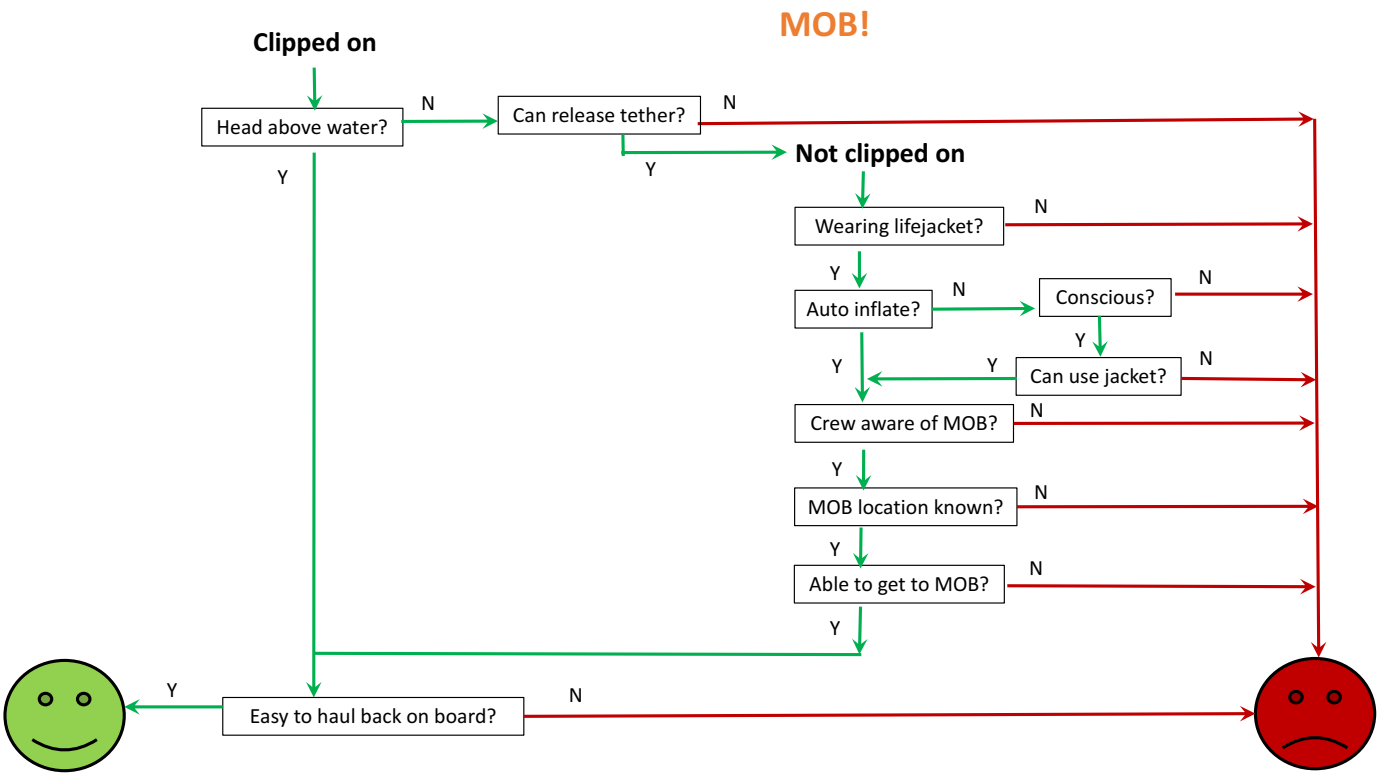
Man Over Board: getting a grip?

By Kim Klaka

When I first agreed to write this article it was going to be about the impact of 21st century technology on Man OverBoard (MOB) prevention and recovery. However, when I sat down and mapped out the MOB process it became clear that what has changed is not so much the technology as our knowledge of what happens. There has been a trend in safety advice towards the promotion of lifejacket wearing and the use of AIS and PLBs to improve outcomes for MOB. I include myself in the group whose thinking had been changing. However, whilst few would dispute the benefits of new-generation lifejackets and beacon alerts, I suggest we are perhaps shining a light in the wrong corner of the room. We need to be looking at tether management and victim haul-aboard techniques.

The risk diagram

Have a close look at the risk diagram below:



It was the process of drawing out this diagram that changed my thinking about MOB and technology. The diagram is a step-by-step guide to what is likely to happen when you go overboard. If your situation follows one of the green paths, you are likely to end up with a happy, albeit wet, outcome. If you end up on one of the red paths, the outcome is likely to be seriously unhappy.

How to stay on the green path

There are essentially two green paths in the diagram:

The simplest and shortest is on the left, where you stay clipped on. The longer and more complicated one is on the right, where you are not clipped on and consequently need many things to be working in your favour.

