

Should We Spay or Neuter?



Considerations

- Population Control
 - Owner expertise!
 - **REMEMBER: You're puppy buyers may not be as capable as you at managing an intact animal!**
 - Animal Shelter



Ew.com

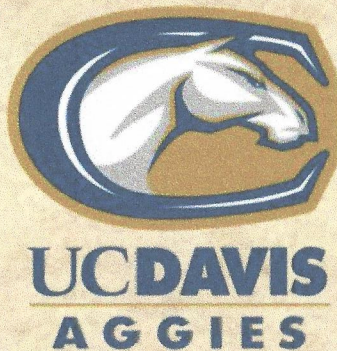
Considerations

- Health
 - Growth Plate Closure
 - Cruciate Injury
 - Obesity



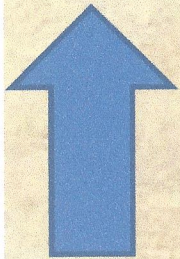
Considerations

- Health
 - What about the “Golden Retriever Study”?
 - “Goldens are shown to have less cancer and better joints if you wait 1 year of age to neuter/spay!”



Considerations

- STUDY DESIGN:
 - Definition of a dog with no dysplasia
 - Any dog who did not come in lame and get radiographed
 - Were their hips “passing?”
 - Dogs are eliminated from breeding programs if they don’t pass or are clinical and are placed, and often...

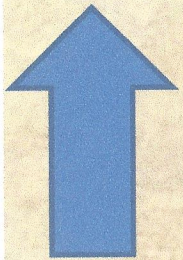


NEUTERED



Considerations

- STUDY:
 - Cancer findings...
 - Breeders select AWAY from cancer producers and dogs with genetic relation to cancer
 - Dogs are eliminated from breeding programs if they don't pass or are clinical and are placed, and often...



NEUTERED



- STUDY

- The use of animals...

- AL
 - ated?

- FOUNDED FACTS

- May be true?

