What is drooling?

Also referred to as dribbling, hypersalivation, sialorrhea or ptyalism, drooling is the flow of saliva from the mouth.

Saliva is constantly secreted by the salivary glands, its function is to keep the mouth moist and aid digestion. Cats have five salivary glands, parotid, mandibular, zygomatic, molar and sublingual. The autonomic nervous system controls saliva production.

Drooling can either be caused by overproduction of saliva, spillage of saliva from the mouth or difficulty swallowing saliva. Cats aren’t as prone to drooling as dogs.

When is drooling normal?

There are some harmless causes that may result in drooling.

- When they are being petted or about to be fed. This is a sign of excitement and/or pleasure. Some cats will knead and drool at the same time when they are being stroked.
- Cats will often drool when they have consumed catnip.
- Certain prescription medications can also cause drooling or foaming at the mouth due to the bitter or unpleasant taste.
- If drooling is not normal for your cat, and suddenly occurs for reasons other than those listed above, it can be a sign that there is something wrong.
Causes:

Dental problems

Disorders of the mouth are one of the most common causes of drooling in cats. Common oral problems include gum disease, tooth abscess, stomatitis, feline odontic resorptive lesions, and gingivitis.

Symptoms: Bad breath, drooling, difficulty or reluctance to eat, weight loss, red gums, pain.

Treatment: An abscess will be lanced, drained and packed, antibiotics will be administered. A thorough clean of the teeth above and below the gumline to remove dental plaque for cats affected with gum disease and gingivitis.

Poisoning

Another common cause of drooling is due to poisoning. Antifreeze, snail bait, toxic plants, laundry detergent, household cleaning products, bleach, liquid potpourri, mercury, copper, arsenic, poisonous toads, chocolate, glow sticks, mercury. Many of these products are not only toxic but also corrosive, causing ulceration in the mouth and esophagus.

Symptoms: This depends on the poison ingested. Bitter tasting substances can cause drooling, other common symptoms of poisoning include vomiting, diarrhea, increased or decreased thirst, seizures and urination, wobbly gait (ataxia) and collapse.

Treatment: Gastric decontamination if the poison was ingested in the past four hours. This can include induce vomiting (unless a corrosive has been ingested) or pump the stomach, activated charcoal to bind to the remaining toxin and prevent further absorption, antidote (where available) and supportive care such as medications to control nausea, anti-seizure medication, dialysis, and fluids.

Pancreatitis

Inflammation of the pancreas due to activation of digestive enzymes which begin to break down and digest the pancreas. There are a number of causes of pancreatitis in cats which include obesity, infection, trauma and too much fat in the diet.

Symptoms: Fever, abdominal pain, vomiting, diarrhea, loss of appetite, weight loss and yellow gums.

Treatment: Address the underlying cause as well as supportive care including pain relief, anti-nausea medication, fluids and nutritional support.

Certain medications

Bitter tasting medications are a common cause of drooling in cats, common types include antihistamines, metronidazole (Flagyl) and sulfa antibiotics.

Symptoms: Drooling.
**Treatment:** None required.

**Topical flea products**

These medications have a bitter taste and can cause drooling if the cat has licked his coat after administration.

**Symptoms:** Drooling.

**Treatment:** Offer the cat a drink of water, lactose-free milk or a meal to wash away the taste. Always apply topical flea treatments to the back of the neck, between the shoulders.

**Foreign object in mouth**

Such as a twig or a bone fragment. Other symptoms may include pawing at the mouth.

**Symptoms:** Drooling and pawing at the mouth.

**Treatment:** Remove the object, if this is not possible, consult your veterinarian.

**Choking**

Most commonly food, but cat toys, threads, and bone fragments can also become stuck in the throat.

**Symptoms:** Drooling, pawing at the mouth, difficulty breathing.

**Treatment:** Perform the Heimlich maneuver and consult your veterinarian.

**Mouth ulcers**

Small, painful lesions which may be due to uremic poisoning from chronic kidney disease, cat flu, pemphigus, ingestion of toxins and thermal burns.

