

transparent in the natural state but after preservation in formalin sea water becomes completely opaque.

An envenomation in Moreton Bay

At 11:00 am on 20 January 1984, whilst swimming at Margate Beach, Moreton Bay, in one metre deep murky water, a 12 year old girl was stung by a "Moreton Bay Stinger". At the time there was a strong on-shore wind.

On surfacing from a dive under the water she received a large sting from a tentacle of a morbakka that stretched over her shoulder and down the front of her chest and her back. The predominant symptom at this time was a severe "burning" pain, which felt like the skin was on fire. Within a few minutes the skin had raised white wheals with a surrounding red flare where the tentacles had touched and within half an hour she had developed a cough, backache and a feeling of a lump in the throat, symptoms which lasted for the next 24 hours. Oral paracetamol 500 mg and dexchlorpheniramine 2 mg were given but had little effect apart from that of sedation.

24 hours later the skin lesions were still red and raised but had stopped burning and become somewhat itchy and tender to touch. The lesions became paler by the third day and had a papulo-vesicular appearance which lasted another week before settling with no scarring.



Figure 2. Sting on the chest of a boy soon after he left the water. The raised white wheal is surrounded by a bright red flare.

Use of vinegar

Experiments have been carried out by Dr Robert Hartwick which showed that weak (3-10 per cent) acetic acid solution (vinegar) inactivated the unfired nematocysts in the tentacles and bell of this species.¹ These tests were patterned on previous work by Hartwick et al,^{4,5} for nematocysts of *Chironex fleckeri* and *Physalia physalis*.

DISCUSSION

As the morbakka is of the Class Cubozoa (formerly called the Order Cubomedusae) it is a type of box jellyfish although not to be confused with the deadly *Chironex fleckeri* which is THE Northern Australian box jellyfish.

It has previously been incorrectly referred to as *Tamoya haplonema*, but as it lacks gastric cirri, one of the identification features described by Muller in 1859 for the Genus *Tamoya*⁶ it has to be classified as a species of its own. However until it can be formally identified, Dr RJ Southcott suggested the name morbakka derived from Moreton Bay carybdeid medusa as it is from that area that several specimens have been described and a number of envenomations reported.² However specimens have also been caught as far north as Port Douglas as well as in Mackay and with a growing number of hearsay reports it is becoming obvious that this species is more prevalent than is generally known.

Vinegar has been shown to be efficient in disarming undischarged nematocysts in the adherent tentacle, thus preventing further envenomation. This role of vinegar is already proven for other species of jellyfish.^{4,5} As it is non-flammable it is safe to use, and being cheap and readily available it has to be recommended as the immediate first aid treatment on the beach.

REFERENCES

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- 5 Hartwick RJ, Callanan V and Williamson JAH. Disarming the box jellyfish. *Med J Aust* 1980; 4: 335-338.
- 6 Muller F. Zwei neue quallen von Santa Catharina (Braisilien). *Abhandl Naturf Ges Halle* 1859; 5: 1.

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A NEW HYPERBARIC UNIT FOR VICTORIA

John Knight

The hyperbaric unit maintained by the National Safety Council of Australia, Victorian Division (NSCA) at Morwell has closed.

This closure was dictated by economics (the NSCA carried all the costs of treatment without any contribution from the Victorian government) and medical considerations. The chamber at Morwell was approximately 145 km from the nearest hospital with full intensive care facilities. There has been a need for

such facilities in the Morwell chamber at times. It is no longer acceptable to have a hyperbaric treatment complex situated outside the confines of a large hospital. Once the NSCA's contractual obligations to provide hyperbaric chamber cover were met by installing a chamber on their support craft the rationale for maintaining the Morwell chamber operational disappeared.

In August a deputation consisting of Dr CJ Lourey (Anaesthetist, Intensivist and Past President of SPUMS), Dr David Brownbill (Senior Neurosurgeon at Royal Melbourne Hospital), Dr Des Gorman (Director of the Royal Adelaide Hospital Hyperbaric Unit and guest speaker at the 1986 Annual Scientific Meeting) and a representative of the NSCA, Mr Andrew Wilson, saw the Minister for Health, Mr D White. They presented the case for siting the Morwell Chamber complex in a teaching hospital. The NSCA were willing to donate chambers and all ancillary equipment to the hospital for the costs incurred in transporting the chambers to their new site. The NSCA was also willing to enter into a service agreement with the hospital to provide staff to operate the chamber. The extra costs proposed for medical and nursing staff would be for a full time Director, and at least three nursing staff. This was based on the Adelaide experience.

