



Helicopter RESCUE

IF A HELICOPTER IS NECESSARY FOR A RESCUE, IS THE YACHT PREPARED TO EVACUATE THE PATIENT EFFICIENTLY AND SAFELY?

A HELICOPTER EVACUATION seems so easy, especially when you consider it on a bright afternoon in good weather. You get your victim ready for the hoist, a helicopter appears, you hook them up and they're gone. But when it's 3 a.m. on a pitch-dark night, the wind is howling and the boat is rolling heavily, it's another thing entirely. "When we lifted people off *Nadine*, it was dark, in big seas, and a lot of wind," says Capt. Mark Elliott. "The yacht was sinking underneath us and it took two helicopters several passes to get everyone. So there's no time to learn about helicopter evacuations at that point."





Courtesy of Hellenic Coast Guard

When to Call for Help

“Just because an owner wants someone evac’d doesn’t mean they will be,” says Dan Deutermann of The Squadron, an international consulting and training group that specializes in helicopter operations aboard yachts. “The Search and Rescue service (SAR) will assess the patient’s condition to see if it warrants an evac, and usually a doctor will talk to the crew.”

The first order of business is to be completely clear when you call for help. Shouting that someone is really sick doesn’t mean anything, so whoever is the medic on board should have a concise summary of all the symptoms, the patient mobility and any other useful input.

Vital signs can save lives, so any details, such as temperature, pulse, blood pressure and even blood type, are important. To help the rescue crew assess the proper rescue method and equipment (horseshoe, basket or stretcher), provide details about whether the victim is conscious and able to walk.

Who Does What?

Once on the scene, the helicopter crew will take charge of the operation, but as several crew-training experts noted, all crew should be aware of the basics of a helicopter evacuation in case their captain or other senior officers are the victims.

In addition, knowing what the helo crew will ask when they arrive can save considerable time. “We’re almost always low on fuel once we fly offshore to a vessel, which limits our time on station to effect the rescue,” says Lt. Leslie Brown, who pilots a Dolphin rescue helicopter for the U.S. Coast Guard. “The more you have done, the faster we can pick up the victim.”

The helicopter flown by Lt. Brown has a range of about 100 nautical miles, which includes going out, hovering for 20 minutes, and returning to a hospital. The larger HH-60 Jayhawk helicopter has a range of about 300 miles, also with 20 minutes on scene, so time is critical.

First Arrivals

For many SAR services around the world, a propeller or jet aircraft may be dispatched to rendezvous with the yacht to help prepare the crew and home the helicopter in for the rescue.

In the case of Coast Guard Air Station Miami, Lt. Brown’s home base, this is often an HC144, a twin-turboprop fixed wing aircraft with an endurance of nearly nine hours. If this aircraft is dispatched, it will orbit the yacht and start pre-planning for the rescue.

Before The Helicopter Arrives

“Once the first rescue call is made,” says Henry Hillier of UK-based crew trainers Marine Matters, “nominate a competent VHF radio operator and do not involve them with other tasks. Without radio communication, it is very difficult for rescuers to assist you.”

Lt. Brown echoes Hillier, noting that, “Communications are the number one most important thing. Our aircraft are equipped for VHF communications and, once we’ve made contact, we usually switch to Channel 22 as a working channel.”

On most yachts, the safest hoist area is going to be obvious and is often near the stern where motion is minimized. The helicopter crew will determine the actual hoist area depending on the superstructure of the yacht, but crew can start preparing the likely areas.



DVIDS © Petty Officer 3rd Class Nate Littlejohn

If deck gear, such as Jet Skis or tenders, can be moved to enlarge the hoist area, now is the time to do it, but don't launch the tenders; it will restrict the yacht's maneuvering. In the case of *Nadine*, Capt. Elliott had to push an onboard helicopter into the sea to clear the deck for the evacuation.

Setting up an area for a hoist means clearing all loose objects away from the gale force rotor wash. This means cushions, even if they are secured with Velcro or snaps, because those can be torn loose by 70-mile-an-hour winds. "Most crews have no idea how powerful the rotor wash from a hovering helicopter can be, but it will pick up anything loose on deck," says Lt. Brown. For that reason, all crew on deck must be wearing PFDs. Antennae should be lowered but, until instructed by the helicopter pilot, don't lower the primary communication antenna, which is likely the VHF. In addition, all rigging, booms and awnings should be secured or removed, and don't forget the flagstaff on the stern.

If the hoist is at night, first aim searchlights toward the sky, because they can be seen at a great distance and will help the helicopter locate the yacht, but these should be doused as soon as the helicopter arrives. Lights should not be directed toward the helicopter because it may blind the pilot; however, the potential hoist area should be illuminated. If there are obstructions in the area, shine a light on them so the pilot will

be aware of their locations.

