The Suprelorin® WEBINAR SERIES

"The changing landscape of desexing: vasectomy, ovarian sparing spay, non-surgical, or not at all? The current evidence"

Presented by Dr Stuart Mason BVSc (Hons) MANZCVS (Animal Reproduction), Diplomate American College of Theriogenologists Monash Veterinary Clinic. *Presented live on 14th October 2020*

The changing landscape of desexing

In his webinar presentation on the changing landscape of desexing, Dr Mason highlighted the importance of keeping up with the times, "just because we were taught [desexing] at university, doesn't mean we should keep doing it." He emphasised how the best practice of medicine is to take a personalised approach. For this, "we need to consider all options, not just those we were taught at university or what the council says. It is timely to remember to put the medical needs [of the pet] and preferences of the pet owner first."

Dr Stuart Mason, Small Animal Theriogenologist at Monash Veterinary Clinic

Desexing in Australia **continues to evolve**

Dr Mason outlined how desexing in Australia has changed over time, moving towards less radical options.

1990's

Castration has always been castration, but when we look at ovariohysterectomy (OVH) there have been some different recommendations at different times. At one point some advocated cutting a piece of ovary after removal and burying it in the liver so that it secreted oestrogen in an attempt to stop side effects like urinary incontinence. This has gone out of favour. There was also a time when people would recommend performing OVH after the first heat and then we had the 6-months rule where we used to desex at 6 months for all pets if not used for breeding.

2000

Juvenile desexing (8 to 12 weeks) became more popular around 2000. It was considered easier and less of a worry for owners. There was a real push to have pets put in the hands of owners already desexed. We were told that the side effects of desexing were not proven and there was no difference between desexing at a young age versus an older age.

2015

In the last 5 years, different procedures than what we were taught at university have become more common, like ovary-sparing spay, tubal ligation and vasectomies. This is due to different knowledge and questions we have about the effects of desexing an animal.

Rates of desexing in Australia **are amongst the highest in the world[1,2]**

Dr Mason compared the practices overseas where, in Europe, there has been a tendency for ovariectomy (OVE) vs OVH,[3] and the rates of desexing in general are lower.

80+%

In 2019, more than 80% of dogs and cats were desexed in Australia, paralleled only by the USA and UK.[1,2] In many European countries, the rate of desexing is less than 32%.[2]

"and...desexing earlier does not seem to equate to lower rates of strays."

Dr. Stuart Mason

Desexing affects more **than breeding potential**

It is important to "remember that desexing doesn't just affect whether an animal can breed or not".

Dr Mason explained how desexing may increase the risk of certain conditions. "We now know more about what happens in the desexed animal. When you remove the gonads, the hypothalamic-pituitary axis is left uncontrolled and luteinising hormone (LH) continues to rise" he said.

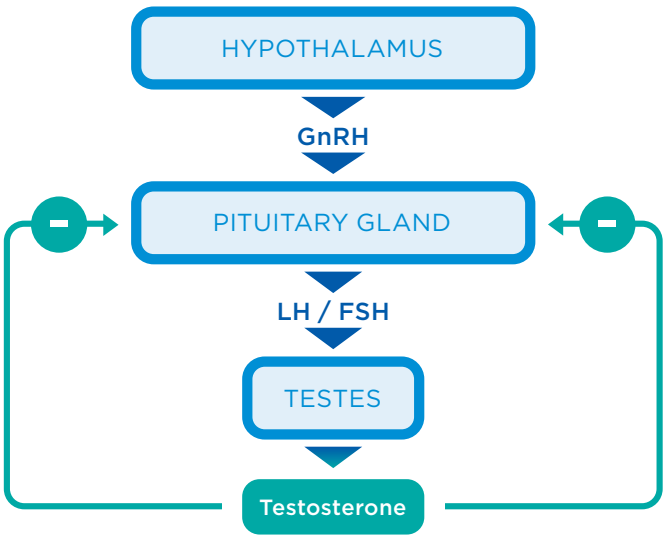
Recent research has identified LH receptors in a multitude of tissues including the adrenal glands, skin, bladder, urethra, brain, thyroid and some cancers. It is suspected that this LH may be having an affect on other organs within the body and could be increasing the risk of other diseases.[4]

