When assessing effects of decontamination techniques on counts of Campylobacter spp. on broiler meat, it is essential that the results reflect the variations that may exist. Decontamination studies often use high inoculation levels (10⁷ to 10⁸ cfu) and one or few strains of Campylobacter jejuni, thereby restricting the results to reflect only a limited part of the true situation. This study presents results from physical and chemical decontamination of broiler meat medallions using different strains and different initial concentrations of C. jejuni. For 3 strains of C. jejuni, mean log reductions obtained by freezing at −20°C for 7 d was significantly higher for an initial concentration of 10⁷ cfu/sample on the meat compared with an initial concentration of 10³ cfu/sample. For freezing at −20°C for 24 h or application of 6% tartaric acid and subsequent storage for 24 h, no statistically significant difference in reductions was found for initial concentrations ranging from 10³ to 10⁷ cfu per sample. The mean log reductions obtained by all techniques were strongly dependent on the strain tested. The results reveal that reductions obtained with high inoculation levels of C. jejuni (10⁷ cfu/sample) or single or few strains of the species (or both) should not be interpreted as a generic result for the species. If inoculation studies cannot be replaced by investigations of naturally contaminated meat, we advise using a mixture of strains found in the production environment at levels as close as possible to the natural contamination level.