

START method as a triage tool for aquatic disaster situations

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One of the biggest challenges of a rescuer is coping with a disaster situation, which by definition is when the capacity or preparation of the rescuer and its team is overcome by the occurrence. START method was created to address the difficulty of triage in pre-hospital emergency situations and so prioritize those with the greatest chance of benefit from the being assisted first, separating the victims of trauma by category, establishing for each one a different colour.

Disasters in the aquatic environment are emergencies requiring a faster triage under the careful scrutiny of rescuers, because on top of being hard to overcome their operational capacity, decision should be fast to prevent drowning.

Correct triage of each case is essential to the operation's success. This type of occurrence can be found in a shipwreck, falling of an aircraft or more frequently at beaches where multiple victims drown and lifeguards must perform this triage under physical and emotional stress. In Brazil, the classification of drowning is established as: rescue (no aspiration), drowning (aspiration) grades from 1 to 6 and already dead, based on the severity and focusing on the treatment. However it's essential to lifeguards, working in situations where the occurrence of multiple victims and the decision of who to rescue first is a constant, to have a tool to mitigate drowning through a good triage and early rescue. Furthermore lifeguards must be able to anticipate and recognize at-risk bathers implementing preventive measures instead of reactive actions.

The objective of this work is to propose a simple and fast classification system, based on the known START method, for the recognition and triage of victims of water disasters.

The study were based on the analysis of occurrences, considering victim behaviour, retrieved at the system of the Military Fire Brigade of Santa Catarina (CBMSC) for a period of 5 years, at the beach of "Ingleses" - the highest number of occurrences at the state. Data was used to formulate a triage hypothesis tool for these events. In this study, we've assigned a colour system analogous to the START method that matches the level of rescue urgency related to victim's behaviour to facilitate training and the work of lifeguards.

Based on the analysis of occurrences and their characteristics we proposed the following triage system by rescue priority level:

1. RED: victim in critical stage to submerge.
 - a. **Time estimation to be submerged:** less than 1 minute
 - b. **Behaviour:** victims with erratic swimming without displacement, with \frightened facial expression, sinking several times which does not obey simple orders and may try to grab the lifeguard due to emotional stress;
 - c. **Rescue:** NON-COLLABORATIVE
 - d. **Medical severity:** Rescue to drowning degree 4.
2. YELLOW: Victim in danger to submerge
 - a. **Time estimation to be submerged:** 1 to 5 minutes
 - b. **Behaviour:** Victim with some or no displacement, yet able to float
 - c. **Rescue:** COLLABORATIVE
 - d. **Medical severity:** rescue to grade 1.
3. 3rd Priority – GREEN: Victim unaware of the drowning's risk
 - a. **Time estimation to be submerged:** > 5 minutes
 - b. **Behaviour:** Victim seems conformable with some water displacement 1. or able to float
 - c. **Rescue:** COLLABORATIVE
 - d. **Medical severity:** rescue.
4. BLACK: motionless victims in the water.
 - a. **Time estimation to be submerged:** zero
 - b. **Behaviour:** motionless in the water usually with face down or submerged
 - c. **Rescue:** NON-COLLABORATIVE
 - d. **Medical severity:** Grade 5 or 6

Conclusion

The formulation of a new triage method to attend multiple victims of water distress can contribute with the standardization of care and the priority assistance of multiple victims. The next step in progress is testing scientific validation of these new triage methods. The results will be shared during the presentation.