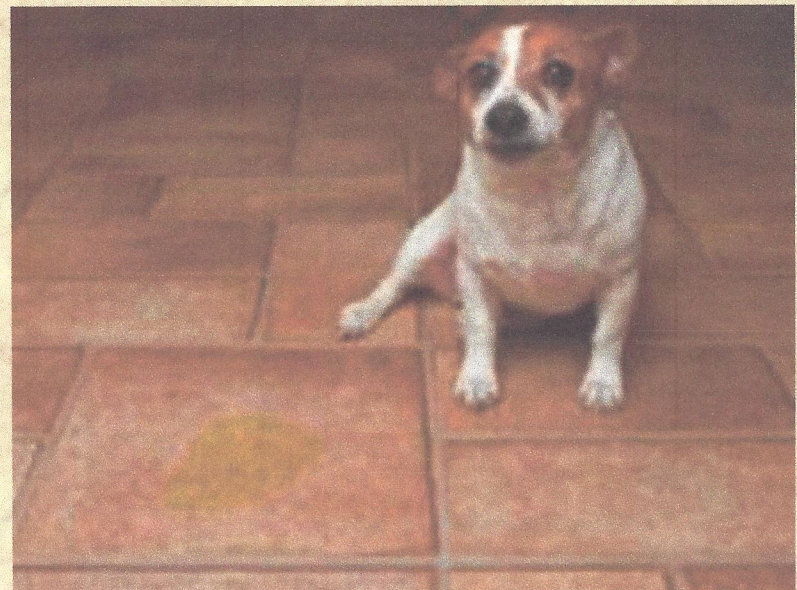
- Can be working on a

- SECON

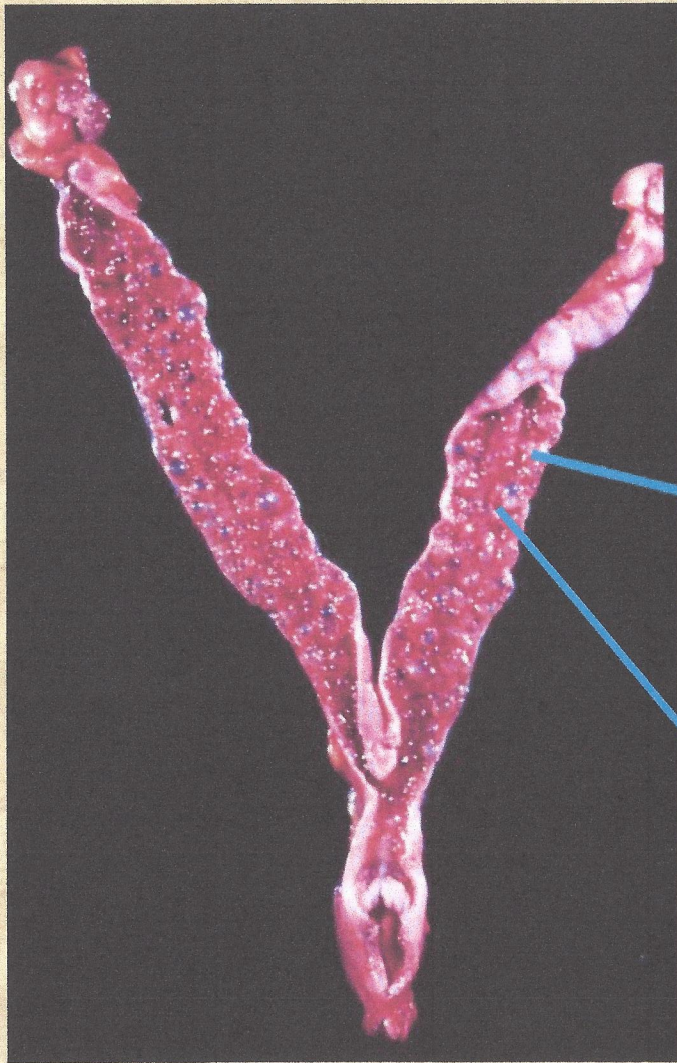


Considerations

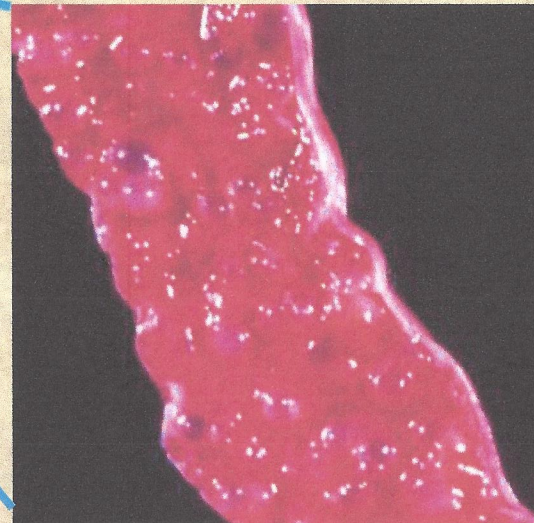
- Health
 - Urinary incontinence in females
 - Chronic vaginitis



