

Capt. Schwartz Cruising and Sailing Yacht Safety Talk

My definition of Safety:

Ability to end a cruising adventure according to plan & without adverse consequences!

We achieve the above by preventing & solving all problems & overcoming all emergencies

Safety is divided into major categories:

1) Yacht Safety

- A. Crew Onboard
 - i. Prep
 - ii. Standard Operation
 - iii. Emergency Operation
- B. No Crew Onboard
 - i. Yacht Readiness
 - ii. Marina
 - iii. Anchor/Mooring
 - iv. Unauthorized Boarding

2) Crew Safety

- A. Physical
- B. Medical
- C. Mental
- D. MOB

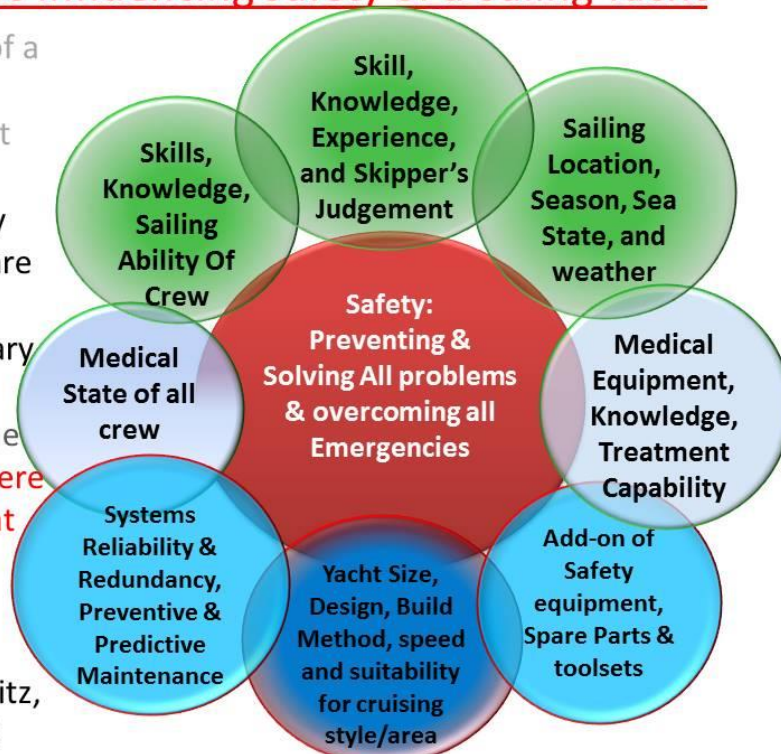
As the above major categories do intertwine, interact, influence, and impact each other. I will dive deeper and list all of the sub categories of Yacht & Crew safety to increase awareness and stimulate thoughts on Safety.

***Note:** Please provide me with your thoughts on this list and feel free to add/delete whatever you feel contributes to the safety of the yacht and crew!

Factors Influencing Safety of a Saling Yacht

“But the degree of a ship's danger is progressive and at the same time indefinite... safety and fatal hazard are not separated by any sharp boundary line, but shade gradually from one into the other. **There is no little red light which is going to flash on...**”

