10 Types of Personal Injuries Seafarers Must Be Aware Of

Getting injured or hurt while working on ships is very common. It's hard to find a seafarer who hasn't been through an accident and hurt himself. A recent report conducted by a maritime organization states that more than 70% of personal injuries take place because of sheer negligence and failure in following safety procedures.

Injuries on ships ranges from minor to the most gruesome types; some even leading to fatalities. Though seafarers are aware of these injuries, most of them tend to ignore safety procedure. However, in order to ensure one's personal safety, along with safety of the ship and its crew, it is imperative to remember some very common personal injuries while working on board ships.

1. Eye Injury

Protection of eyes is of paramount importance while working on ships. Shipboard jobs such as welding, chipping, painting, and working with hazardous material such as oil, chemicals etc. pose great danger to the eyes of ship personnel. Appropriate googles or protective equipment should be worn while carrying out such jobs.

2. Hand and Foot Injury

Working on ships requires handling hot and sharp objects. A variety of gloves are used to protect hands of the seafarers; however, several accidents have occurred in past because of using loose or wet/oily gloves. Hand injuries have occurred because of accidents due to trapping of gloves on drum ends or machinery, slipping of objects, loss of grip etc.

Moreover, inappropriate footwear such as sandals and flip-flops give little protection to feet from falling loads, hot work and hazardous materials. Such inappropriate footwear can also lead to trips and falls. It is therefore important to wear proper personal protective equipment for protection of hands and feet.

3. Injuries from Falls and Trips

Injuries due to trips and falls occur due to slippery floor, oily surfaces, openings in the floor, tool/ spare parts lying on floor etc. Accidents because of falling from heights, tripping off the rails, and slipping over ladders have also been commonly reported in the past.

4. Head Injury

Head injuries are caused due to failure to duck, when stepping over coamings etc. and thus hitting the head on the door frame or bulkhead. Such injuries can also be caused while working on machinery systems or due to slipping and falling. Make sure you are wearing helmets all the time while working or entering confined spaces.

5. Injuries from Deck Operations such as Mooring and Cargo Handling

Working on decks during mooring and cargo operations provide the circumstances for potentially serious accidents. Seafarers should never stand in a bight of a rope or near a rope under tension. Also, while handling cargo operations, all safety precautions should be followed.

6. Burns and Scalds

Burns and scaldings are commonly caused by hot pipelines, steam and fire. They are also caused by shocks from faulty electrical equipment. Hot oils, steam, chemicals and similar hazardous materials should always be handled with care to avoid such accidents.

7. Injury from Electric Shock

Unattended electrical connections and exposed wires can lead to fatal accidents on board ships. Seafarers should be extremely careful while handling electrical connections and no electrical equipment should be handled without proper knowledge or assistance. Moreover, personal electrical equipment shouldn't be connected to the ship's electrical system without the permission of a responsible officer.

8. Injury from Misuse of Tools/ Machinery/ High Pressure Equipment

Injuries can occur due to misuse of tools or while not following the correct procedures for operating machinery systems. Moreover, not using the correct tools, unattended machinery, and incorrect methods to use tools also leads to injuries. Failure in using protection when handling high pressure equipment can also cause serious injuries.

9. Cuts

There are several sharp equipment and tools on ships. To avoid cuts all these tools should be handled with care and must not be left lying around where someone may accidentally cut themselves. Broken glasses, grinders and sharp knifes / tools should be properly disposed or stored in secured places to avoid cuts.

10. Back Injury/ Manual Handling

Injuries due to strained muscles are common on board ships. Manual handling of loads leads to several back injury to seafarers. Heavy loads shouldn't be lifted alone. Manual handling injuries can be avoided by using the right technique to lift loads.

Foot injury from overconfidence on stairs

Walking on stairs is something that everyone does multiple times on a daily basis. When doing so we should never be complacent, or over confident just because we do it all the time.

This unfortunate injury demonstrates how easy an injury can occur when undertaking such a routine activity. Whether we are walking on the stairs in the accommodation, on deck, or in the engine room, the same approach must be adopted.

INCIDENT DESCRIPTION

- The IP twisted his ankle whilst walking on the stairs between decks in the accommodation block.
- The IP was wearing closed footwear, and he was alone at the time.
- Following examination by a doctor on shore, it was confirmed a bone was broken in his foot.

CAUSES

- The IP used one hand at the railing walking up but he did not place the whole of his foot on the step.
- The IP was overconfident when walking on the stairs and didn't focus on where he was placing his feet.

ACTION REQUIRED

- Walking on stairs is to be taken with the same approach to every other task we do on board, which is; focus.
- Take your time, there is no need to hurry.
- Maintain 3 points of contact at all times and look where you are placing your feet.

Correct way of going up and coming down the stairs.

Serious injury as a result of mechanical failure

IP sustained two broken bones in his hand when an I-Beam trolley failed and fell down hitting his hand. The investigation found the I-Beam trolley failed as a result of higher forces generated in the lifting arrangement by a stuck cylinder head.

INCIDENT DESCRIPTION

- The maintenance task involved the lifting up of an auxiliary engine cylinder head for the renewing of leaking O-rings
- The work team consisted of three people, the IP and two others.
- A job package had been prepared complete with safe job analysis and Toolbox talk.
- All connections to the cylinder head were removed.
- The lifting arrangement consisted of the lifting tool, the chain block, the shackle, the I-beam trolley, and the I-Beam.
- The auxiliary engine had recorded 21000 running hours.
- During the lifting the cylinder head became stuck.
- After repeated heaving on the lifting chain during the lifting process, the trolley failed and fell down together with the chain block, bounced on the cylinder head and then hit the IP's hand.

CAUSES

- The immediate cause was the failure of the I-Beam trolley which subsequently became the weakest link in the lifting arrangement when forces were increased as a result of the stuck cylinder head.
- The root cause was the inappropriate choice of chain block. The 3t chain block provided the ability to exert greater forces on the lifting equipment. The cylinder head weighed 750kg and had a 1 ton chain block been used, the crew would not have been able to exert further pull when the cylinder head became stuck.

Indirect causes included;

- An inadequate safe job analysis which did not identify the hazard of the increased force on lifting equipment that can be generated from a stuck load and the subsequent risk of one of the lifting components failing as a result.
- Inadequate Toolbox talk which was generic in nature and assumed familiarity with the lifting procedure.
- Failure of transfer of knowledge from a previous similar incident on same vessel when the I-Beam trolley deformed without falling.

ACTION REQUIRED

- Vessel management are requested to inspect the condition of I-Beam trolleys in use in the Engine Room paying particular attention to the side plates to identify signs of deflection. Should there be any sign of deflection, the side plates are to be repaired (if possible), or the trolleys replaced.
- Vessels are requested to review the safe job analysis and Toolbox talks for this particular task to include the hazard of exceeding SWL of all lifting components and to implement the appropriate controls.

- As part of the review of the safe job analysis and Toolbox talk include, in the event of the cylinder head becoming stuck, a jack is to be used to release the cylinder head rather than continuing with the use of a pulley. Once released, the pulley can then be used to raise the cylinder head.

Multi - Tasking

The pictures are reconstructed however reflects the actual work area and arrangements used for the job.

INCIDENT DESCRIPTION

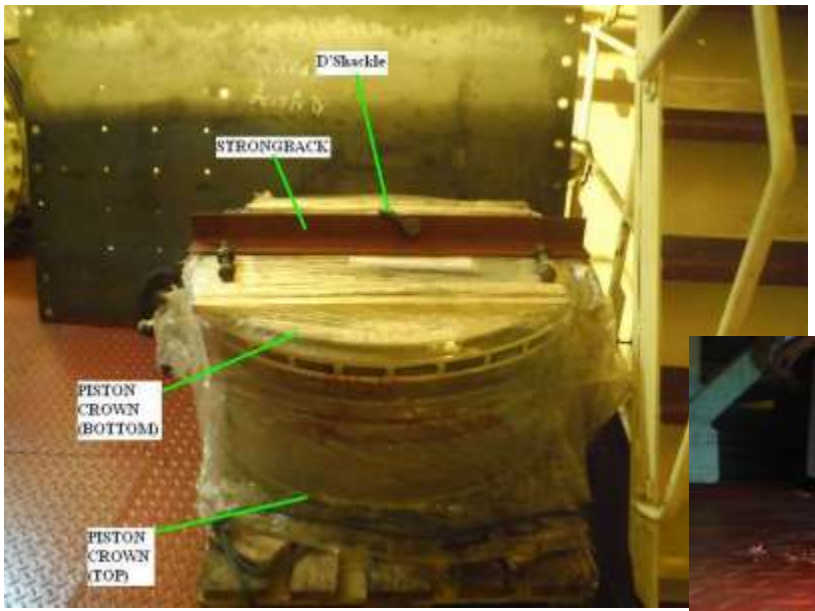
- Re-conditioned Piston crown received from workshop was stowed in an upside – down position.
- While turning crown around to lower onto the lifting gear – IP's finger got pinched between lifting gear & deck plate as the crown was lowered.
- IP suffered severe laceration & lost the tip of his right hand middle finger.

