



Proving the method you use to kill bugs works every time

K**Know**

What do you need to know?

- If you make or cook any of the following foods, you can prove your method works to kill bugs every time:
 - poultry (e.g. chicken, liver),
 - minced meat (e.g. sausages, meat patties),
 - drying,
 - pickled or brined meat and/or vegetables,
 - hot smoked meat or seafood,
 - sushi (made with acidified rice),
 - Chinese style roast duck,
 - sous vide (meat or poultry).
- Proving your method works means that you don't have to test every single food item, each time you make it.

D**Do**

What do you need to do?

- Identify the methods you will prove: (tick as appropriate)
 - ☐ poultry (e.g. chicken, liver)
 - ☐ minced meat (e.g. sausages, meat patties)
 - ☐ drying

D

Do

- ☐ pickled or brined meat and/or vegetables
- ☐ hot smoked meat or seafood
- ☐ sushi (made with acidified rice)
- ☐ Chinese style roast duck
- ☐ sous vide (meat or poultry)
- You must use the same equipment and same ingredients (type, weight, size, vinegar solution etc.) every time you make the food.
- Make or cook the food/cooking equipment using the standard procedure from the relevant card.
- Check/test the food to make sure it is meeting the required limits (e.g. poultry and minced meat products are cooked to 75°C for at least 30 seconds, the pH of acidified rice is at 4.6 or below, water bath is at the correct temperature for sous vide).
- If your standard method doesn't meet the required temperature/limit, you must adjust your cooking temperature/ingredients to make your method work.
- Check your method works 3 times with different batches of food so you know it works.
- Record your method and checks.
- Check your method works every week by checking the temperature of 1 batch of food.

S

Show



What do you need to show?

- Show your verifier **records** of:
 - your method,
 - your weekly batch checks.



Making sushi with acidified rice

K

Know

What do you need to know?

- Adding vinegar solution to rice makes it acidic. Harmful bugs cannot grow as well in acidified rice.
- You can make sushi with acidified or non-acidified rice. Sushi made with non-acidified rice cannot be kept for as long as sushi made with acidified rice.
- You must get the pH of your rice right so you don't harm your customers (i.e. if rice is too acidic (pH less than 2.4) you could burn someone's throat, if it's not acidic enough (i.e. more than 4.6) bugs can grow).
- Brown rice cannot be acidified because the hard surface coating on the grain stops the vinegar solution from soaking in.
- There are rules about how long sushi can be left outside of temperature control. The 2-hour/4-hour rule is modified for sushi made from acidified rice.

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Do

What do you need to do?

Make non-acidified rice using white or brown rice

- Cool cooked rice from 60°C to room temperature or 21°C (whichever is colder) within 2 hours and to 5°C in another 4 hours.
- Do not keep sushi and/or onigiri above 5°C for more than 4 hours.

D

Do

Make acidified rice

- You must only acidify white rice.
- Make and add a vinegar solution to your rice as soon as it is cooked. You must record the amount of vinegar solution you use.
- After acidifying your rice you must test the pH by mixing 1 part clean water with 3 parts acidified rice (e.g. $\frac{1}{4}$ cup clean water mixed with $\frac{3}{4}$ cup rice with vinegar).
- Test the pH of your acidified rice mixture using one of the following (tick which one you use):
 - ☐ pH strip
 - ☐ pH paper
 - ☐ calibrated pH meter
- Each batch of rice must have a pH of between 4.6 and 2.4.
- You must test each batch of rice you acidify, unless you can prove your method of acidifying works every time. See the '**Proving the method you use to kill bugs works every time**' card.
- You must cool acidified rice from 60°C to room temperature or 21°C (whichever is colder) in 2 hours, and to 15°C or less within another 4 hours.
- You must store acidified rice at temperatures between 5°C and 15°C for no more than 8 hours, after which it must be thrown out.
- You must not mix leftover rice with freshly prepared rice.

D**Do****Display sushi made with acidified rice safely**

- You must store:
 - nigiri pieces between 5°C and 15°C for no more than 8 hours, or else throw them out,
 - nori rolls between 5°C and 15°C for no more than 12 hours, or else throw them out.

(The times above include any time the acidified rice was between 5°C and 15°C before the sushi was shaped)

S**Show****What do you need to show?**

Show your verifier:

- how you safely make sushi with non-acidified rice,
- how you safely make sushi with acidified rice including:
 - how you make your vinegar solution,
 - how you measure the pH of your rice,
 - a **record** of the pH measures of your rice,
- how you safely display sushi.



