

Simulation of cross contamination and decontamination of *Campylobacter jejuni* during handling of contaminated raw vegetables in a domestic kitchen

ABSTRACT

Campylobacter jejuni was found to occur at high prevalence in the raw salad vegetables examined. Previous reports describe cross-contamination involving meat; here we investigated the occurrence of cross-contamination and decontamination events in the domestic kitchen via *C. jejuni*-contaminated vegetables during salad preparation. This is the first report concerning quantitative cross-contamination and decontamination involving naturally contaminated produce. The study was designed to simulate the real preparation of salad in a household kitchen, starting with washing the vegetables in tap water, then cutting the vegetables on a cutting board, followed by slicing cucumber and blanching (heating in hot water) the vegetables in 85°C water. Vegetables naturally contaminated with *C. jejuni* were used throughout the simulation to attain realistic quantitative data. The mean of the percent transfer rates for *C. jejuni* from vegetable to wash water was 30.1 to 38.2%; from wash water to cucumber, it was 26.3 to 47.2%; from vegetables to cutting board, it was 1.6 to 10.3%; and from cutting board to cucumber, it was 22.6 to 73.3%. The data suggest the wash water and plastic cutting board as potential risk factors in *C. jejuni* transmission to consumers. Washing of the vegetables with tap water caused a 0.4-log reduction of *C. jejuni* attached to the vegetables (most probable number/gram), while rapid blanching reduced the number of *C. jejuni* organisms to an undetectable level.