CAUSES

- Multi-tasking led to loss of situational awareness – Personnel operating the crane remote control was simultaneously engaged in bolting one side of the lifting tool.
- Inadvertent lowering operation of the crane while IP was bolting the other side.
- Uneven distribution of weight – shackle used for lifting was not in the center, causing crown to tilt towards IP.
- Surface preparation – wooden blocks were not used to land the crown.

ACTION REQUIRED

- Utilise team members efficiently & delegate tasks to maintain focus.
- Ask before operating cranes – ensure personnel are clear at safe working distance.
- Lifting points should be concentrated towards center of the weight for symmetrical balance.
- Use wooden blocks of sufficient height – it facilitates even weight distribution & eliminates pinch points.
- Avoid inadvertent operations - Activate 'STOP' on crane remote when not in use.



Finger injury - Failure to follow instructions

The picture is reconstructed and reflects the actual area and body position of IP at the time of injury.

INCIDENT DESCRIPTION

- IP along with Person A were assigned the task of unlashing outboard container during the river passage.
- Person A lost control of the long bar as soon as it came loose from the container socket.
- IP stepped in and caught the long bar to assist Person A in regaining control of bar and prevent from going overboard.
- As the long bar tilted further into horizontal position, the right hand ring-finger of the IP got crushed in between the long bar and a sharp edge of a container locking-bar. This resulted in a deep cut on his right hand ring-finger.
- IP was signed off from the pilot boat within 2 hours for treatment in hospital.

CAUSES

- Instructions not followed - Special instruction had been given during toolbox meeting to let go of the long bar in case of its uncontrolled movement. IP and Person A did not follow the instructions.
- Lack of situational awareness – IP instinctively stepped in to assist without realising the risks and failing to take notice of the pinch point.

ACTION REQUIRED

- Execute the task by following the procedures and any special instructions.
- Stop and evaluate before putting your hands in the "line of fire".

Electrocution while monitoring reefers

Individuals who work around refrigerated containers (reefers) must be vigilant. Don't assume that Pre-Trip Inspections are completely effective in preventing reefers with dangerous electrical cables attached from being loaded onboard the ships.

INCIDENT DESCRIPTION

- IP was checking out-of-range reefers when he touched a 440V electrical cable with exposed copper wires. He was electrocuted as a result of this contact.
- When the breaker in the reefer tripped and the electrical circuit opened, the IP collapsed, landing head-first on deck.
- IP suffered multiple injuries as a result of this incident. His index finger was burned where he made contact with the exposed wires. His forehead was cut and his head and neck were seriously injured due to the fall.
- An inspection of the electrical cable revealed a 2-inch section with exposed copper wires surrounded by electrical tape. In other areas, the outer sheath was torn all the way through, uncovering the insulated wires it was meant to protect.

CAUSES

- Previous attempts to repair the torn outer sheath with electrical tape were improper and heightened the risk to safety. The electrical tape gave the appearance that the outer sheath was intact while hiding the risk of electrocution.
- A Pre-Trip Inspection conducted ashore did not identify the reefer's electrical cable as dangerous and in need of repair or replacement. The reefer was loaded onboard the ship the following day.
- Shipboard checks were inadequate as the electrical cable was not identified as dangerous during loading.

ACTION REQUIRED

- Stop to ensure thorough checks of electrical cables are done on live reefers before plugging into shipboard receptacles. Reefers with outer sheaths torn all the way through are not fit for transportation.
- Master's must act immediately to reject and report reefers with torn outer sheaths to the terminal. Do not plug-in.
- Focus on your safety. If the terminal is not able to repair or replace the cable with outer sheaths torn all the way, then the reefer should be removed from the ship before its anticipated departure.
- Submit a Malfunctioning Reefer Report if a reefer with a torn outer sheath is found while underway. Execute precautions to protect crew and cargo. Request technical assistance at the next port or attempt repair onboard.

Injury whilst taking a shower

During the course of taking a shower, IP sustained an injury, requiring sign off. The IP was taking a shower, he slipped and sustained a twisted left knee.

INCIDENT DESCRIPTION

- IP was taking a shower.
- The tiling on the floor of the shower was of the anti-skid type. The shower mat had suction cups on the underside.
- As the IP turned in the shower, his right foot slipped on the shower mat, and his left foot got caught on the floor barrier.
- This caused severe pain and swelling in the left knee area to the point where the IP could not straighten his leg, or apply any pressure on the knee.
- The IP was required to sign off the vessel.

CAUSES

- The suction cups on the underside of the mat were ineffective on the anti-skid tiling which allowed the mat to slide.
- Once the IP slipped, he tried to compensate when his left foot struck the floor barrier.

ACTION REQUIRED

- All vessels to stop using shower mats in conjunction with anti-skid tiling in showers.
- All vessels to inspect their shower areas and remove and discard shower mats if used in shower areas with anti-skid tiling.

Time Pressure

The pictures are reconstructed however reflects the actual work area and arrangements used for the job.

INCIDENT DESCRIPTION

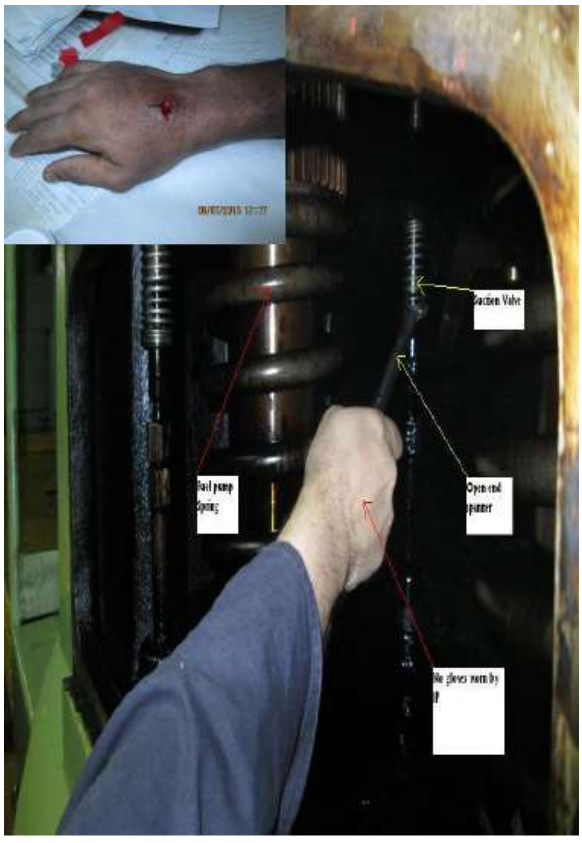
- During departure port, telegraph orders given by the Pilot were not reaching desired RPM. Investigation revealed ME exhaust gas temperatures for some units were not increasing as expected.
- Fuel pump suction valves were found to be seized.
- In an attempt to free the valve, IP used an open ended spanner which slipped and his hand hit the fuel pump moving spring.
- IP suffered a cut on his right hand – further medical evaluation revealed a fracture declaring IP unfit.

CAUSES

- Time pressure – due to vessel being under pilotage in restricted waters.
- Lapse of concentration – IP in a rush to avoid Main Engine shutdown lost focus.
- Failure to wear PPE – hand gloves.

ACTION REQUIRED

- Keep calm & composed under pressure – to execute critical operations, Officer's capability to cope with stress & maintain focus is crucial.
- Wear appropriate PPE as required by the matrix.



Hold the door open for the person behind you

INCIDENT DESCRIPTION

- IP & Person A came out of elevator into the staircase area to enter the engine room workshop.
- IP was behind Person A when coming of the elevator and entering the workshop.
- The doors of the elevator and workshop are in close proximity.
- Person A came out of the elevator, opened the door to the workshop and let go of the door as soon as he was inside the workshop. At this moment, IP had just closed the elevator door, turned towards the workshop door and saw the door closing with a risk of hitting his face.
- In order to avoid the door hitting his face, IP's immediate reaction was to stop the door from closing. During this attempt his finger came between the edge of the door and door frame.
- IP's finger was fractured, tip amputated which was stitched on board. He had to sign-off for further treatment.

CAUSES

- Person A did not follow the basic safe practice to hold the door open for a person behind him.
- Please note air draught in engine room was not a cause in this incident.

ACTION REQUIRED

- Hold the door open for the person behind you.
- Check settings of all door closers.
- Setting of the door closer has to be such that when a fire door closes on its own the sealing is proper to maintain the fire integrity. In this case the door closer was operational and setting was optimum to ensure sealing of the fire door. Optimal setting at times may be such that the door closes at a fast rate. Therefore it is important that in spite of a door closer, doors are opened and closed with care.

Improper pace while using ladder

The picture reflects the actual area at the time of injury.

INCIDENT DESCRIPTION

- IP along with Person A was carrying out checks on the Generator Engine.
- While descending down the small ladder from Camshaft level to Crankcase level, IP twisted his body in an awkward position where the body weight was transferred to his right leg.
- This resulted in twisting and bumping of his right knee against the alternator.
- IP suffered acute pain in his knee. He was declared unfit for work by the shore doctor and was later signed off for further diagnosis.

CAUSES

- Improper pace while using ladder – In an attempt to finish his work quickly, IP was keeping a hasty and rash body movement while descending down the ladder.