Admiral C.W. Nimitz,
13 February 1945



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1) Yacht Safety

A. With Crew on board

- i. Prep:
 - Weather (Current & Extended, Methods for on-route weather forecasts)
 - Routing/Navigation
 - Sea Conditions (Channels, Bays, Tide Flood/Ebb and current strength)
 - Shipping lanes/traffic (Radar, Lookout, Use of AIS, Transmit VS. Receive only)
 - Route GPS points entry (A pre-defined process of entry/validation/verification for all routes)
 - Piracy hot spots awareness (Look at Noonsite and Caribbean Safety Net)
 - Food planning / Water planning (Minimum quantities requirements per passage)
 - Crew Yacht Familiarization/Education (Getting the crew to understand Yacht Systems, Std. & Emergency Operation)
- ii. Standard Operation
 - Life Cruising (Sailing philosophy of this yacht)
 - No Drugs (Yacht will be confiscated if drugs are found onboard! No one can operate a yacht safely under the influence of drugs or alcohol)
 - No Drunks (No drinking while sailing, Alcohol allowed only when safe at Marina or on Anchor)
 - Watch system
 - Purpose (So everyone else can sleep safely – Collision avoidances, Sail Mgt. Maintain Speed & Direction based on Sea-State and Weather)
 - Type & Duration (How many crew, how long the watch)
 - Watch Activity definition (360 view, Radar, Steering, Log entry, Sail Management, Auto Pilot, AIS)
 - Sails (Day VS. Night operation)
 - When/How to set (Line management, Winch operations)
 - Tack or Gybe (When to Tack & When to Gybe, Potential Danger, Safely & use of Preventer, Boom Break)
 - Adjust (How, When)
 - Reduce (When – set rules for wind speed and sea-state)
 - Tune for speed (What are the variables, How to Tune)
 - Squall Preparedness/Sailing (Use of Radar for identification/location/movement)
 - Yacht steering
 - Crew Manual helm handling
 - Wind Vane use
 - AutoPilot setup and use
 - AutoPilot error recovery
 - Communication
 - On Yacht (Day to day Crew and Skipper, Emergency - All hands on deck signal)
 - Ship to Ship (AIS, VHF, SSB, Hand Signals, Flags, Flares, Smoke, ETC.)
 - Ship to Shore (Family and friends update, Satellite Phone, Weather forecast, Tracking, Float Plan)
 - Engine
 - Inspection process – Periodic checking (Belts, Oil level, fuel filter/water separator)
 - Starting – Safe step by step process (Oil level, Fuel valve open, Shaft lock open, Water cooling seacock open, Water out of Exhaust, Oil pressure)
 - How to run & monitor (Temp, Oil pressure, Sound, Vibrations)
 - Anchoring Inspection and setup process (Where we anchor – far enough from nearest yacht to avoid problems if wind change or anchor dragging. Set with right scope based on Sea-State & Wind. How many anchors we set)
 - Swivel & Chain
 - Windlass (Up and Down testing)
 - Flex Bridle (With all chain, in order to allow elasticity we add a Nylon Rope Bridle)
 - GPS Anchor watch setup (Radius, Start point)
 - Dingy
 - Operation – (Kill switch, Fuel tank cover from sun, Navigation lights)
 - Security ashore – (Outboard lock, Dingy Chain & Lock, Aft anchor use, No TT/Yacht name on Dingy)
 - Security overnight – (Chain, Lock, Lift onboard.)

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- Fishing
 - Equipment required (Where stored, where/when used)
 - How to (Safe handling of sharp hooks and their storage)
 - Fish cleaning/cooking (Which fish is poisonous, which is good to eat)
- Cooking
 - Propane Vs. Diesel or Electric
 - ❖ Leak Detection (Propane Gas Sensors)
 - ❖ Explosion prevention (Solenoid control on Propane supply, Enclosure with vent/drain outside the hull.)
 - ❖ Fire Detection & Suppression (Temp & Flames sensors, Extinguishers, Fire Blankets.)
 - Burn prevention (Safe work, and potential treatment)
- iii. Emergency Operation
 - Storm Tactics
 - Reduce Sails (When and how to do)
 - Heave to (When and how to preform)
 - Storm Sails (When, Where stored, and how use)
 - Sea Anchor (When, Where stored, and how to use)
 - Drogue (When, Where stored, and how to use)
 - Emergency situation communication
 - On Yacht (All hands on deck signal)
 - Abandon Ship process (Who declares it, Grab Bags, LifeRaft deployment)
 - EPIRB Activation (Who activates it and how, Other Shore notifications – SPOT & Delorme)
 - Ship to ship (VHF DSC, AIS, Pan-Pan, Mayday, SOS, Flares, Smoke, Hand Signals)
 - Emergency Steering
 - Use of Sail, (To balance and steer yacht)
 - Use of Emergency rudder (Location, method, practice)
 - Use of makeshift rudder (Drogue, Oar)
 - Fire on board –
 - Fire extinguishers Type, Size & Quantity (Use based on fire type: Solid, Liquid, Electrical)
 - Fire extinguishers inspection (Checkup, Maintenance, Replacement)
 - Fire extinguishing operation (Blankets VS. Extinguishers. Do not use water for Fuel/Oil or Electrical based fire!)
 - Hull breach –
 - Hull breach type identification & reaction (Location, size, how to reduce amount of incoming water)
 - Pump Operation (Electrical/Mechanical/Hand)
 - Sinking/Abandon ship (Declarations – Skipper, Life raft operation, Abandon ship bags)
 - Unauthorized Boarding
 - Robbery Preparedness (Boarding identification methods, Valuables hideouts, Passport, Required Medications)
 - Reactive operations (Actions to protect lives and deter invaders)
 - “Sacrificial Valuables” (What we can give invaders upon demand...)

