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## JOURNAL ARTICLE

# Individual differences in LH and FSH responses to orchidectomy and testosterone replacement therapy in rams

M. J. D'Occhio, B. D. Schanbacher and J. E. Kinder

Profiles of LH and FSH levels and pituitary LH responses to exogenous luteinizing hormone releasing hormone (LHRH) have been characterized in rams, castrated rams (wethers), and wethers implanted with testosterone. Rams were castrated when adult, and, at the time of castration, two groups of wethers were implanted with either four or eight testosterone capsules. Rams showed random pulses of LH and testosterone which were temporally related. The number of LH and testosterone pulses per 24 hours differed among rams, giving rise to large differences in the mean levels of these hormones. Mean FSH levels and pituitary LH responses to LHRH also differed among rams and were positively correlated to differences in LH levels. All three nonimplanted wethers showed a rhythmic pulsatile pattern of LH secretion and had elevated mean LH and FSH levels. There were, however, appreciable differences between wethers with regard to mean LH and FSH levels and pituitary LH responses to LHRH. Both four and eight testosterone capsules were effective in suppressing pulsatile LH secretion and mean LH and FSH levels in two out of three wethers. In a third animal within each of these groups, however, LH and FSH profiles and LH responses to LHRH were characteristic of nonimplanted wethers. These data suggest that individual rams have different inherent capacities to secrete gonadotropins which influence LH and FSH responses to castration and testosterone replacement therapy.

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