Changing the way we discuss desexing **with clients**

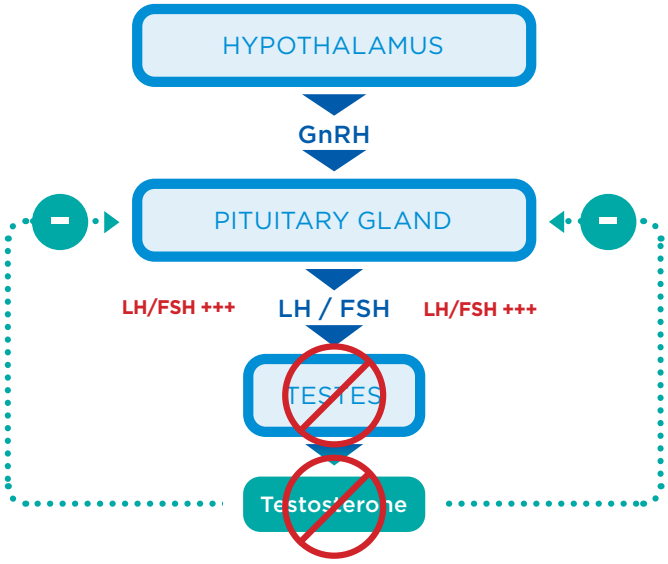
Dr Mason emphasised the need to have longer conversations with pet owners around desexing and what is right for their pet. It should not be, "let's book him in now for desexing at six months", the twenty-year-old one liner delivered at first puppy vaccination. It is important that we discuss desexing so that an informed decision can be made on when the best time to desex an individual animal is, not because "we were told at university that 6 months is best or because the council says it has to be done by 12 weeks".

We should be discussing what the potential side effects are with desexing so that they are aware of what may happen after desexing. Dr Mason discusses some of these potential side effects including skeletal effects, incontinence, obesity, coat changes, cancer, temperament, conformation and genital tract diseases. Dr Mason explained that it is important to be up to date on what's known about the potential effects of desexing so that we as veterinarians can advise our clients.

Normal entire dog

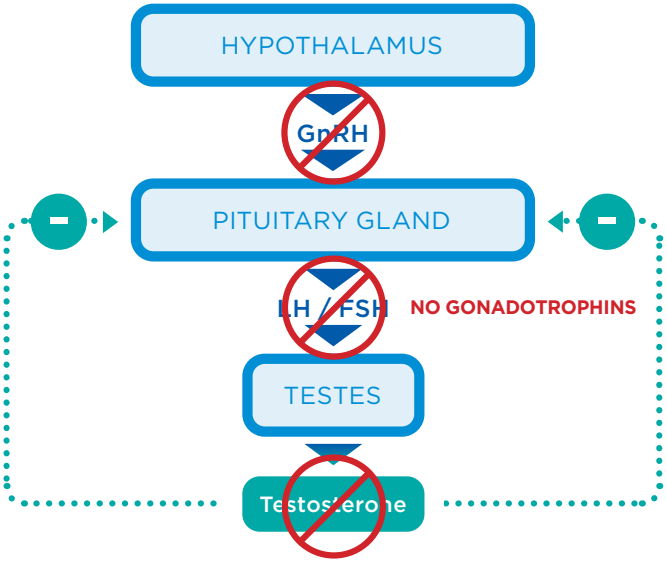


Surgically desexed dog



NO SEXUAL HORMONES
NO NEGATIVE FEEDBACK

Suprelorin dog



NO SEXUAL HORMONES

Considerations for when and how to desex

Dr Mason proposed the following considerations for when and how to desex.

These considerations, along with pet owner preference form the basis for the medical justification for personalised desexing preference, which includes procedure and timing.

Consider:

1 Purpose and breed of the animal

Considerations include the breed, lifestyle and owners desire to breed at some point in the future.

2 Risk of cancers

While there is an association with a reduced risk of mammary cancers in desexed vs entire females,[5,6] the risk of prostate carcinoma in desexed male dogs is higher[7] as is the risk of osteosarcoma,[8] haemangiosarcoma,[9] lymphosarcoma[10] and mast cell tumours.[11]

3 Risk of diseases

There is an increased risk of urethral sphincter mechanism incompetence with desexing in females.[12] Benign prostate hyperplasia may also be a consideration in male dogs. Ovarian remnant syndrome is a concern in bitches,[13] while desexing decreases the overall risk of pyometra. Obesity may also be related to desexing, with food intake increased post-desexing.[14]

4 Need for anatomical structures to mature

There can be delayed closure of growth plates in desexed dogs vs entire animals[15] as well as increased risk of cranial cruciate ligament rupture and hip dysplasia.[16,17] Behaviour is also a consideration, with less inter-male dog aggression, but an increased risk of being timid and persistent juvenile behaviour reported.[15,18] Finally for female dogs, if an inverted vulva is present and desexing performed, prepubertal vulval formation will remain.

What does the future **hold?**

Dr Mason explores some of the pros and cons of tubal ligation, ovary sparing spay, vasectomies and the use of GnRH agonist implants.

"Appreciating what we now know about the important role of LH on overall health and animal maturity, it begs the question why methods which help preserve the hypothalamic pituitary axis balance, are not considered more often," he explained. "For me it's evidence such as urinary incontinence in females who have undergone OVE or OVH that is reversed with gonadotropin-receptor downregulation. The myths about surgical trauma have well and truly been debunked there and we see the impact desexing has on other tissues through increasing LH quite clearly there."[19]

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