

In this booklet you will find recipes for the prevention of urinary crystals for adult dogs weighing 2.5 kg–40 kg.

You can find recipes for other weight classes (upto 70 kg fully grown) on: www.futtermedicus.com

If you have any questions

you can reach us at
info@futtermedicus.de
 or +498141/888930.



Tips on feeding dogs with urinary crystals



Calcium oxalate crystals:

Calcium oxalate crystals are mainly caused by oversaturation of calcium and oxalate acid in the urine. An oversupply of these nutrients and vitamin D should be avoided. Additionally, an acidic pH level stimulates the development of urinary crystals. Although the crystals cannot be dissolved via diet, the dietary measures serve in favor of the prophylaxis.

Cystine crystals:

Cystinuria is a genetic condition which affects some dogs: dachshunds, newfoundland dogs and basset hounds, to name a few. A targeted diet can help dissolve existing cystine crystals and prevent their regeneration. Therefore, cystine-rich food such as eggs, soy products, seitan, nuts & seeds as well as high amounts of meat should be avoided. The supply of protein and sodium should be purely as needed.

INCREASE WATER INTAKE

- add a lot of water to the food: 15 ml of water per kg of body weight a day
- you may flavour the water with either 10 ml of cream, milk, tuna water or yoghurt in 90 ml of water or 1 Tbsp. of liver sausage in 200 ml hot water (puree thoroughly)
- refresh flavoured water at least 3 times a day
- increased water intake leads to increased urine output

URINE CONTROL

- measure the pH-level of the urine two times a week during the first two weeks of switching up the diet
- the best time to measure is 4 hours after feeding
- measurement strips are available from your veterinarian or at a pharmacy
- desired pH-level with calcium oxalate crystals: 7.0–7.3
- desired pH-level with cystine crystals: > 7.3
- in the 4th and 8th week after starting the diet get the urine checked by your vet
- the urine sample should be examined within 30 minutes of recovery

BENEFICIAL HINTS

- many short walks or access to a garden will allow frequent urination
- get drug treatment for bacterial urinary tract infections from your vet

POSSIBLE RISK FACTORS

- incontinence: increased risk of ascending urinary tract infection
- overweight: little exercise leads to rare urination and lingering of the crystals in the urinary bladder

CHEWS

- suitable: chewing roots made of mediterranean hardwood or coffee tree roots (in case of acceptance problems, flavouring with fried bacon/meat is possible)
- alternatively: beef hooves (reduce quantity if bloating occurs)
- please do not feed dry chews such as pig ears, ox pizzle or rumen in the first 6–8 weeks
- after that it is acceptable, as soon as the urine is free of crystals

MEAT

- e. g. beef, lamb, chicken, turkey; possibly horse, goat or game
- generally there is a higher risk of infection with raw meat
- low nutrient losses due to cooking or frying
- never feed raw pork meat



DAIRY PRODUCTS

- e. g. cottage cheese, curd, yoghurt
- contains lactose – too much can lead to diarrhea
- lactose free products may be needed

CARBOHYDRATES

- easily digestible and well available energy source
- cook until very soft in order for your dog to utilize the starch
- suitable: potatoes & sweet potatoes
- it is acceptable to alternate between the two as long as they are well digested
- alternatively, soak flakes in four times the amount of water before feeding
- approx. 25 – 30 g dry flakes ≈ 100 g cooked (sweet) potatoes
- other carbohydrates are acceptable (individual calculation necessary)



VEGETABLES

- provide fiber
- crushed, shredded, pureed or cooked for a better nutrient absorbability

- cooked vegetables sold in glass jars (so-called baby food) or frozen vegetables (heated up!) are also acceptable
- as an alternative, flakes: soak in four times the amount of water
- in case of digestive issues it is possible to give an alternative fiber source such as Cellulose

Please feed potassium rich varieties:

- appropriate raw varieties: celery, endive, lamb's lettuce, fennel, carrot, butter lettuce, ripe tomatoes, curled lettuce, leaf lettuce
- appropriate cooked varieties: cauliflower, broccoli, celery root, turnip cabbage, pumpkin, parsnip, brussels sprouts, pointed cabbage; varieties rich in calories which may lead to bloating: green peas, chickpeas, lentils, white beans



OILS

- to cover the essential fatty acids mix 3/4 sunflower, safflower or hemp oil and 1/4 salmon oil

MINERAL POWDERS VITAMIN OPTIMIX OXALAT & CYSTIN

- do not heat up
- mix thoroughly with food
- during the first 4–5 days mix small portions into the food

Feeding plan for adult dogs with calcium oxalate crystals supplemented with Vitamin Optimix Oxalat & Cystin (daily amount in gram)

weight (kg)	muscle meat (weighed raw)	(sweet) potatoes (weighed cooked)	potassium rich vegetables	Vitamin Optimix Oxalat & Cystin	oils
2.5	50–60	65–80	20–25	1	1.5–2
5	85–100	110–135	40–50	2	3–4
10	140–170	185–225	65–80	3.5	5–6
15	190–235	250–300	90–110	5	7–8
20	235–290	310–380	110–135	6	8–10
30	320–390	420–515	150–180	8	11–13
40	400–485	520–640	185–225	10	13–17

Feeding plan for adult dogs with cystine crystals supplemented with Vitamin Optimix Oxalat & Cystin (daily amount in gram)

weight (kg)	muscle meat (weighed raw)	(sweet) potatoes (weighed cooked)	dairy products	potassium rich vegetables	Vitamin Optimix Oxalat & Cystin	oils
2.5	40–50	65–75	15–20	20–25	1	1.5–2
5	65–80	105–130	25–30	40–50	2	3–4
10	100–130	180–220	45–55	65–80	3.5	5–6
15	150–180	245–300	60–75	90–110	5	6–7
20	185–225	300–365	75–90	110–135	6	8–9
30	250–300	410–500	100–125	150–185	8	11–12
40	310–380	510–620	125–155	185–225	10	14–15

