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the crew

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REPORT



Seafood Poisoning and Other Marine Hazards



The oceans provide a cornucopia of delicious foods to enjoy and environments to explore, but without due care illness may follow. Robb Leigh MD, explains the greatest threats to guests and crew from marine life and seafood.

The marine environment is as exciting as it is obscure. This very fascination draws many people to its exploration and often close to possible danger. Exposure to marine toxins and venoms from sea life, for example, can produce a range of neurological symptoms including numbness, tingling, generalised or focal weakness, dizziness, incoordination, seizures, respiratory failure and even death. Nausea, vomiting, headaches and muscle aches may also occur. Likewise, human interaction with seafood and sea plants, while generally safe, can result in intoxications. Understanding marine poisoning and hazards is the first step to treating affected guests or crew.

Understanding Seafood Poisoning & Symptoms

Ciguatera Ciguatera toxin is produced by plankton and its concentration increases as it ascends the food chain, with high concentrations possible in large predatory fish such as barracuda, grouper or sea bass. Symptoms may begin a few minutes after ingestion and include nausea, vomiting, diarrhoea, abdominal cramps, excessive sweating, headache, muscle aches, tingling, weakness and dizziness. The reversal of temperature sensation – cold feels hot and hot feels cold – is characteristic. Ciguatera poisoning is rarely fatal and treatment is supportive, ie medicines can be used to treat symptoms such as nausea, vomiting, diarrhoea, or pain; oral or intravenous fluids may also be used if necessary.

Scombroid or histamine fish poisoning Histamine builds up during bacterial spoilage of fish after they have been harvested, for instance in tuna, mackerel and bonito. Symptoms may begin a few minutes after ingestion and include rash, flushing, sweating, headache, oral swelling, metallic taste, vomiting, diarrhoea and abdominal pain. Symptoms often resolve within a few hours without treatment, although antihistamines or adrenaline may be needed.

Shellfish poisoning Mussels, cockles, clams, scallops, oysters, crabs and lobsters may contain certain toxins produced by yet another kind of plankton.

Paralytic type may cause muscle paralysis, respiratory failure and even death.

Neurotoxic type may cause numbness, tingling and incoordination.

Amnesic type may cause permanent short-term memory loss. Treatment is supportive for all types.

Hepatitis A Although not a seafood poisoning per se, it can be acquired from shellfish contaminated with hepatitis A virus from

sewage and is common in locations where health regulations are not strict. Prior vaccination and careful selection of the source will prevent it.

Understanding Marine Envenomations & Symptoms

Jellyfish Their stinging cells (nematocysts) can fire even after detached. Treatment options include vinegar, which works rapidly to paralyse the stinging cells; and hot water (>39°C), which neutralises the toxin but can cause burns. Contrary to popular belief, human urine is ineffective. While most stings cause mild symptoms, box jellyfish can cause fatalities due to respiratory failure that occurs within minutes. Treatment is supportive and antivenom may be available.

Blue-ringed octopus Its venom causes numbness and muscle paralysis. Treatment is supportive.

Sea snake About 90 per cent of bites are “dry”, but when venom is released, it causes drowsiness, nausea, vomiting, weakness, visual disturbances, respiratory difficulties, muscle stiffness and kidney failure. Antivenom is available in some areas.

Stingray This sea creature can cause stab wounds and heavily bleeding lacerations when the tail glances against the skin. Large stingrays can cause fatalities by stabbing the heart, lungs or abdomen. Proper wound care is essential.

Stonefish, cone shell, crown of thorns and other creatures These can cause serious symptoms (including severe pain and muscle paralysis) and treatment is mostly supportive.

Marine Infections Cuts inflicted by corals, or stabs by sea urchins or other creatures with sharp spines, can cause infection with marine bacteria, which will require antibiotic therapy.

When passengers and crew are faced with any type of marine hazard – ranging from seafood poisoning and marine envenomations to infections and interactions with marine life – crew should consult the vessel’s remote telemedicine provider for support and assistance. Preparation of a well-equipped medical kit onboard is essential and could save lives in cases mentioned above.

What is supportive treatment?

Numerous medical conditions, ranging from infections and head injuries to certain cancers, currently have no specific or known treatments. In such cases, measures that support the patient – oxygen, IV fluids, medications, nutritional guidelines – give the body a chance to recover from symptoms such as pain, fever, nausea, vomiting or diarrhoea. Until research provides more assistance, supportive treatment is often the best option.

Ask the Doc

Q: Is chest pain always serious?

A: No. Chest pain, loosely defined as any discomfort between the base of the neck and lower ribs, can originate from several different organs and structures. Pain originating from the heart and large vessels is obviously serious, but other structures such as the lungs, oesophagus, ribs, cartilage, muscles, ligaments and abdominal organs can cause pain in this area.

Three life-threatening conditions that usually manifest with chest pain or discomfort are heart attack, pulmonary embolism (a blood clot in the lungs) and aortic dissection (separation of the layers in the wall of the aorta).

If you are young and healthy, without history of heart disease, diabetes or high blood pressure, chest pain is less likely to be serious. But if you have a known heart disease or a condition, chest pain becomes quite worrisome. Evaluating chest pain isn't always straightforward – even with the aid of modern diagnostic tools. If you experience chest pain, especially with associated symptoms of shortness of breath, sweating, nausea or lightheadedness seek medical attention as soon as possible.

Medical kit update: Pulse Oximeter

This medical device indirectly and non-invasively measures the oxygen saturation – or content – of a person's arterial blood. Oxygen is carried by haemoglobin, the pigment in red blood cells, from the lungs to the tissues. The pulse oximeter measures and displays the percentage of haemoglobin attached to oxygen molecules. Normal oxygen saturation at sea level on a healthy person at rest is about 97 per cent, but will reach 100 per cent with a few deep breaths.

Although the reading itself is not predictive, it can be valuable to the healthcare provider when used with other clinical data. It is considered the fifth vital sign, following blood pressure, heart rate, respirations and temperature.

Several models are available on the market, including new, smaller units that appear to be both accurate and fairly inexpensive. Units are placed on a fingertip and, after a few heartbeats, provide a numerical display of oxygen saturation and pulse. They can be invaluable in the assessment of people with respiratory symptoms – especially when medical help isn't readily available.

To purchase a pulse oximeter, contact the luxury yacht team at MedAire.



Robb Leigh is a practicing emergency physician and medical advisor for MedAire Inc who handles medical emergencies daily in an urban emergency room as well as remotely for MedAire. To find out more about MedAire's services visit www.MedAire.com.