

## ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

## DISCUSSION PAPER

Freezing chicken livers and *Campylobacter*

1. *Campylobacter* is common in poultry and the most frequent cause of food poisoning in the UK. There has been a notable increase in reported human outbreaks of *Campylobacter* in the UK in recent years. Most of these incidents have been associated with chicken liver pâté or parfait, prepared in catering settings. In 2011 over 90% of outbreaks of *Campylobacter* food poisoning at catering venues were linked to chicken liver pâté consumption<sup>1</sup>. Strachan *et al.*<sup>2</sup> reported that strains of *Campylobacter* isolated from chicken liver were most similar to those strains found in humans.
2. The reason for the increase in outbreaks is not fully understood but appears to be related to using undercooked livers in preparing pâté and parfait dishes. In addition to reminding caterers of the need to cook chicken livers thoroughly, the Agency has funded research to understand the extent of *Campylobacter* contamination and to look at interventions which may help in reducing the risk from these products.
3. *Campylobacter* in poultry meat is known to be sensitive to freezing although there is less information available concerning the impact of freezing on *Campylobacter* in chicken livers. Dr Mike Hutchison is presenting the findings from an Agency funded study<sup>3</sup> which looked at the effectiveness of freezing chicken livers on *Campylobacter* numbers, particularly under conditions similar to those in catering or domestic kitchens where freezer temperatures and freezing rates may vary. The Agency is in the process of planning further research to look in detail at the preparation of chicken liver pâté and parfait dishes with a view to developing a safer means of preparation other than thorough cooking.
4. The committee is invited to comment on the findings and specifically:
  - Whether application of the findings could contribute to reducing the risk of campylobacteriosis from imperfectly cooked chicken livers or chicken liver products?
  - Whether there are other factors (ingredients, treatments) which could help reduce *Campylobacter* contamination in chicken livers with or without freezing?
  - Provide suggestions for possible further research arising from these findings.

Secretariat  
June 2013

---

<sup>1</sup> Health Protection Agency (2010) Foodborne outbreaks of *Campylobacter* associated with consumption of poultry liver pâté/parfait – spotlight on caterers and food safety, Health Protection Report, Vol. 4 No. 48.

<sup>2</sup> Strachan, N.J.C., MacRae, M., Thomson, A., Rotariu, O., Ogden, I.D. and Forbes, K.J. (2012) Source attribution, prevalence and enumeration of *Campylobacter* spp. from retail liver. *Int J Food Microbiol* 153, 234–236.

<sup>3</sup> Harrison D, Corry JE, Tchórzewska MA, Morris VK, Hutchison ML. Freezing as an intervention to reduce the numbers of campylobacters isolated from chicken livers. *Lett Appl Microbiol*. 2013 May 6. doi: 10.1111/lam.12098. [Epub ahead of print]