PONENCIA EN INGLÉS

LIFESAVING COMPETITION: Speed vs Safety CONFLICT OF INTEREST?

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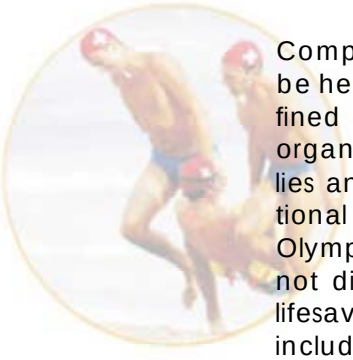
Lifesaving Competition: Speed vs Safety. Conflict Of Interest?



Competitive lifesaving has been with us for a long time and appears to be here to stay. In the past 20-25 years, it has expanded greatly, been refined and compartmentalized. It now more nearly resembles any other organized sport, despite it's humanitarian origins. But in this development lies an inherent danger of conflict with those origins. With our local, national and international competitions, even recommendation as an Olympic sport, there may be potential to forget where we came from. If not discussed thoroughly and reflectively, this could bring competitive lifesaving and drowning prevention (rescue) onto a collision course. By including events which imitate dangerous and non-recommended techniques, we may risk sending negative signals. Lifesaving competitors as well as observers influenced by lifesaving competition, may adopt non-recommended rescue techniques, thus failing to execute a rescue and putting themselves and or the victim at unnecessary risk.

Key words: competitive lifesaving, established rescue safety norms, conflict of interest.

It is the nature of competitive sport to constantly search for technical improvements, be it improved equipment or improved techniques. In the pole vault, when bamboo poles were replaced first by aluminum and later by glass fibre and carbon poles, performance improved. When spiked shoes were introduced and later, starting blocks, records were broken. In swimming, performance improved with the advent of the flip turn and again with the removal of the hand touch requirement in freestyle and back stroke, thus allowing a more efficient flip turn. Allowing the head to submerge on each stroke in breaststroke and recently permitting one dolphin kick at start and turn, improved performance. The increased use of multiple dolphin kicks in both back crawl and crawl, has improved performance. Before continuing, it is relevant to remind the reader that reducing the time in a timed event is not necessarily the same as improving performance. In some cases we have simply changed the rules and the actual mid-pool swimming velocity did not change. For example, the no hand touch allows the flip turn to be performed farther from the wall, i.e. the swimmer actually swims a shorter distance. In swimming alone, there are many more examples. In this paper, we focus on changes which reduce the time needed in timed events but which contravene established safety norms.

Competitive lifesaving is no different. The events are timed and just as in swimming, track and field athletics or other sports, any innovation which reduces the time of timed events is welcomed. In this regard, it is nearly always the competitors themselves who "discover" alternative techniques, e.g. the dolphin kick, the Fosbury flop in high jump, skating in cross country skiing. Competitive lifesaving is young, varied and complex, offering many possibilities for alternative techniques to be introduced. Herein lies the danger. Alternatives may contradict long established safety norms. In addition, the most glaring contradictions may be the most glamorous, the most titilating for the spectator. By their very nature, the most simple and safest, often unseen techniques are always to be preferred. They are of course less exciting and are under represented in competition.

Several centuries of experience have evolved strong safety oriented recommendations with only safety in mind, irrespective of the speed of the rescue. Indeed, it might be that in certain circumstances it is safer to reduce the speed. What rescue techniques provide maximum probability of success in rescuing the casualty while exposing the rescuer to minimal risk? Our dilemma is whether or not we should allow alternative technical solutions which reduce the time (perhaps even improve performance) yet which contravene established norms for safe rescue. That in many cases, the best or most obvious way to improve performance is by adopting unsafe rescue techniques, is an obvious conflict of interest. This issue is currently highly controversial. Proponents of allowing such contradictory techniques point out that it is only for the sake of competition and that participants are advised that "this should not be practiced in real life rescue situations". Opponents to allowing such techniques point to the negative signals given and the danger that what one trains extensively at can become reflexive and be used without conscious choice. Still others are unaware of anything called "safety norms for rescue". A sad fact is that many persons involved in the leadership of lifesaving competition (coaches, officials, association decision makers, etc.) have little or no real experience in lifesaving or swimming.