ACTION REQUIRED

- Always focus and watch your steps while using ladders or stairs.
- Ensure proper rate of travel is maintained at all times.

Facial Injury from being hit by a steel plate

IP was hit in the face by a steel plate resulting in a very long/deep laceration to the side of his cheek. At the time he was part of a team undertaking tasks relating to the reefer expansion project.

INCIDENT DESCRIPTION

- The task involved cutting steel bulkhead in cargo hold for making an access as a part of the Reefer Expansion Project. Two persons from external repair team were engaged in the task.
- A Permit to work was issued, tool box meeting and risk assessment conducted and PPE worn.
- The steel plate intended to be cut-out was secured by a chain block to fabricated pad-eye on the bulkhead.
- Since the size of the plate being cut was large, it was decided to cut the plate in 3 sections.
- As each section was cut, the plate was extracted with one person securing the section with chain block and the other person hammering the cut plate out.
- As the steel plate section was released by hammering, it swung towards the IP working with the hammer instead of being forced out in the opposite direction.
- The IP was hit to the right side of the head (jaw) creating a deep laceration and consequently fell on the platform, suffering further injury.

CAUSES

- Failure to identify the hazards, inadequate risk assessment applicable to the task and inadequate work processes.
- Possible over tightening of the chain block which created additional momentum to the swinging steel plate.
- Having only one point of securing of the chain block to the steel plate failed to prevent the steel plate from swinging on its own vertical or horizontal axis.

ACTION TAKEN

- Stop work was enforced on all vessels undergoing the reefer expansion project.
- Affected vessels were instructed to make repair team foreman as the safety representative with the primary responsibility to oversee that all tasks were being done safely, carry out site inspections daily and take a tool box talk with vessels management daily prior starting work.
- Work procedures and risk assessments from both contracting companies were obtained and reviewed ashore.
- Revised work instructions and risk assessments provided to all vessels undergoing the reefer expansion project for review and update of the safe job analysis and work instructions.
- Stop work was lifted once all reviews completed and the repair teams were instructed on the revised work instructions.

ACTION REQUIRED

- Work procedures and risk assessments must be provided to vessels for all projects type work involving external repair teams prior to the team joining the vessels.
- Vessel-specific risk assessments must be prepared basis the work procedures and risk assessments provided.
- All work procedures and risk assessments to be discussed with the repair team and establish clear understanding of the work plan and safety responsibilities.
- Daily review of the work plan and tool box meeting with the repair team prior commencement of the task.

Burn injury by hot gases from the M/E bursting disc

INCIDENT DESCRIPTION

- Vessel was in maneuvering mode approaching pilot station. A leakage was noted on M/E Cylinder starting air valve. The leaking valve had to be replaced with a new one. To do that vessel decided to cancel pilot and head to anchorage in dead slow ahead.
- During maneuvering to anchor, an astern movement was given, which was immediately followed by the rupturing of all bursting discs causing hot exhaust gases to be released.
- Those gases hit the IP, who was at that moment standing on top of the cylinder head unit of the main engine. As a result, he suffered from 2nd degree burn injury to his right thigh.

CAUSES

- No toolbox talk was held prior starting the preparations and no risk assessment conducted.
- The senior engineer, did not confirm himself that the manoeuvring was finished and that the Main Starting air valve was closed and engine blocked from starting.
- Too many people in the working team – 4 persons in total. The space was very limited for 4 personnel to work there.
- Senior Engineer, who was responsible for the job, did not anticipate that there was a risk that the safety discs could break due to the leaking starting air valve. He should have isolated this unit prior further manoeuvring.
- Protection covers, when installed on the bursting discs, should direct gases towards the exhaust manifold and should be secured properly to withstand the pressure from gases. On several units the cover was broken off or improperly installed.

ACTION REQUIRED

- Tool box is a crucial step before stating the task. It should never be dropped.
- Communication is vital for all activities. Supervisor should have coordinated and confirmed before going ahead with the planned task.
- Have the right amount of personnel who have been briefed thoroughly. More personnel with unclear instructions could lead to chaos.
- Unit of the engine should be isolated prior further manoeuvring in such cases.
- Engine maker has been approached for re-design of protective covers, which will effectively redirect gas flow towards the exhaust manifold in event of bursting disc rupture.

Over-sized PPE

The pictures are reconstructed however reflects actual arrangements used for the job.

INCIDENT DESCRIPTION

- During chipping on deck, foreign particle entered IP's eye.
- On-board attempts to remove the particle failed, following which Radio Medical advice was taken.
- Considering a long sea-passage & continued discomfort in IP's eye, vessel was deviated to the nearest Port.

CAUSES

- Safety googles used with dust mask were oversized for IP's face, creating an opening on the nose bridge.

ACTION REQUIRED

- Use suitable PPE of appropriate size.
- Ensure sufficient pre-task checks – PPE alone does nothing to reduce the hazards, they should be adequately identified & addressed to ensure a safe working environment and working methods as safe as reasonably practical.

Incorrect tools and time pressure – a dangerous combination

The pictures are reconstructed however reflects actual arrangements used for the job.

INCIDENT DESCRIPTION

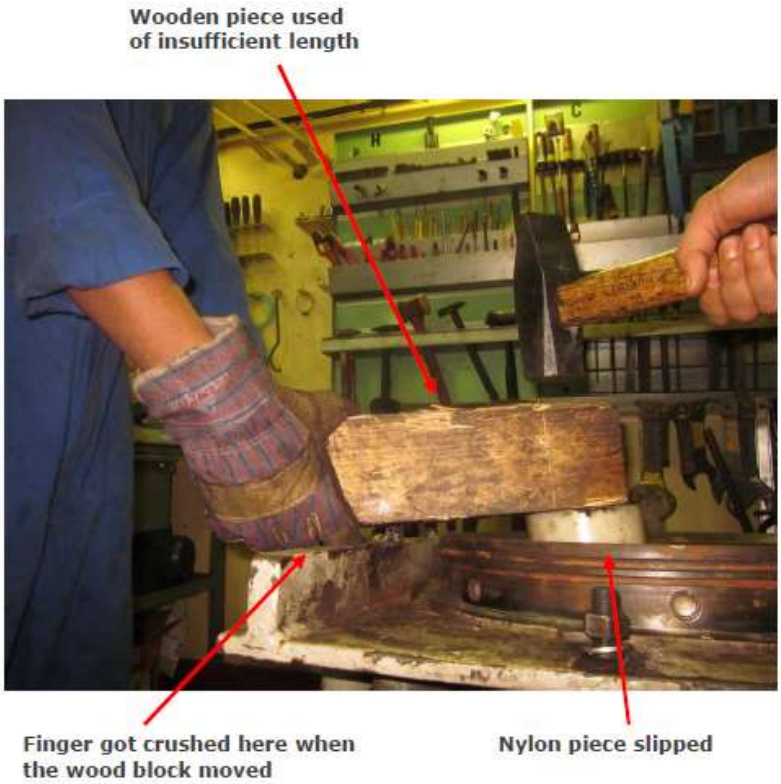
- Aux engine was being overhauled in engine room workshop.
- The exhaust valve seat had to be put back in place by hammering it using a short wooden block and piece of nylon rod. Ref picture.
- When Person A hammered the end of wooden block, the nylon rod slipped crushing the IP's finger between the lower surface of wooden block and cylinder head holding tool.

CAUSES

- Failure to identify the pinch point.
- Complacency and taking shortcut - The job had been in progress over the last 2 days after which the block and nylon rod broke. Thereafter the first readily available alternative was used without assessing the risks.
- Perceived time pressure – the seat pocket had been heated and the work team was in a hurry to get the seat in place before it cooled down.

ACTION REQUIRED

- Stop use of homemade tools/systems. If it is necessary to use homemade tools, then these must be evaluated by the senior officers and engineers before being put into use.
- Do not execute jobs under time pressure. It is better to delay the job than risk an injury.



Thumb injury in door frame

IP received a fracture to his thumb when passing through a doorway, requiring sign off from the vessel. He inadvertently placed and left his thumb in the door jamb when the door closed.

INCIDENT DESCRIPTION

- The IP was moving from engine room door to the alleyway. The door is a fire door with a self-closing mechanism.
- The IP used his left hand in order to hold the door open while passing through the door. He also slid his hand along the door as he was passing through the doorway.
- When the IP was sliding his hand along the door, his hand had reached the edge of the door and without realizing he allowed his thumb to be between the door and door frame.
- The door closed trapping the IP's left hand thumb between the door and the door frame.
- The IP suffered a fracture in his thumb requiring him to be signed off the vessel to seek further treatment and recover at home.

CAUSES

- IP had lapse of judgment and did not realise the positioning of his hand when moving through the door.
- The IP failed to identify there was a pinch point.

ACTION REQUIRED

- Walking through doors on the vessel one of the many actions you will do as part of your daily tasks, whatever that task may be. Always consider each action you do when you execute that task.
- Focus on where you are putting your hands, focus on where you are putting your feet, and focus on where you walk.
- Use the door handle to open/close, or hold open the door.

Injury due to falling steel plates

The pictures are reconstructed however reflect the actual area and body position of IP at the time of injury.

