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MEDIA RELEASE

Treating the victims of shark attack – learning from experience

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Recent advances in the management of major trauma have cast new light on the treatment of shark attack victims, according to a study in the latest issue of the *Australian and New Zealand Journal of Surgery*.

A team of Sydney based doctors and surgeons examined two cases of shark attack that occurred within 72 hours of each other in waters around Sydney in 2009. The victims of both attacks were treated at St Vincent's Hospital, Darlinghurst. The authors also conducted a review of cases published in available literature. This revealed that the majority of attacks involve surfers and windsurfers, with divers far less frequently involved. Attacks are most likely to occur at dawn or dusk, and the most common species involved are the Great White and the Bull Shark.

While shark attack is rare, with only 59 unprovoked attacks worldwide in 2008, it generates a unique pattern of limb trauma which often proves fatal if immediate first aid, rapid transport and urgent surgical intervention are not readily available.

Given that blood loss is the most common cause of death, the authors considered trends in the use of pre-hospital tourniquets. Recent military experience in Iraq and Afghanistan indicates that tourniquets can be an effective means of haemorrhage control, but their use in civilian settings remains contentious. The authors note that the rapidity with which wounded soldiers are transported to surgical care may bias the observation that tourniquet time is not a significant predictor of morbidity. The civilian experience of trauma evacuation and rapid assessment is somewhat different and can be associated with long delays.

The authors conclude that initial surgery should be prompt, goal-oriented and must not hinder resuscitation efforts. Clear goal orientation allows the surgeon not only to decide early if an injured part is viable but also to determine whether it should be saved based on likely functional and aesthetic outcome. Whether amputation or salvage is planned, the initial surgery should be kept as brief as possible.

Very little is known about the microbiology of shark bites, and the authors conclude that organisms from seawater, the patient's skin and the shark's mouth must all be considered when selecting appropriate antimicrobial prophylaxis.

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