The aim of this paper is to attempt to identify elements of events practiced in competitive lifesaving which in some way contravene established norms for safe rescue. These norms are generally universal but we have intentionally chosen to limit our references to six of the most well known national lifesaving organizations; The Royal Lifesaving Society UK, The American Red cross, The Royal Lifesaving Society Australia, The German Life Saving Society (DLRG), The Royal Lifesaving Society Canada, The Royal Lifesaving Society New Zealand. This in no way means that the many others do not recommend the same norms. In most cases the illustration(s) are presented in pairs. On the left are those practiced in competetive lifesaving while those on the right are those which represent acknowledged rescue safety norms.

Established norms for safe rescue

The over 100 year old mnemonic (a rhyme used to help memory) "REACH – THROW - ROW – GO – TOW" has served long and well as a framework for the selection of the most appropriate rescue technique in any given situation. This well known rhyme is also used as a check list – a way of thinking "can I help?" then "***how*** can I help?" Repeating the rhyme reminds the rescuer of the choices which may be made, in the correct order, helping to make a rapid, informed choice. In addition, these categories can serve as a framework for a teaching unit. In the same way that the safest is chosen first in a rescue situation, it should also be that which is taught first. Rescue techniques are here arranged in order by both degree of risk and degree of difficulty, as shown by the size of the dots in Fig. 1. The simplest and safest given the circumstances, is ***always*** chosen first. If "reach" fits the need, we use it. If not, we go to "throw". Throw is ***never*** used when reach will work. And so on, down the list.

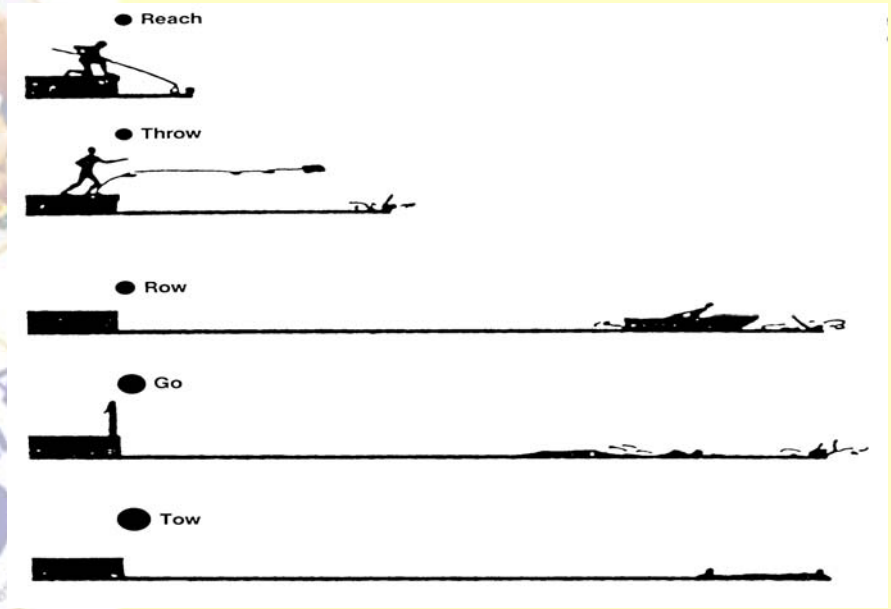


Fig. 1. Reach – Throw – Row – Go - Tow RLSS Canada (1972)

The most difficult, dangerous and risk filled rescue techniques are over represented in competition. In the program for indoor lifesaving competition, the following figure shows the representation of each of the above categories of rescue in both individual and team events. The attention to risk filled, glamorous events can in some ways be understood. Some argue that the most important pedagogical role of lifesaving competition is to attract the attention of the public, first to the competition itself and then to lifesaving in general – its humanitarian goals, including the education of the general public in rescue techniques, general water safety knowledge, etc. Yet this is also a dilemma. What are we attracting people to if we allow unsafe techniques to be glorified in this way? Even if we accept the need to attract the public, there are also other goals for lifesaving competition. Youth are introduced to an activity which (if systematic training is conducted) can contribute to their own health but also may contribute to the humanitarian cause of educating the public in rescue techniques. "In whom-so-ever you see in distress, see in him a fellow man (human being)", the motto of the Royal Life Saving Society. Another well known motto is e.g. "Every Scout a swimmer – every swimmer a lifesaver" (this has been adopted by many organizations). There is no easy answer. If we accept the need to attract the attention of the public by focusing on these most glamorous and yet most risky events, we must still consider the consequences of the manner in which they are conducted. Changes could be made without reducing the glamour. There is a potentially negative consequence to removing the competetive events even further from reality.