B. Without Crew On Board

- i. Yacht readiness for marina, mooring and anchor situations
 - Safety equipment requirements (Bilge water level alarm, Automatic Pumps, Fenders, Noise makers)
 - Alarm systems (Auto detect flood lights, Visual yellow/red strobe lights & Sonic boarding alarm)
- ii. At Marina –
 - Line management (Length considering tide, Strength, Proper utilization/location, current, wind)
 - Protection (Boarding prevention – Gangway up)
 - Fenders (Size, Location placement, Tie point strength)
- iii. On Anchor/Mooring/rafting – (GPS anchor alarm, Wind speed alarm)
- iv. Theft – (Alarms, Lights, Noise.)

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2) Crew Safety

A. Physical

- i. Above Deck:
 - Inflatable Life vest (locations, Use)
 - Lifeline (locations, Use)
 - Safety Harness (locations, Use)
 - Heavy/Light Equipment secure/tie-down (Fenders, Dingy, Surf Boards, Outboards, Boxes)
- ii. Below Deck:
 - Steps & Obstacles
 - Hand Hold (locations, Use)
 - Stability (Understanding)
 - Movement (Warnings from crew at helm, Potential Issues based on Sea-State)
 - Equipment/Provisions storage/secure/tie-down (How, When, Who: You Use => You Secure)

B. Medical

- i. pre-conditions (Need to inform Skipper and have treatment procedures and medication on board)
- ii. Yacht Medical Kit (Medicines, Medical supply, Stetoscope, Blood Pressure Monitor, Defibrillator)
- iii. Insurance (Including airlift to home country – i.e. DAN type insurance)
- iv. Sea Sickness (Prevention options, Treatment options)
- v. Sunburn protection (Prevention options, Treatment options)

C. Mental

- i. Expectation setting
 - Skipper/Crew Interview (Sailing/Cruising philosophy review/discussion)
 - Crew agreement (Sign a crew agreement prior to boarding)
 - Smoking only above deck downwind (Reduce fire danger, No smoke/small is left on yacht above or below deck)
 - Crew on boarding process (Yacht walk through, systems & safety review)
- ii. Good interpersonal communication
 - Skipper to crew feedback (Skipper convey the right amount of information to a crew about a task at hand. Giving enough information and guide to perform the task safely while not giving the crew a feeling of inadequacy)
 - Crew to Skipper feedback (Crew freely provides feedback and thoughts about life/safety issues)
 - Overall open, direct, respectful communication between all on board. (Good communication is vital in avoiding and solving emergency situations)
- iii. Safety enhancing behavior on board (Everyone operates at 100% on the yacht)
 - No Drugs on board! (It reduces mental response capability. Potentially could introduce mistakes into standard operations. This is illegal and a reason for a yacht seizure by authorities!)
 - No alcohol while sailing (It reduces mental response capability. Potentially could introduce mistakes into standard operations. One or two drinks at marina or on anchor are OK as long as **nobody gets drunk!**)

D. MOB

- i. Avoidances
 - Inflatable life vests (Use of Crouch Strap, Integrated or independent harnesses)
 - Lifeline & Tethers use (Double ended safety Tethers)
- ii. Identification (MOB process for alarm, MOB watcher)
 - Electronic alarm (AIS MOB device, PLB use)
 - Visual Identification (Sound alarm, MOB marker activation, Initiate MOB process)
- iii. Remediation (The best way to safely recover the MOB)
 - MOB Marker (Use of Pole device and Life-ring)
 - Maneuver (How do you safely get back to the person in the water, options, with/without power)
 - Retrieval (Position the yacht next to MOB)
 - Climb/Lift On-Board (Use of Ladder or a lifting device for an unconscious person)

IMHO everything on a yacht has potential to impact the safety of the yacht and her crew. Be aware, make up your own mind and be careful out there ;-). Sailing and cruising is fun provided that you are safe!