The topside environment is one of the most dangerous places onboard surface ships. Hazards include falling overboard, working aloft, operations, weapon systems, ladders, small boats, ...and the list goes on. The price of not maintaining situational awareness can cost your or your shipmates’ life. Having a sound understanding of the hazards in the topside environment and associated safety standards is crucial. Remember that these hazards do not discriminate based on age or rank. Safety is everyone’s responsibility; so if you see something say something, everyone is a safety observer.
Lifelines, Life rails

Both external and internal lifelines and life rails represent some of the most important safety related equipment onboard a ship.

Lifelines are one of the most overlooked safety discrepancies onboard ships.

41% of all ships assessed by the Naval Safety Center had either external or internal lifeline discrepancies.

The most identified discrepancy over the past 3 years was related to missing or incorrect hardware.
Mishap: 30JUN16

Service member falls inside a cargo weapons elevator on board the USS Kearsarge, causing permanent disabilities

Event: Working party assembled to move hazmat drums from cargo weapons elevator to a connex box on the pier.

Incident: Service member assumes roll of pallet jack, slips between platform and skip box opening and falls.

Investigative discoveries:

• A life rail stanchion guarding the skip box entry point was broken and missing from its intended position
• No safety brief was conducted prior to evolution
• Safety Observer was not PQS qualified
• AUXO was not educated or aware of elevator program responsibilities
• Cargo elevator failed its spot check two months prior due to lack of proper lighting
  • Lighting was not fixed at time of incident
• A zone inspection had not been conducted in the space for three quarters

Conclusion: Had the life rail stanchion been in place, and proper safety measures been taken, this incident could have been prevented. The fireman apprentice had been onboard for 17 days.
It is EVERY Sailors’ responsibility to fix discrepancies

It is imperative that ALL HANDS aggressively pursue lifeline deficiencies

• Proper hardware makeup
• Proper installation
• Properly attached temporary lines
Maintain Correctly

Follow the Maintenance Requirement Card (MRC)

- The Planned Maintenance System (PMS) cards, GSO, and NSTM 600 are very clear on specifications for lifelines

Use the proper tools and equipment

- Maintenance Index Page (MIP) 6121 titled Rails, Stanchions, and lifelines provides the requirements for exactly what hardware is needed to properly maintain lifelines

Stay on track, don’t fall out of periodicity

- All lifelines shall be fabricated and weight tested using NAVSEA drawings 804-5184115 and 804-5959308. These blueprints spell out the correct type and size of all required hardware
Flight Deck Safety

✓ All personnel are responsible for safety while operating on the flight deck

✓ Complacency leads to aircraft and personnel casualties

✓ Do the right thing every time
Mishap: 30DEC15

- An aircraft technician, on board the USS Harry S. Truman, failed to secure the nose cone on an E-2C Hawkeye while performing LOX maintenance. During flight deck operations a MH-53 Sea Dragon took off after a delivery, blowing the unsecured nose cone of the E-2C Hawkeye up.

- The aircraft sat in the hanger bay for 3 months receiving depot-level maintenance. Meanwhile, the squadron had to carry out a deployment with one less aircraft and fewer service members.

- One technician’s complacency cost the Navy man hours and expensive repairs. A breakdown of communication prevented the required maintenance from being completed correctly.
Flight Deck Safety

Wear ALL Personnel Protective Equipment

• Flight deck helmet
• Double hearing protection
• Goggles
• MK-1 float coat
• Flight deck boots
• Flight deck jersey
• Fire retardant gloves

Take part in all foreign object damage (FOD) walk downs, every piece of debris can save lives and aircraft repair costs
Situational awareness is the key to survival

- Pay attention to your surroundings
- Keep your head on a swivel
- Pay attention to flight deck status
- Don’t walk near aircraft with engines turning
  - Avoid walking in front of jet intakes (25 ft) or behind exhaust (150 ft)
  - Don’t walk close to turning propellers
- Don’t linger on the flight deck, especially if you don’t have a role in operations
Ladder Safety

Ladder injuries were the single most significant contributor to lost or reduced effective work time in FY 2017

TIPS
- Take one step at a time
- Do not slide down a ladder
- Practice three points of contact
- Look ahead, watch where you are going
- Police one another for safer ladder transitions
- Walk with your whole foot on the step, not your heals or toes
- Ensure all doors, latches and scuttles are secure before transiting

Types of Injuries related to falls
- Fractures and sprains
- Dislocations
- Blunt force trauma
- Scrapes, cuts or bruising
Ladder Safety

Information, graphics and statistics based on data collection from 01OCT16 through 01OCT17

296 MISHAPS Reported related to Ladder usage

85% of falls occurred while Sailors are descending a ladder

4,000: the number of man hours lost or reduced as a result of a ladder related mishap

Sailor activity at time of fall

Ladder Conditions
A 2018 mishap reported from the USS Jason Dunham involved a fatality
One sailor fell out of the boat, struck the propeller causing fatal injuries

2009 USS San Antonio reported loss of life while conducting small boat operations
Three sailors flipped into the water, one drowned due to improper fitting life preserver

The number of the Small Boat mishaps reported, resulting in 2 deaths, 57 days of hospitalization, 118 lost work days, and 197 days of light/limited duty
There are many risks while working in and around the small boats. Personnel injury is common especially during launch and recovery of the craft.

