

5 Keys to Food Safety and Antimicrobial Resistance

What is antimicrobial resistance (AMR)?

AMR is the ability of a microorganism, including bacteria, viruses, fungi and parasites, to stop an antimicrobial agent such as antibiotics from working against it. "Superbugs" generally refer to microorganisms that have developed AMR. Some superbugs are capable of resisting to wide range of antimicrobials or to certain last-resort antimicrobials which suggests possible threats of treatment failure. Superbugs are not necessarily pathogens. These bacteria can live in symbiosis with humans and are harmless to the body. Therefore, infected people can be asymptomatic.

How does AMR spread?

Many factors lead to the rise of AMR. One of the major factors is misuse and overuse of antimicrobial drugs in both humans and animals, which accelerates the emergence of AMR in microorganisms.

AMR bacteria developed in animal gut can spread through the food chain causing safety concern. When the food-producing animals are slaughtered, their meat and related products can be contaminated by the excreta with AMR bacteria. Besides, AMR bacteria can also enter the food chain through faecal contamination of soil or water, and spread to the farm produce that are planted with contaminated soil and water.

People may be exposed to AMR bacteria when they consume contaminated food not thoroughly cooked, or prepare food without observing good hygiene practice which then caused cross-contamination.

How to prevent infection with AMR bacteria present in food?

The Five Keys to Food Safety can prevent illnesses caused by the ingestion of foods contaminated with microorganisms (i.e. foodborne diseases), including those caused by AMR bacteria in food.



5 Keys to Food Safety

1 Choose wisely



Choose fresh and wholesome raw materials

- Patronise reliable shops with good hygiene conditions and choose fresh and wholesome foods.
- Eat food that has been cooked thoroughly to minimise the risk of foodborne diseases.
- Susceptible persons including the elderly, children, pregnant women, chronic disease patients and those with a weaker immune system should avoid consuming raw and undercooked foods which are more likely to carry AMR bacteria than thoroughly cooked foods.

2 Keep clean



Keep hands and utensils clean

- Unclean hands and utensils may transmit AMR bacteria. Wash hands with soapy water for 20 seconds before handling food, after handling raw meat, and before eating.
- Kitchen and cooking utensils should also be kept clean.

3 Separate raw and cooked food



Separate raw and cooked food

- Raw meat may contain bacteria especially AMR bacteria. Raw foods should be separated from cooked foods to minimise cross-contamination.
- Use separate utensils, including cutting boards and knives, to handle raw foods and ready-to-eat / cooked foods.

4 Cook thoroughly



Cook thoroughly

- Thorough cooking can destroy AMR bacteria. Foods should be cooked to a core temperature of at least 75°C.
- Cooked meat and its juices should not be red.
- Soups and stews should be brought to a boil for at least one minute.

5 Keep food at safe temperature



Keep food at safe temperature

- AMR bacteria can multiply rapidly in foods as a result of time and temperature abuse. Foods should be consumed immediately after cooking.
- Cooked foods that are served hot should be kept at above 60°C prior to serving, while cold dish should be kept at 4°C or below.
- Leftovers and perishable foods should be refrigerated at or below 4°C promptly.