A brief comment on this longer right-hand path: you very probably need to be wearing a lifejacket to survive. As with almost all safety or emergency equipment, having it on board is only the first step in an important journey. You also have to know how to use it, practice using it, and regularly check that it works. In the report on the fatality that occurred during the 2018 Chicago-Mackinac race, the Chicago Yacht Club found that 10% of the lifejackets used at one of their Safety at Sea sessions failed to inflate. This is not unusual; in 2014 the UK's RNLI conducted inspections of over 6,000 inflatable lifejackets, and found 8.7% of them to be faulty. Most of these failures would have been picked up by regular inspection. So if you are following the right-hand green path, you need to put in the effort to make sure your lifejacket is working.

I won't comment further on the right-hand green path because I am convinced that the best way of staying safe is to follow the shorter, simpler, left-hand green path. That is not say that you should choose one path over the other, they both need to be covered. But it is all about putting in the effort where you get maximum return, and this is where I suggest we have slightly lost direction in recent times. I would be putting most of my effort into staying on that simpler left-hand green path i.e.

- clip on;
- do not dangle in the water if you fall overboard;
- have a means of getting back on board easily.

In my view, that is where our main focus should be.

Tether management

If you stumble on deck and fall, then in order to stay out of the water you almost certainly need to be clipped on, and clipping on has to be a sufficiently easy task to be second nature – nothing much has changed recently about those observations. However, there is now a much greater appreciation of the need to keep your head out of the water if you do fall overboard whilst tethered.

One of the most important and influential changes in our understanding of tethers and jackstays is the *Lion* fatality in 2011, when a MOB died despite being tethered, and the subsequent sea trials conducted by the Practical Boat Owner magazine in 2015. The sea trials involved a weighted rescue dummy wearing a lifejacket, clipped onto a yacht with a standard length tether, being towed at a range of speeds. The sobering conclusion was that your face will be held underwater if the boat is travelling at anything over 3 knots. Think about it: you go overboard on your tether and you are being held underwater whilst your crew try to sort the mess out. The boat will be travelling at well over 3 knots for how long? Most probably long enough for you to drown.

So we need to keep the MOB's head above water.. This can be addressed in two ways. Firstly, use a short tether whenever possible. The downside to this is the difficulty of moving around the deck on

a short tether. That of itself is not a good enough argument to use a long tether, but we need to help make a long tether safer by changing where the tether is clipped onto, which leads us to the second approach. Most boats have, or should have, jackstays running fore and aft for clipping on. Traditionally these have been lengths of webbing running along the side deck. That needs to change; we need to get the jackstays further inboard to get them further away from the water It also helps to keep the tethered person out of the water if the jackstays are either higher up (e.g. from a suitably strong bimini frame to somewhere near the gooseneck) or very low down (e.g. on the cockpit sole). The best solution varies from boat to boat.

Haul-aboard techniques

There is a whole host of recovery systems available, from simple boarding ladders to Jon Buoys and customised recovery sheets. There is not much point in describing them all here because what works for you and your boat will be different from one reader to the next. You must find out what works by practice, practice and yet more practice. Here are a few observations that might help you eliminate some options:

How are you going to attach a recovery hoisting line to the person? Their tether is already taut so you probably need a separate strong eye on their harness, or some other means of attachment. Getting that line attached whilst hanging over the deck edge is extremely difficult; lots of practice is needed to refine the system you use.

Do you have enough power to hoist the recovery line? Definitely not by hand; you need a winch, or a powerful block and tackle, or both. Pulling a fully-clothed, water sodden person out of the water is likely to need more than just a sheet winch and a 4:1 block and tackle. Do you have an electric anchor winch that could be used? Whatever system you end up with, do not underestimate how high you must winch the person. If you are using a block and tackle attached to a halyard or boom, the upper end has to be at least 2m above the deck on most boats.

Where on the boat are you going to do all this? Recovery at the stern can be dangerous in a seaway, but there may be too much freeboard to recover from amidships. Perhaps somewhere near the bow is an option? Every boat and circumstance is different; there is no single textbook answer, you have to find out for yourself.

When you are trying out your recovery system, by all means start out with just a couple of water containers tied together as your “MOB”. But make sure you graduate to pulling a full 100kg-plus mannikin out of the water to make it realistic. Even a lightweight 65kg person can end up weighing nearly 100kg in full water-saturated gear.

Conclusions

- Wear a harness;
- clip on;
- stay clear of the water;
- have a strong, powerful recovery system;

- practice, practice, practice!

Whilst you are doing all that, you should in parallel be checking your lifejackets, PLBs, hand flares etc. and practicing using them. But don't get distracted from the priorities – tether management and the haul-aboard technique.

Further reading

Chicago Yacht Club (2019). "Review Committee Report on the Fatal Accident Involving *Imedi* During the 2018 Chicago Yacht Club Race to Mackinac on July 21, 2018."

Meakins B. (2015). 'Is it safe to use a tether?" Practical Boat Owner, 23 Nov 2015. https://www.pbo.co.uk/seamanship/is-it-safe-to-use-a-tether-25125

MAIB (2012). "Report on the investigation of a fatal man overboard from the Reflex 38 yacht *Lion* 18 June 2011." UK Marine Accident Investigation Branch report 4/2012.

Beeson C. (2016)."How to stay on deck." Yachting Monthly, Summer 2016 edition.