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TEACHERS INFORMATION

1) Definitions (generally accepted)

Poisonous – With upper primary and older children we more correctly define this as something harmful we may eat, drink, breathe or absorb through the skin. Examples are Cane Toads, chemicals, gases etc.

Venomous - Animals capable of envenomation by biting or stinging. Examples are the Tiger Snake, Platypus, wasps, hornets and some spiders.

2) An introduction to some of Australia's venomous snakes with emphasis on commonsense behaviour by people to avoid snake bite accidents, the correct first aid treatment for snake bite in Australia and some information on the defensive behaviour of our venomous snakes (presentations are tailored to the age group of each class)

3) Reptiles are defined with input from students:

Vertebrate (back-boned animals): includes amphibians, fishes, birds and mammals

scaly-body (versus hair or feathers) includes the fishes.

lungs (versus gills) generally separates the reptiles from the fishes

cold-blooded (versus warm-blooded, also ectothermic or poikilothermic versus endothermic)

4) Different types of reptiles: from the extinct dinosaurs to the reptiles existing today which can be placed in groups or orders as follows:

- (a) crocodiles, alligators, caimans & gavials
- (b) turtles, tortoises & terrapins
- (c) tuatara (New Zealand)
- (d) lizards & snakes

5) Lizards and Snakes; are closely related with each other, but belonging to separate sub-orders – Serpentes and Sauria. All lizards and snakes can be placed respectively if they have one or more of the following:

lizards – ears, eyelids, legs, fleshy-tongue, lower jawbone complete.

Lizards must have at least one of these features, but do not necessarily need all of them

Snakes – limbless, slender forked tongue, lower jawbone in two halves, divided in the front

- 6) Lizards: generally chew food, reducing its size and mixing saliva (an enzyme) with it to assist the digestive process.

The lizard families represented in Australia are:

Geckos: (*family Gekkondidae*) small, to 30cm in length, mainly active at night, invertebrate feeding, Delicate looking lizards with large eyes lacking eyelids but protected by a spectacle scale. Many have names reflecting the shape of the tail e.g knob-tailed, fat-tailed, leaf-tailed, thick-tailed etc.

Legless Lizards: (*Family Pygopodidae*), both above-ground and below-ground species. The former feed on invertebrates and lizards and are easily identifiable as lizards on the presence of external ear-openings. The latter, the “worm lizards” lack an external ear-opening and are easily mistaken for snakes.

Dragons: (*Family Agamidae*) show some similarities to the “birds of paradise” with males often splendidly coloured during the breeding season compared to the drab females. Some species’ behaviour has given rise to names such as the ta-ta and bicycle lizard. Probably better known of Australia’s dragons is the Frilled Neck Lizard.

Monitors: (*Family Varanidae*) are amongst the most primitive of the living lizards. The ancestors of the present day snakes probably resembled a monitor. The group includes both giant and pygmy forms. The largest lizard in the world is the Komodo Dragon of Indonesia. Australia’s largest is the Perentie. Both are monitor lizards, belonging to this family.

Skinks: (*Family Scincidae*) includes very small to moderately large lizards with some species active at night, whilst many others forage during the day. This family includes both egg laying and live-bearing members.

- 7) Snakes: swallow food whole. Non-venomous species are slow to digest food, relying solely on their stomachs, whilst venomous snakes use their venom to both kill or immobilise their prey, and aid in digestion. Venom is a combination of hundreds of proteins and enzymes which form a powerful digestive fluid which when injected circulates through the prey animal and assists the breakdown of the body.

In Australia there are approximately 160 known species of snake, in six families

Blind or Worm Snakes (*Family Typhlopidae*), small non-venomous burrowing snakes that feed on insect eggs and larvae. Egg-laying.

Pythons: (*Family Boidae*) small to very large fresh water, land or tree living snakes that kill prey with constriction and, except for two reptile eating species, feed principally on mammals and birds (warm blooded animals). Egg-laying.

File Snakes: (*Family Acrochordidae*) there are 3 species of file snakes which can reach up to 2.5 meters, these are non-venomous estuarine (aquatic) snakes. Live-bearing.

Colubrids: (*Family Colubridae*) in Australia 2 subfamilies are represented – Colubrinae and Homalopsinae. Small to large non-venomous and mildly venomous rear-fanged, water, land tree living snakes. The world’s largest group of snakes numbering in excess of 1,600 species. Egg-laying and live-bearing.

Elapids: (*Family Elapidae*), small to large land snakes closely related to sea snakes. All are venomous with small to moderately large fixed fangs at the front of the mouth. Includes some of the deadliest snakes in the world. Egg-laying and live-bearing.

Sea Snakes: (*Family Hydrophiidae*), small to large venomous front-fanged marine snakes with valvular nostrils and laterally compressed tails. Many species are potentially dangerous. Egg-laying and live-bearing.

Venom in snakes is rarely used for defence! Exceptions are the spitting cobras. This group is not represented in Australia

8) ALL ANIMALS BITE! The mouths of all animals are the home for bacteria. All bites (even human) should be treated with an antiseptic.

