

X-Ray Debates

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As breeders we have certain things we "know," either gleaned by experience or from our mentors. Today, modern technology makes it possible to use X-rays on a pregnant bitch to determine the number of puppies and their size especially important information for Pugs, as the pups' large heads sometimes make Caesarian sections necessary.

But what does the procedure do to the puppies? The general rule of thumb is that you do not X-ray early in a pregnancy. Wait 54 days, when the pups are fully developed and the fetal bones are calcified. By waiting until this time, it is believed that the radiation will not damage the unborn litter.

Yet over the past 15 years, studies have been performed on dogs X-rayed at different growth stages. One study followed the lives of more than 1,600 dogs exposed only once at different stages of growth. The stages were eight, 28 and 55 days after conception, and two, 70 and 365 days after birth. There were two control groups of pups that were not X-rayed, and genders were represented equally in all groups. The study of those puppies radiated during the perinatal period (just prior to birth at 55 days and just two days after birth) is surprising.

Four perinatally exposed dogs died of cancer prior to age 2. This is significantly higher than the normal canine population. Within the study group, including a non-exposed control group, 71 percent of all cancers and 56 percent of all tumorous growths that were reported during the first four years of life were found in 29 percent of the dogs exposed to radiation. This strongly suggests an increased risk of cancer or tumors in dogs that are X-rayed early in their lives.

The overall numbers are rather frightening: 40 percent of these dogs died due to neoplasia or cancerous growths. There is an increase in the number of both benign and malignant tumors in dogs under 4 years of age. The majority of tumors reported in these studies were of three types: lymphomas, hemangiosarcomas and mammary carcinomas, which together comprised 51 percent of all the fatal tumors. Dogs radiated as fetuses also showed increases in the lifetime occurrences of early-onset lymphomas.

A side effect of these studies is that puppies which were X-rayed within the uterus showed a significant reduction in immune system antibody responses at 12 to 16 weeks of age, and also had higher numbers of dogs with defects in thymus development.

All of this is presented so that we can learn and grow as breeders. We all start out with certain information that is "known" to us and then make educated decisions within our breeding programs based on what we know at the time. It is only by continuing our own education and keeping up with the new information that breeders can learn more about the risks we take with our dogs and how to minimize them. Very few people could individually produce and study this large of a group of animals and be able to chart and report the results.

So no matter what everyone else does, no matter what all the research tells us, we still have to make our own decisions based on the information we get from all sources. It's up to us as breeders to be as educated as we can, and to know the consequences of what we do to our dogs.

Published sources for this article are available from me or via MedLine. The primary study was performed at Colorado State University Veterinary School.

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