
**Abstract**

This review highlights some recent developments in our understanding of stress and physical injuries that occur before and during transport to slaughter, during handling at livestock markets, and at the time animals are put-up for slaughter within abattoirs. Stress in pigs during transfer to the stunning point within the abattoir has important effects on meat quality, and there is growing evidence that strenuous exercise or CO\textsubscript{2} stunning can contribute to oxidative rancidity in pigs, poultry and fish. In the EU, putting cattle through a crush in order to check that their eartag numbers correspond to their passport numbers is imposing additional stress, and there are reports that it is leading to greater hide contamination with Escherichia coli O157. Recent developments in stunning and slaughter include a better understanding of the causes of variation in captive bolt gun performance, the effectiveness of poll instead of frontal shooting in water buffalo, the prevalence of false aneurysms in carotid arteries during shechita and halal slaughter, and the stress effects of CO\textsubscript{2} stunning in fish. Stunning pigs with 90% CO\textsubscript{2} leads to less PSE meat than 80% CO\textsubscript{2}. There have been concerns about the physical activity that cattle show following electrical stunning with an electrically induced cardiac arrest, and with electrical stunning using DC waveforms in broiler chickens. There is also growing concern about the hygiene problems that exist in wet markets, where animals are slaughtered alongside meat that is on display to customers.

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