by drinking only heat-treated milk, ie pasteurised, sterilised/UHT milk. Treated milk still has good nutrient value.

**REMEMBER:** • that most of these diseases are extremely rare, and one can reduce the risk of contracting them still further if one follows the simple advice mentioned above and as follows:

##### IT IS IMPORTANT TO:

- Keep work surfaces in the kitchen clean - try to keep pets away from these.
- Wash your hands after handling pets.
- Always wash your hands before and after preparing food, especially after touching raw meat and poultry.
- Use one board for preparing raw meat and poultry, and a separate one for other foods. Wash boards, knives, and your hands carefully between preparation stages.
- Make sure you cook meat and poultry until they are well-done all the way through.
- Don't eat raw or lightly cooked eggs, and don't use them in recipes where no cooking is involved - use pasteurised or dried eggs instead.
- When cooking or reheating food, make sure you heat it until it is piping hot all the way through.
- Store raw and cooked foods well away from each other- keep any raw meat and poultry on the bottom shelf of your fridge, to prevent their juices from dripping onto cooked foods.
- No matter how clean and healthy your pet is - wash your hands after handling it.
- Try to keep your pets out of the kitchen, however well-behaved they may be. They may inadvertently spread infection. In particular keep pets well away from surfaces on which you prepare food.
- Prepare all pet food separately from other food. Always use separate utensils and dishes from those used by the rest of the household. Wash your pets' food bowls thoroughly and separately from the rest of your dishes.

If you have a cat, keep the litter-tray clean. Where possible get somebody else to change ~ the litter and clean the tray. If this isn't possible, you should remove any soiled parts of the litter within 24 hours of soiling, but remember always to wear rubber gloves when doing so. Dispose of the soiled cat-litter by wrapping it up well in newspaper and putting the package in the dustbin. Always wash the rubber gloves and then your hands thoroughly afterwards. Wash the litter-tray out regularly, remembering to wear rubber gloves while doing this.

##### References:

1. Australian food safety education <http://www.safefood.net.au/>
2. CSIRO [p http://www.csiro.gov.au](http://www.csiro.gov.au)
3. Grant Tambling Parliamentary Secretary for Health and Aged Care Senator Regulatory Impact Statement, "Food Safety Standards - Costs and Benefits", prepared by the Australia New Zealand Food Authority (ANZFA). 1999
4. Foodborne Disease, Towards reducing foodborne illness in Australia - December 1997 Technical Report Series No. 2 From the Foodborne Disease Working Party for the Communicable Diseases Network Australia and New Zealand