INCIDENT DESCRIPTION

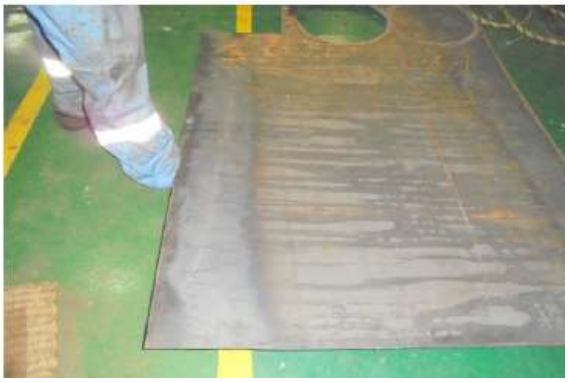
- IP and Person A went to get a 3mm metal plate for fabrication of a steel box.
- IP stood on the side of the plate holding it whilst the Repairman tried to pull out another plate from behind.
- At that moment, the entire stack of plates fell down in the direction of the IP. The falling metal plates caught his lower leg and right foot causing an injury.
- Person A helped to free him by lifting the plates.

CAUSES

- Failure to execute the task in compliance with company procedures.
- Failure to stop work as no risk assessment was conducted.

ACTION REQUIRED

- All vessels to review the onboard stowage and handling procedures and ensure in compliance.
- Rectify any non-compliance in consultation with technical superintendent.
- Revert with actions taken in the next regular safety meeting minutes.



Third degree chemical burn

IP suffered third degree chemical burns to his thigh after coming into contact with a corrosive chemical. The injury was made worse by failing to report the incident for more than 24 hours.

INCIDENT DESCRIPTION

- Person A and IP were tasked with changing the chemical drum for boiler water chemical treatment.
- A new drum of chemical was obtained and transferred to the boiler chemical treatment system area.
- Person A opened the cap of the 20 litre container and fitted the filling cap to the new container prior to the IP placing the container in the chemical dosing cradle.
- The IP lifted the container and was attempting to place it in to the chemical dosing cradle when the container slipped and chemical was discharged over the IP's boiler suit. The IP continued to wear the affected boiler suit. He also did not report the incident/injury for more than 24 hours.

CAUSES

- Inadequate/improper familiarization and conduct of the task.
- The chemical container cap was unsealed prior to lifting and placing in the cradle allowing the chemical to spill.
- Contributory causes: IP failed to change his boiler suit immediately after the spill, failed to wash the chemical from his body with fresh water, failed to report the incident thus preventing immediate treatment, failure to wear PPE.

ACTION REQUIRED

- Tool box talks must always address the safe way of executing the task.
- Team Leader/Supervisor/Management must assure that person/s undertaking a task have a full understanding of the task before execution.
- Onboard familiarization of less experienced crew members must be carried out by responsible officers.

Boiler Explosion

INCIDENT DESCRIPTION

- Person A & Person B was tasked to reset the Auxiliary Boiler following successive flame failure alarm. The auto reset process was performed two times without success.
- Person A then did Manual Firing of the Auxiliary Boiler. Noticing the multiple flame failure alarms, IP came down from Engine Control Room & was near the burner motor. Just then an explosion occurred within the burner furnace with sufficient energy to break the burner section to furnace securing catch, allowing the burner section of the Auxiliary Boiler to swing open with great force, pivoting on the right side pivot pin.
- The IP was hit in the front left rib section of his torso by the motor cowl end of the burner section.
- IP suffered a number of fractured ribs. Vessel had to be deviated for his evacuation.
- Person A & Person B suffered burning of facial hair & hair on the frontal area of the head.

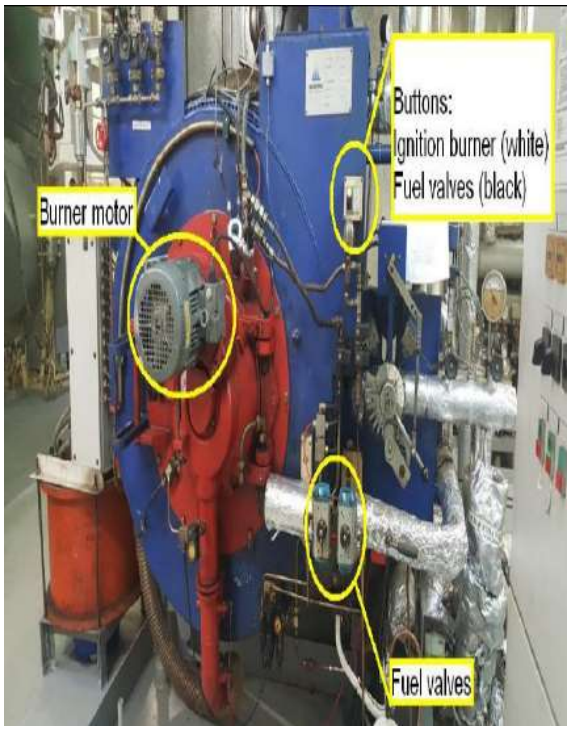
CAUSES

- Incorrect process of purging, i.e. insufficient time to clear the excess fuel.
- Incorrect process of manual firing including amount of time to press the fuel button.

Both these causes can have excess fuel inside the boiler which could create an explosive mixture when a spark is inserted or spontaneous combustion happened.

ACTION REQUIRED

- Senior Engineer to go through the makers instructions on manual firing of boiler and discuss the same with all engineers.
- Post the instructions for manual firing at an appropriate location near the boiler.
- Ensure all engineers signing-on are familiarized with manual firing procedure.



Damaged lock due to explosion

Pinched finger while operating winch controls

The photographs reenact the incident and reflect the actual work area and arrangements on the ship.

INCIDENT DESCRIPTION

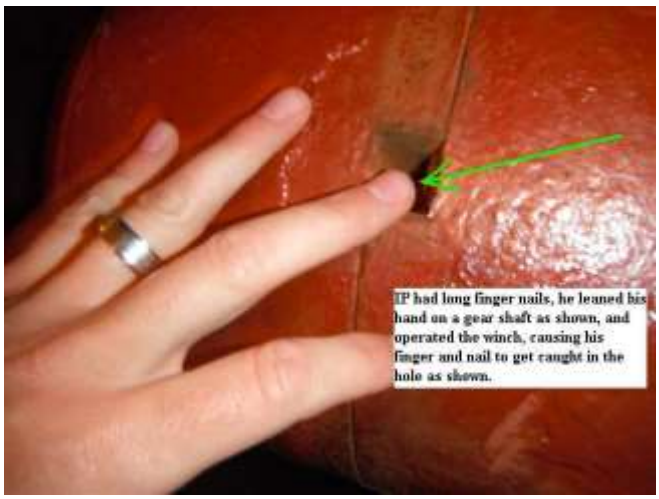
- Ship was undocking when IP was ordered to slacken the forward mooring line.
- The IP responded to the order by pushing the winch control lever at the same time his finger was in the pinch point located in between the clutches.
- As a result of this action the drive shaft rotated, the mooring line winch clutch engaged and the end of the IP's left index finger was crushed.

CAUSES

- The winch presented two hazards. They were the rotating shaft and the pinch point in between the clutches. Neither hazard was safeguarded.
- The line handling team did not discuss hazards specific to working around the rotating shaft or identify the gap between the clutches as a pinch point to be avoided.

ACTION REQUIRED

- Stop and identify potential pinch and grab points before working near winches and rotating machinery.
- Ask your shipmates to do the same and discuss observations during Toolbox talks.
- Focus on eliminating everyone's exposure and controlling the hazard before the job begins.
- Execute work safely.



Equipment Malfunction

The picture is reconstructed however it reflects the actual area and body position of IP at the time of injury.

INCIDENT DESCRIPTION

- In order to move some equipment inside the engine room, the hatch had to be opened. This was done with the manual hoist fitted for that purpose. The hoist however malfunctioned, causing the handle to spin while the hatch dropped.
- The hoist is normally blocked by a friction brake, which did not hold. IP suffered a clean fracture on right hand index finger and was signed off.

CAUSES

- Latch which is supposed to lock the toothed wheel did not move completely free. The latch returns onto the gear by gravity. There was also some play on the shaft on which the latch swivels, causing the latch to misalign and not moving freely.
- The brake/latch assembly was corroded due to water ingress.
- The winch was inspected as per schedule however the inspection should have been more thorough considering the corrosion on the equipment.

ACTION REQUIRED

- Vessels using this winch type for their hatch should inspect it thoroughly.
- If there is risk of brakes not holding due to severe corrosion, a new winch shall be ordered for replacement.
- Until replacement, a chain block of sufficient SWL shall be used temporarily.
- Stop and discuss the risks associated with this task and a risk assessment shall be prepared for the same.
- Ensure adequate supervision and training of people, especially the inexperienced.
- People in doubt should ask before executing.

Incorrect selection of gloves

The picture is reconstructed and reflects the actual area and body position of IP at the time of injury however is not in compliance with PPE requirement in engine room.