Identifying yachts from the air can be difficult, and crews can use orange smoke flares by day or red hand-held flares at night. Never use parachute flares during a helicopter rescue.

All crew should be connected via VHF or on-ship comm systems because the noise level under a helicopter will make voice communications nearly impossible.

One final, but very important detail says Hillier, "is to document as much personal and medical information as possible as well as an account of what caused the injuries and the first aid you have performed. All of this must be in writing so it can be used down the rescue chain." If in foreign waters, send the passport as well, and give all this

information to the rescue swimmer. Put this information in an envelope or packet for easy handling.

"The paperwork should include medical records," says Lt. Brown, "including medications and any treatment the victim has received."

Helicopter On Scene

On arrival, the helicopter pilot will direct the yacht captain to steer a specific course and speed, because it's difficult for a helicopter to hover while hoisting. In general, the heading will put the existing wind about 30-degrees off the port bow of the vessel, and the speed will be chosen by the pilot, often 10 to 15 knots depending upon the yacht. Once the hoist begins, this course and speed must be carefully maintained.

In the majority of situations, a rescue swimmer (USCG) or an SAR technician (the rest of the world) will be lowered to the yacht, who will then take charge and manage the evacuation.

Before the rescue swimmer is lowered by winch, a "high-line" or weighted line will be lowered to the deck. This will be attached to the rescue swimmer as he is lowered and the crew should use it to help guide him to a safe landing aboard the yacht.

But, and this is a very important but, anything lowered from the helicopter must not be touched until it has contacted either the yacht or the water because a huge



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amount of static electricity builds up in a helicopter in flight and the charge can knock you out. Military vessels often have a “grounding hook” that looks like a shepherd’s crook with a grounding cable that attaches to the vessel, and this might be a useful addition to the safety gear aboard your yacht.

Once the high-line is aboard, put the weighted end in a bucket and as the line slacks, gather it into the bucket. This will keep the line from being caught on legs. The high-line must never, ever, be tied to the yacht because that could bring the helicopter down. If the aircrew thinks the high-line has been attached, they will cut the line for their own safety and the rescue will have to start over.

Sometimes, the helicopter will drop a “trail line” into the water astern of the yacht, which is then brought on board as it serves the same purpose as a high-line. One crewmember should be delegated to constantly monitor this line, either taking in slack or easing it out. You don’t want the line to get tangled on gear or dropped into the water near the propellers.

The Hoist

The patient should already be near (but not in) the

hoist area (once the helo pilot has chosen the lift area). Depending on the condition of the victim, the helicopter may lower a stretcher without the rescue swimmer. The patient should be strapped in as quickly as possible, face up, and must wear a lifejacket unless their condition absolutely prohibits it.

If, for some reason, you do not have radio contact with the helicopter, signal you are ready for the hoist by giving a thumbs-up or with a flashlight if at night.

As the hoist begins, use the high-line or trail line to steady the rescue device during the hoist, and be extremely careful to keep your feet clear of the line.

If the patient is being lifted without a rescue technician, be sure they keep their hands inside the stretcher or basket because the natural instinct is to hang on and that can cause injuries as the hoist nears the helicopter.

Helicopter Evacuation Training

During Marine Matters training, Hillier notes, “We work with a Coast Guard helicopter on all our RYA Yachtmaster courses so that students get the real-life experience of the noise and proximity of the helicopter and the problems this causes for communication.” He adds that RYA shore-based training can provide good basics on helicopter rescue.

John Wyborn, training director of UK-based Bluewater, says, “We include helicopter evacuation training in our MCA Advanced Sea Survival for Yachtsmen course. This is half in the classroom and then, on our training yacht, the preparations and precautions for heli-evacs are explained and rehearsed.”

Do It Yourself

Training for a heli-evac is both costly and difficult to arrange, so most crews will need to set up their own training programs. The U.S. Coast Guard offers several useful pamphlets and information sheets, and these can be used as the basis for training.

“Ask any yacht crewmember exactly where on board their yacht is the best place for winching up a casualty in a high-line transfer and you will gain an important insight into the safety culture of that yacht,” says Wyborn. “Does he or she know what it is? Do they know what locations have been considered for this operation? Is it part of the yacht’s emergency response organization? Have they ever drilled it?”

When a vessel at sea requires a helicopter evacuation, lives depend on advance planning and knowing the right procedures because one mistake can endanger the yacht, the helicopter and all involved. If the emergency were to happen, is your yacht ready for a helicopter evacuation? ■