



## ศูนย์พิษวิทยารามาธิบดี

คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล

อาคารสุโขทัย ถนนสุโขทัย กรุงเทพมหานคร 10300 สายด่วน 1367 โทรสาร 0-2201-1084

RAMATHIBODI POISON CENTER

Faculty of Medicine Ramathibodi Hospital, Mahidol University

Sukho Place Building, Sukhothai Rd., Bangkok 10300 Hotline 1367

## Treatment of Anticoagulant Rodenticide Poisoning

### Formulation available in Thailand

#### 1. Coumarins

ACTIVE INGREDIENT	PRODUCT NAME	BRIEF DESCRIPTION
Warfarin	Ars Rat Killer	0.05% w/w (50 mg per 100 g product)

#### 2. Long-acting anticoagulants: extremely potent and have prolonged effects

ACTIVE INGREDIENT	PRODUCT NAME	BRIEF DESCRIPTION
Bromadiolone	Bromadiolone	0.25% w/w (250 mg per 100 g product)
	Musal	0.005% w/w (5 mg per 100 g product)
Coumatetralyl	Racumin	0.0375% w/w (37.5 mg per 100 g product) 0.75% w/w (750 mg per 100 g product)
Difenacoum	Neosorexa blocks	0.005% w/w
Flocoumafen	Shelldrite Rat Kill	0.005% w/w
	Stratagem	0.005% w/w
	Stun	0.005% w/w

### Toxic dose

1. **Warfarin:** a single small ingestion of 10-20 mg of warfarin will not cause serious intoxication. But chronic or repeated ingestion of even small amounts (eg. 2 mg/day) can produce significant anticoagulation.
2. **Long-acting anticoagulants:** as little as 1-2 mg after a single ingestion (or around 0.12 mg/kg) have produced clinically coagulopathy in adult .

NB: Prothrombin Time will not normally be seen until at least 12-18 hr after ingestion of the anticoagulant, but in long-acting anticoagulants peak effects are commonly delayed for up to 2 days and may persist for days, weeks, or even months.

### Specific antidote

**Vitamin K<sub>1</sub> (phytonadione)** Because vit K<sub>1</sub> will not to restore clotting factors for 6 or more hours (peak effect 24 hours), patients with active hemorrhage may require FFP or fresh whole blood.

The optimal dosage regimen for vit K<sub>1</sub> remains unclear.

Give 10-20 mg (0.25 mg/kg for children) by subcutaneous, or slow intravenous injection because of the risk of an anaphylactoid reaction, not exceeding 1 mg/min (diluted in preservative-free 5% dextrose or 0.9% NSS).

Check PT after 8-10 hr and repeat administration of vit K<sub>1</sub> if necessary.

The duration of action of vit K<sub>1</sub> is short-lived, the dose must be repeated 2-4 time daily.

Treatment of patients with long-acting anticoagulant poisoning still remains a problematic issue. The traditional venue of treatment is to slowly taper the dose of vit K<sub>1</sub> once INR < 2 and monitor PT/INR.