



A little wiser

Does the five-second rule work?

You're chopping vegetables in the kitchen when a slice of cucumber falls on the floor. No need to panic: according to the five-second rule you can eat it if you pick it up fast enough. Or not?

There is a grain of truth in the rule, says food microbiologist Gerrieke van Middendorp. 'How many bacteria land on the food is partly a matter of time, but there's no cut-off point at five seconds.' So how fast do bacteria travel? 'Unfortunately, the bacteria don't have to travel. When a piece of cucumber touches the floor, it is full of bacteria in a fraction of a second.'

Bacteria get transferred faster to moist food. The structure and acidity of the food make a difference too: most bacteria prefer sweet things to sour. 'If a little one-centimetre cube of watermelon falls on a tiled floor which houses about 100 bacteria per square centimetre, 90 per cent of the bacteria are on the melon within one tenth of a second. But for a slice of bread that does take longer than 5 seconds.

The type of floor makes a difference too. 'More bacteria stick to your food if it's a hard floor than if it's carpeted, assuming the two floors are equally clean. In theory you can keep a hard floor cleaner, but does that actually happen? And are

there any pets? Because some bacteria multiply on the animal's body too.'

Children put things in their mouths all the time, which rarely has fatal consequences. It's good for their immune systems, isn't it? 'It usually turns out okay. But there are some pathogens, such as particular strains of *E coli* and *Salmonella*, which can make you sick with small numbers of bacteria. You can never completely avoid ingesting bacteria, and that is not desirable either. We can't make our lives sterile, but it's not an option to go back to the times of open sewers either. Somewhere between these two extremes there's a happy medium.'

Conclusion: It's better not to eat a piece of melon off a dirty floor. But you should get away with eating a dry biscuit off a clean floor. If in doubt, apply the zero-second rule. TL

'More bacteria stick to your food on a hard floor than on a carpeted one'

Gerrieke van Middendorp,
food microbiologist

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Illustration Marly Hendricks

