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Early Age Altering of Kittens October 2004

- ◆ Refers to spay/neuter before the traditional age of six to eight months of age
- ◆ Desirable approach to pet overpopulation control for shelters; enables pre-adoption altering
- ◆ Pedigreed cat breeders may request early age altering for pet kittens
- ◆ Major North American veterinary organizations have position statements supporting the concept
- ◆ *Perceived* detrimental effects include:
 1. Stunted growth
 2. Obesity
 3. Behavioural changes
 4. Increased risk of disease, including lower urinary tract disease
- ◆ **Growth:** altering at any age prior to seven months may delay physal closure and result in increased long bone length
 1. University of FL (*Stubbs et al*, 1996): evaluated skeletal growth in cats altered at seven weeks, seven months and those left intact; delayed closure of the growth plate of the radius was seen in cats altered at both seven weeks and seven months of age
 2. University of MN (*Root et al*, 1997): radius length was longer in cats altered at both seven weeks and seven months versus intact cats
- ◆ **Obesity:** a multifactorial problem involving diet, exercise, age and other factors; *Root et al* (1996) showed that altered cats require fewer calories than intact cats regardless of the age at which they were neutered; male cats altered at both seven weeks and seven months required 28% less calories than intact male cats; female cats altered at both seven weeks and seven months required 33% fewer calories than intact female cats
- ◆ **Behaviour:**
 1. University of FL study (*Stubbs et al*, 1996): behaviours were similar between both groups of altered cats; sexually intact cats demonstrated less affection toward humans and more interspecies aggression
 2. Cornell University study, 1660 cats with median follow up time of 4 years (*Spain et al*, 2004): early altered cats showed more shyness and less hyperactivity than cats neutered after six months of age; early altered male cats showed less aggression to veterinarians, less urine spraying but more occurrences of hiding
 3. Mercer University study (*Wright*, 2001): 127 kittens, split litter design, followed for one year, no differences in behaviours based on age at altering
 4. Texas A&M Study (*Howe et al*, 2000): 263 cats (188 altered at under six months of age), followed for three years, no difference in behaviour problems

◆ **Disease risk:**

1. University of FL, University of MN studies: urethral diameter is not affected by age at neutering in male cats; feline lower urinary tract disease is caused by a wide variety of factors, including diet
2. Cornell University study (*Spain et al, 2004*): concluded neutering before 5.5 months of age is not associated with any serious long-term outcomes, showed important benefits such as less asthma, gingivitis and bite wound abscesses
3. Texas A&M study (*Howe et al, 2000*): 263 cats (188 altered at under six months of age), followed for three years, no increased disease risk as compared to traditional-age surgeries

Anesthesia and Surgery:

- Pediatric animals distribute and metabolize drugs differently, must be careful with drug selection and doses
- Surgical benefits to early age altering:
 1. Less bleeding
 2. Improved visualization
 3. Small size of organs means shorter surgery time
 4. More rapid recoveries, less patient discomfort
 5. Very low complication rate
- Anesthetic complication rates are low:
 1. Faggella and Aronsohn's study of 96 kittens reported no complications.
 2. Texas A&M University (*Howe et al, 1997*): 779 shelter cats altered by 4th year vet students, early age altering did not increase morbidity or mortality during the intra- or postoperative period (seven days after surgery). Kittens altered at less than 12 weeks of age actually had a lower postoperative complication rate (6.5%) than those altered at greater than 23 weeks of age (10.8%).

Five Rules for Successful Early Age Altering:

1. Kittens should have complete physical exam; have their first vaccination and treatment for parasites; postpone surgery if any illness or abnormality found (including cryptorchidism)
2. Weigh each kitten to nearest 100 grams, calculate drug doses carefully
3. Combat hypoglycemia: withhold food for only three to four hours; feed a small meal within one hour of recovery; administer 50% dextrose orally to kittens with prolonged recoveries or those that will not eat post-op
4. Decrease stress: keep litters together before surgery in warm, quiet environment; minimize handling; avoid IV injections; reunite litters as soon as possible after recovery
5. Combat hypothermia: insulate against cold surfaces, minimize hair coat clipping, avoid alcohol in preps, warm prep solutions, monitor rectal temperature, use supplemental heat sources (warm blankets, hot water bottles, heat lamps, etc)

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