

**SLOW RELEASE GnRH AGONIST IMPLANTS-
MODE OF ACTION AND THEIR USE AS A CONTRACEPTIVE FOR DOGS AND CATS**

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Continuous application of exogenous GnRH agonists, e. g. by slow release GnRH implants, masks the pulsatility of endogenous GnRH secretion and causes internalisation of pituitary GnRH receptors. Following an initial stimulation of gonadotropin secretion, desensitisation and downregulation of pituitary GnRH receptors occur. As a consequence, secretion of gonadotropins is significantly diminished and endocrine and germinative testicular function (indicated by basal testosterone (T) concentrations and an arrest of spermatogenesis) as well as ovarian function is temporarily blocked.

In the male dog, slow release GnRH agonist implants are licensed in Europe for temporary suppression of fertility with repeated and continuous treatment being possible. Due to the withdrawal of androgens, treatment of benign hyperplasia of the prostate, prostatic cysts, adenomas of the hepatoid glands, small perineal hernias and androgen-related behavioural problems, but also alopecia X are considered other possible indications for their use. Basal T concentrations and a significantly reduced testicular volume are good markers for effectiveness of treatment. Similarly, in the tom, treatment is followed by a reversible suppression of T concentrations and by suppression of fertility. Although very effective in most toms, effects on T and spermatogenesis are quite variable and significantly delayed in some animals. Similarly, the duration of efficacy after treatment varies between 6 and > 36 months (mean 18 mon., 4.7 mg deslorelin). As cyclicity is suppressed for 16 to 37 mon. (4.7 mg deslorelin) in adult queens and puberty can be significantly delayed after treatment of prepubertal queens, slow release GnRH agonist implants were also considered a suitable method for long-term contraception in female cats. The risk of estrus induction is lowest after treatment with high progesterone (P4) concentrations and highest in postestrus (basal P4). The experiences on the use in bitches are described elsewhere (Reichler et al.) and are in good agreement with our observations.

Slow release GnRH agonist implants, like Suprelorin®, offer a suitable and effective alternative to surgical neutering in male dogs and male and female cats resulting in long-term contraception.