Making Chinese style roast duck

K

Know

What do you need to know?

- Harmful bugs grow rapidly in the temperature danger zone.
- Boiling water kills bugs. The vinegar helps to stop bugs from growing while the duck is drying.
- Keeping the skin intact stops bugs from getting onto, and growing on, the meat.

D

Do

What do you need to do?

Preparation

- Defrost frozen duck thoroughly.
- Dip the duck in boiling water, vinegar and other ingredients (as used in your recipe).
- Hang the duck to dry in a cool area for no more than 6 hours.
- Check the temperature of the duck, with a thermometer, at the start and half way through the drying process. The internal temperature must not be more than 25°C.

Cooking

- The duck must be roasted.
(see '**Cooking poultry, minced meat and chicken liver**' card).

D**Do****Display/storage**

- Use the hanging hook to carry the duck. The duck must not be touched.
- Keep the duck's skin intact. It must not be broken during display and storage. If the skin breaks, cut the meat up and keep it above 60°C until served.
- Only display and store duck in a well ventilated, cool and dry area to prevent moisture build up (i.e. keep out of enclosed glass cabinets).
- Ducks must not touch each other or any other products on display or during storage. Move them away immediately if they touch.
- If ducks have accidentally been in contact with each other for a long time, you must cut them up and reheat the meat to 75°C. Then either:
 - keep the meat at or above 60°C until it's served, or
 - cool the meat from 60°C to 21°C within 2 hours, and from 21°C to 5°C in the next 4 hours and store at or below 4°C.
- Wrapped duck must not be on display for more than 5 hours.
- Remove and dispose of any duck that has been on display for more than 22 hours.

Drying

You must:

- re-boil any water that's used to dip the ducks if the mixture has cooled down,
- move any ducks that have a core temperature higher than 25°C during the drying process to the chiller until the temperature drops below 25°C,

D**Do**

- throw away any ducks that have been hung to dry for a period longer than 6 hours.

S**Show**

What do you need to show?

- Show your verifier a written **record** of:
 - the temperature of each duck at the time it was hung up to dry and the time that drying started,
 - the temperature of the duck halfway through the drying process and what you did to bring it down if it was higher than 25°C,
 - the time the duck was taken from the drying area to be cooked.



Making doner kebabs

K**Know**

What do you need to know?

- Raw doner kebab meat may contain bugs which can contaminate ready-to-eat food.
- You must cook meat thoroughly to kill bugs.

D**Do**

What do you need to do?

Preparing a kebab spit

- Only use fresh meat from an approved supplier.
- Store meat below 5°C until needed.
- Prepare spits away from areas where salads, dips, sauces and cooked food is kept.
- Only use thin cuts of meat when forming the spit.
- Protect prepared spits from dirt and other contamination.
- The length of the formed block of meat must not be longer than the length of the burners.

Cooking and serving

- Doner kebab cooked on a vertical grill must be cooked before serving.
- The outside of the doner kebab must be thoroughly cooked before thin slices of meat are shaved from the outside surface.

D**Do**

- Shaved meat must be collected before falling into the drip tray.
- Heating elements must be kept on and not turned down when the doner kebab starts cooking.
- When minced meat spits are cooked from frozen, shaved meat must undergo further cooking on a griddle/hot plate prior to use.
- Any shaved meat that has not been cooked thoroughly must be further cooked by using a hotplate or grill.
- If the doner kebab has not been completely used at the end of service you must:
 - ☐ throw it away, or
 - ☐ carve off any part cooked meat from the skewer. Cook thin slices on the grill/hotplate. Cool the cooked shaved meat, cover it and store in the fridge. The next day it may be reheated and served.
- You must cool the raw meat that remains on the skewer to room temperature or 21°C (whichever is colder) within two hours and to below 5°C within a further four hours.

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Show



What do you need to show?

- Show your verifier:
 - A written **record** of how you safely cooked poultry and meat including:
 - the food,
 - the date cooked,
 - the temperature the food was cooked to and how long it stayed at this temperature.
- Show or describe to your verifier:
 - how you cool hot food quickly;
 - how you know the food you reheated was above 75°C,
 - how you keep food hot,
 - how you measure temperature.



Cooking using the sous vide method

K**Know**

What do you need to know?

