



UMU Pasifika

Food Safety for Pacific Peoples



Definitions

Words and terms that are used in this booklet:

- **Food safety** – the consideration of health risks associated with food.
- **Foodborne illness** – an illness that results from eating contaminated foods. It can be caused by bacteria, viruses, parasites, chemicals, and the toxic products of bacteria, or naturally occurring food toxins.
- **Pathogens** – bacteria, viruses and parasites that can cause illness.
- **Perishable foods** – foods that are subject to decay, or “going-off”. Often perishable foods need to be kept in the fridge to preserve their freshness and safety.
- **Ready-to-eat** – food that is prepared in advance and can be eaten without further preparation.
- **Temperature danger zone** – temperatures between 5°C to 60°C provide the ideal conditions for pathogens to grow quickly. By keeping food out of the temperature danger zone, you can reduce the risk of food becoming unsafe.
- **Umu** – a traditional Pacific method of cooking food. Rocks are heated and food is placed on top of the hot rocks to cook.

Contents

Introduction	1
Handling food	2
Buying food	4
Transporting food	6
Storing food	8
Preparing food	10
Cooking food	12
Serving food	14
Keeping leftover food safe	16
Bringing umu packs into New Zealand	18
Keeping raw fish and povi masima safe	20
Common causes of foodborne illness	22
Food safety in pregnancy	25

Introduction

Kia Ora, Talofa lava,
Kia Orana, Taloha ni,
Fakaalofa lahi atu,
Ni sa bula vinaka,
Malo e lelei, and
Warm Pacific
Greetings.

This booklet is the result of a partnership between the Ministry for Primary Industries, the Auckland Regional Public Health Service's Vaka Ola team, Pacific Health Service Porirua and people from Pacific communities of Auckland and Porirua. It aims to provide an awareness of food safety, guidance on handling food in the home and advice for catering for large community or social events.

Developing this booklet involved; researching statistics and available information, talking to our communities and carrying out two community umu (in Auckland and Wellington) to demonstrate and record safe food practices. The project was welcomed by the community who were keen to listen to and take food safety messages on board. Thank you to everyone who has given their time to this project.

This booklet works its way through how to handle food from buying, to transporting, to storing, to cooking and leftovers. It discusses the things we can do at each step to minimise food safety risks for ourselves, our families and friends. It also addresses food safety issues that are relevant to Pacific peoples like bringing in food from the Pacific Islands, e.g. palusami and seafood, and delicacies such as Povi masima and raw fish salad.

Handling food

Food safety begins with personal hygiene. People who handle food are the most important link in preventing foodborne illness.

“Handling food” includes purchasing and gathering, preparing, cooking and serving food and distributing leftovers.

People handling food must wash and dry their hands properly: this helps to prevent pathogens being transferred from unclean hands onto cooked or ready-to-eat foods.

If you wear gloves when handling food, change them as often as you would wash your hands.

When to wash your hands

- Before and after preparing food.
- After handling raw food – especially meats or poultry.
- Before eating.
- After handling rubbish, or animals.
- After going to the toilet, or changing a baby’s nappy.
- After eating, licking fingers, or biting fingernails.
- After smoking, coughing or sneezing.
- After gardening.

How to wash your hands

1. Wet hands with warm running water.
2. Add soap.
3. Spread soap all over your hands and between your fingers.
4. Rub your hands together vigorously for 20 seconds (a good way to measure this is to sing “Happy Birthday” to yourself twice!).
5. Rinse hands well.
6. Dry hands on two paper towels for 10 seconds each or a clean cloth towel for 20 seconds. If you have an air drier, shake and move your hands under the air flow until they’re completely dry.



There are a few differences around preparing food or for large groups (for example, in church or hall kitchens) rather than for your family in your home.

Things to think about	In your home	For large groups
Hand jewellery (rings, bracelets, bangles and watches) can provide a place for pathogens to grow in, which can be then be transferred onto food.	Wash the areas on your hands around hand jewellery very carefully.	It is recommended that you remove hand jewellery.
Wounds (cuts etc) and infected sores can be a source of pathogens which can be transferred on to food.	Cover all wounds on your hands, especially if they are infected, with plasters while you are handling food.	It is recommended that people who have infected sores on exposed skin don't work with food.
Diarrhoea or vomiting can be a source of pathogens which can be transferred on to food.	Wash your hands with extra care if you are suffering from diarrhoea or are vomiting, or have been looking after someone else with these symptoms during the last 24 hours.	It is recommended that people who have suffered from, or have been looking after someone else with these symptoms in the last 24 hours do not prepare food.

Mo i latou e gaseseina mea taumafa



- E tatau i tagata uma e gaseseina mea taumafa ona fufulu mama ma fa`amago lelei o latou lima.

Ko e ngaohi 'o e me'akai



- Ko e tokotaha kotoa pe 'oku tokoni ki hono teuteu'i pe ngaohi 'o e me'akai kuopau ke fanofano pea holoholo hono nima ke matu'u 'aupito

Te aronga raverave kai



- Ko te aronga katoatoa tei akateatea mamao me kare, tunu e te tuá i te mānga, ka anoanoia kia tamā e kia tamarō meitakiā to ratou rima.

Tau tagata taute mena kai, poke fota mena kai



- Ko lautolu na e tau tagata lagomatai ke taute, poke taute mo e tufatufa atu e tau mena kai, kia mailoga ke holoholo fakamitaki mo e fakamomo ke momo mitaki e tau lima ha mutolu.

Buying food

Buying food from a Council-registered food premises, or from a business with a Ministry for Primary Industries approved food safety programme will help to ensure that you are buying safe and suitable food.

Follow these guidelines to ensure you buy the safest food possible

- Only buy and use food that is fresh or within its “use-by” or “best before” date. Remember that once a package is opened it should be treated like fresh or perishable food.
- Only buy food whose packaging is in good condition. Avoid buying food with damaged packages – leaking cartons, swollen or dented cans, ripped packets, loose vacuum packs etc.
- Check that chilled food is cool to touch and that frozen food is frozen solid.
- Only buy meat that has been slaughtered, inspected, processed, packaged and labelled at a regulated butchery premises, i.e. an abattoir or retail outlet.

Homekill

- It is legal for people to kill and consume their own animals, however, it is illegal to sell or barter homekill meat. It is also illegal to buy homekill meat.
- At traditional social events it is assumed that there is no element of trading. Homekill meat can be used, but if money or gifts change hands, homekill meat should not be used even if the participants are aware that homekill is being offered.
- For more information about food safety and homekill meat regulations refer to MPI’s website www.mpi.govt.nz or call 0800 00 83 33.



Fa`atauina o mea taumafa



O le fa`atauina mai o mea taumafa mai faleoloa o lo`o resitalaina fa`aletulafono i le 'New Zealand Food Safety Authority' o lo`o iai ni polokalame e talafeagai lelei mo le fa`asaogalemuina o so`o se ituaiga mea taumafa e te fa`atauina mai.

- Ia filifilia na o mea taumafa fou
- Ia fa`atauina na o mea taumafa o lo`o lelei atoatoa lona afifiina.
- O mea taumafa tu`u-aisa, e tatau ona aisa ma maluluina lelei
- O `aano uma o manufasi e tatau ona tapeina mai, siakiina, gaosiaina, afifiina ma fa`apepaina lelei ma ua iai tusitusiga fa`aletulafono.
- Ko e kakano`i manu kotoa pe kuopau ke fakalao hono tamate`i, hono sivi`i mo teuteu`i, mo hono fa`o `o fakahingoa.

Okoóko mänga (kai)



Me okoia te kai mei tetai ngai kua retita ia, me kore ngai pitiniti i raro ake i te New Zealand Food Safety Authority, ka tauturu te reira ia koe i te okoánga i te kai tei akono meitakiáa e te tau no te kai.

- Iki i te au kai ou
- Oko i t e au kai tei va`i meitakiáa
- Akapapü meitaki te anuanu ra rai te au kai anuanu, e te toka meitaki ra te au kai tei aka anu ia kia toka.
- Ko te au kiko manu katoatoa kia taáa ia e kia akarakaraáa i raro ake i ta te ture akanoónooánga, kia vaá meitakiáa, e pera kia tatáa te au tuatua akamaramaánga kia marama meitaki.

