# Paracetamol/Tylenol (acetaminophen) Poisoning in Cats

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### At a glance:

- Also called: Acetaminophen, APAP, Tylenol, Panamax.
- About: Paracetamol (Tylenol) is a common over the counter medication to treat pain and fever. Cats become poisoned either when an owner administers it to treat pain, intentional poisoning or if a cat consumes medication lying around the house. This medication is highly toxic to cats who can not metabolise it efficiently.
- Symptoms: Loss of appetite, lethargy, hiding, rapid breathing, swelling of the face and paws, brown gums and mucus membranes, dark coloured urine, death.
- Diagnosis: Based on a history of exposure to the medication, blood tests may reveal methemoglobinemia (build-up of toxic metabolites).
- Treatment: Gastric decontamination, activated charcoal to prevent further absorption, paracetamol antidote, and supportive care.

### **About:**

Paracetamol is an over the counter medication to control minor pain and reduce fever in humans. It is extremely toxic to cats as they lack the necessary glucuronyl transferase enzymes to break it down.

The toxic dose is 10 -40 mg/kg.

# How do cats become poisoned?

Ingestion either happens when well-intentioned owners administer the medication to their cat either directly or indirectly administers another medication (such as cold and flu medications or cough syrup, which shouldn't happen unless a veterinarian has said it's okay to do) which has paracetamol in it. This is a common cause of paracetamol poisoning in humans too, take care when using more than one type of medication at a time. It is possible for a cat to eat paracetamol, but less common than with dogs as cats are much more discriminating in what they eat.

The medication can cause a life-threatening condition known as *methemoglobinemia* (metHb) which is an increase in the production of methemoglobin, a form of hemoglobin which is unable to function as an oxygen carrier, resulting in a lack of oxygen to the organs and tissues.

Toxic levels of waste products of metabolism (known as metabolites) build up, causing liver failure. In addition to liver damage and methemoglobinemia, Heinz body anemia also occurs, in which the red blood cells are destroyed due to the presence of Heinz bodies.

### Symptoms:

As we have noted, the damage is threefold, the liver fails, the cat slowly asphyxiates (starved of oxygen) and anemia occurs due to Heinz body anemia.

- Inappetance leading to complete loss of appetite
- Lethargy
- Vomiting
- · Increased heart rate
- · Acute swelling of the face and paws
- · Difficulty breathing, including open-mouthed breathing and elevated respiratory rate
- Ataxia (unsteady gait).
- Tongue and gums turn a chocolate brown colour due to the build-up of methemoglobin
- Brown urine

As liver begins to fail, jaundice (yellowing of the skin and gums) and mental disturbances may occur.

## **Diagnosis:**

Please tell your veterinarian if you have administered any medication to your cat, your cat's life depends on it. Diagnosis is made on a history of exposure to the medication, plus symptoms such as brown coloured gums.

Your veterinarian may wish to run some tests to determine the extent of the damage, including complete blood count and biochemical profile to look for methemoglobinemia and evaluate liver enzymes.

#### **Treatment:**

Acetaminophen is rapidly absorbed, therefore seek immediate veterinary attention.

- If ingestion is recent then vomiting will be induced followed by administration of activated charcoal to bind to any residual acetaminophen and prevent further absorption.
- Anti-vomiting medication to prevent your cat vomiting back up the activated charcoal.
- N-acetylcysteine (NAC) is a form of the amino acid *cysteine*. This amino acid assists in the detoxification and elimination of paracetamol which protects further damage to the liver.
- · Medications to protect the liver.
- Vitamin C can help speed up the removal of paracetamol.
- Oxygen therapy for cats who are having difficulty breathing.
- Fluid therapy to keep your cat hydrated.
- · Blood transfusions if needed.
- Bloodwork to monitor the liver enzymes, red blood cell count and look for the presence of methemoglobinemia.

• Supportive care.

The prognosis is good for cats who receive prompt medical treatment.

Never administer medications to your cat without veterinary supervision. Take your cat to a veterinarian immediately if you think your cat is in pain.