**Symptoms:** Small, painful, white or red lesions, drooling, difficulty eating or a complete loss of appetite. Additional symptoms may be present depending on the underlying cause.

**Treatment:** The goal of treatment is to find and manage the underlying cause.

- Flu will require supportive care while their body fights the infection, antibiotics may be prescribed to treat secondary infection.
- Pemphigus is treated with immunosuppressive drugs.
- Thermal burns require supportive care, painkillers, and antibiotics to prevent secondary infection.
- Low protein diet for cats with kidney disease as well as supportive care.

**Heat stroke**

Heat stroke is a life-threatening condition which occurs when the cat is in a warm environment and is unable to cool himself sufficiently.

**Symptoms:** Panting (open-mouthed breathing), bright red tongue, dark red gums, weakness, rapid pulse, wobbly gait, vomiting, diarrhea, drooling and blood in the urine.
**Treatment:** Decrease the body temperature with cool enemas or intravenously. Oxygen therapy if needed. Cortisone injections and close monitoring.

### Oral cancer

There are more than twenty types of cancer which can develop in the oral cavity of cats with **squamous cell carcinoma** being by far the most common (approximately 70%), followed by fibrosarcoma (20-10%), other less common tumours include **melanoma**, lymphoma, osteosarcoma, granular cell tumours, fibropapillomas, hemangiosarcoma and ameloblastomas.

**Symptoms:** Lump in the oral cavity, drooling, difficulty eating, weight loss and bad breath.

**Treatment:** Surgery (where possible), radiation or chemotherapy, and supportive care.

### Nausea

Not all nauseous cats will actually vomit, just feeling sick can be enough to cause drooling in some cats. Many cats can suffer from motion sickness making them feel extremely nauseous. Common causes of nausea include liver disease, anemia, food intolerance, medications, kidney disease, motility disorders, pancreatitis, hypoglycemia (low blood sugar), stomach ulcer, gastrointestinal blockage, hepatic lipidosis, and hyperkalemia.

**Symptoms:** Drooling, lip-smacking, loss of appetite, additional symptoms can vary depending on the underlying cause.

**Treatment:** The goal of treatment is to find and address the underlying cause. Your veterinarian may prescribe anti-nausea medications to relieve symptoms.

### Reflux

Also known as GERD (**gastroesophageal reflux disease**), reflux is a condition in which gastric juices flow back from the stomach and into the esophagus.

**Symptoms:** Regurgitation of food, drooling, pain when eating, bad breath, loss of appetite and weight loss.

**Treatment:** Address the underlying cause where possible. Protect the esophagus from further damage with the use of antacid medication to inhibit the production of stomach acid. Low protein and low-fat diets and your veterinarian may recommend your cat be fed small meals more often.

### Kitten teething

A kitten’s baby teeth come in from two weeks of age, around 3-4 months the kitten teeth are slowly replaced by the adult teeth. Some kittens may drool during this process.

**Symptoms:** Drooling, chewing, red gums, bad breath.
Treatment: None required although providing the kitten with something to chew on can relieve symptoms.

**Tetanus (lockjaw)**

A bacterial infection which releases a neurotoxin causing painful muscle contractions and spasms.

**Symptoms:** Localised stiffness at the site of the wound, which may progress to generalised stiffness of the entire body including the jaw which can become locked, this makes eating and drinking difficult. Seizures may develop in advanced cases.

**Treatment:** Clean and debriding the wound, antibiotics to kill the bacteria, sedatives to control spasms and seizures, nutritional support and cage rest while the cat recovers.

**Epilepsy**

A neurological disorder which causes a disturbance of the electrical activity in the brain. There are a number of causes of epilepsy including inherited, idiopathic (no known cause), tumours, toxins, head trauma, infections, inflammation, bleeding into the brain, kidney disease, liver disease, thiamine deficiency, and abnormal heartworm migration.

**Symptoms:** Muscle twitching, involuntary vocalisation, champing or chewing, drooling or foaming at the mouth, loss of consciousness, involuntary urination or defecation.