Fakatau mai me`akai



Fakatau mai me`akai mei he ngaahi fale `oku `osi lesisita pe ko e pisinisi `oku `osi fakangofua pea fakalele ai `a e polokalama `a e New Zealand Food Safety Authority, ke tokoni`i pea malu`i koe ke ke fakatau mai ha me`akai lelei feunga ke kai.

- Fili ma`u pe `a e me`akai kei fo`ou
- Fakatau pe `a e me`akai `oku kei malu hono kofukofu.
- Fakapapau`i ko e me`akai fakamokomoko `oku momoko `ete ala ki ai pea ko e me`akai `aisi `oku fefeka `o faka-poloka.

Tau kai fakatau



Tau kai kua mua e mitaki mo e me a foki e tau tauteuteaga kua lata tonu ke tamai ia lautolu ne kua moua e tau tohi fakaataa ke fakafua kai, poke ha gahua pisinisi kua moua e fakaataaga mai he matakau Puletonu ha Niu Silani kehe Faahi he Tauteaga Kai Mafola mo e Mitaki (NZ Food Safety Authority) ke maeke a koe ke moua e talahauaga tonu moe maeke ai foki a koe ke iloa kua mafola mo e mitaki e haau a fakatauaga mena kai.

- Fifiili tumau e tau kai fouu
- Fakatau ni he tau kai ne kua mau maopoopo e tau afifi.
- Fakakia fakamitaki e tau mena kai hahau ke hahau mitaki ka aamo e koe ti pihia ni e tau mena kai fakamomoko ke mao kekeha.
- Ko e tamateaga he tau manu kai oti, kua lata ke taute kehe puhala faka fakatufono, tivi, tauteute, afifi mo e fakamailoga.

Transporting food

Getting food home from the shop is the next step in keeping it safe.

Raw food:

- Make sure raw meat and poultry is packed in separate bags away from other foods – this stops their juices dripping onto other foods and contaminating them.
- Take food home as soon as possible after buying it. Don't leave food in a hot car.
- On a hot day, or if you have to travel more than 30 minutes, transport perishable food (meat, dairy products, or seafood) in a chilly bin. It's a good idea to leave a chilly bin in your car to remind you. Large items, such as whole pigs, should be transported in a refrigerated vehicle. This is to stop food temperatures rising to the point that will allow the pathogens that can cause foodborne illness to grow to dangerous numbers.
- Put chilled or frozen foods into the fridge or freezer as soon as you get home.

Cooked food:

Sometimes, food is cooked in one place and then taken somewhere else to be eaten. This is a time when food can become contaminated, or pathogens can grow to dangerous numbers. To keep food safe:

- Make sure cooked food is cooled down quickly before transporting it. Cover the food and put it into a chilly bin, or cooler bag with ice packs.
- For food that will be served hot: cool it and transport it as noted above. When you get to the place where it will be eaten, reheat it until it's steaming hot.
- Keep hot food hot (above 60°C).



Fa`atauina o mea taumafa



O Mea Taumafa e le'i Fa`avelaina

- Ia vave ona ave i le fale mea taumafa pea uma ona fa`atauina
- O mea taumafa uma e vave ona fa`aleagaina, e tatau ona fa`amaluluina lelei i pusa-aisa pea fela`uaina.- fa`aaoga kula malulu mo mea taumafa laiti.
- Fa`aaoga ta`avale fa`apitoa ua i ai pusa aisa e fela`uaina ai manufata, manu papalagi mata atoatoa.

O Mea Taumafa ua Uma ona Fa`avelaina

- Ufiufi malu lelei mea taumafa a'o fela`uaina.
- Fa`amalili lelei mea taumafa vevela / fa`amafanafana po'o le fa`avevelaina lelei. faavevelaina lelei pe afai ole a taumafina.

Fakatau mai me'akai



Ko e me'akai mata

- 'Ave fakahanganu ma'u pe ho'o me'akai ki 'api hili pe hono fakatau mai.
- Tauhi 'a e me'akai 'oku vave 'ene kovi ke mokomoko lototonga hono fetuku holo - fa'o ki ha puha 'aisi 'a e me'akai 'e hao ki ai pea fa'o ki ha loli 'aisi 'a e me'akai lalahi hange ko ha fanga puaka.

Ko e me'akai moho

- 'Ufi'ufi e me'akai lototonga hono 'ave mei ha feitu'u ki ha feitu'u kehe.
- Fetuku 'a e me'akai fakamokomoko 'i ha puha 'aisi.
- Tuku ke mokomoko 'a e me'akai moho pea toki fa'o ki ha puha 'aisi, pea toki fakamafana ke lili
- 'aupito'i he taimi 'oku fiema'u ke kai ai.

Okoóko mǎnga (kai)



Kai matamata

- Kave tika i te mǎnga tei okoia ki te ngutuare
- Akaanuanu meitaki i te au kai kino vave i te tuatau te kavea ia ra,- äkonokono i te au mǎnga rikiriki ki roto i te vairanga anuanu (chilly bin), e ko te au mǎnga mamaata mei te puaka, kia na rotoia i te toroka e pirita to roto.

Kai tunu/Mǎnga maoa

- Tapoki ite mǎnga me akanekeia mei tetai ngai ki tetai.
- Kia vai anuanu ua rai te mǎnga i roto i te vairanga anuanu me apai ia ki tetai ngai.
- Aka'anuanu i te mǎnga vera, me tae ra kite ngai tei akonoia no te kai, kia akaveraveraia kia vera meitaki.

Tau kai fakatau



Tau Kai Mata

- Uta fakaave ki kaina ka oti e fakatau
- Fakamokomoko fakamitaki e tau kai pulu vave ka uta he puhala tu, fakaaoga e tau puha fakamokomoko kai (chilly bin) mae tau mena kai ikiiki kae fakaaoga e motoka fakamomoko kai mae tau mena kai lalahi, tuga e puaki mau ai pihia.

Tau Kai Moho

- Ufiufi fakamitaki ka uta fano he taha mena kehe taha mena.
- Tuku i loto he puha fakamokomoko kai mo e tau valavala aisa to uta fano.
- Fakahahau e tau kai vela, ti fakamafana ke vela mitaki he matakavi poke mena ka taute ai e kaiaga.

Storing food

To keep food fresh and safe store it in the following ways:

In a fridge:

- Store perishable chilled foods in a fridge at a temperature between 0 and 5°C (you can buy a fridge thermometer from a hardware store).
- Cover food to prevent pathogens being transferred from raw food to cooked or ready-to-eat foods (e.g. bread, salads, seafood, cold meats).
- Cover raw meat and poultry, and store them in the bottom of the fridge so their juices can't drip on to other foods and contaminate them.
- Store eggs in the fridge.
- When you're catering for large numbers of people, if there isn't enough room in the fridge for all the food, store it in chilly bins with ice packs.

In a freezer:

- Ensure the freezer temperature is between -15°C and -18°C, or is cold enough so that the frozen food is frozen solid.
- Only freeze fresh, good quality food – freezing will not kill some pathogens in food.
- Put leftover food into small containers so it freezes quickly enough to kill pathogens.

Ensure the fridge and freezer are defrosted and cleaned frequently to keep them operating efficiently and to reduce the chances of cross-contamination.

In a pantry:

- Store shelf-stable food products (e.g. cans, bags of flour etc) off the floor.
- Keep food covered or in airtight containers and away from chemicals and pests (insects, mice, rats etc).
- Keep the area clean – food scraps attract pests.
- Use the oldest food first.



Teuina lelei o mea taumafa

Pusa aisa

- la teuina ma fa`amaluluina lelei mea taumafa i totonu o pusa aisa mai le va o le 0 ma le 4 tikeri.
- la ufiufi maluina lelei mea taumafa mata mai mea taumafa ua uma ona fa`avelaina ina ia puipua mai i siamia e fa`aleagaina ai. – falaoa, salaki, mea taumafa mai le sami, aano o manu fasi ua fa`avelaina.
- la afiafi ma teuina malu lelei aano o manu fasi ma moa i le taele o le pusa aisa ina ia aua le sisina o latou sua e ono fa`aleagaina ai isi mea taumafa.
- Afai e le gafatia ona teuina uma mea taumafa ua totoe mai se fa` atasiga, ona fa`aagaina lea o kula malulu ua iai ni aisa e teuina lelei ai.