INCIDENT DESCRIPTION

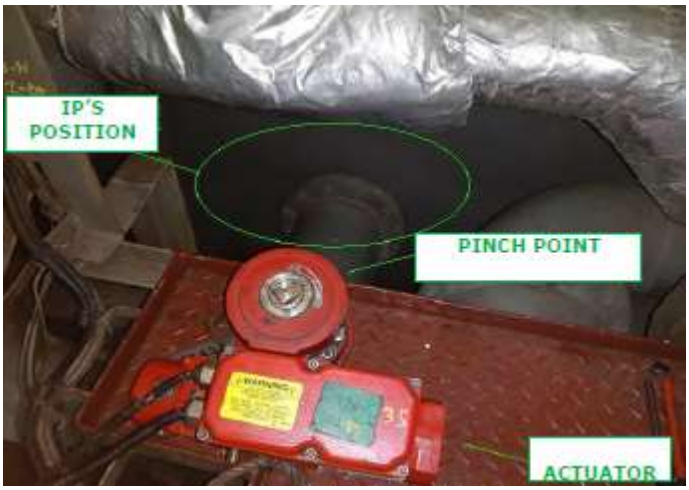
- IP was replacing the actuator of ballast valve in engine room bottom platform, along with Person A.
- IP was standing on tank top while Person A was passing him the actuator.
- In the process, actuator slipped from the hands of Person A and landed straight on IP's right hand.
- Consequently IP's right hand index finger was pinched in between the actuator and edge of the platform, resulting in a fracture and nail dislocation.

CAUSES

- Lack of Risk Assessment – Both IP and the Person A failed to identify the hazards associated with presence of hydraulic oil on the actuator and take essential counter measures to mitigate the risks.
- Incorrect selection of Gloves for the task– Apparently the assisting crewmember was using Knitted Nylon gloves with Nitrile palm, which became slippery after coming in contact with hydraulic oil present around the O-ring of actuator and resulted in losing the grip.

ACTION REQUIRED

- One should always stop and ask himself, if he has the right PPE for the job.



Lack of focus during heavy weather

The picture is reconstructed however it reflects the actual area and body position of IP at the time of injury.

INCIDENT DESCRIPTION

- IP was coming down the staircase inside accommodation.
- On his way down, IP lost balance and twisted his left foot which resulted in a fracture.

CAUSES

- External weather conditions: IP was holding on to the handrails, keeping a normal pace while climbing down. A sudden roll caused by heavy swell resulted in IP losing his balance and twisting his left foot.
- IP failed to evaluate and co-ordinate his movement as per vessel's motion.

ACTION REQUIRED

- Always stop and assess the changing situations. Ask yourself if the approach taken by you is safe.
- Focus & co-ordinate your moves with vessel's motion, when in bad weather.

Injury to the back

Severe backache while picking up the tug's line.

INCIDENT DESCRIPTION

- Vessel was coming alongside in the port.
- Tug's line was being picked by IP and 2 others.
- It had to be picked up manually due to absence of a mechanical means. IP was in the middle applying the pull along with the 2 others.
- During the course of the action, IP experienced a sudden pain in the back and the hip, with a black out. IP was unable to stand.
- He was sent ashore to the doctor, who advised him bed rest.

CAUSES

- Improper manual handling technique.
- Poor back muscles

ACTION REQUIRED

- Stop and think. Consciously apply proper manual handling practices.
- Ask for additional help is the object size/weight is beyond personal lifting capacity.
- Focus on the instructions issued by the supervisor. The IP had specifically mentioned to bend from the knees in this case.
- Exercise back muscles to improve strength, flexibility and endurance.

Severe laceration from an operating winch

The pictures are reconstructed however reflects the actual work area and arrangements used for the job.

The hazard of rotating (moving) machinery should never be underestimated. Attention to the task at hand should never be compromised and never place body parts near moving machine components.

INCIDENT DESCRIPTION

- The IP took part in performing a task to replace the mooring rope on the drum.
- The mooring winch was being operated (drum and clutch were turning).
- The IP put his arm close to the moving machinery.
- A bracelet worn on the IP's right forearm was caught by the mooring winch side clutch greasing nipple.
- The IP received a severe laceration to his forearm.

CAUSES

- Lack of attention/due care - the IP was not fully concentrating on his work.
- Poor decision making/judgement – the IP put his arm too close to rotating machinery and not realising the risk of having his bracelet snagged.
- Despite a Toolbox talk being conducted prior to work commencing, not all risks were identified and highlighted.
- Deliberate violation/action – the IP took a shortcut that was not part of the job scope.

ACTION REQUIRED

- Stop and clarify with your Supervisor when/if the scope of work changes.
- Ask your Supervisor for rotating machinery to be stopped if work is required that is outside the original scope of work.
- Focus on the defined task as described in scope of work.
- Execute the work safely.

Thumb Injury

Pictures are reconstructed however reflect the actual work area and how the incident happened.

INCIDENT DESCRIPTION

- IP was putting twistlocks inside a box.
- While doing so one of the twistlock hit his left hand thumb causing fracture due to which he had to sign-off.

CAUSES

- Lack of attention and focus when doing the job.
- Swinging the twistlock too close to his hand/body.

ACTION REQUIRED

- While doing a job which involves throwing or swinging of objects do so by keeping the objects well clear of yourself and others working near you.
- Do not lose focus and attention even during a simple and routine job.

Severe scalding injury

The risks related to working around steam and condensate piping systems should never be under estimated. Recently IP received a severe burn to his hand whilst undertaking repair work in the engine room. It pays to check before rushing in to complete a task.

INCIDENT DESCRIPTION

- A steam leak repair job was required.
- The equipment had been isolated prior to commencement of the task.
- The pipe flange was opened to drain the steam/water.
- The IP approached what he thought was a seemingly empty line just as a slug of boiling water was expelled from the pipe, scalding the IP's right hand.

CAUSES

- There was no clear understanding of when the line was completely empty and when it was safe to approach.
- Incorrect PPE worn at the time.

ACTION REQUIRED

- Stop and clarify with your Supervisor on the safe system of work for the task.
- When conducting work of this nature, ask your Supervisor to confirm that all affected lines are fully drained and it is safe to approach.
- Focus on the defined task as described in scope of work.
- Execute the work safely.

Burn injury to fingers and arm of the right hand

INCIDENT DESCRIPTION

- The task of repairing steam leaks was planned. There were leakages from the side flange and the top flange of the Aux boiler main stop valve. Gasket for these flanges were to be changed.
- All safety precautions were taken. Risk assessment was carried out, work permit issued, thorough tool box talk carried out and the necessary isolation was done before the job was commenced.
- While positioning the gasket, IP removed his gloves and put his hand inside the valve body which was still at a temperature of about 100 -120o Centigrade.
- As a result IP suffered burn injury to his fingers and part of his arm.

CAUSES

- IP did not use the already prepared gasket with tail – failure to follow the agreed work plan and use the correct equipment.
- Removal of the essential PPE.
- Failure to anticipate temperature of the surroundings.

ACTION REQUIRED

- Do not remove PPE when working on hot surfaces. PPE is the FINAL guard against any hazards and removing these guards exposes the body to injuries.
- All tasks must be done according to the work plan and using the agreed equipment.
- Always work on hot systems (water, steam, fuel) with extreme caution – even when all the isolations are done.

Failure to check

The picture is reconstructed however it reflects the actual area and body position of IP at the time of injury.

INCIDENT DESCRIPTION

- Booby hatch for hold entrance was opened without the ‘securing hook lock' in place.
- While coming up, IP grabbed onto the inner handle of the booby hatch cover when on the 3rd step. On doing so the lid started closing and came onto his head. He tried to gain some handhold and placed his right hand on the compression bar. The lid was eventually supported by his head with helmet on. But the closing was enough to pinch and injure his 3 fingers.
- Index and little fingers had deep cuts while ring finger had a heavy cut with nail uprooted from base.

CAUSES

- Booby hatch cover securing hook was not in place.
- The Pin that secures the hook preventing it from coming up, was not in place.
- While the IP felt the lid was locked, counter checking was not done.
- Over reliance that the hold entrance lid will automatically lift the hook and lock itself which did not happen due to accumulation of dirt inside.

ACTION REQUIRED

- Ensure proper maintenance of locking devices to ensure they are in good condition.
- Stop and double check to ensure both the locking hook and safety pins are in place before stepping down the ladder.
- A caution poster can be stuck inside to improve focus amongst new joiners.

Cultural Awareness

The pictures are reconstructed however reflects the actual work area and arrangements used for the job.