- The sous vide method cooks foods at temperatures in the danger zone (at or below 60°C). It is possible to do this safely – but only by managing this process very carefully. Mistakes can lead to people getting sick or dying.
- Cooking foods at a lower temperature takes longer to kill bugs.
- If the cooking temperature is too low, bugs cannot be killed.
- Harmful bugs will survive and grow if you do not follow the time and temperatures below.
- This process only works for meat and poultry cuts.
- This process does not cover whole birds (e.g. chicken, duck), fish or cooking in a sous vide oven. If you wish to do this, you will need to develop a custom FCP and complete the scientific research to prove you can do this safely.

D**Do****What do you need to do?**

- When preparing meat and poultry cuts to be sous vide, you must keep raw and ready-to-eat foods separate by either: (tick as appropriate)
 - ☐ not using your vacuum sealer for ready-to-eat foods if it is used for raw meat, or
 - ☐ cleaning and sanitising your vacuum sealer between using it for ready-to-eat foods,
 - cut meat and poultry pieces into equal portions so they are the same size, weight and shape,
 - store vacuum sealed product prepared for sous vide in the fridge until it is used.
- When setting up your water bath, you must:
 - calibrate water baths at least monthly,
 - make sure water is always able to circulate freely,
 - only use cooking equipment which has accurate and consistent temperature control,
 - preheat your water bath to at least 55°C for red meat and 60°C for poultry,
 - have good water circulation in your water bath,
 - change the water in the water bath after each batch.
- When cooking using the sous vide method, you must:
 - always completely submerge packs and make sure they are evenly distributed,
 - record the water bath temperature regularly or use an inbuilt data logger,

D**Do**

- always keep the water bath temperature above 55°C when cooking red meat and 60°C when cooking poultry at all times,
- the meat or poultry must reach the temperature of the water bath within 4 hours, if it takes longer, it must be thrown out.
- always test the temperature of the meat or poultry using a needle probe thermometer at the thickest part of the meat or poultry,
- always test the meat or poultry which has been in the coolest part of the water bath,
- check the temperature of the thickest part of the meat or poultry:
 - at the start of cooking the batch, and
 - before the start of the holding time, and
 - at the end of cooking the batch,
- check that the vacuum seal has not been broken after taking the temperature,
- always finish cooking one batch before adding chilled food to the water bath.

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You must only use the following time and temperature combinations: (the times below are holding times, they only start once your product has reached the required temperature)

Do

Internal temperature and holding times

Internal food temperature °C		Cook-serve: Serve immediately or within 2 days of cooking		Cook-Chill: Serve immediately or within 5 days of cooking
		All meats except poultry Time (Minutes/hours)	Poultry Time (Minutes/hours)	Red meat and poultry Time (Minutes/hours)
Temperature danger zone *	55	420 mins / 7 hrs	Poultry must not be sous vide at temperatures lower than 60°C	If storing sous vide red meat or poultry for longer than 2 days, do not cook at temperatures lower than 60°C
	56	296 mins / 4 hrs 56 mins		
	57	208 mins / 3 hrs 28 mins		
	58	147 mins / 2 hrs 27 mins		
	59	104 mins / 1 hr 44 mins		
60		73 mins /1 hr 13 mins	56 mins	91 mins /1 hr 31mins
61		52 mins	40 mins	63 mins / 1hr 3mins
62		36 mins	29 mins	44 mins
63		26 mins	21 mins	30 mins
64		18 mins	15 mins	21 mins
65		13 mins	11 mins	15 mins
66		9 mins	8 mins	10 mins
67		7 mins	6 mins	7 mins

*minimum time once product has reached this temperature

D**Do**

- Once meat and poultry has been cooked, you must keep it in its bag until it is ready to be used and either:
 - serve it directly from the bag,
 - remove it from the bag, sear it (or cook it in some other way) and serve immediately,
 - keep it in the bag, cool it quickly by following the **'Cooling freshly cooked food'** card and store it below 5°C for up to 2 days (only if you use the cook-serve method)
 - keep it in the bag, cool it quickly and store it below 5°C for up to 5 days (only if you use the cook-chill method).
- You must label cooked food with the date and time it was made, the type of food it is, whether it is cook-serve or cook-chill, and throw out date.

Proving your method

- If you don't want to take the temperature of every batch you cook, you can prove your method of cooking works every time. See the **'Proving the method you use to kill bugs works every time'** card.

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Show



What do you need to show?