Pusa aisa malulu

- la mautinoa ua to`a le aisa ma maluluina lelei le pusa aisa e teuina ai mea taumafa tu`u aisa.

Potu e teu ai isi vaega fai kuka

- la teuina uma i fata ia mea taumafa e umi lo latou fa`aagaina (fa`ataitaiga taumafa tu`u apa, taga falaoa mata etc)
- la ufiufi malu mea taumafa po o le utuina i fagu ina ia puipua mai i vailaau oona, iniseti fa`alafua (isumu etc)

Ko hono tauhi 'o e me'akai

'Aisi fakamokomoko

- Tauhi 'a e me'akai fakamokomoko 'oku vave 'ene kovi 'i ha 'aisi 'oku 'i he vaha'a 'o e tikilii fakasenakalati (centigrade) e 0 ki he 4 hono momoko.
- 'Ufi'ufi 'a e me'akai ke ta'ofi 'a e 'alu atu 'a e pekitilia mei he me'akai mata ki he me'akai moho pe ki he me'akai (hange ko e ma, salati, me'akai-tahi, kakano'i-manu momoko).
- 'Ufi'ufi 'a e kakano'i-manu mo e moa mata, pea fa'o taupotu ki lalo 'i he 'aisi fakamokomoko ke 'oua e tafe hono huhu'a ki he me'akai kehe 'o maumau'i.
- Kapau 'oku si'i 'a e 'aisi ke hao kotoa ki ai 'a e me'akai 'i ha ngaohi me'akai lahi, pea 'oku tonu leva ke tauhi 'a e me'akai 'i ha ngaahi puha 'aisi fakamokomoko. 'Aisi momoko fakapoloka
- Fakapapu'i 'oku momoko fe'unga 'a e 'aisi ke kei momoko fakapoloka 'a e me'akai 'aisi.

Kopate

- 'Oua 'e tuku 'a e me'akai 'i he faliki 'o e feleoko tuku'anga me'akai.
- Tauhi ke ma'a 'aupito 'a e kopate he 'oku tohoaki'i mai 'e he momo'i me'akai 'a e fanga manu maumau.
- 'Ufi'ufi ma'u pe 'a e me'akai pea fakamama'o mei he kemikale mo e manu maumau (hange ko e 'inisekite, kumaa etc).
- 'Uluaki faka'aonga'i ma'u pe 'a e me'akai kuo fuolua hono tuku.

Vairanga tuku kai/mānga

Pirita

- Tuku i te kai te ka kino vave ki roto i te pirita te angaanga meitaki ra,i rotopu i te kare(0) e te ä(4°C) te anuanu.
- Tāpoki meitaki i te kai ei paruru i te au manumanu auraka kia piri atu ki te au kai matamata e te maoo, me
- kore te au kai tei tano i te kai, mei te [varaoa opue,kai raurau,kai no roto i te tai, kiko manu.]
- Vāi meitaki i te mānga kiko manu e te moa, tuku ki roto e ki raro ake i te pirita kia kore te toto e taetae ki runga i tetai au mānga te ka riro i te takino atu ia ratou.

Mei te mea e kare e rava te ngai vairanga mānga ki roto i te pirita aao atu ki roto i te vairanga anuanu (chilly bin).

Pirita anu

- Akapapu meitaki e te anu ra te pirita, kia anu toka meitaki te kai
- Kaparata vairanga
- Auraka e vaō i te au kai ki runga i te taua.
- Akono kia vai mā uarai te vairanga kai – ka totoo mai te parakai i te manumanu.
- Vāi e te akono metaki i te au kai, e te akatakake katoa mei te au vairakau e te au manumanu (manumanu rikiriki, kiore etc).
- Na mua i te kai i te au kai kua roa te tuata.

Puhala toka mena kai

Filisa

- Tuku e tau kai hahau i loto he filisa ne gahuahua mitaki he vahalohe he 0 mo e 4 C
- Ufi e tau kai ke ua maeke e tau moko (bacteria) ke feofano mai he mena kai mata kehe mena kai moho,
- poe tau mena kai kua mau ke kai (falata pehe falaoa, tau salati,tau menakai tahi, tau vala manu poke tau salati hahau.
- Ufi e tau vala manu mata poke tau vala manu lele mo e tuku a lautolu kehe fata fakaoiti ilalo he puha filisa
- ke ua maeke e tau huhua vala manu ke tafe hifo mo e fakakelea e falu mena kai.
- Kaeke kua nakai fai mena ata e filisa ke lata mo e tau kaiaiga tokologa ti tuku i loto he tau puha momoko (chilly bins) ti fata aki e tau vala aisa.

Filisa momoko lahi

- Kia mailoga ke tumau e malolo he momoko he filisa ke mau tumau e mao he tau kai momoko i loto.

Kapati tuku kai

- Aua neke tuku ha mena kai he foloa he kapati tuku kai.
- Kia fakamea tumau e kapati tuku kai ha ko e tau valava mena kai ne fiafia lahi e tau manu kelea ki ai.
- Kia uufi tumau e tau mena kai mo e tuku kehe mai he tau vai kona poke tau manu fakakelea kai (lago, kakolsi, kuma, tau manu pehe na)
- Fakaaoga fakamua e tau mena kai kua levaleva e toka.

Preparing food

The main things to remember about keeping food safe during preparation are:

- protect food from cross-contamination;
- keep food out of the temperature danger zone as much as possible.

Cross-contamination refers to the transfer of pathogens from dirty to clean items. It means food can be infected with pathogens from other sources such as dirty utensils, chopping boards and other surfaces, as well as dirty hands or unhygienic behaviour (sneezing, coughing over food).

Prevent food from becoming unsafe through cross-contamination by using separate utensils and chopping boards where possible, or cleaning them thoroughly between foods.



There are a few differences around the kitchen environment when preparing food for large groups (for example, in church or hall kitchens) rather than for family in your home.

Things to think about	In your home	For large groups
Kitchen utensils can become contaminated and transfer pathogens to other foods.	Use separate utensils (knives, spoons, chopping boards etc) for preparing raw food and cooked ready-to-eat food where possible, or clean them between use.	It is a good idea to have different coloured chopping boards for raw food and cooked food.
Clean bench surfaces, knives and chopping boards before use, between preparing different types of food (e.g. meat and vegetables, or raw and cooked or ready-to-eat foods), and after use.	Cleaning involves scrubbing utensils in hot soapy water, then rinsing and drying.	The cleaning process should include a sanitising step. After cleaning, rinse or wipe chopping boards and surfaces with a food-grade bleach solution. Cleaning removes dirt, while sanitising kills pathogens.
Keep your kitchen clean.	Ensure the food preparation area in your kitchen is kept clean by wiping benches and sweeping floors. Keep pets away from food and off benches.	Clean the floors, benches and all equipment after use. If it is a long time since the kitchen was last used, it may be necessary to clean the surfaces before you start preparing food.

Where food is prepared outdoors, cover it as soon as possible to protect it from insects, birds and animals.

Before and after it is prepared, cover the food and store chilled food in the fridge.

Minimise the length of time that food sits at room temperature – **NEVER** allow food to sit at room temperature for longer than a total of two hours. The warmer the temperature, the shorter the time food will remain safe.

Gasecina o mea taumafa



- E tatau lava ona eseese naifi ma laupapa e fa'aaogaina mo le sauniunuiga o mea taumafa mata ma taumafa ua uma ona faavelaina fa'apea foi mea taumafa ua uma ona saunia mo le taumafaina.
 - la fufulu mamaina lelei mea uma ao lei fa'aaogaina po o taimi uma lava e maea ai ona sauniunia ia so o se ituaiga mea taumafa (aano manufasi, fualaaus faisua), ma mea taumafa ua fa'avelaina ma sauniunia.
- Ia fa'aititia le taimi e ta'atia ai i fafo mea taumafa. Ia aua nei sili atu i le 2 itula o ta'atitia pea mea taumafa i fafo. O le mafanafana tele o le ea, o le pu'upu'u fo'i lea o le taimi e fa'a saogalemuina ai mea taumafa.

