UPDATES IN
REPRODUCTIVE SURGERY

Adapted from a presentation by board-certified veterinary surgeon
Karen Tobias, DVM, MS, DACVS, at the 2016 ACVS Surgery Summit
Knowing how to discuss spay and neuter with pet owners requires an understanding of risks vs. benefits. Here are some key take-home points as presented by Karen Tobias, DVM, MS, DACVS, at the 2016 ACVS Surgery Summit.

### SPAY

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Risks</th>
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<tbody>
<tr>
<td>Prevent estrus and unwanted pregnancy</td>
<td>Obesity (decreased metabolic rate [cats], increased food intake [dogs])</td>
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<tr>
<td>Decrease risk for mammary tumors</td>
<td>Urinary incontinence</td>
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<tr>
<td>Treatment for:</td>
<td>Increased risk for*:</td>
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<tr>
<td>• Ovarian or uterine neoplasia</td>
<td>• Certain neoplastic diseases in certain breeds</td>
</tr>
<tr>
<td>• Pyometra</td>
<td>• Certain joint diseases in certain breeds</td>
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<tr>
<td>• Dystocia</td>
<td></td>
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<tr>
<td>• Uterine of vaginal prolapse</td>
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<tr>
<td>Prevents hemorrhage in dogs with coagulation disorders</td>
<td>Surgical complications (e.g., hemorrhage, incisional complications) are more common in larger dogs.</td>
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<tr>
<td>Facilitates medical management of diabetes and epilepsy in dogs</td>
<td>Underdevelopment of external genitalia can possibly occur in animals spayed at &lt;12 weeks</td>
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</table>
**Benefits**

- Possible prevention of testicular disease
- Resolution of benign prostatic hyperplasia
- Adjunct treatment for prostatic infection, cysts, and abscesses
- Behavioral effects:
  - Decreased urine marking behavior
  - Decreased inter-dog aggression
- Resolution of perianal adenomas

**Risks**

- Surgical complications (e.g., hemorrhage, incisional complications)
- Increased risk for prostatic carcinoma
- Increased risk for*
  - Certain neoplastic diseases in certain breeds
  - Certain joint diseases in certain breeds
- Increased anxiety-related behaviors and aggression toward family members in some breeds

**Recommended References**


*This is preliminary evidence taken from studies that may not reflect the normal population, as they were drawn from referral populations.

**In General …**

- Some conditions are dramatically reduced by neutering.
- Ovarietomy (OE) is just as effective as ovariohysterectomy, and OE does not increase risk for pyometra.
- Neuter and spay at <3 months and at 6 months of age are prepubertal and have similar effects.
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