

## The Cat Group

### Cat neutering practices in the UK

Despite neutering being one of the most common veterinary procedures, questions remain about what constitutes best practice, and when is the ideal time to neuter. These were the focus of attention at a meeting of The Cat Group, held in London last September, to which representatives from the UK veterinary schools, and a number of other veterinary experts, were invited. This article presents a summary of the discussions.

#### Flank versus midline approach to ovariectomy

While a flank approach to cat spays is very frequently undertaken in the UK (the procedure of choice for 96% of respondents in one study),<sup>1</sup> in most other parts of the world cat spays are traditionally undertaken through a ventral midline approach.

#### Key discussion points and conclusions

- ❖ Historically, a flank approach may have been preferred to ensure better (and more rapid) wound healing and thus a reduced risk of wound breakdown. The advent of modern materials for suturing the linea alba would now appear to negate that perceived risk.
- ❖ From published data, a flank approach may give a slightly shorter total surgical time, but the difference is not great (~1.5 minutes).
- ❖ Through better exposure to the abdomen, the midline approach may allow for fewer complications (such as inadvertent ligation of a ureter).
- ❖ Ovarian remnant syndrome is a relatively uncommon complication following cat spays, but there is no data on whether there may be a greater risk for this with flank spays (ie, whether flank spays have an increased risk of leaving some residual ovarian tissue).
- ❖ It is easier to teach undergraduate students a midline approach as it facilitates proper teaching of anatomy at the same time.
- ❖ Although studies are limited, current evidence clearly indicates that a midline spay may be associated with less postoperative



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pain than a flank spay and this may be an important consideration. This could be as a result of fewer nociceptors in the linea alba, and/or movement of the flank muscles at the incision site.

- ❖ A midline spay is useful for cats that are in season and may have a more friable uterus, and for pregnant cats.
- ❖ When dealing with rescue or feral cats, a flank spay may permit somewhat easier postoperative monitoring of the surgical site when checking for potential complications.
- ❖ When neutering a cat of unknown background (ie, uncertain if it has been spayed before), given the current prevalence of flank spays in the UK, clipping the flank may more readily enable assessment of whether the cat has previously been spayed (through identification of a surgical scar).
- ❖ While the technique itself (flank vs midline) may influence the degree of postoperative pain, the skill of the surgeon is likely to be an even more important factor.

Although no general consensus emerged as to which of these techniques is 'better', it was agreed

that there is a need to challenge the 'perceived wisdom' of doing flank spays that is prevalent in the UK, and to encourage the consideration of both techniques. Veterinary students need to be exposed to both techniques and should not necessarily be constrained by 'convention' when choosing a technique to use in practice. Additionally, further research is needed, particularly into the issue of postoperative pain – if further studies consistently show

reduced pain associated with the midline procedure, this may affect recommendations in the future.

#### Ovariectomy versus ovariectomy

While in the UK, neutering of female cats (and dogs) typically involves ovariectomy (OVH), in some other regions it is common to perform just ovariectomy (OV).

#### Key discussion points and conclusions

- ❖ There are no publications in cats comparing these two techniques, so current evidence has to be inferred from other species (mainly dogs) and caution is therefore needed with any assumptions made.
- ❖ Studies in dogs suggest no long-term detrimental effects (such as increased prevalence of pyometra) when OV is performed rather than OVH. This appears to be a result of atrophy of uterine tissues after OV.
- ❖ It is further suggested that OV in dogs is a simpler procedure than OVH, and thus may have advantages through being a shorter, less invasive

procedure with potentially fewer complications.

- ❖ While no data are available for cats, it was recognised that conducting a flank OVH (as is routine in the UK) rarely if ever results in a full OVH, as it is very difficult to remove all uterine tissue (down to the cervix) using this technique.
- ❖ Performing a midline OVH permits better surgical access and easy removal of all uterine tissue.
- ❖ However, while no good data are available, complications from leaving uterine tissue in situ are rarely recognised in cats, although the more widespread use of progestagens in this species may increase risks compared with dogs.
- ❖ The relative simplicity of performing a full (or partial) OVH in cats suggests that there are unlikely to be significant benefits from performing only an OV in this species.

#### Ideal timing of neutering

Neutering of both male and female cats still predominantly occurs at around 5–6 months of age in the UK, and this is the conventional time that is recommended by many practitioners. However, many cats will reach sexual maturity and may be sexually active before this time. This may lead to unwanted/undesirable litters of kittens and/or neutering of female cats while they are pregnant, with consequent increased risks.

