

Preventing Indoor Soiling

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If your erstwhile housetrained dog starts having indoor "accidents", it could have a medical condition that's interfering with its normal elimination habits. Team up with your veterinarian to quickly arrive at a diagnosis (see Successful Sleuthing below). Promptly treating your dog will put an end to its discomfort—and your carpetcleaning bills. And remember, reprimands are unfair and ineffective if your dog's house soiling problems stem from a medical ailment.

Leaky Pipes

Normally, a circular muscle (sphincter) at the end of the urethra (the urine conduit out of the body) restricts urine flow. As urine fills the bladder, nerves in the bladder wall send signals alerting the brain. The brain then sends a release command to the sphincter, and urine flows.

The most common form of urinary incontinence (loss of the voluntary control described above) is estrogen-responsive incontinence—a condition affecting some spayed females. Estrogen depletion, resulting from ovary removal during spaying, apparently causes weakness of the urinary sphincter. Veterinarians once treated this disorder with estrogen supplementation, but now treat it with phenylpropanolamine. Phenylpropanolamine stimulates the secretion of norepinephrine, a hormonal substance that increases sphincter muscle tone.

Another possible cause of incontinence is trauma to the brain or spinal cord. Depending on the degree of nerve damage, a dog with such a condition may dribble urine intermittently or constantly. Most dogs with neurologic incontinence also exhibit other nerve-related maladies, such as loss of coordination.

It's important to quickly diagnose and treat any form of urinary incontinence. Chronic exposure to urine can cause secondary complications such as skin ulcers, especially in dogs that are immobilized.

The Cup Runneth Over

Indoor "slips" can occur when a dog has a condition that generates more than the usual amount of urine. Cushing's disease, diabetes mellitus, and chronic kidney failure are three examples. In Cushing's disease, the adrenal glands produce excess cortisol, which blocks the action of antidiuretic hormone and thus stimulates the kidneys to increase urine output. In diabetes mellitus, the pancreas produces insufficient insulin, the hormone that transports glucose into cells. Glucose then builds up in the blood, and the kidneys excrete excess glucose in large volumes of urine. Dogs with chronic kidney failure also produce large amounts of urine because their kidneys can't properly channel water back into the bloodstream.

Some dogs feel the urge to urinate frequently when they have urinary tract infections. "Irritation of the bladder wall due to infection can lead to reflexive bladder contractions," explains Dr. Mary Labata, clinical associate professor at Tufts University School of Veterinary Medicine.

And sometimes, drugs contribute to increased urine volume. For example, diuretic drugs used to treat heart disease stimulate the kidneys to excrete more urine. If your dog has any of these "high output" conditions, let it outside frequently.

Bothersome Bowels

In healthy dogs, the anal sphincter prevents release of feces until the rectum fills and stretches. When stretched, rectal muscles signal the dog to relax the sphincter and defecate. Damage to the brain, spinal cord, or spinal nerves can disrupt these signals, causing the dog to defecate involuntarily. However, the most common medical cause of fecal

house soiling is diarrhea, often the result of inflammatory conditions of the colon.

To successfully treat medically related house soiling, you must address the instigating cause. Once diagnosed, many cases of illness-induced house soiling clear up with appropriate treatment. While dogs with incontinence due to neurological damage or chronic kidney failure may never regain total control, the often fare quite well if a committed caretaker helps them with their elimination duties and keeps them clean and dry.

Successful Sleuthing

Here are some of the "clues" your veterinarian will use to identify medical causes of house soiling.

AGE: In young dogs, veterinarians consider congenital disorders such as ectopic (misplaced) ureter (the tube connecting the kidneys to the bladder). Diabetes mellitus is more common in middle-aged dogs. And elderly dogs may suffer from arthritis—which makes natural elimination postures painful—and from chronic kidney failure.

GENDER: Female dogs are more prone than males to developing urinary-tract infections. And estrogen-responsive urinary incontinence occurs exclusively in spayed females.

BREED: Boston terriers, poodles, dachshunds, and German shepherds are among the breeds predisposed to Cushing's disease. And long and low breeds such as dachshunds and basset hounds show higher incidences of intervertebral disk disease, which can result in spinal-nerve damage and subsequent incontinence.

URINATION FREQUENCY: Veterinarians often suspect Cushing's disease, diabetes, or chronic kidney failure in dogs that drink and urinate excessively. But if your dog urinates frequently and strains in the process, it could have an infection, bladder stones, or a bladder tumor.