Ko e anga hono teuteu'i 'o e me'akai



- Ngaue'aki 'a e hele mo e papa hifi'anga me'akai mavahe ki he me'akai moho pea taha kehe ki he me'akai mata 'o kapau 'oku ala ma'u.
- Fakama'a 'a e papa hifi'angame'a mo e me'a ngaohi'anga me'akai kotoa pe ke ma'a lelei pea toki ngaue'aki. 'Oku tonu ke toe fakama'a 'a e naunau ngaahi-kai ke toe ngaue'aki ke ngaohi
- ai ha me'akai kehe (hange ko hano hifi'aki ha hele ha kakano'i manu pea toe 'ai ke hifi'aki ha vesitapolo, kuopau ma'u pe ke 'uluaki fakama'a pea toki ngaue'aki, pe ko hano ngaue'aki ha me'a ngaahi-kai ki ha kakano'i-manu mata
- pea toe 'ai ke ngaue'aki ki ha me'akai moho – kuopau ma'u pe ke tomu'a fakama'a). 'Oku tonu ma'u pe ke toe fakama'a foki hili hono ngaue'aki.

Feinga'i ke fakasi'isi'i 'a e taimi 'oku tuku ai 'a e me'akai 'i tu'a 'o 'ikai tuku ki ha 'aisi – 'OUA 'AUPITO na'a tuku 'a e me'akai 'i tu'a 'o toe fuoloa ange 'i he houa e ua. Ko e mafana ange 'a e 'ea, ko e si'i ange ia 'a e taimi 'oku kei lelei ai ha me'akai 'o fe'unga ke faka'onga'i.

Teateamamao'anga i te kai/mānga



- Timata, auraka kia okotai ua matipi e pera te vaānga rakau tipupu i te au kai matamata, kai maoa e te au kai kua papa takere no te kai.
 - Tamā meitaki i te au ngai katoatoa i muake
 - ka raverave ei i te au kai tuketuke mei te (kiko
 - manu, kai raurau, kai matamata e te kai maoa.), e pera katoa me oti te angaanga.
- Akaiti mai ite tuatau ka vaiō iai te mānga i roto i te ngai maanaāna. AURAKA e vaiō i te mānga kia vai ua ki vao ake i te rua ora. Ko te maanaana i te tuatau vera ko te poto ia i te tuatau ka vaiōia te kai.

Tauteuteaga mena kai



- Kua mua atu e mitaki kaeke kua fahia ke fakavahega kehe e sisipi mo e lapa helehele mena kai mata mai he sisipi mo e lapa helehele mena kai moho. Ko e puhala tonu mo e mitaki hanai ke lata mo e tauteuteaga he tau mena kai he kaina poke fakafua atu.
 - Kia kana fakamea fakamitaki a luga he laulapa taute kai to fakaaoga ti pihia ni ka oti e tauteute he tau faga mena kai kehekehe (fakatai pehe
 - vala manu mo e tau laukou kai, kai mata mo e kai moho poke tau mena kai mau tuai ke kai.
- Kia mailoga mo e taofiofi e tau magaaho ke ua toka leva ha mena kai i loto he liufale. AUA neke toka ha mena kai i loto he liu fale ke molea e ua e tula. Ko e mafanafana he liu fale to eke ia mo mena ke fakahagahagakelea aki e mitaki mo e maopoopoaga he haau a tau mena kai.

Cooking food

Cooking food thoroughly is vital to ensure that any pathogens are killed.

Make sure all food, especially meat and chicken, is completely thawed (defrosted) before you cook it.

Defrost frozen foods in the fridge or in the microwave before cooking – not on your bench top. Cook minced meat and sausages thoroughly (meat should not be pink), and cook poultry until juices run clear.

Tips to keep your umu safe

The fire:

- Use the correct type of stones – some stones will shatter with extreme heat. Obtain the stones from a licensed quarry or contact your local Council for advice if you collect stones from a river.
- Contact your local Council about fire permits, restrictions, bylaws etc before you plan your umu.
- Ensure protective equipment including gloves, safety boots and overalls, as well as a first aid kit are available near the umu pit.
- Ensure water is readily available (e.g. a hose connected to the tap) within reach of the umu pit to put out the fire in case it gets out of control.
- Make sure you have enough stones to heat the amount of food that will be cooked (communication between the people in the kitchen and those supervising the umu pit is very important) and have enough firewood to heat the stones.
- Start the fire with dry paper. Do not use petrol or kerosene to light the fire.
- Use only dry paper and firewood to reduce the amount of smoke and obtain a clean fire. Do not use plastic, painted wood or any treated timber.
- Heat the stones until they are white hot.
- After the umu, remove rubbish from the area and dispose of it properly.



Umu food:

- Cover all food in tinfoil or leaves before putting it into the food baskets.
- Carefully place the food baskets on top of the hot stones, stacking them no more than two baskets high.
- Ensure that the baskets containing meat are on the bottom layer so that the meat will cook thoroughly.
- When cooking a pig, put hot stones wrapped in leaves inside the pig.
- Whole pigs take longer to cook than pieces.
- Consider cutting up the pig and cooking the pieces in the umu, rather than the whole pig on a spit. If you cook a pig on the spit, remember that it will take longer to cook than the umu food.

Fa`atauina o mea taumafa



- E matua taua tele le fa`avelaina lelei o mea taumafa aua e fa'amautinoaina ai le fa'aumatiaina o siama. O a`ano mata o manufasi e tatau ona fa'avelaina lelei seia leai le lanu piniki e fa'apena fo`i i moa ma pua`a e tatau lava ona fa'avelaina lelei seia manino le suavai.

Fakatau mai me'akai



- 'Oku totonu ke haka 'a e me'akai ke moho 'aupito pea fakapapau'i kuo mate kotoa 'a e pektilia 'oku 'i he me'akai..

Kai/mänga maoa



- Me maoa meitaki te tunuānga te kai ka papu meitaki e kua matemate te au,manumanu kikino.

Tau kai moho



- Kua mahuiga lahi ke tunu fakamitaki e tau kai ke moho maopopo moe iloa tonuhia ai kua mamate e tau moko utafano gagao.



Serving food

Serve cooked food hot, and as soon as possible.

If food is to be held for a while before it is served, keep it hot in a preheated oven or bain marie (hot holding unit). Keep the temperature of the oven or bain marie to at least 60°C.

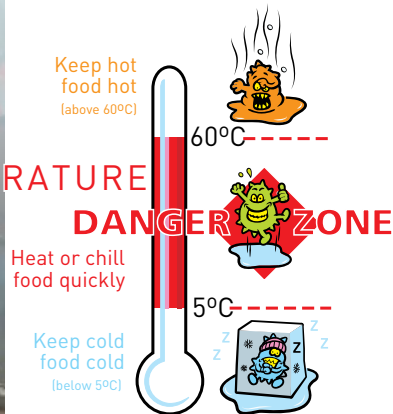
A high holding temperature prevents the small number of pathogens that may have survived the cooking from growing to dangerous numbers.

Keep chilled, ready-to-eat foods covered in the fridge until it's time to serve them. This is particularly important for seafoods, meat and vegetable salads, rice salads, desserts and cakes containing cream or imitation cream.

Minimise the length of time that food sits at room temperature – **NEVER** allow food to sit at room temperature for longer than a total of two hours. The warmer the temperature, the shorter the time food will remain safe.

Contamination after cooking can occur when cooked food comes into contact with dirty hands, serving utensils, cutting boards, bench surfaces or the environment – flies, hair, dirt etc.

Cover all food with cling film, tin foil or clean cloths **AT ALL TIMES**, right up until it is served, to prevent contamination.



Tapenaina o mea taumafata



- la vevela lelei mea taumafa mo se taumafataga po`o le iai fo`i o se ogaumu e fa`aogaina e fa`avevelaina ai pea.
- O mea taumafa e taumafaina malulu, e tatau ona ufiufi malu lelei ma teuina i le pusa aisa se`i o`o i le taimi e fa`aogaina ai.

Ia fa`aitiitia le taimi e ta`atia ai i fafo mea taumafa. Ia aua nei sili atu i le 2 itula o ta`atitia pea mea taumafa i fafo. O le mafanafana tele o le ea, o le pu`upu`u foi lea o le taimi e fa`a saogalemuina ai pea o mea taumafa.

