



Animal name: *Hyaenidae*

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We would recommend supplementing any contraceptive bout with behavioural and hormone monitoring. For more information on this, please contact contraception@chesterzoo.org

Contraceptive methods:	GnRH agonist (implant)	GnRH agonist (injection)	Progestagen (implants)	Progestagen (implant)	Progestagen (injection)	Progestagen (injection)	Surgical/ Permanent
Contraceptive Product:	Deslorelin acetate	Luprolide acetate	Etonogestrel 68 mg	Levonorgestrel 2x 75mg	medroxyprogesterone acetate;	proligestrone 100mg/ml	Vasectomy/Ovariohysterectomy
Commercial Name:	Suprelorin ® (9 records)	Lupron ®	Implanon® Nexplanon®	Jadelle®	Depo-Provera®, Depo-Progevera®	Delvosteron®	N/A
Product Availability:	4.7mg ('Suprelorin 6') and 9.4 mg ('Suprelorin 12') widely available through veterinary drug distributors in the EU.	Luprolide acetate licenced for human use	Manufactured by Bayer Schering Pharma AG. Available through human drug distributors	Manufactured by Organon. Available through human drug distributors	Manufactured by Pfizer. Widely available throughout Europe through human drug distributors.	Manufactured by MSD animal Health UK, Intervet Europe. Licensed for use in female dogs, cats, and ferrets; available through veterinary distributors.	N/A
Restrictions and/or permit required by importing Country:	EGZAC recommends: always check with your local licencing authority	Data deficient	EGZAC recommends: always check with your local licencing authority	EGZAC recommends: always check with your local licencing authority	EGZAC recommends: always check with your local licencing authority	EGZAC recommends: always check with your local licencing authority	N/A
Mechanism of action:	GnRH agonist suppress the reproductive endocrine system, preventing production of pituitary and gonadal hormones. As an agonist of the GnRH initially stimulates the reproductive system - which can result in oestrus and ovulation in females or temporary enhancement of testosterone and spermatogenesis in males- therefore additional contraception needed during this time. Please see below and refer to Deslorelin datasheet for detailed information	GnRH agonists suppress the reproductive endocrine system, preventing production of pituitary and gonadal hormones	Interference with fertilization by thickening cervical mucus, interrupting gamete transport, disruption of implantation, inhibition of LH surge necessary for ovulation	Interference with fertilization by thickening cervical mucus, interrupting gamete transport, disruption of implantation, inhibition of LH surge necessary for ovulation	Anti-estrogenic activity. Interference with fertilization by thickening cervical mucus, interrupting gamete transport, disruption of implantation, inhibition of LH surge necessary for ovulation	Anti-estrogenic activity. Interference with fertilization by thickening cervical mucus, interrupting gamete transport, disruption of implantation, inhibition of LH surge necessary for ovulation	Vasectomy: Surgical procedure in which the ductus deferens are cut, tied, cauterized, or otherwise interrupted; Ovariohysterectomy: removal of one or both ovaries and the uterus; Ovariectomy: removal of the ovaries
Insertion/Placement:	Sub-cutaneous, in a place where it can be easily detected or seen for removal at a later date (i.e.upper inner arm); refer Suprelorin fact sheet for effective method of implant placement (tunnelisation)	Injectable	Intramuscular or subcutaneous. EGZAC recommends sub-cutaneous, upper inner arm for visibility (aid for later removal)	Intramuscular or subcutaneous. EGZAC recommends sub-cutaneous, upper inner arm for visibility (aid for later removal)	Injectable intramuscular	Injectable subcutaneously - do not inject intradermally or into subcutaneous fat or scar tissue	Surgical
Females	Recommended	Data deficient	Not recommended	Not recommended	Not recommended	Not recommended	Ovariohysterectomy
Dose	Dosages and duration of efficacy have not been well established for hyaenid species however, information from our database suggests that one implant is not sufficient to stop cycling entirely. For individuals >40kgs 3 implants or more may be necessary. Please contact EGZAC for dosage recommendations. Dosages and duration of efficacy have not been well established for exotic hyaenid species. As a guide: 2-3 x 4.7 mg for a minimum of 6 months; 2-3 x 9.4 mg for a minimum of 12 months.		N/A	N/A	N/A	N/A	

