TOXIC SEA SLUGS

What do we know about sea slugs?

Sea slugs are common marine animals, found all around New Zealand’s coast. There are multiple species in New Zealand, but in 2009 one species in particular, the grey side-gilled sea slug (Pleurobranchaea maculata), was linked to the deaths of dogs on Auckland beaches. Grey side-gilled sea slugs produce toxins to deter predators, such as fish. All grey side-gilled sea slugs are considered to be toxic.

Identifying Sea Slugs

Pleurobranchia maculata is a wide-ranging organism in the marine environment of New Zealand. They can grow up to 10cm in length, but are typically 2cm to 4cm. They are mottled-grey or sand coloured, and usually found near the low tide mark. Sea slugs may be found washed up on beaches anytime, but most commonly in later winter and spring - probably related to their breeding cycle and the prevailing weather.

The toxin in sea slugs (TTX)

Tetrodotoxin (TTX) is a potent poison also found in tropical puffer fish, but not previously described in sea slugs.

Can TTX harm humans?

Yes. The lethal dose of TTX to humans is 1–2 mg. A human would need to eat only 2.5 grams of sea slug in order to get a 1mg dose of TTX. That is about half a teaspoon of sea slug. The toxin is unlikely to have any effect on skin contact alone.

Where are the toxic sea slugs found?

Toxic slugs have been found washed up on the beach in many parts of New Zealand, including the Auckland region. There have been confirmed sightings on Auckland, North Shore, Manukau & Waiheke Island beaches as well as the Whangarei Harbour and in Coromandel.

Auckland Regional Public Health Service (ARPHS) recommends:

- Sea slugs on any beach must be avoided. Children and pets need to be supervised on ALL Auckland beaches, not just those bordering the Hauraki Gulf.
- Adults, children and pets should not eat anything found washed up on any beach.
- Parents need to be aware of where their children are swimming or playing, and what they are handling. Young children are especially at risk from their habit of touching something and then putting their fingers in their mouth.
What to do if you find a sea slug?
If you find a sea slug, mark the spot, leave well alone, phone Auckland Council at 09 3010101 and ask for an environmental health officer, who will collect the slug safely.

Symptoms & First Aid Response for Tetrodotoxin Poisoning
Initial symptoms following tetrodotoxin (TTX) poisoning can include numbness around the mouth, tingling, prickling of the skin and nausea.
In severe cases, paralysis rapidly advances with respiratory problems first appearing as difficult or laboured breathing. Reduced blood pressure, fixed dilated pupils and widespread paralysis follows, which may progress to breathing muscle paralysis and an inability to breathe. An irregular heartbeat may also occur.
Due to the rapid onset of life threatening effects, quick and appropriate initial management will be crucial. Prompt and sustained pulmonary resuscitation (PR) – mouth-to-mouth breathing - is essential. However, because of the risk of further poisoning, the resuscitator should wash thoroughly around the patient’s mouth area first. Chest compressions are not needed unless a pulse is absent. Although vital signs may suggest the patient is either unconscious or dead, they will remain fully aware of their circumstances and can hear the conversations of those providing support. Mouth-to-mouth must continue until the ambulance arrives. Ambulance staff can stabilise the patient and provide more advanced PR support.

Further Information
For additional information and frequently asked questions on Sea Slug TTX see links:
- [www.arphs.govt.nz/Portals/0/Health%20Information/PDFs/20090824_Tetrodotoxin%20Advice%20for%20GPs.pdf](http://www.arphs.govt.nz/Portals/0/Health%20Information/PDFs/20090824_Tetrodotoxin%20Advice%20for%20GPs.pdf)

Please phone ARPHS at 09 623 4600 and ask for the duty Health Protection Officer in the Environmental Health Team if you require further advice on this matter.