

Stress responses to different contraceptive delivery regimes in kangaroos

Herbert C.A.¹, Zhao, A.², Phibbs D.2, Hobbs, R.³ and Spielman D.²

¹School of Life and Environmental Science

²Sydney School of Veterinary Science, The University of Sydney, NSW, 2006, Australia

³Wildlife Reproduction Centre, Taronga Conservation Society Australia, Obley Road, Dubbo, NSW, 2830, Australia

CONTACT: Cathy Herbert, catherine.herbert@sydney.edu.au

When evaluating potential wildlife management options, we often make value judgments about the extent to which management actions will impact individuals, yet we rarely test these assumptions. This is particularly relevant when non-lethal control methods are advocated based on concerns for animal welfare. This study quantified the stress-response of kangaroos to three methods of Suprelorin® contraceptive implant administration: Hand-injection of implants after capture using either 1) pole syringe-delivered-, or 2) dart-delivered- immobilization and 3) remote delivery of implants using a prototype dart system.

It was hypothesized that capture and hand-delivery of implants (1 and 2) would be more stressful than remote delivery (3) because of the duration of exposure to the “stressor” and the stress-related behavioural changes observed during immobilization and recovery. However, there was no detectable increase in faecal glucocorticoid metabolite concentrations 24–48hrs post-capture (n=19) for group (1), despite behavioural indications of varying degrees of distress in individual animals. Animals receiving remotely administered implants (3), and animals immobilized by dart-delivered Zoletil (1cc darts) (2), showed significant increases in glucocorticoids 24hrs post treatment, returning to pre-treatment levels by 48hrs (n = 15 and n = 14). These results suggest the physical impact of the immobilization or contraceptive darts induces a transient stress response, and highlight the importance of challenging assumptions about our impacts on animals. Despite these increases in glucocorticoid concentrations, they were not significantly higher than the intra-specific variation observed in non-treated conspecifics.