

BASIC INFORMATION

Description

A male dog is considered infertile when it is unable to breed a female or when breeding a female at an appropriate time (during ovulation) and multiple times does not result in pregnancy. If there is sporadic success in siring a litter of puppies, or if fewer puppies are produced in the litter than what is normal for the breed, the condition is called *subfertility* or *low fertility*.

Causes

One cause of infertility is inability to mate with the female, for either physical or behavioral reasons.

Behavioral problems may be related to inexperience or anxiety, attempting to breed a dominant female that does not allow the male to mount, or introduction of the male to a nonreceptive female. Males that have been reprimanded for mounting behavior (especially at times unassociated with breeding) are not likely to show normal mounting behavior when it is desired for breeding.

Failure of erection or an erection without ejaculation can occur in some males from physical or behavioral causes. In some dogs, ejaculation occurs but the semen travels backward into the bladder (retroejaculation). Even if the male is an experienced stud, ejaculation may not occur without the presence of a teaser bitch in heat. Physical conditions that prevent the male from assuming the proper position for mounting or locking with the female include spinal or hind leg pain and diseases of the prostate.

Poor semen quality can contribute to lack of conception. Bacterial infections of the genital tract (testicles, prostate), such as brucellosis, can result in poor semen quality. Other causes of low sperm counts include malnutrition, poor general body condition, recent illness, and hormonal problems. Decreased libido (desire to mate) may occur in some dogs.

Congenital causes of infertility include underdevelopment of the testes, abnormal sexual development of the female, and abnormalities or underdevelopment of the penis or sheath.

Clinical Signs

Many dogs have no outward clinical signs other than disinterest in the breeding process or inability to complete the act of mating. Decreased thyroid function is suspected in dogs with low energy, weight gain, or symmetrical hair loss. It is sometimes hard to tell whether the male or the female is the source of the infertility problem.

Diagnostic Tests

Often the diagnosis is based on historical evidence that the dog does not breed well or fails to produce a pregnancy. Close

observation of attempts to mate and a thorough physical examination may reveal underlying physical problems. A urinalysis, semen analysis, and bacterial cultures may be recommended. Laboratory testing for brucellosis is commonly done. A thyroid hormone test may be performed. Rectal examination, x-rays, and an ultrasound may be recommended to rule out prostatic disease.

It may be helpful to biopsy the testicles or prostate, especially when other, more common causes of infertility are not found. If abnormal libido is present, measurement of testosterone levels in the blood may be helpful.

TREATMENT AND FOLLOW-UP

Treatment Options

Administering certain hormones can help correct poor or diminished libido, and some cases of retroejaculation into the bladder also respond to medications. Surgical correction may be attempted for congenital deformities of the penis and sheath. A chromosome test may help define a sexual developmental problem, and affected dogs should be removed from the breeding program.

Prostatic disease can sometimes be treated successfully, depending on the specific cause. Thyroid supplementation usually corrects hypothyroidism (low thyroid levels) and often reverses the male's infertility.

Brucellosis cannot be successfully treated and infertility is irreversible in most cases. Euthanasia is often recommended for brucellosis-positive dogs that live in a kennel environment, because they can transmit the disease to other dogs. Brucellosis can also be transmitted to people, especially if they are old, young, or immune suppressed.

Certain behavioral problems may be helped with hormonal supplementation, or natural mating can be substituted with artificial insemination.

Follow-up Care and Prognosis

The successful return to fertility in the male dog depends on the cause of the problem. Dogs with poor semen quality (decreased sperm count or poor sperm motility) are more likely to be successfully treated than those with complete absence of sperm. Dogs with testicles of a normal size and texture are more likely to become successful breeders than those with shrunken or scarred testicles. Sometimes a testicular biopsy helps predict the dog's ability to return to a fertile status after treatment.