**Treatment:** Manage the underlying cause if one can be found and where necessary anti-seizure medication such as Valium.

**Fractured jaw**

Due to not being able to close the jaw and swallow properly.

**Symptoms:** Unable to close mouth, reluctance to eat, facial deformity, bleeding from the mouth, broken or missing teeth, pain.

**Treatment:** Surgery to fix the bones and re-align the jaw and supportive care which will include a soft diet while the cat recovers and analgesics to relieve pain.

**Tick paralysis**

The paralysis tick feeds on the blood of its host (the cat), and injects a powerful neurotoxin into the blood which if not treated, can cause paralysis and death.

**Symptoms:** Wobbly gait which progresses to paralysis, dilated (large) pupils, change in meow, drooling and incontinence.

**Treatment:** Tick paralysis is a medical emergency and requires immediate veterinary care. Antiserum to counteract the effects of the toxin and intensive supportive care which may include oxygen, intravenous fluids, eye drops, and cage rest.

**Neurological disturbances**
There are many possible causes of neurological disturbances including cancer, rabies, seizures, poisoning, congenital disorders such as hydrocephalus (water on the brain), infectious diseases such as feline infectious peritonitis and bacterial infection which originate in the middle ear before progressing to the brain, neurotoxins from spider or snake bites, trauma, and liver disease.

**Symptoms:** Behaviour changes, seizures, aggression, drooling, loss of coordination.

**Treatment:** Treatment depends on the underlying cause. Rabies and pseudorabies are almost always fatal. Infections may be treated with antibiotics to kill bacteria as well as supportive care. Anti-seizure medications can control seizures.

**Pseudorabies:**

Also called *Aujeszky’s disease* or *mad itch*, pseudorabies, which means *false rabies*, is an acute and highly fatal viral disease caused by a herpes virus (Su-HV1).

**Symptoms:** Behavioural changes, shortness of breath, unsteady gait, muscle stiffness, head pressing, circling, fever, collapse, and coma.

**Treatment:** Sadly there is no treatment for pseudorabies and the disease is always fatal.

**Rabies:**

*Rabies* is a fatal infection of the central nervous system caused by the virus belonging to the *Rhabdoviridae* family. It is found in nearly all warm-blooded mammals and is of great concern due to it being zoonotic (transmissible from animals to humans).

**Symptoms:** Fever, increased vocalisation, restlessness, aggression, irritability, muscle tremors, incoordination, paralysis of the throat, drooling, respiratory failure, coma.

**Treatment:** Rabies is always fatal and euthanasia is the only option.

**Prevention:** Vaccination in endemic areas and do not let your cat roam or hunt.

**When to see a veterinarian:**

If your cat appears to be otherwise happy and well with no additional symptoms a wait and see approach may be all that is necessary. If however, your cat is still drooling after a day, or if you notice any other symptoms accompanying the drooling, see a veterinarian immediately.

**Diagnosis:**

Your veterinarian will perform a complete physical examination of your cat. A complete medical history will be necessary which will include questions such as other symptoms you may have noticed if the cat has had access to any poisons or medications and how long the cat has been drooling for.
Accompanying symptoms (if any) may help to narrow down the cause of drooling. During the examination, your veterinarian will check the mouth for signs of dental problems, cancer or a foreign object in the mouth and assess the overall condition of your cat. Sedation may be necessary for a thorough oral exam.

**Diagnostic tests:**

- **Baseline tests:** Complete blood count, urinalysis, and biochemical profile. These can provide your veterinarian with a picture of the cat’s overall health. If there is a sign of infection, dehydration, and how the organs including the liver and kidneys are functioning.
- **Ultrasound or x-ray:** To evaluate the organs (liver, kidneys, pancreas) and look for tumours or a dental abscess.
- **Biopsy and histopathology** of oral tumours.
- **Endoscopy:** To evaluate for reflux. A thin tube with a camera at the end which is inserted into the esophagus and digestive tract.
- **Specific blood tests:** Additional tests may be necessary to diagnose pancreatitis, kidney, liver disease or infection.

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