Considerations

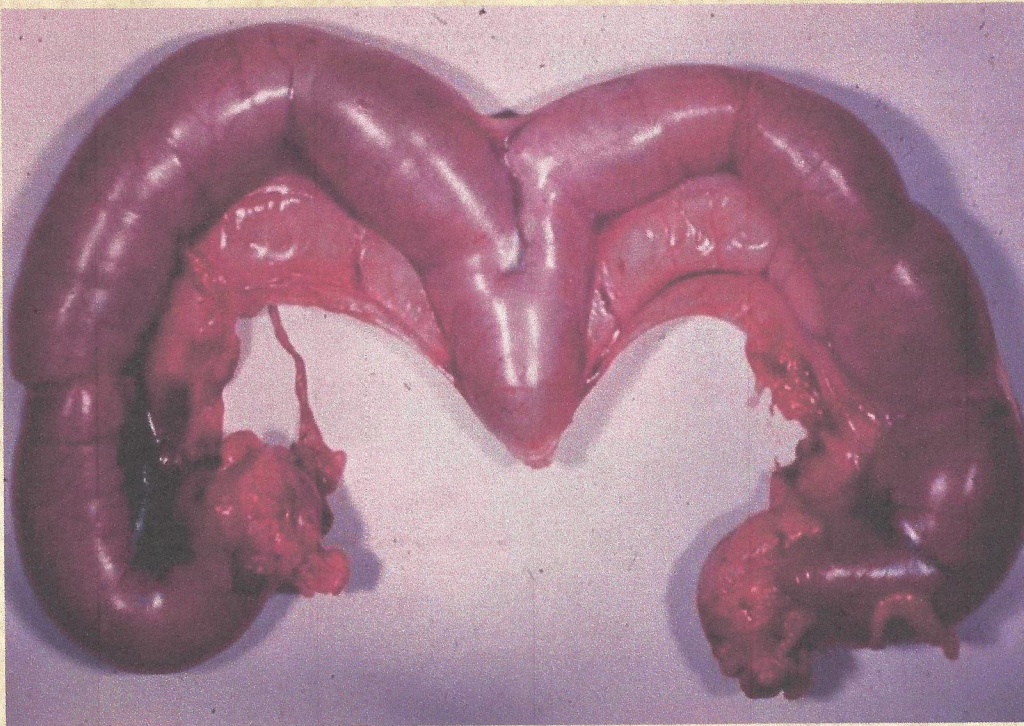


- Health
 - Pyometra
 - Cystic uterine changes predispose to infection with age



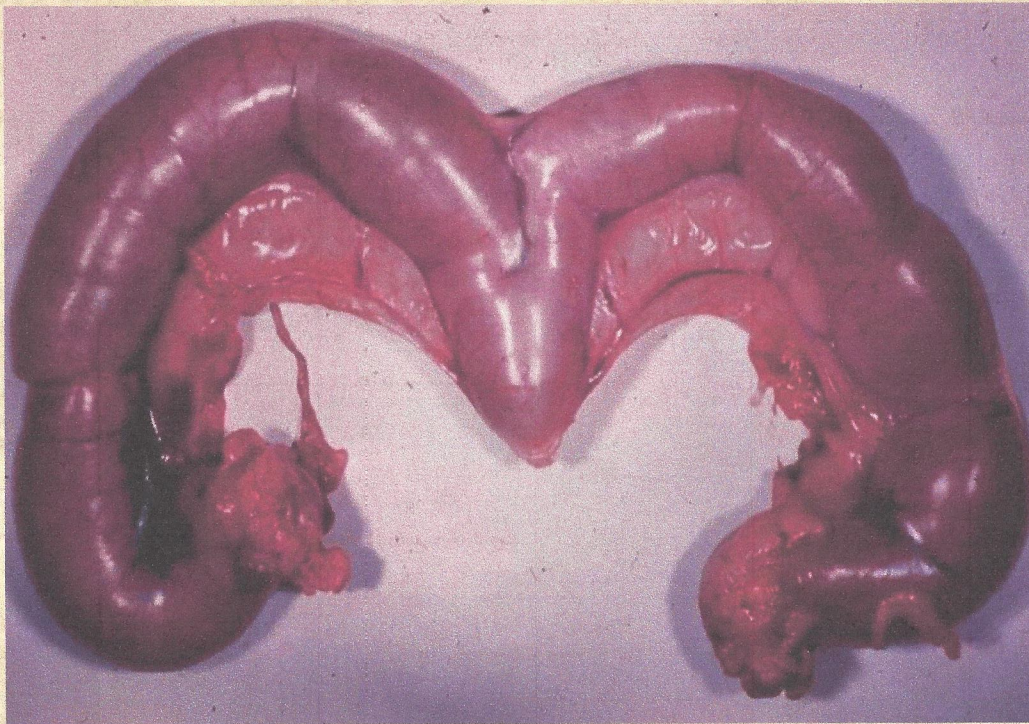
Considerations

- Health
 - Pyometra
 - With CEH, the uterus is greatly predisposed to infection



Considerations

- Health
 - Pyometra
 - Risk factors:
 - Age
 - Frequent cycling
 - Breed and line predispositions



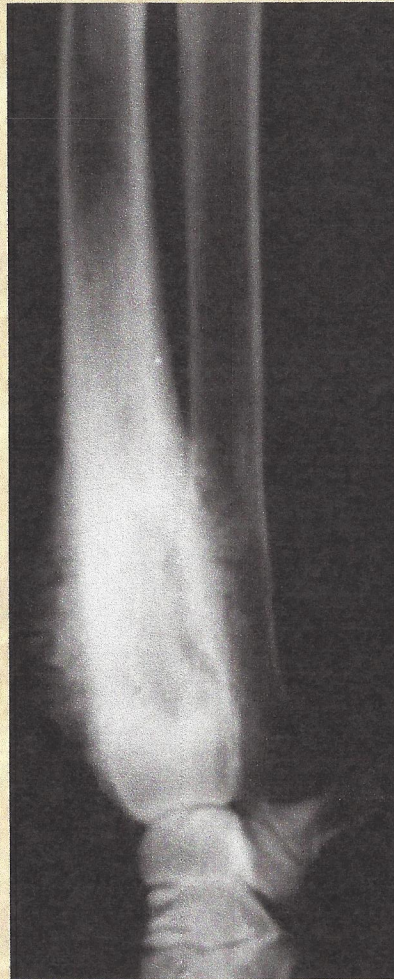
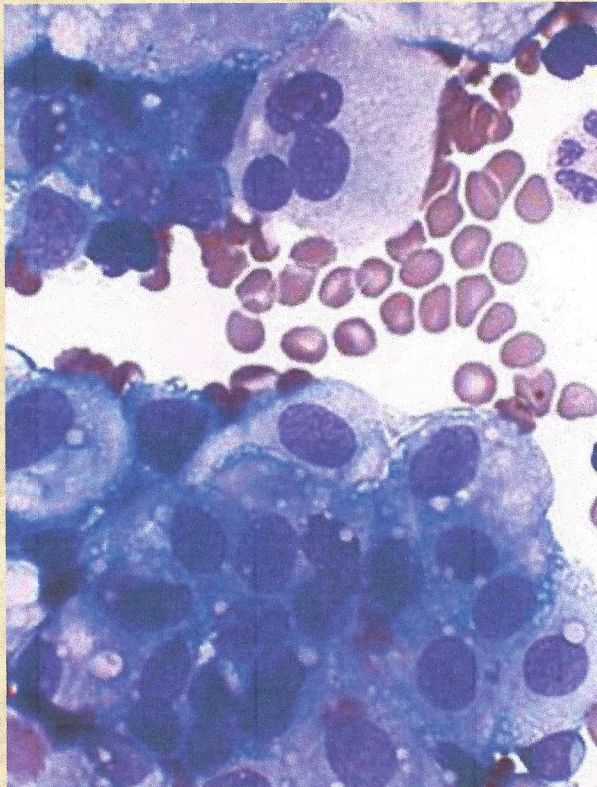
Considerations

