

A Case of Heavy Metal Poisoning in a Sun Conure

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A 2 year old, male, sun conure, named Zippy was presented to the clinic for vomiting and foaming at the mouth. He had fluffed feathers and watery faeces. The owner had first noticed that Zippy was unwell in the morning. He had a history of chewing everything in the house, and the owners lived in an old Queenslander house. Zippy was regularly left unsupervised in the household. On veterinary examination, Zippy was in good body condition but was an extremely sick bird, had vomit over his head feathering, was mildly dehydrated and had a messy vent. He vomited during the consultation. A presumptive diagnosis of heavy metal toxicity was made based on a history of potential access to heavy metals and consistent clinical signs. A radiograph was performed to see if any radio-dense (bright) particles could be seen within the gastrointestinal tract. The radiograph below shows that there were numerous radio-dense 'chips' (indicated by the white arrow) within the ventriculus (the muscular stomach) of Zippy.



The owners later commented that Zippy liked chewing the paint from the window sills. This paint was likely to be lead paint. The size of these particles, were consistent with them being lead paint chips. It should be noted that metallic foreign bodies may not always be seen in cases of heavy metal toxicity (i.e. the particle has already passed through the gastrointestinal tract). Additionally, not all ingested metal is toxic, which may result in an incorrect diagnosis.

Zippy was hospitalised and treated for heavy metal poisoning. Zippy was given a chelator called calcium disodium ethylene diamine tetra-acetate (CaEDTA). Chelators bind heavy metal ions within the blood. He was also crop fed with a bulking cathartic, psyllium (metamucil) in Roudybush 3 hand rearing formula, to facilitate removal of the particles from the gastrointestinal tract. Zippy was placed in a warm environment to facilitate thermoregulation. Subcutaneous fluids were given to address his dehydration. The above therapy was continued for 3 days. During this time, Zippy made a gradual improvement to a point where he was very bright, alert and eating well. A radiograph was performed, which demonstrated that the metal particles were no longer within the gastrointestinal tract. Zippy was discharged that day.

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Heavy metal toxicosis is a common condition seen in birds, particularly in those that are regularly unsupervised and allowed to freely roam within their environment. There are a number of metal toxicoses that may be seen including lead, zinc and rarely copper, aluminium and cadmium. There are many sources of these metals and clinical signs vary with the type of toxicosis (refer to table below).

Table: Sources of metal toxicants and associated clinical signs

Metal	Source	Clinical signs
Zinc	Galvanized wire cages, toys, chains and feeding bowls (galvanized coatings can contain up to 99.9% zinc) Zinc hardware (washers, nuts, wire)	Lethargy Shallow respiration Anorexia Decreased body weight Weakness Polyuria, polydipsia Diarrhoea Haemolytic anaemia Kidney dysfunction Cyanosis Possible liver/pancreatic anomalies Regurgitation Feather picking Pale mucous membranes Shivering Melaena Death

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Metal	Source	Clinical signs
Lead	Lead paint chips Some artist paints Lead weights Lead hardware Lead-containing Venetian blinds Lead-coated household products Some wine/champagne bottle foils Plumbing material Solder in stained glass Lead shot Tile, linoleum Improperly glazed bowls Some antiques Curtain weights Fishing sinkers Tire weights	Depression Weakness Anorexia Regurgitation Abnormal droppings Polyuria, polydipsia Greenish-black diarrhoea Ataxia Head tilt Seizures Blindness Circling Haematuria Death
Copper	Electrical wire Some coins Excessive copper dietary supplementation Anti-algae agent (e.g. copper sulphate)	Anaemia Weakness Weight loss Lethargy Death