- E tatau ona ufiufi malu lelei mea taumafa i pepa ufi mea`ai [pepa iila, pepa alaminii] po`o se ufi laulau mama seia o`o i le taimi o le a fa`aogaina ai.

Ko hono teu (hiko) `o e me`akai ki he kai



- Hiko `a e me`akai moho ke kai `i he vave taha hili pe `ene moho pe tauhi pe ke kei mafana [vela] `i ha me`a fakamafana me`akai.
- Tauhi `o `ufi`ufi malu ha me`akai ki he kai `oku fiema`u ke momoko `i he `aisi kae`oua pe kuo fiema`u ki he kai.

Fakasi`isi`i ma`u pe `a e taimi `oku tuku ai `a e me`akai `i tu`a mei he `aisi- OUA na`a tuku `a e me`akai `i tu`a mei he `aisi `o toe loloa ange `i he houa `e ua. Ko e mafana ange `a e `ea, ko e si`i ange ia `a e taimi `oku kei sai ai ha me`akai ke kai.

- `Ufi`ufi ma`u pe `a e me`akai `aki ha milemila
- pe foila pe tupenu ma`a `I HE TAIMI KOTOA PE
- kae`oua pe kuo teu ki he kai..

Tuānga i te kai



- Tuá i te mānga te vera ara rai. Me kore i muri uake i te tuatau i maoo ai, me kore akaruke ki roto i te umu vera.
- Akaruke i te au kai anuanu e pera te kai tei oti takere i te akonoia ki roto i te pirita kia vaitata roa te tuatau no te tuá atu ki vao.

Akaiti mai ite tuatau ka vaiö iai te mānga i roto i te ngai maanaána. AURAKA e vaiö i te mānga kia vai ua ki vao ara atu i te rua ora. Ko te maanaana i te tuatau vera ko te poto ia i te tuatau ka vaiöia te kai.

- Vaii i te mānga i te AU TUATAU RAVARAI ki te vaii peapa(tin foil) e pera te kakau mā e tae uatau
- ki te tuatau e tuá iai te mānga.

Tufatufaaga he tau kai



- Kua mua atu e mitaki ke tufa e tau kai moha kae vela agaia, poke tufa ke kai he mogo ia ni he oti e tunu, poke tuku i loto he mena tuku kai vela pauaki.
- Uufi e tau kai hahau poke momoko ti tuku i loto he filisa ato hoko e magaahao ke tufatufa ai.

Kia mailoga mo e taofiofi e tau magaaho ke ua toka leva ha mena kai i loto he liufale. AUA neke toka ha mena kai i loto he liu fale ke molea e ua e tula. Ko e mafanafana he liu fale to eke ia mo mena ke fakahagahagakelea aki e mitaki mo e maopoopoaga he haau a tau mena kai.

- Kia uufi aki e foila poke ha kala mena mea e tau mena kai he tau magaaho oti ato hoko e magaaho ke tufatufa poke kai ai.



Keeping leftover food safe

It is important to cool cooked leftover food quickly to reduce the time it stays within the temperature danger zone.

Cool food by:

- spreading it out in clean, shallow, open trays so that it cools more quickly;
- slicing pieces of meat;
- stirring regularly (for soups and boil ups).

If you are taking food home or away from an event keep it cold by putting it into a chilly bin or bag with ice packs.

Eat leftovers within **TWO** days or throw them out.

If you reheat leftover food, heat it thoroughly until it is steaming hot, right through to the middle.



O mea taumafa e totoe



- la vave ona fa`ama`alili ina mea taumafa e totoe.
- la fa`aoga kula malulu o lo`o i ai aisa i totonu e teuina ai mea taumafa o totoe pea fela`uaina.
- Teu lelei mea taumafa o totoe i le pusa aisa ma ia fa`aogaina i totonu o le 2 aso ona lafoa`ina loa lea.
- la fa`avevelaina lelei mea taumafa o totoe – seia matua`i vevela lelei.

Toenga me`akai



- Tuku ke mokomoko `a e toenga me`akai `i he vave taha.
- Tauhi `a e toenga me`akai `i ha puha `aisi fakamokomoko kapau `e `ave mei ha feitu`u ki ha feitu`u kehe.
- Tuku `a e toenga me`akai ki he `aisi fakamokomoko `o `oua `e toe fuoloa ange `i he `aho `e ua pea ka `ikai pea li`aki.
- Fakafana `a e toenga me`akai ke mafana `aupito `o lili (pea toki kai).

Kai/mānga toe



- Tuku viviki i te kai toe ki roto i te pirita anuanu
- Vaiö i te au kai toe ki roto i te vairanga anuanu (chilly bin) e aiti to roto i te tuatau e akaneke iai ki tetai ngai.
- Vaiö i te au kai toe ki roto i te pirita, e kai kaotoa i roto i te rua ra me kore titiria ki vao.
- Tāmāana i te mānga kia vera meitaki.

Tau mena kai ne toe



- Kia faka hahau fakaave.
- Tuku i lotu he puha momoko mo e tau paka
- aisa kaeke kua taut eke uta kehe taha matakavi
- kehe.
- Kia mailoga ke fakahahau fakamitaki to tuku i lotu he filisa. Ka nakai fakaaoga he molea e ua e aho, liti kehe vao.
- Ka liu ke fakaaoga ti manatu ke fakamafana ke vela mitaki to kai.

Bringing umu packs into New Zealand

Several foodborne illness outbreaks have been traced back to umu food being brought into New Zealand from the Pacific Islands.

It is very important to keep food imported in umu packs safe during transportation (which includes flights, time in airports, and travelling at either end of the flight). Once in New Zealand umu packs are often shared so if the food is not safe many people can get a foodborne illness.

To maintain the safety of food in umu packs during transportation ensure it has been cooled or frozen and packed into a chilly bin, with ice packs.

Once home, store umu packs in the fridge or freezer until they are about to be eaten. Reheat the food thoroughly and remember that cooked food must be eaten within two days, or thrown out!

New Zealand's biosecurity laws

As well as food safety considerations, New Zealand has biosecurity laws to protect plants and animals from pests and diseases.

All umu packs must be declared to a quarantine officer on arrival into New Zealand.

Umu packs

Umu packs **CAN** contain:

- Shellfish (excluding clams), fish and sea grapes. All seafood must be dead and shellfish must be removed from their shells.
- Cooked fruit and vegetables, however, no fresh produce is allowed. All produce, including both commercially and home packaged goods, are subject to inspection to verify the effectiveness of the cooking method used.
- Tinned meat is the only meat that can be brought into New Zealand.

Umu packs **MUST NOT** contain:

- Clams – covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Breadfruit – even if it's cooked as it can still contain fruitfly.

For more information, visit: www.mpi.govt.nz, or phone 0800 00 83 33.

Fela`uaina o mea taumafa i pusa umu



- E tatau ona fa'amaluluina lelei mea taumafa, po'o le fa'amaloina lelei i le aisa a'o le'i fu'eina
- i totonu o kula malulu o lo'o ia i aisa mo lona fela`uaina.
- Ia manatua lelei, o taumafa ua fa'avelaina e tatau lava ona taumafaina i totonu o le 2 aso po'o le lafoa`ina loa.

Ko e 'omi 'o e puha 'umu



- Ko e me'akai (puha 'umu) 'oku totonu ke tomu'a tuku ke mokomoko pea fakamomoko'i 'i he 'aisi pe fakapoloka ke momoko 'aupito pea toki fa'o
- ki he puha 'aisi fakamokomoko ke 'ave ai.
- Manatu'i ko e me'akai moho kuopau ke kai pe 'i ha 'aho 'e ua pea ka 'ikai pea li'aki.

Apai mai anga i te au kai te ka tau ia



- Ko te au mānga tau kia akaānuanu ia me kore kia aka tokaia ki roto i te au vairanga anuanu (chilly bin) i mua ake ka kaveia ai.
- Akamaara meitaki, kia kai ia te mānga i roto i te rua ra, me kore ra kia titiri ia ki vao.