INCIDENT DESCRIPTION

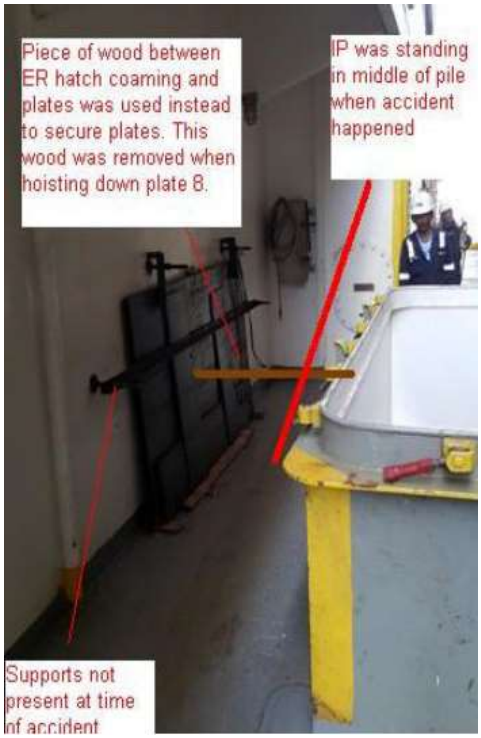
- Large steel plates received in stores were to be cut on deck & lowered into the engine room.
- Cut plates were stacked in an upright position against the bulkhead – a block of wood was used to keep them upright.
- While placing the 8th plate, wooden block had to be removed – Work team couldn't control weight of the stack as a result of which IP standing in the middle got trapped under the plates.
- Hospital visit revealed fractures in the Lumbar Spine & bed rest for 3 months.

CAUSES

- Deviation from work plan – IP did not follow instructions as agreed during tool box talk.
- Involvement of personnel not assigned to the job – Person A's interference, influenced IP to do the job faster in an unsafe manner.
- Cultural Awareness - IP was aware of the risks & realised what they were told was not safe yet due to cultural & power difference (nationality, rank experience & physique) he lacked the courage & confidence to confront Person A's interference.
- Team members failed to stop work despite realising deviation from instructions given in tool box talk.

ACTION REQUIRED

- Stop to assess any deviation from original plan – supervisor must be consulted to re-evaluate hazards.
- Personnel not part of a work team should not interfere unless to stop work or correct an unsafe situation.



Finger Fractured

Pictures are reconstructed however reflect the actual work area and how the incident happened.

INCIDENT DESCRIPTION

- IP was fitting a new liner (weighing 15kgs) into the exhaust valve housing. The liner was cooled in the meat room to -18deg C for easy installation.
- Usually liner is a tight fit, therefore a push/force is required to push it inside.
- In this case also the liner was not going in smoothly, therefore IP gave a little push and suddenly the liner slipped all the way inside resulting in his finger being pinched. He suffered fracture and had to be signed-off for further treatment.

CAUSES

- As the liner was cooled down to -18deg C it was wet and slippery due to condensation.
- Did not identify the pinch point.
- Assumption made on past experience that the liner will not go inside easily and will need push and force.
- No tool available to carry out the job to avoid the finger getting caught in the pinch point.

ACTION REQUIRED

- Stop before starting a job to evaluate the risk, don't make assumptions based on past experience as they may not be correct every time as circumstance change.
- Ask for assistance when you experience difficulty in doing a job even if its simple job which you have done many times in the past.
- When using excessive force in a job, think where will that extra force be released?

Lack of focus

The picture is reconstructed and reflects the actual area and body position of IP at the time of injury.

INCIDENT DESCRIPTION

- IP was carrying out his routine checks in engine room.
- While coming down the staircase from 2nd platform to 3rd platform, IP lost his footing and slipped from the 3rd step.
- He slid all the way till bottom of the staircase (appx. 3.5 meters) and landed heavily on his back.
- As a result, IP suffered a momentary numbness on his left leg and pain in lower back to an extent that he could not move himself until being noticed by the other crewmember, 10 minutes later.

CAUSES

- Lack of focus – IP was coming down the stairs without paying attention where he put his feet.

ACTION REQUIRED

- Always maintain focus even in a simple job of walking and watch where you put your feet.

Fingertip amputated while moving drums

Pictures are reconstructed however reflect the actual work area and how the incident happened.

INCIDENT DESCRIPTION

- IP & Person A were transferring a 200L drum from its stored position by tilting and rolling it. The drum got stuck in a restricted space and while trying to move, it slipped and fell on a machinery spare part stored nearby.
- IP's finger got pinched between the drum and spare part resulting in the fingertip getting amputated.

CAUSES

- Incorrect method used for moving drums.
- Failure to identify the risks, such as number of people required for the task & space restriction.
- Stop Work Authority not used effectively.

ACTION REQUIRED

- Evaluate on your ship how are drums being lifted and moved - Drums are always to be lifted by a crane or chain block using the lifting clamp tool for drums, moved using a trolley once the drum is secured on it.
- Stop to assess the risks in the job you are doing. Ask whether you have the right tools and sufficient number of people to do the job. Focus on the job and be aware of the surroundings before executing the job.

Scalding injury to legs

INCIDENT DESCRIPTION

- IP and Person A were assigned the task of testing and replacement of M/E SIP valves.
- During the task, IP noticed a leakage from the ME cooling water system flange located along with the SIP valve.
- IP decided to change the O-ring on leaking flange and started opening the flange without draining the cooling water or isolating the cooling water system.
- As soon as the flange was loosened, hot water spurted on his legs. Due to the restricted space, IP could not move out of the way and he suffered burn injuries on both his legs.

CAUSES

- Failure to follow the work plan - IP was only supposed to work on SIP valve. He should have notified the senior engineer about the leakage, so a new risk assessment and work plan could be made for fixing the leakage.
- Non adherence to the company procedures. Permit had expired a day ago but the task continued.
- Re-inspection of the worksite would have made the leaking flange evident, making it necessary to change the work plan.

ACTION REQUIRED

- Strictly adhere to the work plan. If some other task needs attention, stop and make a separate work plan. Focus only on the agreed task.
- Permits must be prepared/renewed only after inspection of the work site.

Poor Communication leading to finger injury

The picture is reconstructed and reflects the actual area and body position of IP at the time of injury.

INCIDENT DESCRIPTION

- After disembarking the Pilot, IP along with Person A was assigned the task of securing combination ladder.
- While the accommodation ladder was being picked by Person A, using the remote, IP noted a stanchion getting obstructed with pilot ladder post.
- In an attempt to free the stanchion on moving ladder, IP's left hand middle finger got pinched in between accommodation ladder end platform and the pilot ladder post.
- This resulted in a fracture and IP was signed off for treatment ashore.

CAUSES

- Poor communication- IP failed to stop and alert Person A, who was operating the remote control.
- Person A was operating the remote from a position, where IP was not completely visible and his actions could not be noted.
- Incorrect practice - IP put his hand when equipment was in motion.
- A design defect – high potential of stanchion getting obstructed and creating a pinch point – see highlighted area in the picture.

ACTION REQUIRED

- The person operating the remote control must always be in line of sight of the equipment he is operating and his colleagues.
- While operating an equipment if anything is not right then first stop operation before putting your hands for correcting it.
- Communication creates a situation awareness among the team members. Ensure a good communication is maintained during work at all times.
- All vessels to verify their accommodation ladder arrangement onboard and take corrective action in case of similar potential obstructions and pinch point.

Poor housekeeping leading to knee injury

INCIDENT DESCRIPTION

- Vessel was at the repair yard. IP was working on deck.
- There was a sudden onset of rain and IP was rushing to move his tools/safety equipment to shelter.
- During the process, IP stepped on a loose eye pad lying on deck and slipped.
- IP tried to balance himself in order to arrest the fall which put a lot of strain on his knee causing his knee ligaments to tear.

CAUSES

- IP was in a hurry to clear the equipment, so that it does not get wet.
- Slippery deck due to the rain.
- Loosely lying eye pad thrown by the dock workers which IP failed to notice.

ACTION REQUIRED

- Do not rush. An injury would retard the process further.
- Maintain focus on the task especially when conditions change.
- There are third party workers in the dry dock who may not have the same safety culture. Proper housekeeping is still the responsibility of vessel staff and errors made by third party workers should be brought to their attention.

Strained Knee

Musculoskeletal Disorders (MSD) can affect muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs. MSD are often related to job duties or the work environment. Risk factors include high task repetition, forceful exertions and working in awkward postures as well as an individual's fitness and overall health.

INCIDENT DESCRIPTION

- The injury occurred while IP was inspecting a light near the steam and condensate pipes for the ULSFO service tank in the engine room.
- In order to perform the inspection, IP needed to pass from one set of walkways to another separated by a frame. As he passed through the frame's limber hole, he lost his balance. He tried to steady himself but his foot slipped on the bottom plating, causing pain to his knee.
- The pain continued for five days before IP reported his knee injury to the Captain.
- IP was evaluated ashore on the same day he reported the injury. The evaluating physician prescribed a knee immobilizer and found him "not fit for duty."

CAUSES

- Due to the working environment, IP was in an awkward position when he placed an excessive strain on his knee.
- By the time IP reported his injury, the opportunity to provide onboard treatment and modify his job duties to lessen the strain on his knee had passed. This resulted in prolonged pain and delayed recovery.

ACTION REQUIRED

- Stop immediately if you feel discomfort when making certain motions.
- Ask for a professional medical evaluation if the discomfort persists. Do not wait for the pain to take hold before reporting a potential MSD injury.
- Focus on your long-term health at home and at work.
- Execute work in a manner that minimizes your exposure to MSD risk factors.

