

# Cryptorchidism (one or none testicles descended)

Dog breeders need only count to two to be grateful: two testicles, that is.

A rather common condition among male dogs is the un-descending of either one or both testicles. This condition has been recognized in dogs for a long time, and even with very selective breeding of dogs with normally descended testicles, the trait will still show itself with relative frequency.

At birth a male puppy's testicles are still within the abdomen, but they slowly descend into the scrotum starting about 10 days after birth. They may be hard to locate at first, but by 6 to 12 weeks they should be easily located in the scrotum. If not, there is only a small chance they will descend. However, they are soft and can still move between the scrotum and inguinal canal, especially when the pup is cold or scared, so they may appear to come and go until the pup's inguinal rings close at about 6 months of age.

The correct term to define un-descending testicles is **cryptorchidism**, which means *cryptic* or *hidden* testicle. If only one testicle is noted in the scrotum the condition is defined as unilateral cryptorchid or monorchid, and when neither testicle can be palpated in the scrotum, the condition is bilateral cryptorchidism. Many dog breeders and judges use the term monorchid to refer to dogs with only one testicle in the scrotum but such practice is incorrect and often leads to confusion. Monorchid is the dog that only developed one testicle in the *body*, during the embryonic stages of development as opposed to "cryptic" which is hidden – most likely in the abdominal cavity- and the much more common of the conditions. Monorchidism and anorchidism (absence of one or both testicles in the body) are extremely rare in dogs.

Terms:

Unilateral cryptorchid= one testicle in the scrotum, one testicle hidden

Monorchid= born with only one testicle! one testicle in the scrotum

Bilateral cryptorchid= both testicles hidden

Anorchid= born with no testicles

Unilateral cryptorchids occur more often than bilateral, and the retained testicle is usually the one on the dog's right side. Cryptorchidism is reported most often in Toy Poodles, Pomeranians, Yorkshire Terriers, Miniature Dachshunds, Cairn Terriers, Chihuahuas,

Maltese, Boxers, Pekingese, English Bulldogs, and small or short-nosed breeds in general. In humans, about 3-6% of newborn males are cryptorchid, rising to 9-30% in premature males. Low birth weight, being one of a twin, and maternal exposure to estrogen during the first trimester all predispose a human male to cryptorchidism.

Hereditary factors are assumed to play an important role even in humans, where 7% of brothers of cryptorchids are also cryptorchids. Certain inbred families of dogs, notably Cocker Spaniels and Miniature Schnauzers, have increased rates of cryptorchidism. Some of the most telling data come from selective breeding in goats. Deliberate use of cryptorchid sires raised the incidence in a goat herd from 7% to 51%; then subsequently in that same herd strict selection against cryptorchids (using only entire sires, and using neither a parent of a cryptorchid nor offspring of a known carrier) decreased the incidence to 1%.

The genetics aren't known, although it's commonly speculated that the trait is a sex-limited autosomal (non-sex chromosome) recessive trait, meaning that both males and females can be carriers. That means that if a breeder seriously wants to rid the trait from a line, then not only affected males, but sisters, mothers, and dams of affected males must be pulled from the breeding pool. This would create such a devastating blow to most gene pools that it's not reasonable. Another possibility is that cryptorchidism is a polygenic trait, that is, arises from the interplay of multiple genes. This would make it even more difficult to control.

Cryptorchid dogs can't be shown in conformation rings, and bilaterally cryptorchid dogs are sterile. A retained testicle is more likely to become cancerous, and its spermatic cord is also more likely to become twisted causing testicular torsion, but the chances of both are still fairly low. Nonetheless, because of these potential problems a retained testicle should usually be surgically removed.

Drug therapies are often tried. Much controversy exists over whether such treatment is effective because few if any studies include control cases. Repeated doses of drugs such as human chorionic gonadotropin (HCG) or gonadotropin releasing hormone (GnRH) are given to stimulate androgen production, which in turn appears to influence testicular descent by affecting the testicular cord or cremaster muscle. Little hard data is available for dogs, but one study in which HCG was given four times over a two-week period reported success in 21 out of 25 dogs, with better results when given to puppies less than 16 weeks old. Some veterinarians and many breeders consider drug therapy unethical. And it would be if the dog is later on used as a stud or sold as a breeding dog.

Until the time a DNA test becomes more available, and the mode of inheritance and other possible factors are better understood, breeders will continue to make their best bet and then hold their breath and count to two.