Puhala ke tamai aki e tau mena kai umu



- Kia mailoga ke fakahahau fakamitaki e tau kai tao he umu poke tuku he filisa ke mao to tuku he puha momoko mo e tau valavala aisa ke lata ia mo e puhala ke tamai ai.
- Manatu ke fakaaoga e tau kai nei to hook e ua e aho ti kaeke ke nakai ti tolo ke vao.

Keeping raw fish and povi masima safe

Keeping raw fish salad safe

Raw fish salad is made by marinating fish in lemon juice until it turns white and opaque. It is mixed with fresh coconut milk, raw onions and coloured vegetables.

To maintain the safety of raw fish salad:

- Use fresh fish;
- Marinate the fish in the fridge;
- Do not let the lemon juice solution (acidity) become watered down, (otherwise the salad can become an ideal place for pathogens to grow).
- Always cover raw fish salad and store it in the fridge.

Remember raw fish salad may be risky for pregnant women, or people with lowered immunity.

Keeping povi masima safe

Povi masima is fatty cuts of beef preserved in salt water (beef in brine). The fatty beef, usually the brisket portion, is cut up into big pieces or chops and preserved in large containers of high salt brine solution and then cooked before it is eaten.

When Povi masima is stored at room temperature, and the dissolved salt is absorbed by the meat, pathogens can grow to high levels.

To ensure Povi masima remains safe:

- store Povi masima in the fridge;
- do not re-use the brine solution;
- if more salt is needed:
 - remove the meat and put it in a clean container;
 - mix the salt into the solution thoroughly;
 - put the meat back in;
 - **do not** add salt to the full container.



Oka i'a/Povi masima



Oka i'a

- la ufiufi malu lelei le oka i'a ma teuina i totonu ole pusa 'aia (fridge) a'o sokaina.

Povi masima:

- Teu lelei fasi povi masima i le pusa 'aia (fridge)
- Aua lava ne'i fa`aaogaina le suavai masima (brine solution)
- Afa'i e toe mana`omia ni masima, la`u `eseina ma tu`uina fasi povi masima i se paelo mama. la
- sa`eu lelei le masima ma le vai, a`o le`i toe tu`uina i totonu fasi povi (nai lo le sasa`a atoa i ai o le masima i totonu o le paelo o lo`o tumu).

Ko e 'ota ika/Pulu masima



Ko e 'ota ika

- Fa'o ma'u pe 'a e 'ota ika ki he 'aisi fakamokomoko lolotonga hono fakamohe'aki 'a e lemani pe vinika.
- Manatu'i ke 'ufi'ufi ma'u pe 'a e 'ota ika pea fa'o ki he 'aisi fakamokomoko.

Pulu masima

- Fa'o 'a e pulu masima ki he 'aisi mokomoko.
- 'Oua 'e toe faka'aonga'i 'a e vai pulu masima (ke fakamasima ai ha me'akehe).
- Lote ke fefiohi lelei 'a e faito'o fakatolonga mo e masima 'i he vai pulu masima, kimu'a pea toki fakafoki ki ai 'a e pulu masima (kae'oua 'e fakamasima fakahangatonu pe ki he loto puha).

Ika mata/Puakatoro miti



Ika mata

- Vao uarai i te ika mata tei maaniia ki roto i te pirita i te tuatau kua marineti ia
- Vali ua rai i te ika mata maaniia ki roto i te pirita.

Puakatoro miti

- Vaõ i te Puakatoro Miti ki roto i te pirita
- Auraka e akaoki akaou i te puakatoro miti ki roto i teia vai
- Kairo meitaki I te vai I te au tuatau ka ruruia ai te miti, e imuake ka tuku akaou iai te kiko manu.

Ko e ota vala salati/Povi masima



Ko e ota vala salati

- Kia mailoga tumau ke tuku e salati ika i loto he filisa mo e moua ai e gahuahua katoatoa he tau huhua fua lakau taute ota.
- Kia mailoga tumau foki ke uufi e salati ika mo e tuku i loto he filisa.

Povi masima

- Tuku he filisa e tau vala povi masima.
- Aua neke liu fakaaoga e masima ne tuku ai e ta vala povi nei.
- Kia hui fakamitaki e vai masima nei mo e masima kua lafi atu kehe vai masima nei to liu tuku foki falu vala povi ki loto.

Common causes of foodborne illness

A wide variety of pathogens – bacteria, fungi, parasites, viruses and other organisms – can cause illness in people. Many of these can contaminate food. Knowing what to watch out for and how to ensure you don't contaminate food that you, your family or others are going to eat is an important part of knowing how to avoid foodborne illness. People who are ill should avoid preparing food for others.

It can take from as little as 20 minutes to several weeks to become sick from food that's been contaminated by pathogens (and your illness may not be caused by the last thing you ate). Foodborne illness can be mild but sometimes (especially if you have low immunity) it can be life-threatening or cause death.

Bacteria are tiny living organisms. Some species of bacteria can make people sick when they are present in high numbers and some can make people sick even if they are only present in small numbers.

Our food is often an ideal place for bacteria to grow, and with the right conditions they can multiply very quickly; their numbers can double every 20 minutes. Contamination with even a small number of bacteria cells can make food unsafe in a short time.

Parasites are plants or animals that live on (or in) another plant or animal while making no useful contribution to their host. Some parasites cause foodborne illnesses when they contaminate food.

Viruses are non-living particles that invade healthy cells in order to reproduce. They are usually spread by infected people who do not wash and dry their hands properly before handling foods, or from eating shellfish growing in water contaminated by human sewage.

The table on the next page lists common foodborne illnesses, the foods that can carry them and the symptoms shown when people get sick. Anyone who suspects they have become ill from a foodborne illness should see a doctor.



NAME	POSSIBLE SYMPTOMS (FROM MOST TO LEAST COMMON)	FOODS AND CAUSES LINKED TO OUTBREAKS	HOW SOON IT TYPICALLY STRIKES
<i>Bacillus cereus</i> (bacteria)	Two different forms of foodborne illness: Vomiting, nausea, occasional diarrhoea Diarrhoea, abdominal pain, occasional nausea	Rice, spices and foods containing starch-based products e.g. gravies, casseroles and sauces.	1 to 6 hours (vomiting) 10 to 12 hours (diarrhoea)
<i>Campylobacter</i> (bacteria)	Muscle pain, headache, fever, followed by diarrhoea (can be bloody), abdominal pain, nausea	Undercooked chicken, unpasteurised milk, undercooked liver, untreated drinking water.	2 to 5 days but can range from 1 to 10 days
Ciguatera (toxin)	Nausea, vomiting, diarrhoea, muscle pain followed by neurological symptoms including headache, temperature reversal (hot things feel cold and cold things feel hot), dizziness, tingling, muscular weakness, irregular heartbeat	Ciguatera poisoning is generally associated with private imports of imported reef fish from the tropics. It is not known from New Zealand caught fish, although there may have been cases from fish caught in the Kermadec Islands.	Within 6 hours
<i>Clostridium botulinum</i> (bacteria)	Nausea and vomiting followed by neurological symptoms including weakness, dizziness, double vision, difficulty speaking, swallowing and breathing, abdominal distension	Canned or bottled foods that haven't received adequate heat treatment.	12 to 36 hours
<i>Clostridium perfringens</i> (bacteria)	Severe abdominal pain, watery diarrhoea, occasional vomiting and nausea	Meat dishes especially rolled roasts, stuffed meat, soups, stews, gravies, rice and pies that have been cooled too slowly allowing bacteria to grow.	10 to 12 hours, but can range from 6 to 24 hours
<i>Cryptosporidium parvum</i> (parasite)	Watery diarrhoea, vomiting, stomach cramps, weight loss	Contact with farm animals, untreated drinking water, recreational water contact and contaminated fresh produce, contact with sick animals and contact with sick people.	3 to 11 days
<i>Cyclospora</i> (parasite)	Watery diarrhoea, loss of appetite, weight loss, cramps, nausea, vomiting, muscle aches, low grade fever, extreme fatigue	Contaminated fresh produce.	1 week
Verotoxin- or Shiga toxin-producing <i>E. coli</i> (VTEC/STEC)	Severe abdominal pain, watery (then bloody) diarrhoea, occasional vomiting	Untreated drinking water, unpasteurised milk, contaminated fresh produce.	2 to 8 days
<i>Giardia intestinalis</i> (parasite)	Diarrhoea, flatulence, stomach cramps	Contaminated fresh produce.	1 to 3 weeks

