ALLOPURINOL

- Used as a uric acid reducer in dogs, cats and birds and as an alternative treatment Leishmaniasis and Tryansomiasis in dogs
- Use with caution (dosage adjustment may be required) in patients with renal or hepatic dysfunction.
- Diet may need to be adjusted.
- GI effects are most likely adverse effects, but hepatic and renal effects can occur
- Many potential drug interactions.

Pharmacology
Allopurinol and its metabolite, oxypurinol, inhibit the enzyme xanthine oxidase. Xanthine oxidase is responsible for the conversion of oxypurines to uric acid. Hepatic microsomal enzymes may also be inhibited by alloputinol. It does not increase the renal excretion of uric acid nor does it possess any anti-inflammatory or analgesic activity.
Allopurinol, by inhibiting xanthine oxidase, can also inhibit the formation of superoxide anion radicals, thereby providing protection against hemorrhagic shock and myocardial ischemia in laboratory conditions. The clinical use of the drug for these indications requires further study.

Uses/Indications
The Principal veterinary uses for allopurinol are for the prophylactic treatment of recurrent uric acid uroliths and hyperuricosuric calcium oxalate uroliths in small animals. It has also been used in an attempt to treat gout in pet birds.
allopurinol has also been recommended as an alternative treatment for canine Leishmaniasis. Although it appears to have clinical efficacy, it does not apparently clear the parasite in most dogs at usual dosages. Allopurinol may also be useful for American trypanosomiasis.

Contradiations/Precations
Allopurinol is contraindicated in patients who are hypersensitive to it or have previously developed a severe reaction to it. It should be used cautiously and with intensified monitoring in patients with impaired hepatic or renal function. When used in patients with renal insufficiency, dosage reductions and increased monitoring are usually warranted.

Dosage
Dogs:
For urate uroliths:
a) 7-10 mg/kg PO tid for both dissolution and prevention. Goal is to reduce urine urate:creatinine ratio by 505.
b) for dissolution: 15 mg/kg PO q12h; only in conjunction with low purine foods.

for precention:10-20 mg/kg/day; because prolonged high doses of allopurinol may result in zanthine uroliths, it may be preferable to minimize recurrence with dietary therapy, with the option of treating infrequent episodes of urate urolith formation with dissolution protocols.
c) Alkalinize urine to a pH of 6.5-7 (see sodium bicarbonate monograph), give low purine diest and eliminate any UTI, Allopurinol at 10 mg/kg tid for the first month, then 10 mg/kg once daily thereafter. Reduce dose in patients with renal failure.

For Leishmaniasis:

a) 15 mg/kg PO twice daily for months
b) If possible use with meglumine antimonate, if not use allopurinol alone at 10 mg/kg PO twice daily. If animal has renal isufficiency use at 5 mg/kg PO twice daily.

Cats:

For Urate Uroliths:

a) 9 mg/kg PO per day.

Birds:

For Gout:

a) In budgies and coakatiels: Crush one 100 mg tablet into 10 ml of water. Add 20 drops of this solution to one ounce of drinking water.
b) For parakeets: Cruch 100 mg tablet into 10ml of water. Add 20 drops of this solution to one ounce of drinking water or give 1 drop 4 times daily.

Reptiles:

For elevated uric acid levels in renal disease in lizards:

a) 20 mg/kg PO once daily.