



Loss Prevention Circular KISHPNI-LP-APR-2022
(An Analysis of the High Rate of Personal Injuries)

The P&I club's coverage of personal injuries is an essential part of such indemnity assurance and the percentage of this type of claims has always been on the rise. There are so many reasons one can attribute to this high volume and the trend of upsurge.

We may use the available international research data to shed some light on the issue & somehow warn the members about the most prominent concerns.

A) Ranking of possible causes of injury perceived as medium/high risk:

Below is extracted from a research conducted on an international level with various seafarer nationalities:

<i>Rank</i>	<i>Cause of Injury</i>	<i>Percentage rating Medium / High</i>
1	Working in a hot environment	54.4
2	Handling, lifting or carrying	54.0
3	Slips, trips or falls on same level	53.4
4	Working in cold environment	50.2
5	Contact with hot surfaces	48.0
6	Contact with moving machinery	43.0
7	Being hit by moving objects	39.7
8	Contact with electricity or electrical discharge	37.3
9	Falls from height	34.7
10	Being struck against something fixed or stationary	34.4
11	Exposure to, or contact with, harmful substances	34.4
12	Exposure to fire	28.0
13	Contact with cold surfaces	27.6
14	Drowning/ lack of oxygen/ overcome by fumes	23.8
15	Acts of violence	22.4
16	Being hit by moving vehicles	20.9
17	Trapped by something collapsing/ overturning	20.2
18	Exposure to explosions	19.7

We have observed that slips and falls are the biggest concern over all three types of vessel, namely dry cargo and bulk carriers, Container vessels & Tankers.

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Having a general view:

▶ **Slips and falls – mainly caused by:**

- Equipment on deck
- Poor lighting
- Catwalks and grating damaged during loading and unloading

▶ **Being struck by falling objects – mainly caused by:**

- Equipment not secured for sea
- While cargo work
- While carrying out repairs and tools being loose.

▶ **Being caught in machinery – mainly caused by:**

- Not issuing or following work permits and risk assessments
- Taking short cuts

▶ **Cardiovascular disease:**

The most common illness on board all three types of vessel is cardiovascular disease, which is also the most costly. It is mainly caused by:

- Obesity
- Poor diet
- Smoking
- Physical inactivity

The following being the overall causes in short

- Lack of training, both regarding company procedures and practical skills.
- Taking unnecessary risks.
- Lack of experience.
- Complacency.
- Ignoring best practices and approved procedures.
- Lack of belief in safety and over confidence in one's own ability.
- Generic company procedures which are not suitable for the vessel's trade and operation.
- Lack of communication between crew members.
- Poor communication between crew and office staff.
- Not acknowledging cultural differences between nationalities, company and professions.
- Not being assertive when spotting mistakes being made.

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B) Possible causes of injury and differences in perceptions due to rank/previous ship type and age:

It is important to note that the perception of risks & injuries differ as per rank & the following table has a glance at the idea:

Significant differences between perceptions of different ranks	No significant differences between perceptions of different ranks
Contact with moving machinery	Being hit by moving vehicle
Being hit by moving objects	Trapped by something collapsing/overturning
Being struck against something fixed or stationary	Contact with cold surfaces
Handling, lifting or carrying	Working in cold environment
Slips, trips or falls on same level	Acts of violence
Falls from height	Exposure to fire
Drowning/ lack of oxygen/ overcome by fumes	Exposure to explosions
Exposure to, or contact with, harmful substances	
Contact with hot surfaces	
Contact with electricity or electrical discharge	
Working in a hot environment	

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There are certainly differences between ranks in terms of perception of the likely occurrence of an injury due to the various types of hazard. However, if the five highest ranking causes of injury are placed in order, it can be seen that all ranks have included the same four, though not necessarily in the same order, namely: ‘slips, trips and falls’; ‘handling, lifting, or carrying’; ‘working in a hot environment’ and ‘contact with hot surfaces’. Additionally ratings included ‘contact with cold surfaces’, in their top five causes of injury, while ships’ officers included ‘contact with machinery’ and managers included ‘falling from a height’.