NAME	POSSIBLE SYMPTOMS (FROM MOST TO LEAST COMMON)	FOODS AND CAUSES LINKED TO OUTBREAKS	HOW SOON IT TYPICALLY STRIKES
Hepatitis A (virus)	Fever, malaise, nausea, vomiting, loss of appetite, abdominal pain, jaundice	Contact with a case, shellfish, infected food handlers.	10 to 50 days
Listeria (bacteria)	Non-invasive: diarrhoea, fever, muscle pain, headache, occasional abdominal cramps and vomiting Invasive: fever, headache, diarrhoea, vomiting, septicaemia, encephalitis, meningitis, spontaneous abortion or stillbirth	Ready-to-eat products, such as deli meats and salads, cooked poultry products, smoked seafoods, soft cheeses and foods with a long refrigerated shelf life are often linked to outbreaks of Listeria. Once food is contaminated with Listeria the bacteria multiply quickly, even at the recommended refrigeration temperatures of 2-4°C.	Non-invasive: 11 hours to 7 days Invasive: 1 day to 3 weeks
Norovirus (virus)	Nausea, vomiting, diarrhoea, abdominal pain, headache, low-grade fever	Shellfish, contaminated water, infected food handlers.	24 hours but can range from 10 to 50 hours
Salmonella (bacteria)	Nausea, vomiting, abdominal cramps, diarrhoea, fever, headache	Tahini, raw meats, untreated water, infectious food handlers.	6 hours to 2 days
Scombrototoxin (toxin)	Tingling or burning sensation in the mouth, upper body rash, reduced blood pressure, headache, itching, nausea, vomiting, diarrhoea	Many generally darker-fleshed fish species can cause histamine poisoning if not kept chilled after capture. Species often implicated in New Zealand outbreaks are kahawai, trevally and kingfish.	A few minutes to a few hours
Staphylococcus aureus (bacteria)	Nausea, vomiting, abdominal cramps, occasional diarrhoea	Poor hygiene management of ham, cooked meats, yoghurt, chicken salad, pasta dishes, bakery products (especially cream filled), cheese.	2 to 4 hours but can range from 30 minutes to 7 hours
Vibrio parahaemolyticus (bacteria)	Diarrhoea, abdominal pain, nausea, vomiting, headache, fever, chills	Recreationally gathered raw oysters and clams, crabs, shrimps.	4 hours to 4 days
Vibrio vulnificus (bacteria)	Diarrhoea (in healthy people), bloodstream infection (in people with liver disease, diabetes, or weak immune systems)	Recreationally gathered and imported raw oysters and clams, crabs, shrimps.	Within 16 hours (diarrhoea)
Yersinia enterocolitica (bacteria)	Adults: abdominal pain, headache, fever, diarrhoea, nausea, vomiting Children: watery, mucoid diarrhoea	Pork and pork products, dairy products, fruit, vegetables.	7 days but can range from 1 to 11 days

Food safety in pregnancy

Food safety is even more important for women when they are pregnant. Pregnant women have lower immunity levels than usual and maybe at more risk of getting sick from foodborne disease. Also, the illness can be worse than it would be for the same woman if she were not pregnant.

In extreme cases, some foodborne illnesses can cause miscarriage, still or premature birth, and serious illness or even death to newborn babies.

Eating raw seafood during pregnancy is extremely risky – **always cook seafood and eat it while it's hot.**

The table on the next pages contains more information about food safety for pregnant women.

O le saogalemu o mea taumafa mo tina



- O tina ua maua i ma'itaga / ma'i-to, e maualalo tele le malosi fa'anatura o latou tino (immune system) ma o le a sili atu le ono a'afia gofie i taumafa ua le saogalemu.
- E ono maua ai fo'i lea tina pea afai e a'afia gofie i lea gasegase, e tusa lava pe le o maua i le ma'itaga.
- O nisi o taimi, ona o le mata'utia o siama o'ona o lenei gasegase, ua o'o ai lava ina a'afia ma fafano ai ma'itaga o tina ma maliliu ai fo'i nisi o pepe fou.
- E le tatau i tina ua maua i ma'itaga ona taumafina mata figota mai le sami. E tatau lava ona fa'avelaina lelei ma taumafaina a'o vevela.

Ko e malu 'o e me'akai ki he faitama



- 'Oku holo 'a e ivi malu'i 'o e kakai fefine lolotonga
- 'enau faitama, 'o si'i ange ia mei he taimi 'oku 'ikai ke nau faitama ai. Ko ia ai 'oku faingofua 'aupito ke puke ha fefine faitama mei ha'ane kai ha me'akai 'oku 'ikai fakapapau'i 'oku ma'a hono ngaohi. 'Ikai ngata ai ka
- 'e lahi ange 'a e fakatu'utamaki 'a e puke ha fefine lolotonga 'ene faitama mei ha'ane puke kapau na'e 'ikai faitama.
- Neongo 'oku si'i 'ene hoko ka 'oku fakatupunga 'e he puke mei he ta'epau hono ngaohi 'o e me'akai 'a e tamatoa, mate 'a e pepepe ki manava pe fa'ele ta'ehoko, pe ko ha puke lahi pe ko ha mate 'a e pepepe toki fa'ele'i.
- Manatu'i: Ko e kakai fefine faitama 'oku fakatu'utamaki he nau kai ha 'ota ika pe 'ota ha me'akai tahi.

Au kai tau no te vaine nui



- Ko te tu'anga paruru i roto i te vaine nui e iti te reira me akaaite ia atu ki te tuatau kare aia i te nui, no reira ka ngoie ua aia i te maki i te au kai kare e meitaki ana. Pera katoa ka kino atu tona maki me akaaiteia ki tetai vaine uatu me kare aia i te nui.
- No reira i roto i tetai tuatau itirava ka riro tetai au ma'nga tei oia e te maki i te akaanau vave pera i te akamaki me kore i te tamate i te tamariki anau ou.
- Akama'araanga ki te au Mama nui auraka kia kai i te au ika mata me kare kai no roto mai i te tai(sea food).

Ko e maopoopo mo e mafola he tau mena kai mae matua fifine fakafuatama



- Ko e malolo totoko gagao he fifine fatu kua to lalo lahi, ko e mena ia kua nofo hagahagakelea a ia ke moua
- ha gagao kaeke kua nakai mafola mo e maopoopo mitaki e tau tauteaga kai ke lata mo ia. Ko e mena ia ka fakalolelele auatu ai haana tino ka moua ha gagao fakatai atu kia ia e fifine ai fatu.
- Ko e falu a tau matematekelea ka moua he matua fifine fakafua tama ha ko e tau mena kai kua ai me a mo e maopoopo mitaki. To fakahagahaga kelea ai e moui he haana tama muke mo e to noa ai poke mate i loto he manava poke fanau kae ai la hoko e tau magaaho poke fanau mai mo e gagao poke mate he ha magaaho ne mukemuke agaia ai.
- Manatu: Kua nakai lata e matuaififine fakafua tama ke kai ha ika mata poke ha manu tahi.