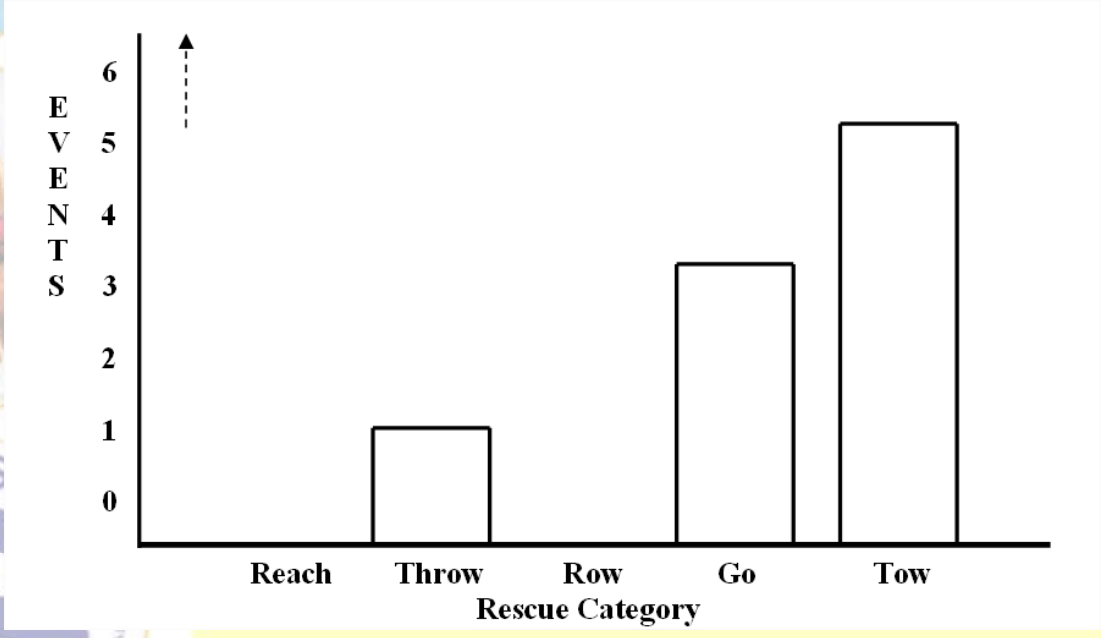


Fig. 2. The frequency of events representing each category of rescue.

Of the five categories of rescues which we generally teach, in the manner described above, the last two categories receive the most attention in competition, i.e. the so called swimming rescues, both with and without a rescue aid. In Fig.2 you see that of eleven possible responses, eight are swimming rescues. Here we also meet a potential conflict. A growing number of national lifesaving agencies have made the decision at the national level, to exclude direct body contact swimming rescues from the lifesaving education of the general public (Fig. 3 below). These are considered a) too dangerous and b) far less necessary than once thought. It is difficult to conceive of a situation in which it is either not possible or not advisable, to use an object of some kind, to avoid direct body contact.

