



Raw milk: boiling protects against infection with *Campylobacter*

BfR Opinion No 008/2016, 13 April 2016

It is known that raw milk can contain microorganisms that are harmful to health. In light of the increasing number of machines where raw milk is sold via raw milk vending systems, the Federal Institute for Risk Assessment (BfR) has assessed the risk for food infections with the *Campylobacter* bacterium resulting from the milk dispensed from these raw milk vending machines. The assessment also addresses the question of whether the more frequent occurrence of outbreaks of illness due to *Campylobacter* infections (*Campylobacter* enteritis or *Campylobacteriosis*) could be associated with the increase in the number of points of sale for raw milk and in particular raw milk vending machines. As there are no validated empirical data, the preliminary assessment of the BfR is based on the working hypothesis that changes in consumer behaviour entailing the increased consumption of raw milk from the so-called "milk vending machines" is leading to more frequent outbreaks of *Campylobacter*. One of the main sources of contamination of the raw milk is faecal contamination during the milking process. Unlike most known foodborne pathogens, these bacteria cannot multiply in the raw milk. However, just a few *Campylobacter* cells are enough to cause infection. The BfR therefore advises consumers to always comply with the instruction displayed at the point of sale stating "raw milk – boil before consumption". The BfR also advises against preparing and consuming non-heated ("cold") cocoa drinks or other milkshakes made from raw milk both directly on-site and at home (also see the BfR FAQ on the consumption of raw milk <http://www.bfr.bund.de/cm/349/questions-and-answers-on-the-consumption-of-raw-milk.pdf>).

		BfR Risk Profile: Raw milk: boiling protects against infection with <i>Campylobacter</i> (Opinion No. 008/2016)				
A	Affected group	General population				
B	Probability of health impairment due to consumption of raw milk	Practically impossible	Improbable	Possible	Probable	Certain
C	Severity of health impairment due to consumption of raw milk	No impairment	Slight impairment [reversible/irreversible]	Moderate impairment [reversible]	Serious impairment [reversible/irreversible]	
D	Validity of available data	High: the most important data is available and there are no contradictions		Medium: some important data is missing or contradictory	Low: much important data is missing or contradictory	
E	Controllability by the consumer [1]	Control not necessary	Controllable through precautionary measures	Controllable through avoidance	Not controllable	

Text fields with dark blue background highlighting characterise the properties of the risk assessed in this Opinion (for more details, please see the text of Opinion No. 008/2016 of the BfR dated 13 April 2016).

The Risk Profile is designed to visualise the risk described in the BfR Opinion. It is not designed to permit risk comparisons. The Risk Profile should only be read together with the Opinion.

Line E: the risk of a *Campylobacter* infection can be minimised by boiling the raw milk prior to consumption.

[1] – Line E - Controllability by the consumer

The details in the line "Controllability by the consumer" are not designed to serve as a recommendation by the BfR but are of descriptive character.

The full version of this BfR Information is available in German on <http://www.bfr.bund.de/cm/343/rohmilch-abkochen-schuetzt-vor-infektionen-mit-campylobacter.pdf>