**How effective and animal friendly are electrical and gas stunning at pig slaughter?**

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Stunning and slaughter are the planned endpoints of the life of most of our farm animals, including pigs. It is our responsibility to organise this short but critical span in the life of the animals as stress-free as possible. This requires the use of appropriate stunning and slaughter methods and means to assess good or poor animal welfare. Most commonly used stunning methods for pigs are electrical stunning and CO2-gas stunning. Investigation of the stress indicators adrenaline and noradrenaline in sticking blood after stunning revealed considerable differences between the two stunning methods and a very strong increase compared to resting values. The catecholamine concentrations in ng/l rose in average from values around 90 (adrenalin) and 320 (noradrenalin) in resting pigs (n=70) before stunning to 2734 and 3795 respectively after electrical stun (n=80) and to 131400 and 252600 after CO2 gas stunning (n=70). Inappropriate electrical stunning usually occurs by defaulted positioning of the electrical prods on the head of the pigs by the stunner. The very high increase in catecholamine concentrations during CO2 stunning is essentially caused by shortness of breath and fear of suffocation when the CO2 concentration rises within seconds to 80 Vol% or more while the O2 concentrations drops to nearly zero before the pig is completely unconscious after 20 to 30 seconds. Improvements and stress reduction in electrical stunning can be achieved through improved handling of the electric tongs and training of the acting persons. Avoiding asphyxiation stress in the presently used CO2 stunning facilities can only be reached by revised or new designed constructions or a combination of gases, which induce a much softer induction of anaesthesia of the animals.