9) PRECAUTIONS:

- Don't touch any snake
- Don't go into long grass or bush with bare feet!
- Don't run in places where you can not see the ground!
- Don't step over boulders or logs with out looking to see what maybe on the other side as a snake may be basking on the other side.
- Don't stick any part of your body down or into holes or hollows.
- If a snake is seen around the school move slowly away from it and tell a teacher. If at home move slowly away from it and tell mum or dad.
- If you find yourself too close to a snake always stand completely still, and call for help.

Note: The content related during presentations will highlight precautions and safety, and are all factual accounts of commonsense techniques to provide a clear positive message.

Participated objectives and outcome dependant on age are:

- 1) An increased awareness/appreciation of reptiles generally and snakes specifically as part of the wider ecology.
- 2) A reduced fear of snakes
- 3) Knowledge of the relationship of the different groups of reptiles.
- 4) Knowledge of classification of members of the animal kingdom.
- 5) An understanding of the need for scientific names
- 6) The importance of native predators as controllers of introduced vermin
- 7) Herpetology as a science is fun.

This information is provided as a teaching guide to give a better understanding of our presentation. If you require any further information or would like to discuss any aspect of our presentation please feel free to contact us.

Snake Bite First Aid

A - Apply bandage to the entire limb immediately

firmly bandage (With and elastic or crepe bandage) starting from the toes or fingers then continuing up the limb covering as much of the limb as possible

Do not apply any tighter than you would for a sprained wrist

B - After the limb is compressed apply a splint, immobilize bitten limb with a splint, e.g.: a rolled up magazine, a stick from the ground anything that will help prevent muscle movement.

C - keep penitent still and calm

Movement will increase venom flow; Calm reassurance should always be a main ingredient to any first aid situation.

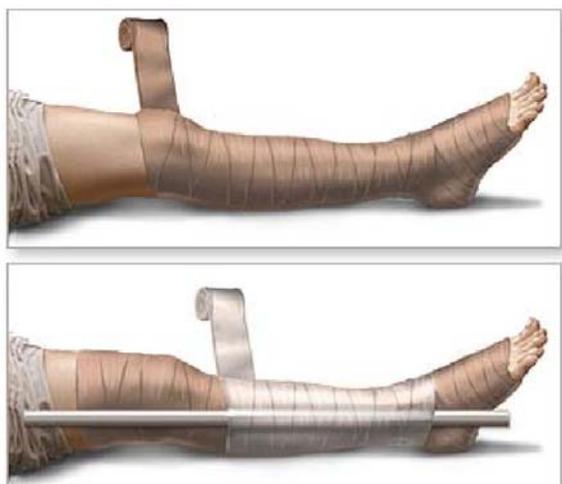
Seek medical attention immediately

D - Monitor pulse and breathing,

if either cease, Apply mouth to mouth or CPR until medical Attention arrives.

Let the Medical help come to you, with the correct treatment in place, the secret of the success is to stay as still as possible There are documented cases of up to 24 hours post bite where patients have survived simply by following these guidelines.

Sample 2 step image of bandaging a snake bite



Pressure-immobilisation Technique

The pressure-immobilisation first aid technique was developed in the 1978's by Professor Struan Sutherland. Its purpose is to retard the movement of venom from the bite site into the circulation, thus "buying time" for the patient to reach medical care. Research with snake venom has shown that very little venom reaches the blood stream if firm pressure is applied over the bitten area and the limb is immobilised. Pressure-immobilisation was initially developed to treat snakebite, but it is also applicable to bites and stings by some other venomous creatures. It is currently recommended for most life threatening venomous bites and stings in Australia.

Pressure-immobilisation is recommended for:

- All species of Australian snakes, including sea snakes

- Funnel web spiders
- Blue ringed octopus
- Cone shell stings

DO NOT use pressure-immobilisation first aid for:

- Spider bites other than from a funnel web spider
- Jelly fish stings
- Stonefish and other fish stings
- Bees and wasps,
- Bites by scorpions, centipedes, beetles

Important:

Do not wash the bite site

Do not give food or drink

Do not cut or suck the bite

Do not apply or use a tourniquet

INTERESTING Facts about Australian snakes

The only snake to live effectively above the snow line is the Copperhead. There are three species of Copperhead found in Australia. The Highlands Copperhead is found throughout parts of NSW and Victoria. The Lowlands Copperhead is found in certain regions of NSW, Victoria and Tasmania. Thirdly, the Pygmy Copperhead is found in South Australia.

Largest of all Australian Pythons is the Scrub or Amethystine Python found in the top-end of Australia. Snakes of between 7 and 8 metres in length have been recorded; sizeable enough to consume large animals such as Adult Kangaroos. The smallest python is the Pygmy Python found in Western Australia. Adults grow to about 50cm and weigh approximately 210grams.

There are approximately 160 described species of land snakes in Australia. This is about 6% of the world's population of snakes, however 90 of the 160 species are venomous, giving Australia around 40% of the world's population of venomous snakes. Nowhere else on the face of the planet has this many. We are the lucky country.

The Inland Taipan and Western Browns both possess the ability to have a seasonal colour change. In the summer months they can be a golden-corn colour, whilst during winter they can be jet-black. This is an incredible adaptation to their environment; to both dispel and retain heat more efficiently during these climatic changes.

The Blackheaded Python likewise uses its black head like a little solar panel. This species can place their head out of a crack and heat the rest of its body up in approximately 20 minutes, thus not exposing the rest of the body to its predators.