- Health
 - Mammary Cancer



Considerations

- Health
 - Cancer



Considerations

- Health
 - Prostate Disease

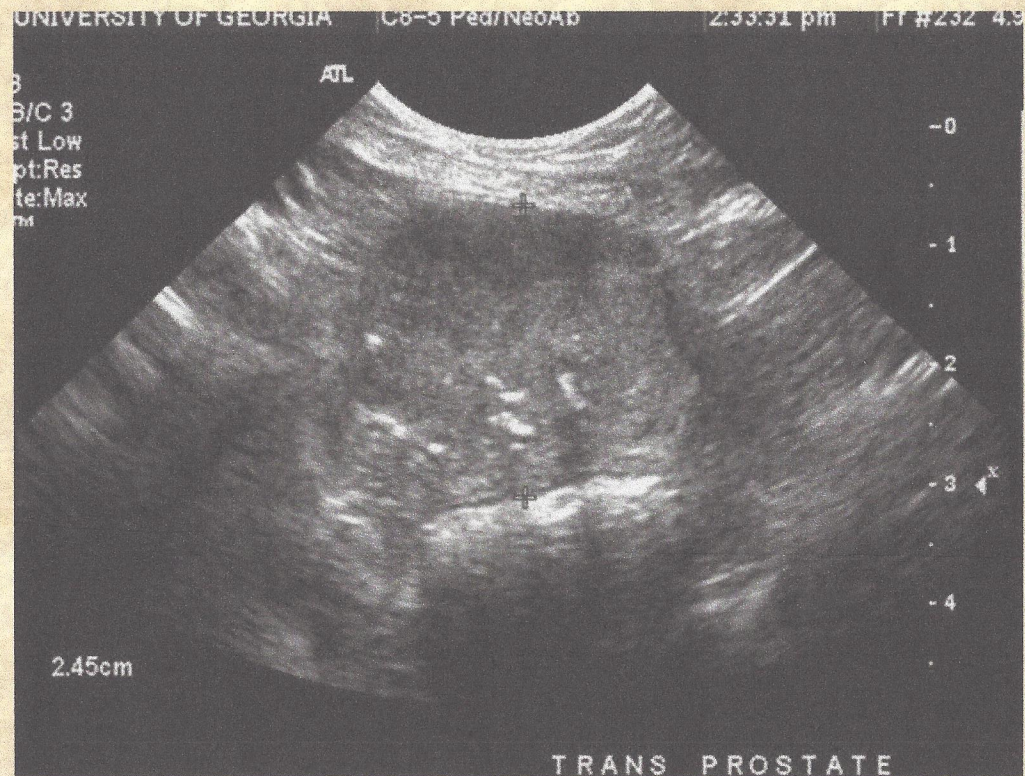
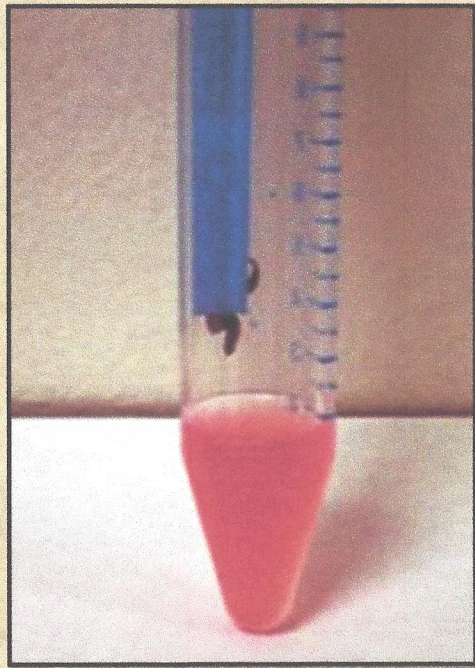


Table 2—Benefits and detriments of gonadectomy for various conditions in male dogs.

Condition	Incidence	Substantial morbidity?	Specific breeds at risk?
Benefits			
Testicular neoplasms	0.9%	No	No
BPH or prostatitis	75%–80% by 6 years of age	No	No
Detriments			
Complications of surgery	6.1%	No	No
Prostatic neoplasms	0.2%–0.6%	Yes	No
TCC	< 1%	No	Yes*
Osteosarcoma	0.2%	Yes	Yes†
Hemangiosarcoma	0.2%	Yes	Yes†
CCL rupture	1.8%	Yes	Yes§
Obesity	2.8%	No	Yes
Diabetes mellitus	0.5%	No	Yes¶

Table 3—Benefits and detriments of OHE for various conditions in female dogs.

Condition	Incidence	Substantial morbidity?	Specific breeds at risk?
Benefits			
Mammary gland neoplasms	3.4% in all dogs; greatly reduced when spayed before first estrus	Yes	Yes*
Ovarian or uterine tumors	Low	No	No
Pyometra	15.2% by 4 years of age; 23% to 24% by 10 years of age	Yes	Yes†
Detriments			
Complications of surgery	6.1%	No	No
Aggression	Variable	Potentially	Yes†
TCC	< 1%	No	Yes§
Osteosarcoma	0.2%	Yes	Yes
Hemangiosarcoma	0.2%	Yes	Yes¶
CCL rupture	1.8%	Yes	Yes#
Obesity	2.8%	No	Yes**
Diabetes mellitus	0.5%	No	Yes††
Urinary incontinence	4.9%–20.0%; increased when spayed at < 3 months of age	No	Yes††

