

DIPSTICKING TO MONITOR STONE-FORMERS & THEIR DIETS

Remember high school chemistry when litmus paper revealed if a solution was either acid or alkaline? Modern dipsticks from your vet or drug store are "super" litmus paper. They are simple to use by the Dal's owner and show exact degrees of urinary pH.

A quick dip into a dog's urine before feeding will indicate if the pH is **acidic** (how much below the normal of 7.0) or **alkaline** (how much above the normal of 7.0). With a program of regular dipsticking and keeping a diary of the results, any Dalmatian can be tracked to detect when and how long it is producing abnormal and unstable urine, often much before abnormal crystals progress into stone formation.

Dipsticking is best done first thing in the A.M. before feeding and after the Dalmatian has been indoors overnight when urine has accumulated in the bladder over the course of many hours. Some very conscientious owners dipstick also a few hours after feeding to monitor any difference in pH between fasting urine and the pH a few hours after the Dal has digested its meal.

All Dalmatians are born with a tendency to acidic urine in which the occurrence and growth of abnormal urate crystals and stones thrive. The success of preventative anti-urate diets and drugs thus can be monitored by dipsticking and treatment regimens modified if the pH continues to be undesirably acidic.

Some dogfood formulations produce an acidic urine and dipsticking will also help to reveal those that do and therefore which should be avoided for stone-forming Dalmatians.

**ONE MAJOR GOAL OF PREVENTION IS TO MAINTAIN A PLATEAU OF
NORMAL (FOR DALMATIANS) URINARY pH BETWEEN 6.5 AND 7.0.**

Dipsticks, also known as "chemstrips," can be purchased from your veterinarian or drug store. If those sources do not stock them, look in the yellow pages of your telephone directory under "Medical Supply Companies."

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GENERAL PREVENTATIVE GUIDELINES FOR STONE-FORMING DALMATIANS

- Have your vet perform a routine, inexpensive urinalysis periodically. If centrifuging spins out sediment from the urine specimen, send it for a ssay only to one of the two urinary stone centers in the United States. (Minnesota Urolith Center does not charge.)
- Obtain "fresh" urine in a clean, chemically-inert container (glass, plastic) for vet's testing. Do not obtain sample after Dal has recently urinated when the bladder may have been flushed of crystals or small stones. Instead, obtain specimen either first thing in A.M. before feeding (after urine has sat unemptied in the bladder overnight) or after dog has not urinated for at least four to five hours. Deliver urine to vet as soon as possible after collecting - do not refrigerate.
- ONE MAJOR GOAL OF PREVENTION IS TO MAINTAIN A PLATEAU OF NORMAL URINARY PH 7.0. Dipstick fresh urine frequently and keep a diary of pH readings.

If the pH goes **below** 7.0 (into the **acidic** area of 6.5 or less) and stays there over the course of several dipstickings, consider reevaluating the Dal's diet/drugs and consult with your vet for additives to alkalinize the metabolizing of current food formulation.

If the pH goes **above** 7.0 (into the **alkaline** area of 7.5 or higher) and stays there over the course of several dipstickings, contact your vet to rule out a possible urinary infection.

- Stone-formers should drink - unrestricted - only distilled water for their entire lives. This form of water is available in any supermarket where bottled water is stocked and is not expensive. Make sure labeling specifies "distilled water," not merely "drinking," not "filtered" nor "purified." (Filters on your water faucets or supply will not purify the water to the extent that distilled water will.)
- Formation of abnormal crystals and stones occurs in stagnant urine. Let the Dalmatian urinate as frequently as possible (at least every 4-5 hrs.) so that the bladder is flushed of crystals before they progress into stones.

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EMERGENCY PROCEDURES DALMATIAN CANNOT PASS URINE ("URINARY OBSTRUCTION")

- **RUSH DOG TO YOUR VETERINARIAN OR EMERGENCY CLINIC** Obstruction of the urinary pathway quickly reaches life-threatening status within 24 to 72 hours as urine backs up into the body system instead of being expelled. It is not unknown for bladders to burst as urine continues to collect!

- Have dammed-up urine easily but immediately removed from bladder either by "cystocentesis" or by catheterization. This may have to be done several times while diagnosis and treatment are being evaluated. Draining urine "buys time."

- Have the type of stone identified by urinalysis: abnormal urinary crystals are apparent and identifiable under an office microscope. Urates form in acidic urine (pH below 7.0). Struvite known as "infection" crystals/stones form in alkaline urine (pH above 7.0). Their treatment is different!

- Have size of the stones confirmed by x-ray but remind veterinarian the most commonly-seen urate stones in Dalmatians may not visualize under normal x-ray procedures. Urates require skillful "indirect radiography" to be visualized *in situ*.

- Non-surgical clearing of the obstruction can be often accomplished by "uropropulsion" whereby, under anesthesia, the stones are flushed back up into the bladder. This sometimes must be done two to three times, also under anesthesia, before a free urinary stream is sustained. If stones quickly move down and constantly re-obstruct after short periods of time, then bladder surgery may be unavoidable to restore normal urinary flow. Request "***Isofluorane***" for the anesthetic if surgery is unavoidable. "Urethrostomy" is not "bladder surgery!" It is a surgical creation of a false urinary opening generally at the base of the scrotal sacs and should be considered **A LAST RESORT** after all other anti-stone procedures have failed. It should be performed only by an experienced surgeon, preferably one who is "Board certified."

- Have Dalmatian started on antibiotics for existing urinary infection or to prevent the onset of one. A bacteriology culture including "antibiotic discing" may point to the most effective antibiotic for the species of bacteria inducing the infection.

- Shift the stone-former to distilled water, only.

- Rush either stones passed or catheterized or removed surgically - or sediment centrifuging out during urinalysis - to one of the two urinary stone centers listed to confirm assay by electron micrography, chromatography and other highly specialized testing procedures. (Minnesota Urolith Center does not charge.)

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