Four of the most common oversights that lead to mishaps:

Lack of situational awareness
  • Personnel not paying attention and hit their body against something

Underestimating boat’s movement
  • When craft accelerates, turns, or decelerates a Sailor does not expect the inherent forces to cause them to hit the boat or go overboard

Underestimated sea conditions
  • The coxswain may drive too fast, improperly, or too aggressively for existing conditions

Procedural training violations
  • Mishaps occur because personnel knowingly violated a procedure or did not perform as trained
In the past 10 years, there have been 31 MOB events involving United States Navy vessels and their associated small boats resulting in 3 deaths.

A MOB can happen at anytime:
- In port or at sea
- During Routine operations or special evolutions
Man Overboard

Activity - # of MOB
- Small Boat Ops - 12
- Independent steaming - 7
- Personnel Transfer - 5
- Flight deck operations - 3
- Underway replenishment - 1
- Towing evolution – 1
- Well Deck Ops – 1
- UNREP Ops - 1
Man Overboard

Treat every drill as if it's a real event
  • Attend every face-to-face muster
  • Know where all life rings, dye markers, and flares are located

Slow is smooth, smooth is fast
  • Routine training helps cut down recovery time and improve confidence

Every sailor has a critical part to play during MOB
  • From launching the RHIB
  • To the bridge watch maneuvering the ship
  • To the search and rescue team entering the water
Water Survival

In the event that you may fall over the side:

• Remember to breathe
  • Avoid hyperventilation by controlling your breathing
  • Take longer deep breaths, not shallow short breaths
  • Individuals have drowned due to breathing in water, even when they were wearing a life preserver that held their head above water

• Relax
  • You are able to think rationally with a calm mind
Water Survival

Stay afloat
- Personal flotation device (PFD)
- Clothing inflation
- Body weight float
  - Survival or back float

Maintain body heat while submerged
- Key heat loss areas are the head, sides of the chest, neck, and groin
- *(While wearing a PFD)* cross your ankles, draw your knees close to your chest, tuck your arms close to the sides of your body

Tread water
- This action allows the swimmer to orient themselves to land and assess their surroundings
Personnel Protective Equipment (PPE)

Float coat, Rubber ducky, Kypok, Abandon ship’s or vests, life preservers must be worn “topside where the potential exists of falling, slipping, being thrown or carried into the water” – OPNAVINST 5100.19E

Full body safety harnesses and safety lanyards, and double locking snap hooks are mandatory for personnel working aloft, or over the side

Hard hats with chin straps must be worn when overhead hazards and risk of falling objects from above exists

Reference the glove matrix for the appropriate wear and use for gloves

Eye protection is mandatory in most topside evolutions: safety glasses, vented or non-vented goggles and face shields to name a few
The effectiveness of life preservers can only be assured if maintenance is properly completed when required.

Always check the life preserver before each use to ensure it has all of its components:

- MOBI
- Sea dye
- Firefly
- Whistle
- Clean from stains and paint
- Working clasps
- Tight and non-frayed straps

Maintenance is a ship responsibility, not exclusively a “deck department” responsibility.
Life Preserver Maintenance

Common fleet-wide hits:

- Zip ties for MOBI installed incorrectly
- CO2 cartridges not tightened
- Incorrect seizing on CO2 actuator
- DMLs missing locking devices
- Incorrect line used for whistle attachment
- Expired batteries, or no date on batteries
- Missing Velcro
- Significant paint and stains
- Maintenance not completed in accordance with the PMS
Respect the DANGER circle

• Danger Circles Restrict Personnel movement close to or around a potential deadly piece of equipment
  • Gun mounts
  • Missile launchers
  • Antenna
  • RADAR equipment

• Danger circles protect personnel from radio frequency hazards and potentially lethal equipment movement

• Sailors are ONLY authorized to work equipment inside the circles WHEN:
  • They have the appropriate NEC, certification
  • The equipment is powered down and safety tagged

• NEVER ASSUME IT IS SAFE TO WALK INSIDE THE CIRCLE!

Mishap: 23NOV11
Service Member was killed onboard the USS Essex. They were sitting below the NATO Sea Sparrow Missile Launcher (inside the danger circle) while maintenance technicians negligently operated the launcher, killing him.

Complacency and Lack of oversight killed the First Class Petty Officer. It was ship culture to leisurely hang around the danger area. What's worse, is the lack of safety failsafe's the Sailors’ overlooked while operating the machinery.
Hearing Conservation

Prevent Noise Induced Hearing Loss (NIHL)

- Limit your exposure to harmful decibel levels
  - Turn down the volume
  - Distance yourself from noise source
  - Wear protective gear, correctly
  - Reduce the time you are exposed to harmful levels

- Get checked out routinely
  - Don’t avoid the hearing test!

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