Injury due to falling steel plates

INCIDENT DESCRIPTION

- During routine maintenance of Rescue boat davit, assistance was asked to replace the support plate from Davit control panel which was found heavily corroded.
- A work team comprising of 5 members was assigned the task of removing a spare plate for cutting.
- Steel plates were stowed leaning against the bulkhead restricted by a horizontal bracket with butterfly nuts.
- When Person A and IP were removing the fourth plate from the stack, the vessel rolled suddenly causing the entire stack to fall down in the direction opposite to the bulkhead.
- The IP, trying to stop the fall as a reflex action, got his fingers pinched between the stack, suffering a severe injury to his fingers.
- Falling stack was restricted by an extinguisher that was in position. However, it also caused a minor injury to the Person B's leg.

CAUSES

- Stowage not in line with procedure.
- No risk assessment conducted.
- Inadequate supervision by the experienced crew.

ACTION REQUIRED

- Stop and evaluate the steel plate stowage and handling arrangements are in line with procedures. Discuss with Vessel Superintendent if changes required.
- Review the risk assessment for handling steel plates. Execute the task only after the risk assessment has been reviewed and all preventive measures are in place. Besides the hazards/risks, the assessment should also identify responsible officer to supervise the task and size of work team.

Tripped

The pictures are reconstructed however reflects actual arrangements used for the job.

INCIDENT DESCRIPTION

- While working in the Fan room, IP tripped on cable tray.
- In an attempt to arrest his fall - he landed on his right palm, causing sharp pain and swelling to the wrist.
- Considering vessel was on a long sea-passage, radio medical advised IP to undergo urgent x-rays.
- Vessel deviated and landed IP ashore.

CAUSES

- Lack of situational awareness - IP failed to assess obstructions at work place.

ACTION REQUIRED

- Stop to assess work place and surroundings before you execute the task.
- Risk assessment should have adequate focus on general movement.
- Highlight obstructions in contrasting color.

Burn Injury

When working on the suction valve of the circulation pump for the exhaust gas boiler, a sudden release of water occurred when the blockage was forced out.

INCIDENT DESCRIPTION

- The task was to dismantle the No.1 suction valve of the circulation pump for the exhaust gas boiler.
- Permits to work were completed, and talk conducted. The line was isolated and drained, although it was noticed only a small amount of water came out.
- Isolations were made at the header tank, the No.2 suction valve, and both outlet valves. The pressure gauges were used to drain the water out. However, it was noted very little water came out.
- The suction valve lid was removed slowly noting no water was coming out.
- When the valve lid was removed a significant amount of sludge was noticed, indicating the blockage.
- The sludge was then noticed to be moving, the work team tried to replace the lid before the sludge and hot water was released. The sludge prevented the valve lid to be replaced allowing the hot water to be released under pressure spraying the IP.

CAUSES

- The root cause was the incorrect isolation of the system, made worse by continuing the work even when it was noticed that very little water came out of the system. The other suction valve (No.2) should also have been left open and the associated pressure gauges been used to drain the system.
- Failure to recognize the quantity of water that came out did not match the capacity of the system.

ACTION REQUIRED

- Before working on a closed hot liquid system stop and ask whether the amount of fluid that has been drained is equivalent to the capacity held in the system. Do not execute the task until satisfied this is the case.
- Stop and check isolations are correct and adequate before executing the task.
- Vessels are to review their risk assessment for working on hot liquid systems to include the risk of a crew member receiving a burn by commencing work before the amount of fluid drained from the system is equal to the amount held in the system.

Facial burns from Boiler Fuel Oil Pump

IP received oil burns to his face when hot oil sprayed out from a Boiler Fuel Oil Pump.

INCIDENT DESCRIPTION

- IP was doing Engine Room rounds and noticed a strange sound coming from the No. 2 Boiler Fuel Oil Pump. Also noticed a drop in pressure on the gauge.
- IP decided to change over the duplex filter to No. 1 Boiler Fuel Oil Pump.
- When doing so, hot oil suddenly sprayed out from top cover of the No.1 Boiler fuel oil filter and hit IP on the right side of the forehead and the right side of his upper cheek.
- Pump was then stopped and medical attention sought.

CAUSES

- Root cause was traced to the assembly of the filter, the positioning of the O-ring was not correctly mounted, resulting in the cover being unevenly fitted. The cover pinched the O-rings.
- Not allowing for the equalization of pressure between the two pumps when transferring from No.2 pump to No.1 pump resulting in a sudden burst of pressure from No. 2 pump filter.
- The sudden burst of pressure caused the O ring of the Fuel Oil Pump filter to fail allowing the hot oil to escape under pressure.

ACTION REQUIRED

- Stop and assess before you execute the task. Remain focused on the correct method of work.
- Vessels are to review the procedure of isolation for the maintenance and changeover of the filters to make sure adequate controls are in place.
- Vessels are to discuss with all engineers and gain their full understanding of the correct procedure for assembly and changeover these filters.

Eye damage when using wire cup brush

An eye injury requiring sign-off occurred when IP removed his protective eyewear while another colleague was still working.

INCIDENT DESCRIPTION

- IP was working with Person A on deck each grinding with a wire cup brush. Both wearing appropriate protective eyewear.
- When IP stopped working, he stood behind Person A.
- Person A was still working, IP removed his eye protection.
- Person A was still working when he suddenly heard a cry of pain, stopped and saw IP standing behind him indicating he was hit in the right eye.
- Examination revealed a wire piece stuck in the eyeball. This was removed by Person A and the eye was flushed with water.
- When IP was examined by a doctor some days later, another piece of metal was found in the eye which required surgical removal.

CAUSES

- IP removed his eye protection while in the working area and work was still being done.

ACTION REQUIRED

- Protective eyewear is the last line of defense for protection from a hazard. It is important that protective eyewear is worn and remains being worn whenever one executes a task, or is in the vicinity of the activity.
- Always stop and assess your workplace and surroundings until all work is finished.
- Focus on your health and safety while working.
- Vessels are to remind all crew of the importance of protective eyewear and that it must always be worn until the task is completed.

Toe injury while coming out of the bathroom

INCIDENT DESCRIPTION

- Vessel berthed at port and after mooring operations, IP was sent off duty for rest.
- He took bath and was coming out of his bathroom. While stepping out, he hit his foot against the door frame causing an injury to his fifth toe.
- He was sent ashore to the doctor, where it was confirmed that IP suffered a fracture and needed rest for 15 days.
- Subsequently, IP was signed off the vessel.

CAUSES

- Misjudgment of the door exit space.
- Rush to next activity.

ACTION REQUIRED

- Do not rush yourself into the next activity. Injury retards the process further. Do not take that risk. Medical assistance is limited on the vessel. This has to be always kept in mind.
- Whether it is a ship's task or your personal job, assessing risk is extremely important to avoid injuries. Safety cannot be looked at in isolation.

Hand injury – Incorrect execution of task

INCIDENT DESCRIPTION

- IP along with Person A were carrying out the Scavenge inspection. It was decided to have Person A on stand-by outside scavenge receiver to operate turning gear remote for IP.
- In an attempt to take photograph of the liner, IP held the camera and put his right hand inside the scavenge port while the engine was still turning and piston was moving down.
- After reaching, the piston started moving up, but he did not realize this and continued taking pictures with his hand inside the scavenge port. By the time IP realized and alerted the Person A to stop, his right hand got caught in between the piston and liner resulting in multiple fractures. He was immediately signed off and hospitalized for further treatment ashore.

CAUSES

- Failure to execute the task correctly. The turning gear remote was being operated by Person A who had no visibility of the actual movement of piston or sight of IP's activity inside the scavenge receiver.
- Failure to stop and take stock of the situation. Despite knowing that piston was moving, IP continued to keep his hand inside the scavenge port.
- Lack of risk assessment- No risk assessment was done prior starting the job.

ACTION REQUIRED

- Turning Gear remote is designed to be carried inside the scavenge receiver for inspection. For safety reasons, it should only be controlled/operated by the person carrying out inspection.
- Vessels to review their risk assessments for scavenge space inspections and ensure that the safe practice of using turning gear remote is clearly written.
- Ensure that usage of turning gear remote is also talked about in meetings and clearly understood by the work team who is going to handle it, in addition to the responsibilities of stand-by person outside the scavenge space.

Finger injury to a team member of our sub-contractor

INCIDENT DESCRIPTION

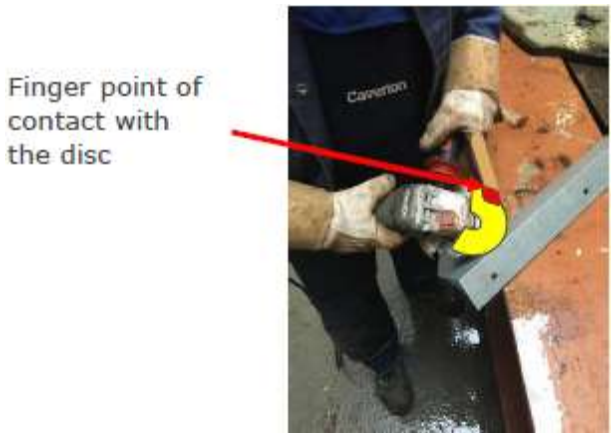
- There was a team of subcontractors working onboard for a project.
- IP was grinding paint off the job piece in order to clean the surface.
- At that moment, grinding disc came in contact with IP's first finger making a cut and bruise in the skin/flesh.
- Radio medical advice was obtained. IP was declared unfit for work.