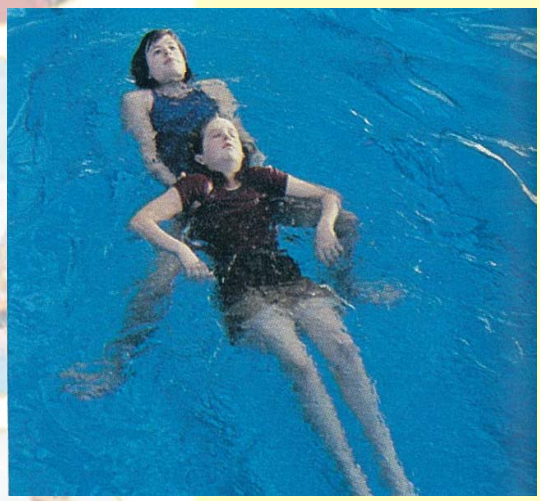


Fig. 3. Direct body contact rescues

Fig. 4. Use of a rescue aid

In executing a swimming rescue, whether using an object between the rescuer and the victim or not, there are well known and long established safety norms which have been advised from well before the turn of the last century, during the period of the establishment of the earliest national life saving societys (from appr. 1885-1914). Of the many outstanding national agencies, their are several which have both long and high quality experience in public water safety education to which we refer. These norms are in most cases, nearly universally accepted. We have intentionally chosen to cite the following where these norms are referred to: The Royal Life Saving Society UK (RLSSUK); The American Red Cross (ARC); The Royal Life Saving Society Canada (RLSSC); The German Life Saving Society (DLRG); The Royal Life Saving Society Australia (RLSSA); The Royal Life Saving Society New Zealand (RLSSNZ). Many others concur.

Recommended safety norms for swimming rescues

In swimming rescues, whether with or without a rescue aid, the following norms are well established and virtually universally accepted:

1. Swimming rescues are the last resort
2. Always use some form of equipment between the rescuer and the victim (casualty).
3. When possible, select a buoyant object for this purpose.
4. Enter the water at the closest possible point to the victim when and if possible, and in a manner safe for the rescuer. Rescuer safety always comes first!
5. Alert bystanders, if present, to assist in some way (**CALL 911!, 112!,** etc).
6. Choose an approach stroke and tempo which recognizes that the needed energy to return may be far greater than that in the approach.
7. Enter and approach in such a way as to allow constant eye contact and verbal contact with the victim.
8. Stop a safe distance from the victim and assume a "ready" position, i.e. reverse and prepare to make contact, and prepare to return to safety.
9. If the victim is conscious, give directions and make contact only when assured that the victim will cooperate. A struggling victim is dangerous, but often ceases to struggle when exhausted or when secured to a rescue aid.
10. Approach to contact from the rear, avoiding possible grasp by the victim, or if using a rescue aid, stop safely distant and extend the aid to the victim giving verbal instructions.
11. Use a transition technique (e.g. the chin pull) *if necessary*, to level off the victim as soon as possible.
12. If using a rescue aid, place the victim in contact with this and secure before beginning to return to safety.
13. Adopt a position and towing technique which:
    a. *allows continual visual overview of the victim and continual verbal contact.*
    b. *provides ease of breathing for both rescuer and victim.*
    c. *maximizes a horizontal body position for both rescuer and victim.*
    d. *allows for a safe distance between rescuer and victim while considering the victim and rescuer as a single physical unit.*
    e. *allows freedom for the leg and arm movements of the rescuer.*
14. Be prepared to start M-M ventilation while in the water, if possible.

Examples of techniques which contravene accepted safety norms

Many claim to suffer eye irritation from the water. It has been shown that far fewer than the number who claim to suffer this problem, actually have irritation beyond that which is normal.

Even fresh water can cause irritation. It is not the typically blamed pool disinfectant (usually chlorine) which might cause irritation, it is the pH of the water. This can be from too much chlorine or too little, or the ambient conditions of fresh or salt water. A pH of approximately 7.4-7.6 closely matches the pH of the fluids of the body (including the eyes), thus causing little or no irritation. Overuse of goggles at a young

age often produces dependency. Among youth and even young adult students, it is common to find persons so dependent that they can swim with goggles but cannot swim without. The mark of one who has achieved water competence, is that no such dependency exists. Especially the lifesaver, must be able to function at optimal levels without goggles. The figures below show with goggles and without goggles.

