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***Francisella tularensis* infections from foods unlikely**

BfR Opinion No. 21/2018 of 18 June 2018

Francisella (F.) tularensis is a highly virulent bacterial pathogen that is resistant to environmental stresses and causes tularemia. This disease affects wild animals, especially small mammals like rodents and hares, and is colloquially known as rabbit fever. *F. tularensis* infections are associated with high mortality in these reservoir hosts. Humans can also suffer from tularemia, although the illness caused by the subtype *F. tularensis* ssp. *holarctica* in Europe generally disappears spontaneously after a period of weeks or months. In Germany, 41 cases of tularemia were reported in 2016. The infections are mainly due to direct contact with infected animals or with insect vectors like ticks and mosquitos.


Because contaminated foods occasionally cause tularemia outbreaks, the BfR has assessed the health risks of *F. tularensis* in foods of plant and animal origin, taking into account the tenacity of the pathogen during the processing of raw food materials. *F. tularensis* survives in acidic environments and at low temperatures but is sensitive to heat and pressure.

The BfR has come to the conclusion that the transmission of *F. tularensis* through the food chain is unlikely in Germany based on current knowledge and given the low occurrence of the disease. The risk of contracting tularemia in Germany primarily affects professionals with high exposure to infected animals like hunters, people working in forests and gardens, or people who travel to regions where the disease is endemic.

As with other foodborne pathogens, the risk of transmission of *F. tularensis* via foods can be minimised by taking precautionary hygiene measures. In the field of food production, this includes avoiding the introduction of faecal contaminants and infected corpses into the production chain and performing decontamination measures during the production process. Consumers can protect themselves by following the general rules of kitchen hygiene when handling raw meat and, for example, always cooking meat thoroughly before consumption, in particular in the case of cut meat of hares and wild rabbits.

The full version of this BfR Opinion is available in German on:

<https://www.bfr.bund.de/cm/343/francisella-tularensis-infektionen-durch-lebensmittel-unwahrscheinlich.pdf>

BfR		BfR Risk Profile: Tularemia infections from foods (Opinion No. 021/2018)			
A Affected group	General population 				
B Probability of health impairment due to <i>F. tularensis</i> in foods	Practically impossible	Improbable	Possible	Probable	Certain
C Severity of health impairment due to tularemia [1]	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		Moderate: 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 BfR Opinion No. 021/2018 of 18 June 2018).

Explanations

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.

[1] Line C – Severity of health impairment:

The severity of the impairment may vary depending on the transmission path.

[2] 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. In its Opinion, the BfR has given recommendations for action: cook meat through prior to consumption.

GERMAN FEDERAL INSTITUTE FOR RISK ASSESSMENT (BfR)

More information on the topic of food hygiene on the BfR website:

[A-Z index – food hygiene](#)

<http://www.bfr.bund.de/cm/364/protection-against-foodborne-infections.pdf>

Press release of 26 July 2016 – Anthrax, rabbit fever and brucellosis: How can the population be better protected from highly pathogenic bacteria in food?:

http://www.bfr.bund.de/en/press_information/2016/28/anthrax_rabbit_fever_and_brucellosis_how_can_the_population_be_better_protected_from_highly_pathogenic_bacteria_in_food-198166.html



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