

**GNRH ANTAGONISTS IN DOG AND CAT CONTRACEPTION:
WHAT SHOULD WE KNOW?**

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Gonadotropin-releasing hormone (GnRH) controls the hormonal and reproductive functions of the gonads. GnRH antagonists competitively block GnRH-receptors causing an immediate, dose dependent, pituitary suppression of the gonadal axis. Recently, a new series of safe, potent and long acting GnRH antagonists were developed. The complex interactions between the species, gender, reproductive state, antagonist potency, dose, frequency and duration of treatment determine the effect of GnRH antagonists.

The objective of this presentation will be to describe and discuss the published literature concerning new antagonists in domestic dog and cat reproduction. In male dogs, a single subcutaneous dose of the third generation GnRH peptide antagonist acyline safely and reversibly decreased serum gonadotropins and testosterone concentrations for nine days and prevented physiological response of gonadal the axis to agonistic challenge for 14 days. The same protocol reversibly impaired spermiogenesis, spermatocytogenesis and semen quality in both cats and dogs. In females, third generation GnRH antagonists prevented ovulation when administered in proestrus and interrupted mid pregnancy in canids but not in felids. During anestrus, a single acyline injection (within 48 h of implantation) exhibited limited prevention of the “flare up” effect in GnRH agonist-implanted bitches. Although, GnRH antagonists seem to have a promising future in domestic carnivores’ reproduction control, the available information is still scarce and further work is needed before they could be widely recommended.

References

Gobello C. Effects of GnRH antagonists vs agonists in domestic carnivores. *Reprod Domest Anim.* 2012; 47:373-376