#### Key discussion points and conclusions

- ❖ The recommendation of neutering at around 6 months of age is based on perceived risks of earlier neutering that have been shown to be false (eg, the supposed effect on development of the male urethra) or are no longer relevant (eg, the ‘risk’ of anaesthesia in younger animals).
- ❖ Current scientific data suggest no detrimental effects from neutering at a younger age (eg, from 8 weeks onwards).
- ❖ The term ‘early neutering’ is somewhat confusing as perceptions on what is ‘early’ range from neutering conducted at 6–8 weeks of age, to that done at around 4 months of age.

- ❖ From a population control perspective, it is vital to neuter cats before they are sexually active; rescue organisations, in particular, may have limited opportunities to neuter cats.
- ❖ For pet cats, it is preferable to recommend routine neutering at around 16 weeks (4 months) of age as this should largely avoid any unwanted litters of kittens. This can then be regarded as the ‘conventional’ age of neutering and promoted as such.
- ❖ In the rescue/feral situation, in particular, neutering before 16 weeks may be extremely important (as young kittens may not be brought back for neutering if seen earlier than this). ‘Early neutering’ can thus be regarded as neutering cats at 8–12 weeks of age, and this was considered both safe and appropriate.
- ❖ Some rescue organisations have suggested an arbitrary minimum weight of 400 g, below which they will not neuter cats, whereas others simply have an age limit (eg, 8 weeks). No data yet exist to make firm recommendations, other than accumulated data that suggest that neutering at 8 weeks is perfectly safe.

#### Control of pain associated with neutering

Neutering of both male and female cats, as with any other surgical intervention, causes undesirable

pain. Normal principles of providing good analgesia apply in this situation, as in others.

#### Key discussion points and conclusions

- ❖ The degree of pain associated with neutering is likely to be highly dependent on the skill and experience of the surgeon. Additionally there is some evidence that a midline spay may be less painful than a flank spay.
- ❖ Subjectively, young cats appear to suffer less pain when neutered compared with older cats, and appear to return to normal behaviour more rapidly. Specific studies evaluating this are lacking at present, but this would be a valuable area of research as perhaps pain perception is different in young animals. Nevertheless, analgesia is still required, whatever the age of the cat at neutering.
- ❖ Pre-emptive and multimodal analgesia is likely to be highly valuable in this situation, as in others.
- ❖ Using an alpha-2 agonist (eg, medetomidine) and ketamine as part of an anaesthetic premedication regime is likely to be helpful from an analgesic perspective. The addition of an opioid (such as buprenorphine) and an NSAID (perhaps administered during anaesthesia but prior to surgery) is likely to provide excellent analgesia. For most routine neutering it was considered that single injections of these drugs would provide sufficient analgesia, but each case should be assessed individually. For cat castrations, butorphanol might be considered as an alternative to buprenorphine.
- ❖ From a behavioural aspect, when neutering young kittens (early neutering – see above), there is value in allowing the kittens from a litter to share the same cage and to recover together in the same cage, and there may be additional value in the inclusion of a benzodiazepine, such as midazolam or diazepam, as part of the premedication regime (in reducing the impact of surgery/hospitalisation).

#### References

- 1 Coe RJ, Grint NJ, Tivers MS, Hotston Moore A, Holt PE. Comparison of flank and midline approaches to the ovariohysterectomy of cats. *Vet Rec* 2006; **159**: 309–13.

The Cat Group is a collection of professional organisations based in the UK that are dedicated to feline welfare through the development and promotion of policies and recommendations on the care and keeping of cats. Its members are:

- ❖ International Society of Feline Medicine (ISFM)
- ❖ Feline Advisory Bureau (FAB)
- ❖ Battersea Dogs & Cats Home
- ❖ Blue Cross
- ❖ Royal Society for the Prevention of Cruelty to Animals (RSPCA)
- ❖ British Small Animal Veterinary Association (BSAVA)
- ❖ Governing Council of the Cat Fancy (GCCF)
- ❖ Cats Protection
- ❖ People’s Dispensary for Sick Animals (PDSA)
- ❖ Woodgreen Animal Shelters.



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‘A united view on feline issues – working together for the good of cats’