CAUSES

- IP was rushing to complete the task and hence lowered the safety guard.
- Inadequate supervision.

ACTION REQUIRED

- Stop and evaluate the risk associated with all the jobs. The entire team was rushing to complete the task assigned to them within a stipulated period by taking shortcut on the safety requirements.
- Focus on the task at hand. Rotating machinery has dangers associated.



Leg/ankle sprain injury by stepping over the pipe

INCIDENT DESCRIPTION

- IP was returning from work for lunch has stepped up the pipe lying on the forecastle deck, which caused him ankle twist and sprain on left leg.
- There was no impact or fall which resulted in the injury.
- Onboard pain killer was administered and ankle was bandaged, which has subsided the swelling to local area only and reduced the pain/level of discomfort.
- IP resumed normal duties after 2 days as there was only localized swelling and less pain.
- Vessel reached port after 12 days and IP was sent ashore for proper examination where doctor has declared him unfit for 3 weeks and advised him bandage and medication.
- A week after that, IP again complained of pain and discomfort, to which Captain took radio medical advice which is when Captain decided to sign him off from vessel for better diagnostic and treatment.

CAUSES

- Lack of situational awareness which prompted IP to step over the pipe despite having enough clear space to pass.
- An unsafe act of putting the pipe flat on deck for the purpose unknown.

ACTION REQUIRED

- Stop to ensure no obstruction/loose items to safe passage on deck.
- Act immediately in case any hazards is noticed. Report or remove as required.
- Focus on your personal safety. It is not always things which look routine are harmless.
- Execute precautions to prevent any accident/incident.

Planning for Safety

INCIDENT DESCRIPTION

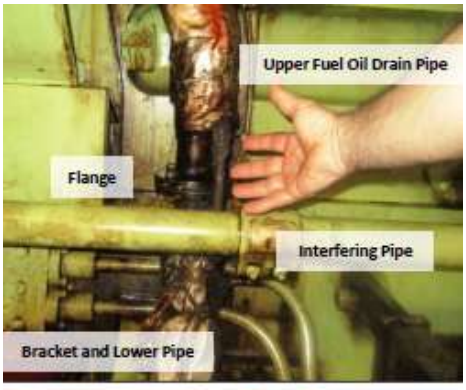
- Person A instructed IP to clear a clogged fuel oil drain pipe in the engine room.
- The pipe was in two sections (an upper and lower) and supported by a bracket on the lower section of pipe. IP unbolted the flanges, removed the upper section of pipe and tried to unclog the lower section of the drain pipe in place with copper tubing. Person A, upon seeing this action, instructed IP to remove the lower pipe.
- IP unbolted the flange and removed the bracket that held the lower pipe in place. However, the lower pipe would not move. IP attempted to loosen the stuck lower pipe by reaching over a horizontal interfering pipe and grabbing its flange with both hands. At this point the lower pipe came free and its weight pulled the IP's hands down sharply.
- IP's middle finger was caught between the falling pipe and the lower bracket mount, resulting in the injury depicted in the photograph. IP was not wearing protective gloves when this incident occurred.

CAUSE

- Planning did not take into account the poor accessibility of the work site. Assistance or chain falls and a hoist may have been needed to perform this job more safely.
- Working with bare hands added to the severity of the finger injury.

ACTION REQUIRED

- Seek assistance when lifting around interferences such as pipes, conduits or ducts; especially in instances where crewmembers must crawl over or under obstacles or work in awkward positions.
- Always wear protective gloves when performing mechanical and manual lifts.
- Focus on your safety at all times. Maintain awareness of hand and body placement and location of pinch points.
- Expect a better outcome by identifying potential problems and interferences before the work begins. Develop a plan to avoid those problems.



Foot injury due to spare part not secured

Securing loose items is a common seamanship practice. In this incident, deviation from this practice had a serious impact on a shipmate.

Pictures are reconstructed however reflect the actual work area and how the incident happened.

INCIDENT DESCRIPTION

- During inspection/cleaning of sea chest one of the anode required replacement.
- Old anode was removed and new electrode was brought near the site and kept in a vertical position resting on the railing as shown in picture 1.
- Person A while climbing up the ladder accidently touched the anode and it fell on the IP's foot resulting in fracture. Refer picture 2 & 3.
- IP was standing-by for assistance if needed.

CAUSES

- No risk assessment was done, left spare anode standing without securing.
- Inadequate supervision.
- Zero situational awareness.

ACTION REQUIRED

- Stop and assess the work place for hazards.
- Risk assessments for any task should also consider loose lying items – tools, spares etc. and the hazards they pose.

Injury while using cup wire brush

INCIDENT DESCRIPTION

- IP was involved in buffing the chipped surface with a pneumatically operated wire brush.
- During the task, one of the wire strands came off from the cup wire brush and hit the IP causing an injury.
- The impact resulted in swelling due to which IP had to be signed-off for further treatment.

CAUSES

- Poor condition of work equipment - cup wire brush was over used, wire strands loose.
- Inadequate supervision – As a responsible person, supervisor should have checked the right tool/condition of tool being used.

ACTION REQUIRED

- Stop using a damaged/overused equipment – Make sure no damaged/overused equipment are used onboard.
- Focus on personal safety – We should understand that right personal protective equipment as well as right tools for the task is important for a safe job.
- Commence the job only when all checks are complete.

Leg injury while falling through open grating

A slight lack of alertness can lead to a serious injury.

INCIDENT DESCRIPTION

- Risk assessment was done at site by Person A and IP. While IP went to get some tools, Person A opened the grating and went down to prepare the area for work. The open grating area was not isolated.
- IP returned shortly and not noticing the open space fell into the area where grating was open.
- IP got two deep wounds where stitches had to be applied as per the radio medical advice.

CAUSES

- The area with open grating was not isolated.
- IP was not attentive while walking to an area where work was to be done under the gratings.

ACTION REQUIRED

- Stop and evaluate your work area and the hazards that exist. Do not assume that there are no hazards.
- Act immediately to put safety barriers whenever any gratings/floor plates on deck or engine room are opened.
- Work should not be started till these barriers are in place.
- Focus on your personal safety. Be alert and vigilant of your surroundings.

Chemical Burns

INCIDENT DESCRIPTION

- Vessel was conducting tank cleaning using caustic soda supplied in solid form (flakes).
- Person A had used a plastic drum to dissolve the caustic soda flakes with fresh water.
- The concentrated caustic soda solution spilled on to the deck and splashed on to IP.
- IP immediately removed his boiler suit and commenced irrigation with water. Radio medical advice was obtained and IP was subsequently disembarked for emergency medical treatment.

CAUSES

- Incorrect way to prepare a caustic cleaning solution by mixing caustic soda with fresh water in a plastic drum.
- Caustic cleaners should be added directly to the tank in a manner that minimize exposure to the crew.
- Movement of the vessel combined with the improper handling of an open drum caused the solution to spill onto the deck.

ACTION REQUIRED

- Tank cleaning chemicals are to be used in accordance with manufacturer and industry guidelines.
- A proper risk assessment is to be conducted prior to using chemicals and tank cleaning.

Fall from height

Whilst transferring engine room stores from upper engine deck level to the main engine platform, IP fell 4.7m through hatch opening.

INCIDENT DESCRIPTION

- IP stepped over the closed hatch gratings on upper engine deck level and stood with his back to the hatch.
- Meanwhile Person A opened the hatch gratings. IP did not notice the hatch gratings had been opened and on stepping backwards, fell down onto the main engine platform.
- IP suffered back and leg injuries and was immediately evacuated for hospitalization onshore.

CAUSES

- Stanchions and chains were available but not rigged before the hatch was opened.
- No immediate communication before opening the hatch gratings.
- No risk assessment was completed before preparing to transfer stores.

ACTION REQUIRED

- Check all openings are provided with means of fall prevention (safety chains, guard rails, stanchions etc.) and that this is clearly marked and in good order.
- Openings must be securely protected by guard rails before opening.
- A proper risk assessment is to be conducted prior to working near deck openings.

Engine room opening

Location of fall

Finger Injury

INCIDENT DESCRIPTION

- Prior to unmooring operations, IP engaged in stowing the accommodation ladder.
- During this operation, the hoisting wire fouled and IP sustained a finger injury whilst attempting to free the wire with his hands.
- IP was evacuated ashore for medical treatment.

CAUSES

- When attempting to hoist the accommodation ladder, it became fouled on the aft spring that was positioned under tension between accommodation ladder and the ship's side.
- While attempting to free the ladder, the hoisting wire jammed between the sheave and the cheek. The ladder was suspended 50cm above the quay.
- IP attempted to clear the hoisting wire with his hands. As the wire became free, the ladder dropped, the wire became taut and caused the finger to be crushed between the hoisting wire and the sheave.

ACTION REQUIRED

- Prior to engaging in any lifting operation including operating the accommodation ladder, always ensure the area is clear of obstructions.
- Before any attempt is made to free equipment that has become jammed under load, every effort should first be made to take the load off safely.
- Precautions should be taken to guard against sudden or unexpected freeing. Others not directly engaged in the operation should keep in safe or protected positions.

The sheave assembly where the wire jammed