Fig. 5. With goggles

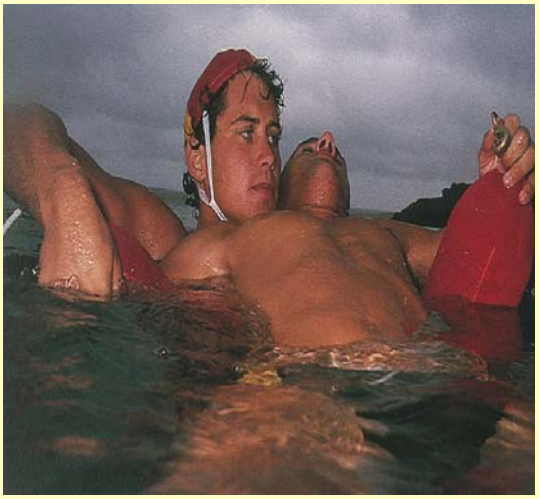


Fig. 6. Without goggles

While in search and rescue operations, a mask is invaluable, goggles are definitely not recommended in a lifesaving context, for at least three reasons; 1) a lifesaver must be able to judge distances and to recognize shapes and sizes under water without assistance, 2) in the event of recovery of a submerged victim, goggles cannot be equalized, thus exposing the eye to possible serious injury (perhaps causing rescue failure), 3) in the close proximity of a potentially dangerous drowning victim, a blow to the face can cause extreme injury to face and eyes. It is quite understandable for example, that goggles are not permitted in water polo.

Fig. 7. Simulated rescue with goggles

Fig. 8. Search & rescue with mask

The use of goggles in competitive lifesaving is both a carry over from competitive swimming and an attempt (conscious or subconscious) to increase efficiency (reduce time), in the lifesaving events. There is no question that goggles are effective in this manner. However, in a real rescue situation, they are dangerous and strongly advised against.

One of the most accepted of rescue safety norms is the need for the maintenance of both visual and verbal contact before, during the entry, during the approach to the victim and while towing. The illustrations below show the start and approach to the victim in the 100 meter mannequin rescue with fins and rescue tube (torpedo buoy/rescue belt). The rescuers start from the start platform with a dive, losing visual contact and thereafter swim 50meters with fins and with the torpedo buoy as shown below. However, the recommended techniques are the stride jump or the slide in entry, protecting the rescuer, providing continual overview of the victim and permitting verbal contact. See Figs. 9 & 10 below.

Fig. 9 Start dive from block

Fig. 10 Stride jump (lifesaving jump)

The approach to the victim is shown below in Figs. 11 & 12. In competition, it is clearly faster to swim with the head down. However, this clearly contravenes the safety norm of maintaining visual contact and allowing verbal contact. Also, the location of the victim must be kept in view, if s/he should sink below the surface during the approach. Verbal encouragement often helps the victim to relax, making the rescue both easier and safer for the rescuer. Safer for the rescuer is safer for the victim. Competent lifesavers and especially professional lifeguards, manage easily to swim with the head up.

