



APBC Veterinary Neutering Information

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Neutering (especially of female dogs) is a major surgery that is routine in the UK. In 2020, only 29% of the UK dog owning population reported their dog had not been neutered (PDSA PAW Report, 2020). This is very different to the approach taken in many other countries – in Norway, for instance, the Norwegian Animal Welfare Act makes it illegal to neuter a dog unless it is deemed medically necessary.

In this article we will look at neutering for behavioural reasons.

Why Neuter?

Population Control:

Neutering is a permanent form of population control. It reduces the number of unwanted puppies in the UK and may have a beneficial reduction in the number of animals ending up in shelters.

Population control on an individual basis is even more important in terms of behaviour. We should be picking our best stock (emotionally and physically) to breed from. Any animal showing undesirable behaviour should not be bred from and there is evidence to suggest that anxiety can be passed on (likely both genetically but also environmentally from stress in-utero and during early development). The only way to categorically ensure this does not happen is to neuter them.

Health Benefits:

The health benefits (or risks) of neutering need to be assessed on a case-by-case basis. The optimal age of neutering from a health



perspective may vary depending on the dog's size and breed (see Hart et al., 2020, Assisting Decision-Making on age of neutering for 35 breeds).

Behavioural Benefits:

Neutering has historically been recommended as a management tool for many behavioural issues.

Behaviours that are sexually dimorphic and hormonally-driven are usually reduced or totally stopped by neutering. These include:

Male Dogs:

- Roaming (when seeking bitches in season)
- Urine marking (this may have multiple causes)
- Aggression towards other entire male dogs in the presence of an entire female
- Sexually driven mounting behaviours (it is important to note that mounting behaviour is often not motivated by hormones at all)
- Frustration responses (if a male dog is near an entire female and they are prevented from gaining access).

Bitches:

- Roaming behaviours (when in-season only)
- Increased aggression (when in-season only)
- Behaviour changes during pseudopregnancies.

Neutering And Behavioural Problems

For most other behavioural problems, there is no strong evidence to suggest neutering is beneficial. The available data is generally poorly controlled, contradictory and there is little reliability in the definition of each behavioural term (e.g. "aggression").

There is some evidence that increased length of exposure to sex hormones in both sexes **may** reduce the development of fear-based behaviours. This means that delaying neutering in anxious dogs of both sexes **may be** helpful, allowing brains to mature behaviourally prior to neutering (see McGreevy et al (2018) Behavioural risks in male dogs with minimal lifetime exposure to gonadal hormones may complicate population-control benefits of desexing and Starling et al (2019) Behavioural risks in female dogs with minimal lifetime exposure to gonadal hormones).

Each case should be assessed individually rather than a blanket recommendation to neuter at a specific age.

In the case of male dogs, it is possible to see what effect castration may have by using **Deslorelin (Suprelorin)**. Testosterone increases for 2 weeks after implantation (so additional management measures may be required during this time) and then falls to post-castration levels after about 4-6 weeks.

If, on balance, it is deemed beneficial for a dog who is exhibiting fear or anxiety-based behaviours, it would be prudent to ensure any anxiety is well-managed to increase the dog's resilience and ability to cope with any elective surgical procedure and stay at a vet clinic.

Reducing The Stress Of Neutering

In all cases, but especially those that have a history of anxiety-based behaviours, we should look at ways to reduce the stress associated with staying in the vet hospital for a day and undergoing surgery:

- The implementation of positive vet visits (including being left for short periods) to build confidence staying at the clinic without the owner present.
- Starting muzzle training at home, so the dog can comfortably enter the clinic wearing a muzzle (see Muzzle training handout).
- The use of appropriate anxiolytics prior to the visit. - The addition of anxiolytics in the pre-med if needed (ACP causes sedation without anxiolysis and can increase the stress response to noise so is not an appropriate choice on its own).
- Planning the visit so the dog can be given pre-medication with the owner present.

- Reducing the time spent at the clinic if safe to send home.
- Ensure low stress handling techniques are used at all times.
- Being mindful of the kennel environment (for all dogs) – e.g. low lighting, low noise, no aversive smells.
- Treating each dog as an individual e.g. some may benefit from being kennelled away from other dogs, some dogs fearful of people may find being comforted by strangers to be stressful and may benefit from a hands off approach.
- Making sure appropriate pain relief is used both pre, during and post procedure (pain increases the perception of anxiety and vice versa).

In summary, the best age to castrate or spay a dog should be looked at on a case-by-case basis. If neutering is deemed to be beneficial for an individual, the best age to do this will likely depend on the both client compliance to responsible pet ownership alongside individual needs – breed, size and temperament wise.