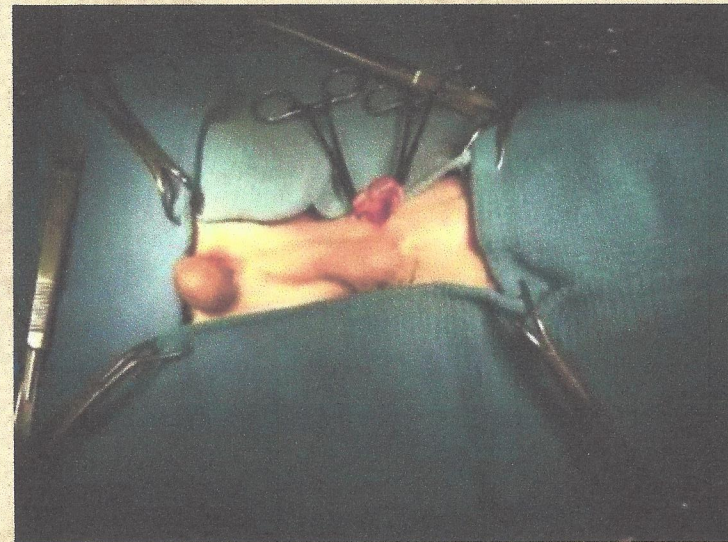
Considerations

- Do no harm?
 - Ethical concerns for surgery for convenience?



Considerations

- Do no harm?
 - Ethical concerns for surgery for convenience?
 - Some countries limit to non-surgical methods only



Considerations

- Behavior?
- Secondary Sex Characteristics
- Lifespan?



Considerations

- Puberty
 - When exactly?
 - BREED dependent!
 - If there are swimmers...
 - If she is cycling...



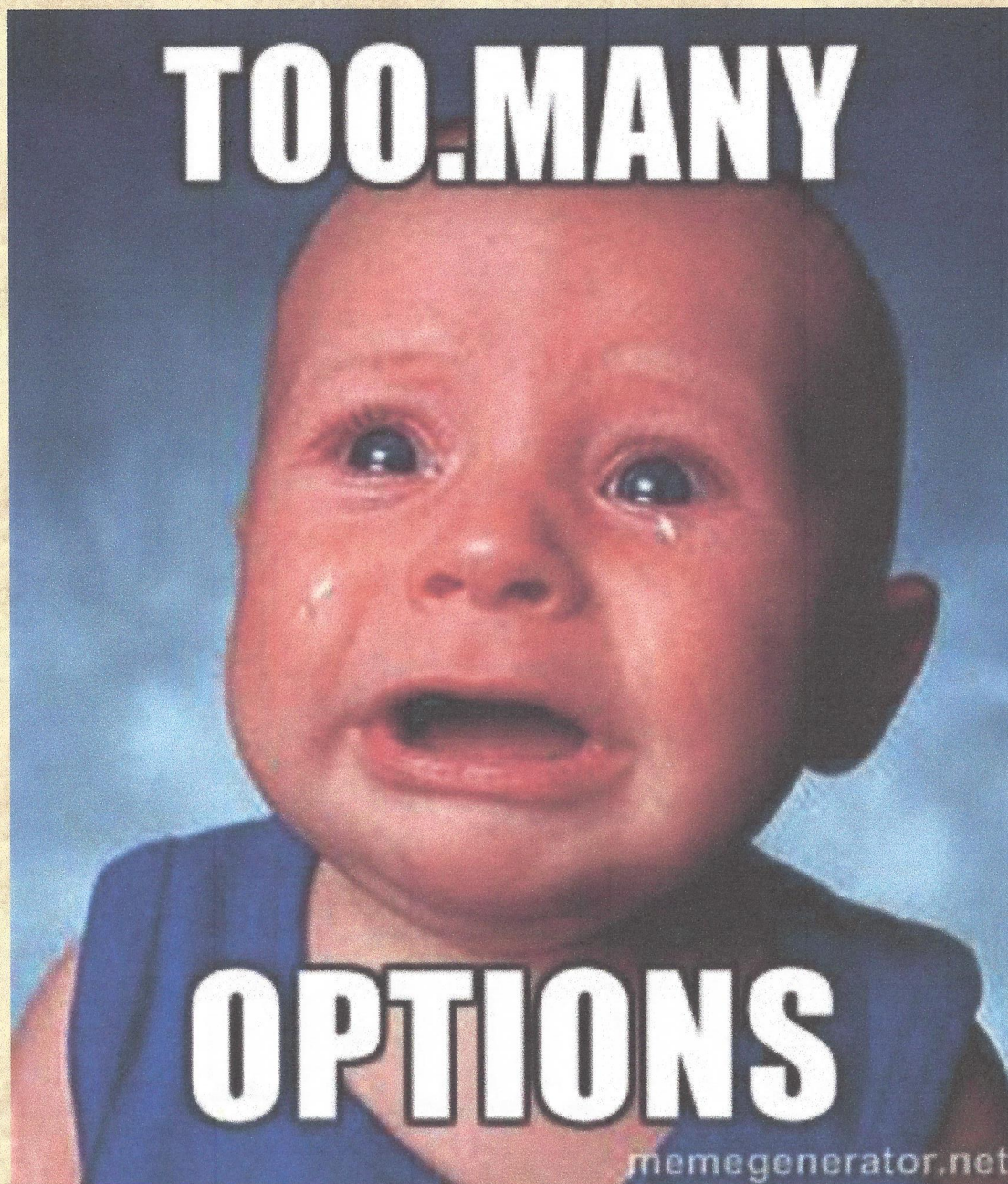
Considerations

So **what age** should we have the procedure performed?