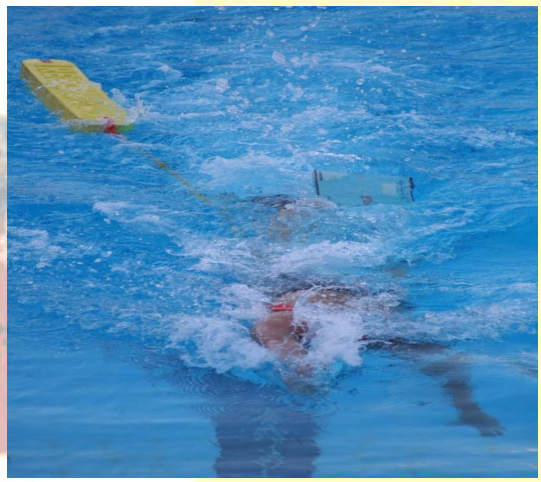


Fig. 11. Approach, head down

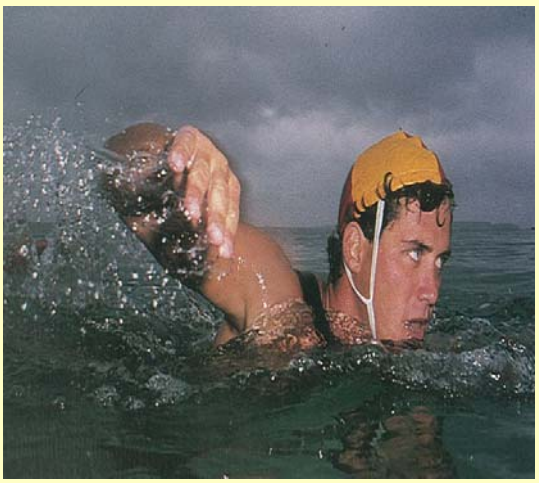


Fig. 12. Approach, head up

In this event, the mannequin is placed at the end of the pool floating in a vertical position, with arms and head above the surface, facing away from the rescuer and held by a team mate. The team mate releases the mannequin when the rescuer touches the wall. The rescuer then fastens the belt around the waist (under the arms) of the victim and tows the victim 50 meters to the finish.

Fig.13. Buoy placed from above, no support

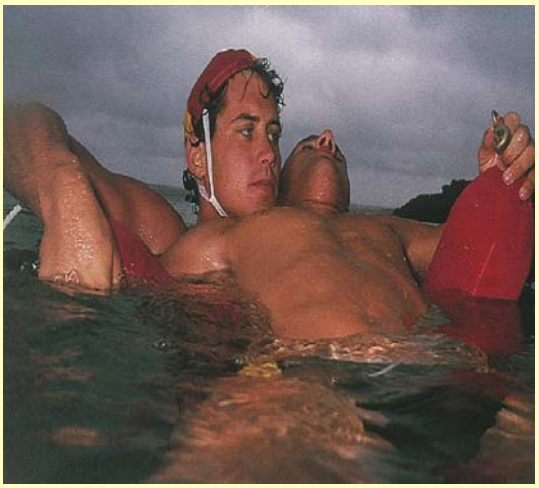


Fig. 14. Buoy placed below, support

In the sequence above in Fig.13 depicting this same event, the 100 meter rescue tow with fins and torpedo buoy, we see the rescuer approaching the victim and attempting to fasten the belt around the waist of the victim to begin the tow. This is at best, a difficult manouver and demands careful attention. Mistakes made here will be compounded later in the rescue. Again, certain techniques adopted here are questionable in light of accepted rescue safety norms. Fig. 14 shows a rescuer who has first placed the buoy on the back of a victim floating face down and

has then rolled the victim onto his back. In this way, the victim is supported and the belt is fastened above far more easily than below (as in Fig. 13).

And lastly, it would be practically impossible for an unconscious victim to float vertically and face up. A conscious victim on the other hand is almost always in a near vertical position. Holding the mannequin in a vertical position implies consciousness while fastening the rescue tube around the victim's torso implies unconsciousness. A contradiction in terms. Also, the unconscious floating victim is usually found with the face/head down and toward safety. One of the key skills for the rescuer who finds the victim in a near vertical position for what ever reason, is to level the victim off into a near horizontal position, ready to move toward safety. Avoiding this situation by having a team member hold the victim in a vertical position, but releasing the mannequin at the hand touch of their partner, allows the mannequin which is partially inflated with air, to assume a position closer to the horizontal with little or no effort by the rescuer, thus denying training on this key transition skill (leveling off the victim).

