SPAY/NEUTER FACTS

WHAT IS SPAY/NEUTER?

This involves removing the womb and ovaries in females and in males the testicles are surgically removed.

It is most beneficial to wait until your dog has reached puberty. Puberty greatly varies between breeds and the size of the dog but is roughly 6 months for males and 9 months for females.
General advice is that responsible dog owners neuter early or after reaching puberty or a female's first heat.

BENEFITS TO NEUTER/SPAY:

1. Prevent unwanted breeding,
2. Prevent the possible occurrence of testicular cancer, peri-anal cancers and ovarian cancers.
3. The spread of inferior genetic traits and to reduce problematic behavior including male-male aggression around females in heat and the roaming behavior of both males and females when a female is in heat.

Like dry food, parasite control, annual boosting and casual steroid shots, altering your pet TOO EARLY can have possible long-term implications.

ANATOMY:

WHAT ARE THE GONADS?

In male mammals the gonads are the two testes, and in females the gonads are the two ovaries.

WHAT DO THE GONADS DO?

The gonads are best known for making gametes (single celled germ cells) which is sperm in males and eggs in females. Gonads enable babies to be made as well as produce a variety of hormones including the estrogen and progesterone in female dogs and testosterone and androsterone in males.

WHAT DO THE HORMONES DO?

Hormones largely play a role in reproduction but also maintain body muscle and bone growth. Testosterone and estrogen serve functions in skeletal growth and dramatic effect on height, muscle mass, muscle strength and bone density.

At puberty, these hormones assist in sending minerals to the bones to promote skeletal maturation and the gradual, progressive closure of the epiphyseal *growth plate* (plates of cartilage at the end of bones, which are responsible for laying down new bone).

SIDE EFFECTS OF NEUTERING TOO EARLY:

1. **INCREASED RISK FOR TUMORS & CERTAIN CANCERS**

A study in the Journal of Veterinary Internal Medicine, compiled over 13 years found that "… neutering dogs appeared to increase the risk of cardiac tumor in both sexes". The results showed that spayed females were five times more likely to suffer tumors of the heart than intact females
(Ware and Hopper, 1999, http://www.ncbi.nlm.nih.gov/pubmed/10225598)
In another study spanning 14 years of research it was concluded that sterilization increased the risk for bone cancer in large breed pure-breeds twofold.
(Ru et al. 1998, http://www.ncbi.nlm.nih.gov/pubmed/9691849).

2. ABNORMAL BONE GROWTH AND DEVELOPMENT

Testosterone and estrogen play pivotal roles in the development of your muscles and bones. It stands to reason that if you remove testosterone and estrogen from the vital and dramatic puberty growth phase there will be consequences to that individual's height, muscle mass and bone formation of the individual, compared to an intact animal of the same size and breeding. Studies show this to be absolutely the case.

a. EARLY NEUTERED ANIMALS ARE TALLER

A study by Stubbs and Bloomberg (1995) set out to answer the following theory: Estrogen tells the growth plates to stop. Thus, if you remove the estrogen-producing organs in immature dogs, female and male, you could expect cause growth plates to remain open and the dog to grow longer bones.

b. INCREASED CRUCIATE RUPTURE

Thus with no estrogen to shut it down, these animals can continue to grow and wind up with abnormal growth patterns and bone structure. This results in irregular body proportions.
This is verified with a study by Slauterbeck et al. (2004) who found that spayed and neutered dogs had a significantly higher incidence of ACL rupture than their intact counterparts, regardless of breed or size.
http://www.ncbi.nlm.nih.gov/pubmed/15577502

c. INCREASED RISK OF HIP DYSPLASIA

A study by the Cornell University's College of Veterinary Medicine and published in the Journal of the American Veterinary Medical Association showed that both male and female dogs sterilized at an early age were more prone to hip dysplasia.
http://avmajournals.avma.org/…/a…/10.2460/javma.2004.224.380

3. INCREASED RISK OF HYPOTHYROIDISM

When one organ is removed, others will suffer, and spayed and neutered Golden Retrievers are proven to be more likely to develop hypothyroidism.
Panciera DL. Hypothyroidism in dogs: 66 cases (1987-1992). J Am Vet Med Assoc. 1994 Mar 1;204(5):761-7
Glickman L, N Glickman, and R Thorpe. The Golden Retriever Club of America National Health Survey, 1998-1999. Available online athttp://www.grca.org/pdf/health/healthsurvey.pdf

4. INCREASED RISH OF INCONTINENCE

Early neutering increases the risk of urinary incontinence by 4-20%
http://www.ncbi.nlm.nih.gov/pubmed/11787155

5. WOOLY COAT
I can't find a study to verify this, I can only testify to what groomers are repeatedly telling us, that desexed dogs have very wooly coats, commonly called “spay coat”. It seems to be an overproduction of the undercoat but until more is known, this is anecdotal.

There are health benefits to be derived from waiting until after puberty to spay or neuter your dog. However, there are also significant risks associated with owning an intact, maturing pet.

How seriously you take your responsibility as a pet owner is the biggest determining factor in how risky it is to leave your dog intact until he or she matures. If you are responsible enough to absolutely guarantee your unsterilized pet will not have the opportunity to mate, I would encourage you to wait until your pet is past puberty to spay or neuter.

If you are unable to absolutely guarantee you can prevent your dog from mating and adding to the shameful, tragic problem of pet overpopulation, then I strongly encourage you to get your animal sterilized as soon as it's safe to do so”.

NEUTERING, BY Dr. Karen Becker -
Dr. Karen Becker is a famous veterinarian who advocates for making an educated decision to when to spay/neuter your pet. Dr. Becker has released a video explaining her thoughts. Worth a watch.
www.youtube.com/watch?v=enPCZA1WFKY

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In my opinion it is quite clear that neutering your dog early, before he / she is a fully formed, mature adult, comes with very significant health concerns. The best advice from a health perspective would be to put off neutering your pet until after puberty, which is at least a year, though some large breeds are still maturing at two years of age. And for all these major health benefits in your dog, all it takes is a little responsible pet ownership during the 3 – 6-month danger time.