It depends on ALL of these risks and benefits.

Margaret Root 2007 Paper “Determining the optimal age for gonadectomy of dogs and cats”

TOO.MANY



OPTIONS

memegenerator.net

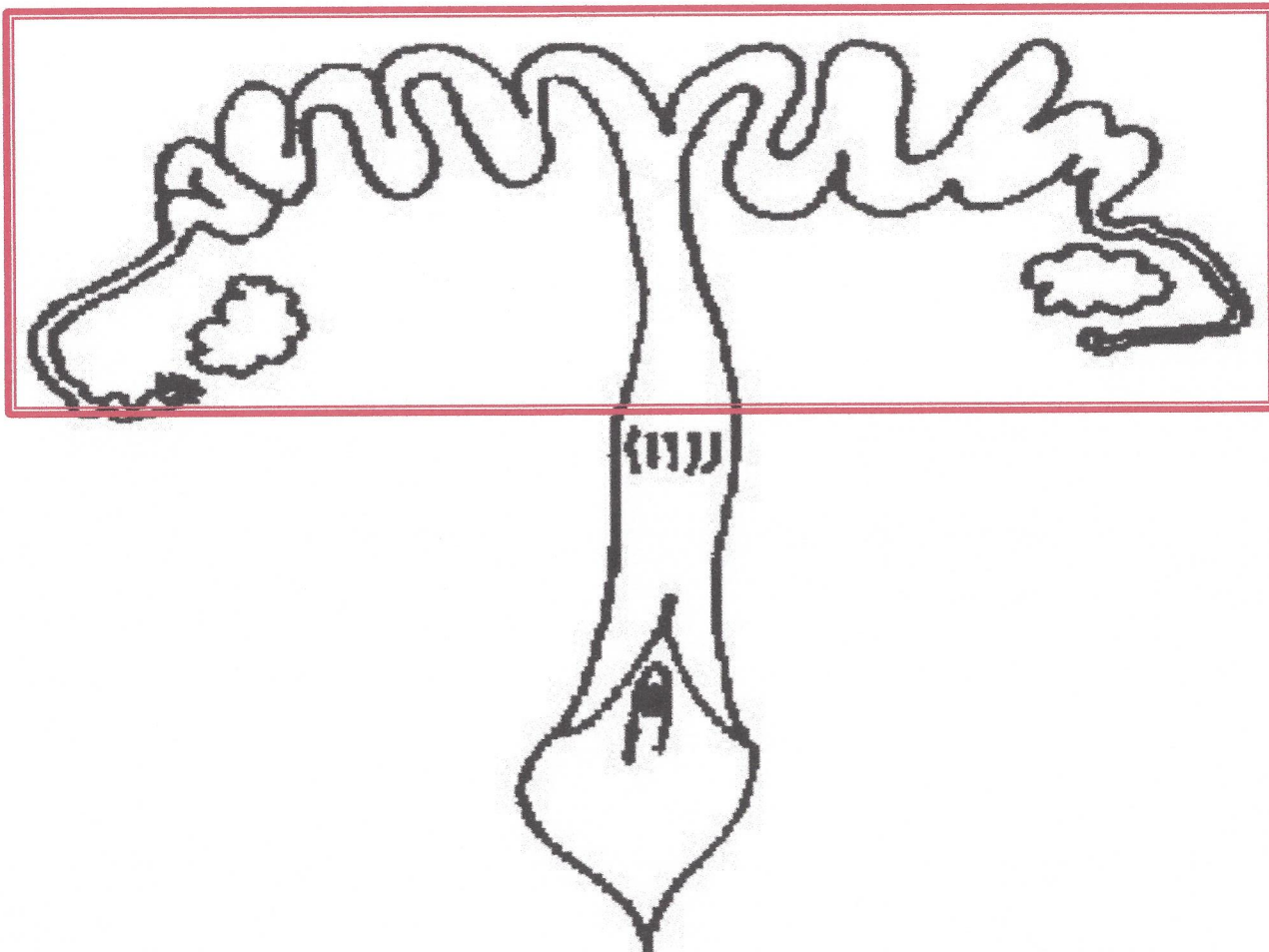
Female Surgical Options

- Ovariohysterectomy (traditional spay)
 - Most common approach to sterilization of pets