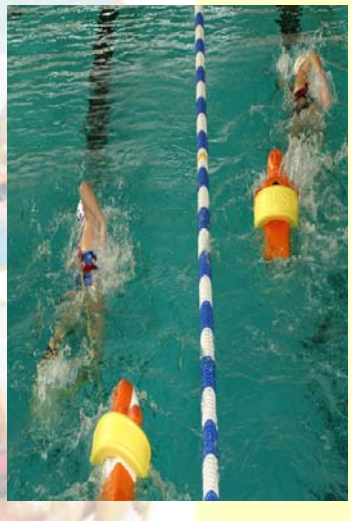


Fig. 15. No overview

Fig.16. Mishap behind rescuer

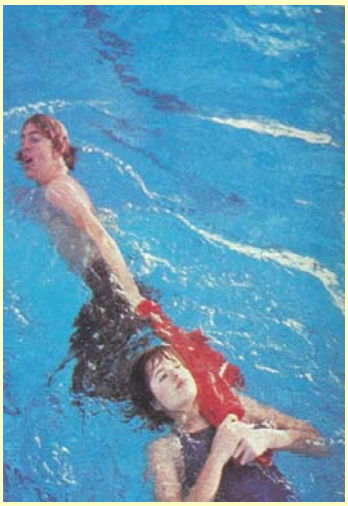


Fig. 17. Easy overview

In completing the rescue we again see that the rescuer has completely turned the back on the victim and has no overview of what transpires behind her (Fig.15 above). The second illustration (Fig.16) shows the rescue belt not only about to slip off of the victim but possibly interfering with breathing. Unbenounced to the rescuer, a dangerous situation for rescuer and victim is evolving. At this stage the victim may well be unconscious but still breathing normally and any interference could cause breathing to cease. Fig. 17 of course illustrates a towing rescue using a rescue aid between victim and rescuer but also with the rescuer lying in a body position allowing both constant overview of the victim and allowing the rescuer to periodically check his view of the destination. ***CONFLICT OF INTEREST?***

The illustrations below, depict the technique used in the 50 meter sprint mannequin tow and in the 100 meter tow with fins. These events are performed by swimming 25 (50) meters first, surface diving to recover the mannequin and then rescuing the mannequin 25 (50) meters. In another 100 meter variation, without fins, 17.5 meters underwater is performed after turning at 50 meters, to retrieve the victim. Figs. 18 & 19 depict contact after surface diving. As seen below in Fig. 18 &19, the rescuer on the left has made contact with one hand while the rescuer on the right has made contact with both hands. The rescuer on the left uses her left hand to assist in the turning process. She will turn faster, but she will have less control. The rescuer on the right will have a slower turn but more control of the victim. Furthermore, it is possible for the rescuer on the right to slightly hyperextend the neck of the victim, potentially opening the airway. The one hand under the neck grip may actually *close* the airway. In a comprehensive study performed in Oslo, examining the details of all reported cases of suffocation (including drowning), in 80% of the cases the victim resumed breathing spontaneously when the airway was opened. It is entirely possible that an apparently unconscious and passive victim who is retrieved underwater can begin to breath on their own, directly after breaking the surface. In other words, an apparently unconscious victim can suddenly become conscious. There is no guarantee that treating a victim as unconscious and passive will provide for the safety of the rescuer. This decision can only be made upon contact when confirming passivity, though remaining alert to any change in status. A logical strategy then is to plan all approaches and carries (tows) as if the victim is conscious and active, until proven otherwise, a kind of worst case scenario. The rescue technique can then be adjusted if necessary to provide easier transport of a passive victim.

Fig. 18. One hand contact, close airway

Fig. 19. Two hands, better control, free airway

To complete this rescue, the rescuer takes a backhand grip on the back of the neck of the rescuer. As this rescue unfolds, the rescuer needs to place the victim in a secure position and position her/his own body preparatory to returning to safety. Above in Fig. 20, on the left, we see that the rescuer has completely lost contact with the victim. This, after retrieving the victim and lifting him toward the surface. In such a case, unless an emergency arises, contact should ***not*** be lost. We also see that the rescuer has started to turn away from the victim. On the right (Fig. 21) we see the rescuer using what appears to be a loose grip on the back of the neck of the victim, not a convincing grip relative to control. By his body position we also see that he appears to be attempting to continue to swim underwater without concern for getting the victim to the surface and air (where as discussed above, he may begin to breath spontaneously). In this event, the rescuer is allowed to do this up to 10 meters from the placing of the mannequin. ***CONFLICT OF INTEREST?***

Fig. 20. Loss of contact (control)

Fig. 21. Ignoring the victims need for air

In all three of these events the mannequin is normally held with a grip under the arm or with a reverse grip under the neck. In each case, the mannequin lies partially on the back of the rescuer. The rescuer swims one arm crawl. An observational analysis of this technique shows several unsafe practices, all of which are strongly adviced against.

