Rescuing in Canoeing: A Review

Vicky Diamanti, Vassilis Diafas, and Stathis Avramidis

Abstract

Drowning is a leading cause of death worldwide, while water sports and aquatic activities have become more popular. Canoeing, as a water sport is dominated by the same basic principles, but carries the same dangers as other aquatic sports. The purpose of this article is to summarize the basic ways of rescuing and providing cardiopulmonary resuscitation to those canoe-kayak athletes, who either are in danger of drowning or have already drowned and need cardiopulmonary resuscitation.

Key words: rescue, canoe-kayak, cardiopulmonary resuscitation, safety measures, lifeguarding, drowning.

Introduction

Based on the 4W Model of drowning, when there is an aquatic environment and human activity in, on and around it, then a drowning incident might happen to whoever, wherever and under whatever circumstances (Avramidis, Buttterly & Llewellyn, 2007). In 2000, approximately 409,272 people drowned, making drowning the second highest cause of death worldwide, after car accidents (excluding disasters) (World Health Organization, n.d.). The problem might be more serious than what is reported by the World Health Organization, because statistics usually refer to the drownings reported by hospitals.

However, most drownings occur in countries and cities with no hospitals or organized reporting systems. Therefore drownings worldwide may even reach 1,200,000 annually (Connolly, in press). In spite of the fact that drowning is the primary cause of death worldwide, unfortunately, most research approaches the subject from an epidemiological point of view (Bierens, Knape, & Gelissen, 2002). Every activity in, around and above water can be the cause of drowning. That means that drowning is not impossible, even in the sport of canoe-kayaking. The purpose of this paper, therefore, is to summarize the basic ways of rescuing and performing cardiopulmonary resuscitation for canoe-kayak athletes, who either are in danger of drowning or have already drowned and need cardiopulmonary resuscitation.

As in all nautical sports, the strict observance of safety rules in canoeing is of vital importance, so that the sport can be a pleasant experience. Young children and adults are involved with the sport of canoe-kayaking, and especially in the two official Olympic categories. The special conditions in places where it is carried out (river, sea, lake), add to its specificity. Regardless of the athletes' ages the same

attention should be observed. When trainers are involved with inexperienced athletes (especially young people) their first priority is to ensure that the children can swim. Because of their youth and the great competition, children avoid admitting their possible ignorance of swimming.

In order to ensure the children's safety, they must be asked to swim a certain distance. In that way not only do we confirm that they can swim, but also to what extent. In cases of poor swimming ability, parents must be asked to take their children for swimming lessons, so that subsequently they can get involved with canoeing. Another basic point that is also part of the ('inexperienced athletes') first lessons is learning the maneuvers required in case of boat backfall. In such a case, the athlete must 'embrace' the boat from the bow with one hand and swim to the nearest point on the beach with the other hand, in order to.

Lifesaving in the Flat Water Category

The existence of a lifeboat escorting the athletes during their training in water is an equally important safety issue. In the boat, which can be navigated only by a licensed person, there must be a first aid kit, a life jacket, flares, and everything else that is specified by law. In the case of a backfall in the open sea, the lifeboat operator must approach the victim by interposing the kayak between his boat and the victim. Next, he helps the victim to get onto the lifeboat, and empties the water from the kayak. In cases where the athlete is tired, the trainer must transfer him to the pontoon to disembark.

Lifesaving in the Slalom Category

In the category of Slalom, rescue procedures are different, due to the fact that it is held in the river or at an artificial race course. More specifically (Diafas, 2000; Stuhaug, 1995):

■During training the boats must keep a safe distance between them, based upon the flow of the river, the width, the eddy and the level of knowledge and experience. If the distance gets bigger, communication between the athletes becomes more difficult if there is a backfall, whereas if the distance gets smaller there is danger of collision. To regain the allowable distance between the boats, the athletes can use an eddy. However, when an athlete wants to pass, he must make this known by shouting.

■The athletes must always know the number of training boats in the river and whether they are going down or up, in order to avoid accidents.

■Special care must be taken when trying to get into an eddy, and more specifically if there is another boat in, there must be enough space. When the athlete is already inside the eddy and another boat is trying to get in, we must show him by signaling, either that there is not enough space, or make room for the second boat to enter.

■When rescuing by boat, the victim is approached with the stern and in the opposite direction to the river flow. The victim must be from the backfallen boat to the opposite of the river flow, holding it by its handle and trying to reach the lifeboat's handgrip. The purpose is to carry the victim nearer to the riverside quickly, because it is too hard to pass the eddy with the extra weight, while at the same point its design must be made. The victim on the other hand, should swim using breast stroke with his legs to help the lifeguard. The lifeguard must encourage the victim psychologically without tiring him.
■When making a rescue by land (riverside) the lifeguard must be near critical points or after difficult streams, holding a rope in one hand and throwing it towards the victim's side.
■When the boat is stuck in woods, rocks or any other moving object, the rescuer using his boat must make manoeuvres to free the victim.