Female Surgical Options

- Ovariohysterectomy

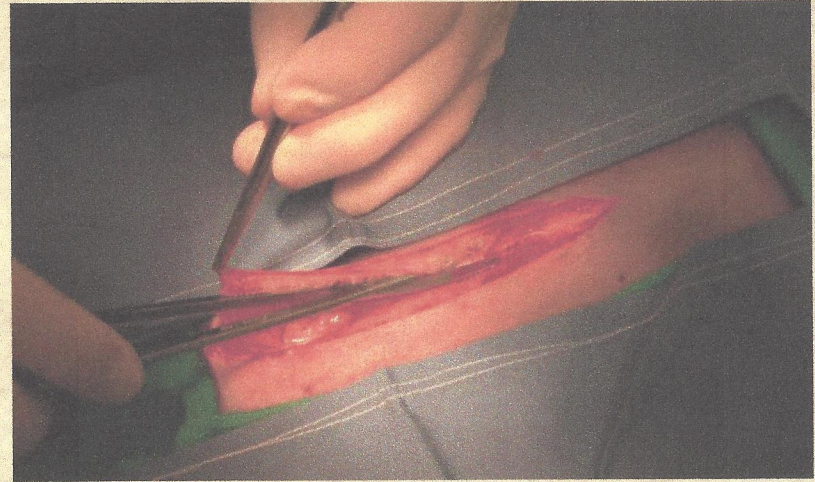


Female Surgical Options

- Ovariohysterectomy (traditional spay)
 - Appropriate for most all candidates, with all previous discussion in mind
 - Eliminates risk of pyometra
 - reduced risk of mammary cancer
 - No cyclicity, decreased hormonal levels

