

## URETHRAL INCONTINENCE

### ***What is urethral incontinence?***

Urethral or urinary incontinence is the loss of voluntary control of urination. It is usually observed as involuntary urine leakage.

### ***What are the clinical signs of urethral incontinence?***

The most common clinical sign is pooling of urine beneath the dog when it is sleeping or relaxed. Many dog owners report finding wet spots on the bedding or floor where the pet has been laying down or sleeping. Occasionally owners will report dribbling of urine when the dog is walking or after she urinates. In many instances the dog seems unaware of what is happening. It is estimated that urethral incontinence may affect over twenty percent of all spayed female dogs, especially large-breed dogs. Urethral incontinence is most common in middle-aged to senior, medium to large-breed female dogs although any dog may be affected.



### ***What causes urethral incontinence?***

There are several potential causes of urinary incontinence. These include:

Neurological Causes including spinal injuries, disruption of the nerves controlling the bladder and brain diseases or lesions.

Bladder Storage Dysfunction including bladder hypercontractility in which the bladder contracts frequently resulting in small amounts of urine leakage.

Urinary tract infections or bladder tumors or any condition that would compress the bladder from the outside

Urethral disorders in which the muscles that close the urethra fail to tightly contract and urine leakage occurs. This is one of the more common causes and is often associated with reproductive-hormone responsive urinary incontinence, urinary tract infection or inflammation, prostatic disease in male dogs and vestibulovaginal anomaly in females.

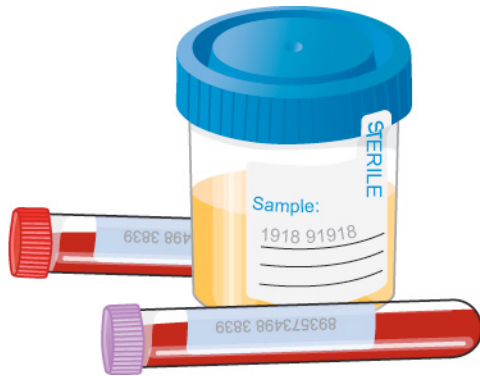
Anatomic Abnormalities such as an hereditary defect, injury or surgery that has caused damage or altered the normal bladder function, ectopic ureters (ureters that are not in the correct anatomical location due to a birth defect), urethral hypoplasia, and vulvar or perivulvar conformation abnormalities are some of the anatomic abnormalities that can cause urinary incontinence.

Urine Retention results when a dog will not urinate due to stress, fear or behavioral abnormality and ultimately urine leakage occurs when the pressure inside the bladder exceeds urethral outlet resistance.

Mixed Urinary Incontinence occurs in both dogs and humans and is the combination of multiple factors affecting normal urination. Combinations of urethral and bladder storage dysfunction and anatomic and functional disorders are most likely to occur.

### ***How is urethral incontinence diagnosed?***

Urethral incontinence is most often diagnosed on clinical signs, medical history and blood and urine tests. Bladder radiographs and ultrasonography are often performed to search for bladder stones or other abnormalities affecting urine storage and outflow.



Neurological tests such as examination of the anal and tail tone, perineal sensation and various spinal reflexes will be performed if a neurological disorder is suspected. Urethral catheterization may be required if urine retention is observed, to determine if there is an obstruction or other urethral abnormality present. Cystoscopy may allow your doctor to see an abnormality within the bladder or urethra. In certain cases, specialized testing such as measuring the pressure within the bladder is performed.

### ***How is urethral incontinence treated?***

Treatment will be based on your pet's specific diagnosis. Medications that increase urethral sphincter tone such as phenylpropanolamine, or hormone replacements such as estrogen or diethylstilbesterol are commonly used alone and in combination. With long-term usage, the patient's blood and urine should be periodically tested to ensure that there are no untoward side effects. Your veterinarian will prescribe the best treatment for your pet's individual needs.

### ***What is the prognosis for urethral incontinence?***

While the prognosis is determined by the specific cause, the general prognosis is good. Control of urine leakage will vary from dog to dog but most dogs can be managed successfully with medications, lifestyle changes such as more frequent trips outside to urinate, and close monitoring.