

sheep. Peak values of 'free' cortisol in lambs at 15 min post-operation were comparable with maximal values in the sheep after an intramuscular administration of Synacthen (Fell *et al.* 1985), and were considerably higher than those found in sheep following yarding or transport, or in calves in response to surgical castration (Fell *et al.* 1986). In the present experiments therefore, post-operation pain following surgery in lambs may be modulated by the marked rise in β -EP₁₋₃₁, that was in evidence 15 min after surgery, and this could be assisted by the associated increased plasma 'free' cortisol levels. These findings could have important implications for animal welfare, but further work will be required in order to confirm these implications.

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