First, the rescuer has completely turned his back to the victim and buried his face in the water. A real rescuer would be extremely at risk, having little control of the victim, no overview, reduced distance from the victim, and exposed to attack from a potentially panicked victim. Possible interference of the rescuers kick can result from the position of the victim. Breathing for the rescuer is not optimal as it is only possible to breathe on one side, depending on which arm grips the victim and which is used for swimming. In the case above left (Fig. 22), the victim is not squarely on the back, possibly forcing the face underwater. Visual and verbal contact with

the victim is impossible. One could also question the practice of swimming 17.5 meters underwater after a 50 meter swim (at a high level of effort).

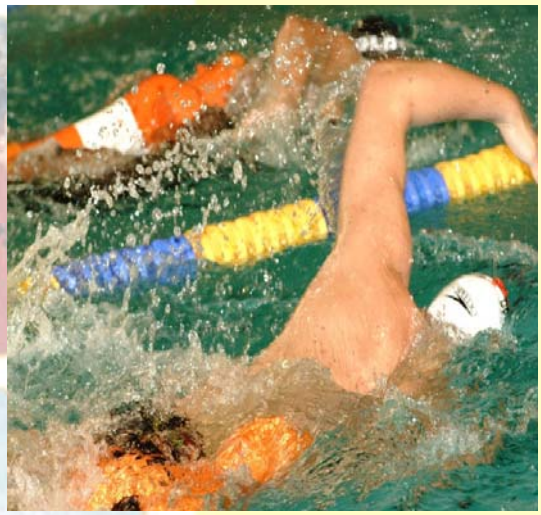


Fig. 22. Victim partially under water

Fig. 23. One arm crawl, no overview

Discussion and Summary

In the interest of reducing the time needed to execute a simulated rescue, a variety of innovations are now practiced. We call them innovations because several have come into use or increased in popularity, only after lifesaving competition had reached the level of popularity it now has. While this popularity is very positive in many ways, some of the innovations are contentious. One of the reasons they came late onto the scene is simply that they have never been recommended or have been strongly advised against in lifesaving education circles. In the above highlighted cases, they directly contravene that which ***has*** been recommended for at least a century. Improved performance has been understood as a reduction in time, at the cost of safety. In some cases, it is painfully obvious that where the rules permit, anything goes.

As lifesaving competition has expanded and been refined, this issue has come up each time decisions need to be taken regarding rule changes or whether new innovations fall within the existing rules. An example of this was the early practice of pushing the victim (mannequin) ahead of the rescuer rather than towing it behind. Today this is not permitted. But other innovations persist or have not been recognized as a contravention of safe practice. In fact, some are now so well entrenched that many believe a) it has always been this way, and b) that these practices are entirely safe. Here an example might be the practice of turning the back to the victim to increase swimming speed without regard to the safety of rescuer and victim. Most national lifesaving organizations have never recommended this as an acceptable towing technique, in any form. Keeping a continous view of the victim is a cardinal rule of lifesaving.

We are at (or maybe past) a cross roads. It is necessary to discover whether in fact practicing simulation of dangerous techniques can transfer to unsafe practices in a real rescue situation. There are strong arguments that it does. This will be a real challenge for researchers and educators. The question can be asked whether constant drilling on such techniques creates a reflex reaction to use these non-recommended techniques in a real rescue situation. And, contrary to the arguments of proponents, many competitors are ***not*** advised that certain techniques should not be used in a real rescue situation. Even worse, lifesaving clubs are becoming increasingly popular within organizations which both practice lifesaving competition – and are involved in the lifesaving education of the general public. Youth in some clubs are never told not to use certain techniques in real life situations and even worse, are never offered alternatives which are safe. Are such clubs really practicing lifesaving – drowning prevention? This raises the serious ethical question of whether or not such organizations really believe in their primary role of preventing drowning by the education of the public in rescue techniques while not giving this dilemma its deserved attention, not reflecting on the consequences of their actions.

At the time of the writing of this paper, the boat rescue in pool lifesaving competition has all but disappeared. It was previously popular but has fallen out of use partly due to difficulties in organizing equipment. It is also rumored that the 200 meter obstacle swim may be omitted because it is not glamorous enough. Both of these events are highly relevant glamorous or not – if we really are concerned about drowning prevention.

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