Food safety in pregnancy *continued*

FOOD TYPE		WHAT TO DO
BREADS AND CEREALS		
Breads	all types	OK to eat
Cakes, slices, muffins etc	• plain	OK to eat
	• with added cream or custard	Don't eat (unless cream is newly opened and custard is home-made and fresh)
Cereals	breakfast cereals, rice, pasta etc	OK to eat – refer to milk and milk products below
MILK AND MILK PRODUCTS		
Cheese	• soft unpasteurised (raw milk) cheese (e.g. Roquefort)	Don't eat
	• soft pasteurised cheese (e.g. brie, camembert, blue, ricotta, mozzarella, feta)	Generally should not be eaten uncooked while pregnant. However, OK to eat in small quantities if purchased in the manufacturer's original packaging and eaten immediately after opening. Do not reseal to eat later, and do not eat if they have been repackaged in a deli or supermarket as they may have become contaminated
	• hard cheese (e.g. cheddar, parmesan)	OK to eat, store in fridge
	• cottage cheese, cream cheese etc	Buy in sealed packs; eat cold or cooked within two days of opening pack
Butter	all types	Ok to eat, store in fridge
Cream	fresh, unwhipped or whipped, sour cream etc	Buy in sealed packs; eat within two days of opening pack
Custard	• ready-made chilled (packaged)	Eat within two days of opening
	• home-made	Eat hot immediately after cooking; reheat leftovers until piping hot (over 70°C) and eat within two days
Milk	• pasteurised	Ideally drink or use within two days of opening
	• unpasteurised (raw)	Don't drink or use
Ice cream	• packaged	OK to eat
	• soft serve	Don't eat
Yoghurt	• pasteurised	Ideally eat within two days of opening
	• Unpasteurised (raw)	Don't eat

FOOD TYPE		WHAT TO DO
EGGS		
Raw eggs	in egg flips, eggnog, smoothies, home-made mayonnaise and dressings, home-made ice cream, mousse and tiramisu etc	Don't eat
Cooked eggs	fried, scrambled, baked, poached, etc	Cook well (firm yolks, firm scrambled eggs)
MEAT AND POULTRY		
Cooked meats	beef, pork, chicken, mince, sausages etc	Cook until piping hot throughout, and until juices run clear (use a meat thermometer to check temperatures); eat while hot; never eat rare or undercooked meats; store leftovers covered in fridge and eat within two days; reheat leftovers until piping hot (over 70°C)
Processed meats	ham, salami, luncheon, pâté, pastrami, biltong, or jerky (dried meat) etc	Don't eat unless heated until piping hot
Cold cooked poultry	any cold pre-cooked poultry (e.g. chicken, turkey)	Don't eat unless heated until piping hot
Raw meat	any raw meat, raw chicken or other poultry, beef, pork etc	Don't eat or taste; don't touch face, mouth or eyes while preparing; wash and dry hands well after touching raw meat
SEAFOOD		
Raw fish	any raw fish (including marinated raw fish)	Don't eat
Raw shellfish	any raw shellfish (including marinated raw mussels)	Don't eat
Smoked fish, shellfish and crustacea	chilled, pre-cooked fish, mussels, oysters*, scallops*, salmon, crayfish, prawns etc	Don't eat unless heated until piping hot
VEGETABLES, SALADS AND FRUITS		
Fruit	all fresh fruits	Wash and dry well just before eating
Vegetables	• all fresh vegetables	Wash and dry well just before eating raw, or wash before cooking
	• frozen vegetables	Cook; don't eat uncooked frozen vegetables
Salads	• ready-made salads and coleslaws from delis, salad bars etc	Don't eat
	• home-made	Wash salad ingredients well before using

FOOD TYPE		WHAT TO DO
Herbs	fresh home-grown and store-bought	Wash well before using
MISCELLANEOUS		
Leftovers	cooked foods	Store leftovers covered in fridge and eat within two days; reheat leftovers until piping hot (over 70°C); never eat cold leftovers
Canned foods	canned fruit, vegetables, fish, seafood, meat, sauces etc	Eat immediately after opening tin (hot or cold); store uneaten leftovers covered in fridge and eat within two days; remove from can for storage
Sauces, dressings and spreads	salad dressings (oil and vinegar), bought mayonnaise, tomato sauce, margarine-type spreads etc	Store in fridge once opened; check maximum storage time
Sushi	• store-bought (all types – even without raw seafood)	Don't eat
	• home-made	Use freshly cooked rice, and don't use raw or cold cooked meat or seafood; eat immediately; don't eat leftovers
Stuffing	stuffing from chicken or turkey	Don't eat unless stuffing is cooked separately (in a dish); eat hot; store leftovers in fridge and eat within two days; reheat leftovers until piping hot (over 70°C)
Hummus and tahini	store-bought or home-made	Don't eat
Seaweed	• Brown seaweed** (i.e. kelp, kombu, wakame, arame, quondai-cai, hiziki/hijiki, or Sargassum fusiforme)	Limit to 1 serve per week
	• Red or green seaweed (including nori and karengo) used in sushi and dulse	Ok to eat, see advice on sushi

* Bluff and Pacific oysters and queen scallops have high cadmium concentrations. We recommend you minimise your intake (regardless of how they are prepared) during pregnancy.

**Brown seaweeds contain naturally very high iodine concentrations. Brown seaweeds are typically sold dry and are used in soups, stewed dishes, kelp salt and seaweed salads.

RECOMMENDED SERVINGS FOR FISH SPECIES TO MINIMISE MERCURY INTAKES

No restriction necessary

Anchovy • Arrow squid • Barracouta • Blue cod • Brill/Turbot • Brown trout (except from Lake Ellesmere) • Cockles • Eel, long or short finned • Elephant fish • Flounders • Gurnard • Hoki • John Dory • Monkfish or stargazer • Mussels (green and blue) • Orange perch • Oysters (except Bluff and Pacific) • Parore • Scallops (except Queen) • Rainbow trout (only from non-geothermal regions) • Skipjack tuna (No data for yellowfin tuna) • Sole (except Lemon sole) • Southern blue whiting • Surf clams (e.g. tuatua) • Tarakihi • Toothfish, Antarctic • Warehou (common, silver and white) • Whitebait (Inanga)

3 – 4 servings per week acceptable

Albacore tuna • Alfonsino • Bass • Bluenose • Gemfish • Ghost sharks • Hake • Hapuka (Groper) • Javelin Fish • Kahawai • Kingfish • Lake Taupo trout • Leatherjacket • Lemon sole • Ling • Mackerel (blue and jack) • Orange Roughy • Oreo dories • Red cod • Ribaldo • Rig (Lemonfish, Spotted dogfish) • Rock Lobster • Salmon (farmed) • Sea perch • Silverside • Skate • Smooth oreo • Snapper • Sprats • Trevally

1 serving per 1 – 2 weeks acceptable

Cardinal fish • Dogfish (excluding rig) • Lake Rotomahana trout • Lake trout from geothermal regions • School shark (Greyboy, Tope) • Marlin (striped) • Southern bluefin tuna • Swordfish

A *Food Safety in Pregnancy* booklet is available free from your doctor, midwife, Public Health Unit, or MPI, email brand@mmpi.govt.nz.



Contacts

For more information about food safety contact your local Public Health Unit:

Northland District Health Board	Box 742, Whangarei	(09) 430 4100
Auckland Regional Public Health Service	Private Bag 92 605, Symonds Street, Auckland 1035	(09) 623 4600
Health Waikato	PO Box 505, Hamilton	(07) 838 2569
Pacific Health	PO Box 2121, Tauranga	(07) 571 8975
	PO Box 1858, Rotorua	(07) 349 3520
	PO Box 241, Whakatane	(07) 306 0847
Tairāwhiti District Health	PO Box 119, Gisborne	(06) 867 9119
Hawke's Bay District Health Board	PO Box 447, Napier	(06) 834 1815
Taranaki Health	Private Bag 2016, New Plymouth 4620	(06) 753 7798
MidCentral Health	PO Box 2056, Palmerston North	(06) 350 9110
	Private Bag 3003, Wanganui	(06) 348 1775
Choice Health	Private Box 58, Masterton	(06) 370 5020
Wellington Regional Public Health Service	Private Bag 31 907, Lower Hutt	(04) 570 9002
Nelson Marlborough District Health Board	PO Box 647, Nelson	(03) 546 1537
	PO Box 46, Blenheim	(03) 520 9914
Community and Public Health	PO Box 1475, Christchurch	(03) 379 9480
	Private Box 510, Timaru	(03) 688 6019
	PO Box 443, Greymouth	(03) 768 1160
Public Health South	PO Box 5144, Moray Place, Dunedin	(03) 474 1700
	PO Box 1601, Invercargill	(03) 211 0900
	PO Box 2180, Frankton, Queenstown	(03) 442 2500

Ministry for Primary Industries
Manatū Ahu Matua
PO Box 2835
Wellington 6140
NEW ZEALAND

0800 00 83 33

www.mpi.govt.nz

ISBN: 978-0-478-42380-8 (Print)
ISBN: 978-0-478-42379-2 (Online)

March 2014

DISCLAIMER

Every effort has been made to ensure the information in this guide is accurate. MPI does not accept any responsibility or liability whatsoever for any error of fact, omission, interpretation or opinion that may be present, however it may have occurred.

New Zealand Government