The Minister for Health and the Victorian Government have accepted the advice of the deputation and the generous offer of the NSCA to donate their chambers has also been accepted.

The facility will be installed at the Alfred Hospital in Melbourne and it is hoped to have it working by the beginning of summer (December 1986). It is expected that the position of Director of the unit will be advertised around the world.

I understand that the complex will consist of a two compartment saturation capable chamber, designed for 200m, to which is mated a circular chamber to which is attached an oblong chamber with transfer under pressure facilities for the Drager Duocom two man transportable chamber.

The Health Department has issued an Interim Protocol for Management and Transport of Patients Requiring Hyperbaric Treatment. This protocol and part of the letter that accompanied it are reproduced below.

At present there are approximately 40-50 patients in Victoria each year who need to receive emergency treatment in a hyperbaric chamber, due to problems associated with deep sea diving and certain other conditions such as carbon monoxide poisoning, cyanide poisoning and anaerobic infections.

In order to ensure that such patients continue to receive that level of care where indicated, interim arrangements have been made for them to be referred to interstate facilities linked with the Diver Emergency Service (telephone 008 088 200).

Until further notice, arrangements for the management and transport of these cases should be undertaken in accordance with the attached interim protocol.

As with any other Ambulance transport, charges will be made to the patient or, in the case of interhospital transfers, to the referring hospital by the Ambulance Service in accordance with standard ambulance charge rates.

INTERIM PROTOCOL FOR MANAGEMENT AND TRANSPORT OF PATIENTS REQUIRING HYPERBARIC TREATMENT

In the event of a casualty presenting to a hospital with a condition for which emergency hyperbaric treatment is required, the following protocol should be followed:

1. The attending doctor will seek advice from the Diver Emergency Service by telephoning 008 088 200. The hyperbaric specialist answering the call will advise on management of the case and if necessary will arrange for admission to the appropriate hyperbaric unit.
2. If transfer to a hyperbaric unit is required, the hospital doctor will contact the local Ambulance Service to request ambulance transport of the casualty requiring hyperbaric retrieval to the nominated hyperbaric unit.
3. The local Ambulance Service will contact the Diver Emergency Service (telephone 008 088 200) and consult with the hyperbaric specialist on-call, to
 - a. confirm that the unit is expecting a casualty
 - b. discuss the most appropriate transport medium
 - c. confirm that a retrieval under full hyperbaric conditions will be required
4. If hyperbaric retrieval is required, the local Ambulance Service will contact the National Safety Council of Australia (telephone (051) 49 2333) and request that the retrieval be undertaken on behalf of the Ambulance Service.
5. The National Safety Council of Australia will undertake the subsequent retrieval, with the co-operation of the local Ambulance Service which will co-ordinate all movements and organise ground transport where appropriate.
6. If, following consultation between the hyperbaric specialist and the local Ambulance Service, it is decided that transport in a recompression chamber is either not necessary, or not practicable, the most appropriate method of transport will be determined. In this decision, the local Ambulance Service will be guided by the hyperbaric specialist, having in mind the unique requirements for the transport of these casualties.

In these circumstances the local Ambulance Service will also be responsible for advising the National Safety Council (051 49 2333) that hyperbaric retrieval is not required.

NOTE: Experience has shown that a significant number of diving casualties make initial contact with the National Safety Council of Australia at Morwell, rather than with a local medical officer or local hospital. As the diving casualty will almost certainly require immediate medical treatment, he or she will be directed to seek aid from local resources (eg. ambulance to nearest hospital). Having ascertained the local hospital, National Safety Council of Australia will contact the hospital to advise of the expected arrival of a diving casualty. The diving casualty will be instructed to request the local hospital to contact the Diver Emergency Service, as subsequent evacuation may be required.

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