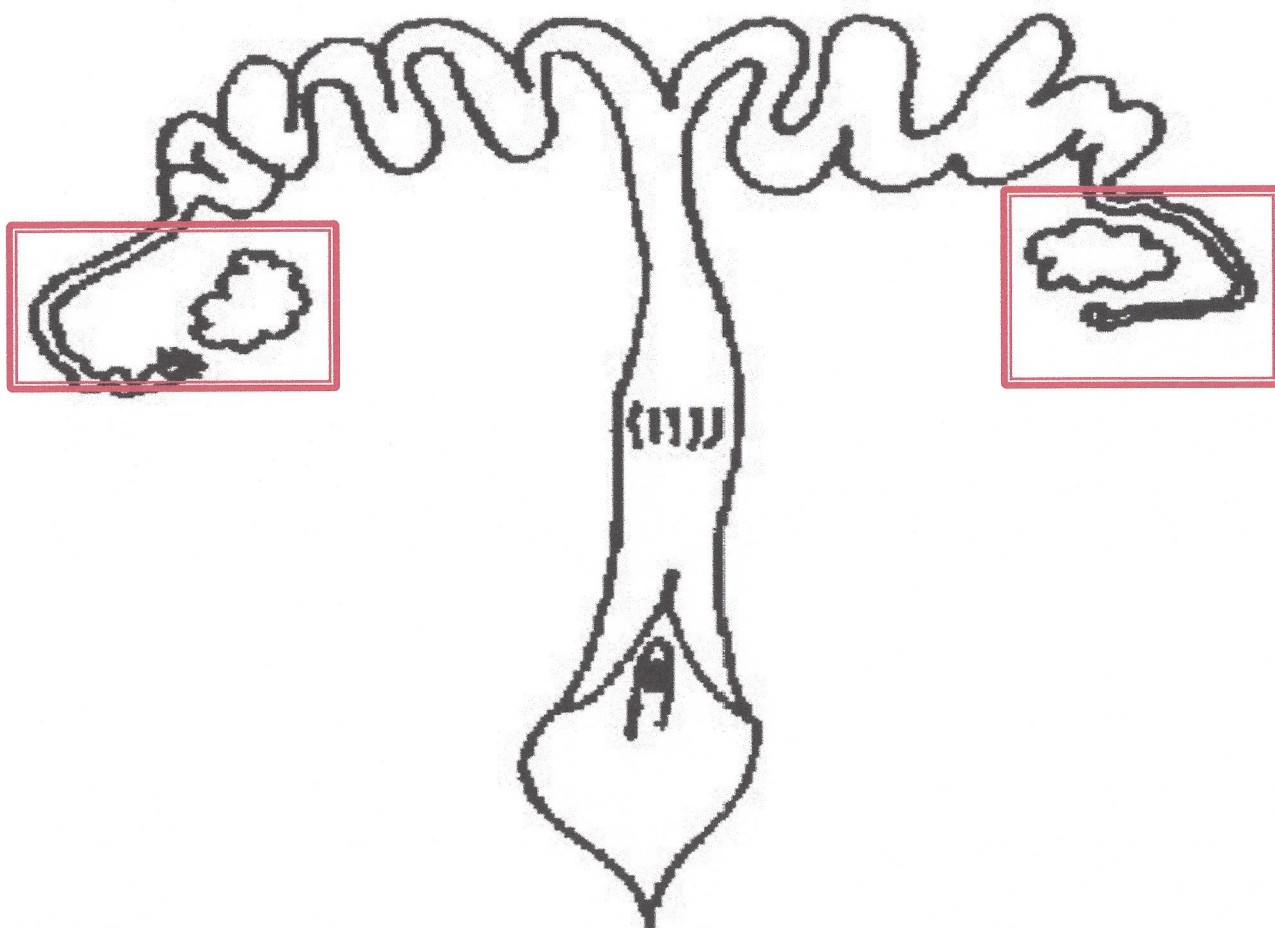
Female Surgical Options

- Ovariohysterectomy
 - Approaches:
 - Abdominal Incision
 - Laparoscopic



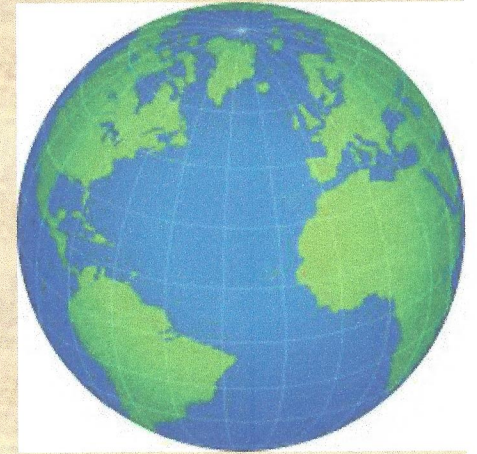
Female Surgical Options

- Ovariectomy



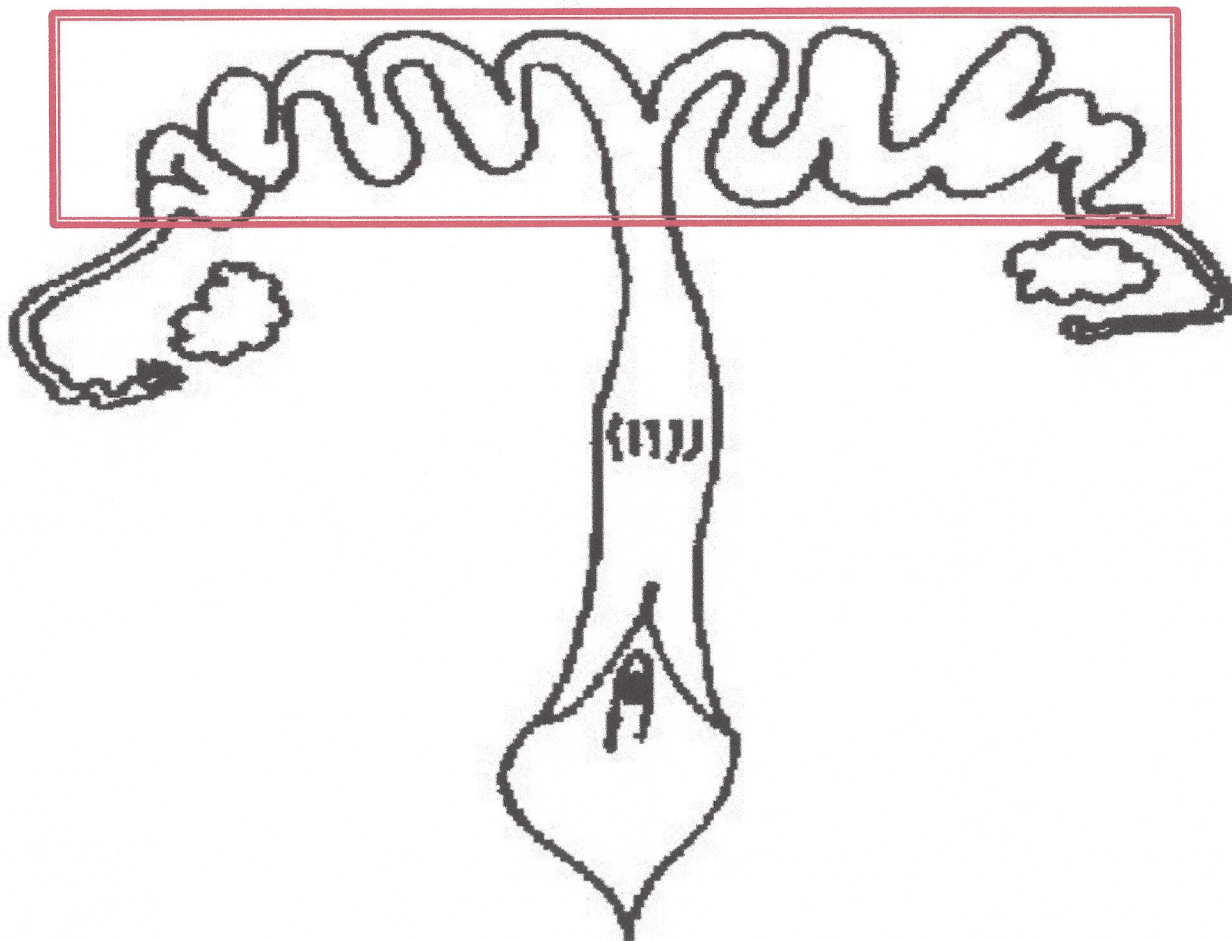
Female Surgical Options

- Ovariectomy
 - Growing popularity in US
 - Highest prevalence in many European countries
 - Appropriate for young to middle age dogs
 - NOT appropriate for those with known reproductive pathology (cysts, pyo history, etc)
 - No cyclicity, decreased hormone levels



Female Surgical Options

- “Ovary Sparing Surgery”



Female Surgical Options

- “Ovary Sparing Surgery”
 - NOT widely practiced
 - Reasoning for lack of recommendation:
 - Bitches STILL cycle/bleed
 - Males are just as interested
 - Surgical incision is more extensive
 - Stump pyometra possible at both body and horn tips
 - May need subsequent surgery

AKC/TF Residency Programs