Safety Rules for the Kayaker

Limited literature has been published on safety and rescue in related subjects. In one of them it has been argued that 'safety is the art of staying out of trouble' (Ferrero, 1998, p. 9). The kayaker should take note of the following safety rules (Diafas, 2000; Stuhaug, 1995):

■If inexperienced, do not get into a river graded as high difficulty.
■Try to avoid the «strainers» (parts of a river, for example, when a log allows water to pass through but not a boat; they are usually created in river channels, after rain or overflow). The kayaker should avoid these places. If he is trapped he must row towards the obstacle and then cry for help.
■In cases of a wall or rocks he rows in the opposite direction to the flow of the river. If that is not possible and the stream drags him towards the rocks, then he brings the boat to the side where the rock is opposite the stream, and using his hands, climbs the rock to a position of safety.
■If he falls into the water, he ensures that his legs are up and in the direction of the river flow, because if they are hung down, they might get damaged by a stone in the moving water. The resting position for the victim is with his head back. The victim must try to keep all his gear, but if this would endanger his safety, he must leave his gear and look after his own safety.

Cardiopulmonary Resuscitation of a Drowned Kayaker

In cases where a kayaker is pulled unconscious out of the water, do the following (adapted from Handley, Monsieurs, Perkins, Davies & Bossaert, 2005):

■Check before you approach him for possible dangers that might exist for you (as a rescuer), the environment, or the athlete. These may be waves, violent streams, or danger of crashing into an object in the water (big boat, rock, etc).
■Check the athlete's level of response by asking "are you ok?"

■If he doesn't answer shout "help" so that you can be heard by other athletes or the trainer (if you are in the water).

■Assuming that he is lying on the ground or on another boat, check his breath, using the technique 'look, listen, feel' for up to 10 seconds. In other words you see if his chest rises, and you hear and feel his breath. To achieve this, open his airway by placing the palm of your hand on his forehead and two fingers of your other hand (index and third finger) on his chin, extending the head (head tilt, chin lift).

■If he breathes, place him in the recovery position

■If he does not breathe, place your lips around his and give five rescue breaths.

■Place the palm of your hand on the casualty's chest and your other hand above it. With your hands perpendicular give 30 chest compressions at the rate of 100 compressions per minute (i.e., a little less than 2 compressions per second) and at a depth of 4-5 cm for an adult athlete.

■Stop only if more professional help arrives (e.g., doctor or ambulance), you are too exhausted to carry on, or he starts breathing normally (i.e., at a normal pace not what we call 'agonal breathing').

References

Avramidis, S., Butterly, R., & Llewellyn, D. (2007). The 4W Model of Drowning. *International Journal of Aquatic Research and Education,* 1(3), 221-230.

Bierens, J. J. L. M., Knape, J. T. A., & Gelissen, H. P. M. M. (2002). Drowning. *Current Opinion nn Crttical Care, 8,* 578-586.

Connolly, J. (in press). Lifeguards Beware! In: Avramidis, S., ed. *The Handbook of Safety and Lifesaving,* Piraeus (Greece), European Lifeguard Academy.

Handley, A.J., Monsieurs, R.K., Perkins, K.G.D., Davies, S., & Bossaert, L. (2005).

European Resuscitation Council Guidelines for Resuscitation 2005. Section 2. Adult basic life support and use of automated external defibrillators. *Resuscitation,* 67S1, pp. S7—S23.

Stuhaug, D.O. (1995). *Kayaking (second* edition). USA, The Globe Presquot Press.

World Health Organization (n.d.) *Facts about injuries; Drowning. Injuries and Violence Prevention, Non-communccable Diseases and Mental Health.* USA, World Health Organization.

Diafas, V. (2000). *Canoe - Kayak.* Athens, Greece: Papadamis Publisher.

Ferrero, F. (1998). *White Water Safety and Rescue.* Great Britain, Wells, Pesda Press.

Vicky Diamanti is Teacher of Physical Education, with a doctorate in Canoeing, Secretary General of PA.SI.P.K.K. and kayak trainer in the Nautical Club of Kalamaki. Dr. Vassilis Diafas is Canoe-Kayak Lecturer in the Department of Physical Education and Sport Science of Athens University. Stathis Avramidis, PhD candidate is a part time Lecturer in Leeds Metropolitan University in the UK.