

Neutering Risks and benefits: Bitches

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Population control: spaying (surgical removal of the uterus and both ovaries, or the ovaries only) is currently the most reliable permanent means of preventing unwanted breeding in bitches. In view of the large numbers of unwanted dogs in the UK, bitches should be spayed unless there is a good reason not to do so, and if they remain entire unwanted matings must be reliably prevented through careful management.

Health-related effects: recent research suggests that spaying might increase the risk of some health problems in bitches while it reduces the risk of others. There is not currently enough evidence to know how reliable these findings are and whether they apply to all dogs or just certain populations of dogs. Until more research becomes available, current evidence suggests that the health-related benefits of spaying bitches outweigh the risks, particularly with regard to the increased incidence of mammary tumours and pyometra in entire bitches.

Behavioural effects: spaying involves removing both ovaries, the main source of female reproductive hormones including oestrogen and progesterone. Spaying is therefore most likely to affect behaviours associated with the oestrous cycle.

Spaying is likely to be beneficial in:

- **Bitches showing increased reactivity and aggression ONLY around the time of their season.** Spaying is unlikely to improve behaviour in bitches that are highly reactive/aggressive throughout the oestrous cycle, and may even make it worse.
- **Bitches having pseudopregnancies associated with severe behaviour changes including aggression, increased reactivity and anxiety.**

Spaying should be delayed if:

- **Bitch has a pseudopregnancy when presented for spaying:**
 - Practice staff should routinely check all bitches for any physical signs of pseudopregnancy such as mammary enlargement or lactation, and ask owners about any suggestive behaviour changes including increased reactivity, aggression, resource guarding or anxiety.
 - If pseudopregnancy is identified this should be treated with a two week course of **Cabergoline (Galastop, CEVA)**, and the bitch checked again afterwards to ensure all signs completely cleared before she is spayed, or pseudopregnancy may persist long-term after spaying.

- **Bitch is generally fearful/unconfident or specifically fearful of unfamiliar people, places and being handled:** these dogs ideally should receive BEHAVIOUR MODIFICATION FIRST to reduce fearfulness of strangers, handling etc before they are spayed, and care must be taken to ensure the experience of being spayed does not exacerbate their fearfulness (see below).

Spaying may be detrimental in:

- **Bitches showing evidence of “masculinised” behaviour before they are spayed** e.g. frequent urine marking, raised leg urination, confident aggression. In such dogs spaying may be associated with an increased risk of behaviour problems including aggression. It is necessary to weigh up both health and behaviour-related risks and benefits. Delaying spaying until after at least one season may reduce the risk of behaviour problems to some degree.
- **Bitches that are aggressive/reactive throughout their oestrous cycle:** spaying is unlikely to improve the behaviour as it is not obviously associated with hormone changes, and there is a small risk that spaying could make the behaviour worse. Again, it is necessary to weigh up both health and behavioural risks and benefits.

Consider spaying before 1st season if bitch lives with other bitches, especially if:

- They are very similar in age/breed.
- Any of them are terriers.
- There are already signs of tension between them.

NB: Although spaying before the first season removes the hormonal “flare factor” that often precipitates aggression between bitches that live together, there is no guarantee that aggression will not occur. Behaviour modification can help, and a behaviour consultation with a reputable behaviourist is essential. However there are some bitches that will not tolerate living with each other and in some cases aggression can be serious/potentially fatal. Where injurious fighting is occurring, rehoming one of the bitches is often the best option.

Spay after 1st season: particularly important in:

- Large breeds especially those prone to urinary tract/incontinence problems.
- Pups with immature/recessed vulva or history of vulval dermatitis/vaginitis.
- Bitches showing behaviours suggestive of in-utero masculinisation

Ensuring spaying does not increase fearfulness in bitches that are already fearful:

Care should be taken to ensure the experience of being spayed is as minimally aversive as possible for a fearful dog. This might include:

- For dogs that might bite when scared: muzzle training should be undertaken beforehand to ensure dog is comfortable wearing a Baskerville Ultra muzzle, and that they are wearing this when they arrive at the surgery.
- Premed on arrival at surgery and allow owner to stay with dog until they start to become drowsy.
- Ensure premed contains agents that reduce anxiety and awareness. NB: ACP alone does not reduce awareness and can actually increase sensitivity to stressors, particularly noises, while reducing the dog's ability to respond to them, so can cause or exacerbate noise-related fears.
- Ensure the dog is kennelled in an area that is quiet and not brightly lit, both before and after surgery (loud noise and bright light are significant stressors for dogs).
- Ensure all handling is calm and gentle, both before and after surgery.
- Put an item of clothing that the dog's owner has worn and not washed in kennel during recovery so the dog is exposed to their owners' scent as they come round.
- Ensure effective pain relief both during and after surgery until animal no longer painful.

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References available on request: cwarnesbehaviour@googlemail.com