Latency to effectiveness:	3 weeks average as GnRH agonist initially stimulates the reproductive system- please refer to Deslorelin datasheet for detailed information - additional contraception is needed during this time in order to suppress the initial stimulation phase (see product data sheet. ~2mg/kg Megestrol acetate pills /Ovarid® daily 7 days before and 8 days after has been used to suppress initial stimulation phase)		N/A	N/A	N/A	N/A	
Oestrus cycles during contraceptive treatment:	Initial oestrus and ovulation (during the 3 weeks of stimulation) may occur and then no oestrus cycle. To suppress the initial oestrus and ovulation with the concomitant progesterone production and the associated deleterious effects of this you MUST follow the megestrol acetate protocol mentioned above.		N/A	N/A	N/A	N/A	
Use during pregnancy:	Not recommended		N/A	N/A	N/A	N/A	
Use during lactation:	No contraindications once lactation established		N/A	N/A	N/A	N/A	
Use in prepubertals or juveniles:	Data deficient in this group, see product information sheet		N/A	N/A	N/A	N/A	
Use in seasonal breeders:	Data deficient. Should start at least 1 month prior the breeding season.		N/A	N/A	N/A	N/A	
Duration	Duration of efficacy has not been well established as a guide: 4.7 mg implants will suppress for a minimum of 6 months; 9.4mg will be effective for a minimum of 12 months.		N/A	N/A	N/A	N/A	
Reversibility	Deslorelin is considered reversible. We have no records of reversibility in hyaenid species. Removal of the implant aids reversibility.		N/A	N/A	N/A	N/A	Not reversible
Effects on Behaviour	Similar to those seen with gonadectomy but reversible.		N/A	N/A	N/A	N/A	
Effects on sexual physical characteristics	Similar to gonadectomy		N/A	N/A	See above	See above	
Males		Data deficient	N/A	N/A	N/A	N/A	Vasectomy
Dose	Usually a higher dose than in females are required in males. Data deficient. Please contact EGZAC for dosage recommendations. Dosages and duration of efficacy have not been well established for exotic hyaenid species. As a guide, 4x 4.7mg implants are recommended for a MINIMUM of 6 months, and 4x 9.4mg implants are recommended for a MINIMUM duration of 12 months.		N/A	N/A	N/A	N/A	
Latency to effectiveness:	Depending on the species there may be fertile sperm present in vas deferens for 6-8 weeks post treatment or even longer. Testosterone decreases after 3-4 weeks but sperm can stay fertile for many weeks after.		N/A	N/A	N/A	N/A	
Use in prepubertals or juveniles:	Data deficient in this group, see product information sheet		N/A	N/A	N/A	N/A	

Use in seasonal breeders:	Data deficient. Should start at least 2 months prior the breeding season.		N/A	N/A	N/A	N/A	
Duration and Reversibility	Deslorelin is considered reversible. We have no records of reversibility in hyaenid species. Removal of the implant aids reversibility.		N/A	N/A	N/A	N/A	Not reversible
Effects on Behaviour	Testosterone related aggression is likely to decrease. Data deficient in this group, see product information sheet.		N/A	N/A	N/A	N/A	
Effects on sexual physical characteristics	Body size may decrease, decrease testicular size, feminisation of males. Similar to gonadectomy but reversible		N/A	N/A	N/A	N/A	
General:							
Side effects	Pseudopregnancy, endometrial hyperplasia and pyometra may be associated with the use of GnRH agonist as a result of high progesterone levels during the stimulation phase. A more recently developed Suprelorin*/deslorelin protocol using Ovarid*/megestrol acetate to prevent the initial stimulation phase, followed by implant removal when reversal is desired, may be a safer contraceptive option.		Risk of pseudopregnancy, endometrial hyperplasi and pyometra increases with exposure to prolong circulating progestagens/ progesterone	Risk of pseudopregnancy, endometrial hyperplasi and pyometra increases with exposure to prolong circulating progestagens/ progesterone	Risk of pseudopregnancy, endometrial hyperplasi and pyometra increases with exposure to prolong circulating progestagens/ progesterone	Risk of pseudopregnancy, endometrial hyperplasi and pyometra increases with exposure to prolong circulating progestagens/ progesterone	
Warnings	Causes initial gonadal stimulation that MUST be suppressed (see above); correct administration essential see product information sheet						Vasectomy in the male will not prevent potential adverse effects to females from prolonged, cyclic exposure to endogenous steroids associated with the obligate hormonal pseudo-pregnancy that follows ovulation in hyaenidae. The risk of pseudopregnancy and pyometra increases with age and over time in females that experience exposure to progesterone during repeated non-conceptive cycles

Reporting Requirements: In order to increase our knowledge of the efficacy of contraception methods in the Hyaenidae family it is recommended that all individuals on contraception be reported to EGZAC

References:

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Disclaimer: EGZAC endeavours to provide correct and current information on contraception from various sources. As these are prescription only medicines it is the responsibility of the veterinarian to determine the dosage and best treatment for an individual