- Show or tell your verifier:
 - how you calibrate water baths at least monthly,
 - **record** of:
 - water bath temperatures before the food was added to the water,
 - the time taken for the food to reach the selected internal temperature,
 - the length of holding time once the food reached the selected food temperature,
 - internal temperature of the food at the start and the end of holding time,
 - cooling time (for products cooled and stored for later service).



Preparing red meat for mincing and serving lightly-cooked or raw

K**Know**

What do you need to know?

- This process only covers red meat – beef, lamb and venison. This process does not cover pork, chicken, duck or livers.
- This process only needs to be followed if you choose to serve red meat lightly-cooked or raw.
- Bugs are found on the surface of whole cuts of meat. Mincing meat spreads the bugs from the surface all the way through the meat.
- It only takes a few harmful bugs to make people sick.
- The only way to make meat safe to be served lightly-cooked or raw is to kill the bugs on the surface of the meat before it is minced.
- There are 3 ways to reduce the number of bugs on the outside of meat – sear it, blanch it or sanitise it.
- Bugs can be hidden under flaps, in cavities and between the seams of whole cuts of meat. Make the outside of the meat smooth by removing any parts which could stop the searing, blanching or sanitising solution from killing bugs.

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Know

- All additional ingredients used with the sanitised red meat (e.g. seasonings, binders etc.) must be safe and suitable for use.
- You do not need to follow the rules about cooking minced red meat on the '**Cooking poultry, minced meat and chicken liver**' card if you follow this procedure.

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Do

What do you need to do?

- You must choose one of the following methods:
 - searing, or
 - blanching, or
 - using sanitising solution.
- You must only use cuts of meat with a smooth surface. (E.g. prime cuts like sirloin, rump, thick flank, silverside, topside).
- You must either:
 - trim any seams, obvious flaps and/or cavities before searing, blanching or sanitising so the entire surface of the meat is evenly treated, or
 - cut or trim the meat into smaller portions (i.e. no flaps or cavities) before searing, blanching or sanitising so the entire surface of the meat is evenly treated.

Searing

- When searing, all surfaces of the meat (including any fat layer) must come into contact with the oiled hot plate, grill or pan.

D**Do****Blanching**

- When blanching, you can choose to blanch the meat either unwrapped or in a vacuum-sealed bag. If you use a vacuum-sealed bag, all surfaces of the meat must come into direct contact with the bag.
- The meat must be fully covered by water or stock that is at a rolling boil, for at least:
 - 30 seconds if it is not in a bag, or
 - 60 seconds if it is in a vacuum-sealed bag.

For both searing and blanching

- You must rapidly chill the seared or blanched meat by either:
 - placing the meat in an ice slurry, or
 - putting the meat in the fridge, or
 - putting the meat in the freezer.

Using sanitising solution

- When sanitising, you must only use one of the following chemicals: (tick as appropriate)
 - ☐ lactic acid
 - ☐ peroxyacetic acid (POAA)
- You must not use a lower or higher concentration of sanitising solution.
- The whole piece of meat must always be fully covered by the sanitising solution. All surfaces of the meat must come in direct contact with the sanitising solution.
- You must use a new sanitising solution for each piece of meat you sanitise.

D**Do****Using lactic acid**

- You must use a solution that is between 2—5%.
- You must dip the whole piece of meat in the solution for 9 seconds. The solution must be used at 55°C.

Using POAA

- You must use a concentration of between 150—220 parts per million.
- The concentration of hydrogen peroxide must be 75 parts per million or less (note: if using pre-prepared concentrate, you don't need to do this).
- You must dip the whole piece of meat in the solution for 10—15 seconds (no more than 30 seconds) at room temperature.

For all methods

- All meat that has been seared, blanched, or sanitised must be used within a maximum of 48 hours.
- Formed patties must be used within 24 hours or frozen immediately for later use.
- Thawed patties must be used within 24 hours.
- All seared, blanched, or sanitised meat must be stored at 5°C or less when not being used or handled.

S**Show****What do you need to show?**

Show or describe to your verifier:

- how the method you have chosen is followed exactly, every time,
- how you kill the bugs on the outside of whole cuts of meat,

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Show

- how you handle the meat after it has been either seared, blanched, or sanitised,
- how you ensure, blanched, seared or sanitised meat is used within 48 hours,
- how you mince red meat safely and use the resulting patties within 24 hours,
- how you mince red meat safely.

Sanitising solution method

- Show or describe to your verifier:
 - how you prepare the sanitising solution,
 - how you know you have used the right:
 - chemical, and
 - concentration, and
 - temperature, and
 - amount of time to kill bugs.

Specialist