Having a look at the table below:

Rank	Ratings	Junior	Senior	Managers
1	Hot environment	Slips, trips, falls	Handling, lifting, carrying	Slips, trips, falls
2	Handling, lifting, carrying	Handling, lifting, carrying	Slips, trips, falls	Handling, lifting, carrying
3	Cold environment	Hot environment	Hot environment	Hot environment
4	Slips, trips, falls	Hot surfaces	Hot surfaces	Hot surfaces
5	Hot surfaces	Contact with machinery	Contact with machinery	Fall from height

There is also Percentages that see the risk of an injury due to the listed causes as medium / high by last ship type worked on; that is what crew managers should bear in mind:

Injury cause	Tankers	Bulk Carriers	Dry Cargo	Passenger	Working
Contact with moving machinery	39.2	44.4	41.4	49.3	49.5
Being hit by moving objects	32.4	43.3	38.4	45.5	48.2
Trapped by something	15.1	22.4	19.7	19.7	27.5
Working in a hot environment	48.2	52.6	56.4	49.4	63.1
Slips, trips or falls	50.7	55.9	50.3	64.9	58.6
Contact with hot surfaces	47.0	49.9	45.1	66.2	46.1
Acts of violence	17.5	22.6	20.3	36.8	27.1
Handling, lifting or carrying	14.3	27.4	19.7	40.3	13.9
Being hit by moving vehicles	49.3	60.9	50.5	61.0	59.8
Falls from height	29.6	42.5	32.8	31.6	35.3
Drowning/ lack of oxygen/ fumes	27.7	26.8	17.7	21.1	23.6
Exposure to harmful substances	40.6	33.3	29.3	30.3	34.4

* Shaded areas indicate group who perceived the risk to be highest while figures in green indicate where risk was perceived as lowest.

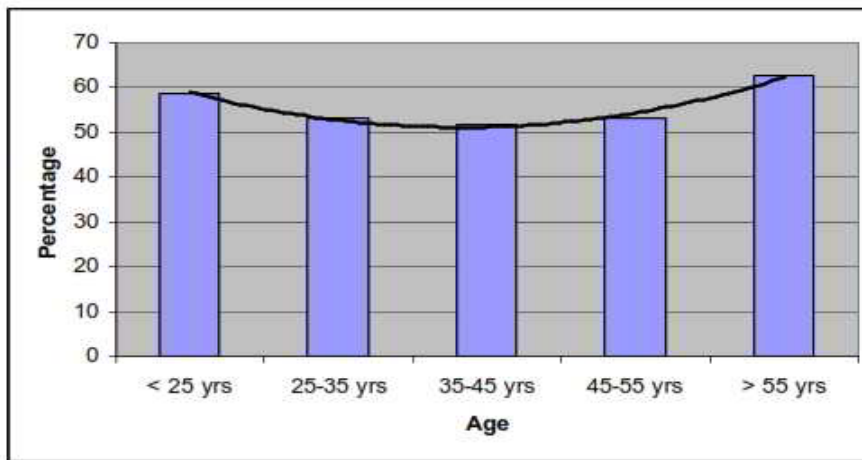
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It is important to note the effects of age; it can be seen that there are only statistically significant differences between different ages in 6 of the cases listed below:

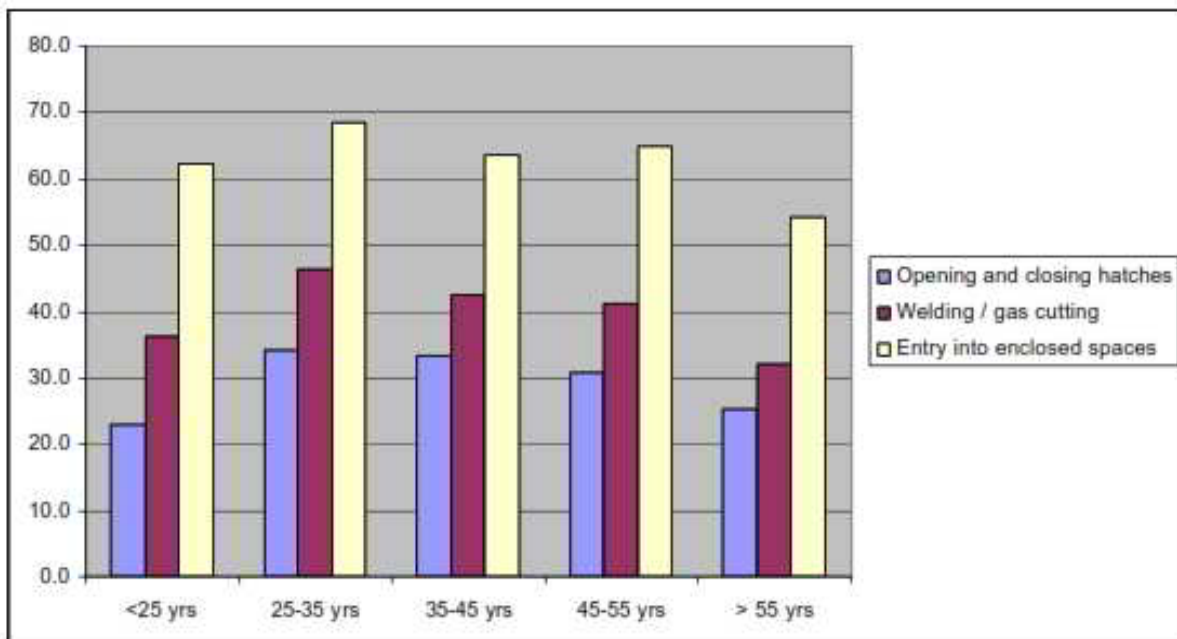
- Handling, lifting or carrying
- Working in cold environment
- Falls from height
- Contact with cold surfaces
- Being hit by moving vehicles
- Contact with hot surfaces

In general there is a consistency of perception across the different age groups. However, where there were differences, there was a tendency for the risk to be perceived as less with increased age.

*Sample table for Handling, lifting or carrying:



*Sample table for three other work related high-risk accidents & age factor:





C) Effects of nationality:

It is interesting to point out that as per the statistical analysis results depicted in below table; the effects of nationality, last ship served on & department on each cause of personal injury can be perceived to be persistent.

Possible causes of injury	Statistically significant factors
Contact with moving machinery	Nationality
Being hit by moving objects	Nationality Last ship Department
Being hit by moving vehicles	Nationality Last Ship
Being struck against something fixed or stationary	Nationality
Handling, lifting or carrying	Nationality
Slips, trips or falls on same level	Nationality Rank
Falls from height	Nationality
Trapped by something collapsing/ overturning	Nationality Last Ship Department
Drowning/ lack of oxygen/ overcome by fumes	Nationality Last Ship
Exposure to, or contact with, harmful substances	Nationality Last Ship
Exposure to fire	Nationality Last ship (close to significance)
Exposure to explosions	Nationality Rank
Contact with hot surfaces	Nationality Department Rank Last Ship
Contact with cold surfaces	Nationality Department Rank
Contact with electricity or electrical discharge	Nationality Department
Working in a hot environment	Nationality Last Ship Department Rank
Working in cold environment	Nationality Last Ship
Acts of violence	Nationality Last Ship

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D) Prevention of personal accidents, injuries & associated claims:

One: The club endeavours disseminating various circulars amongst which are the Loss Prevention material, we believe & expect that studying those by both seafarers on board as well as managers & personnel ashore will be quite effective in reducing the claims.

Two: The proper implementation of Safety Management System (SMS) is of utmost importance. Amongst which we should make these most prominent & emphasize upon:

- A. *-Timely & proper internal audits, as realistic & stringent as possible,*
- B. *-Continuous training both on board as well as ashore as per representative training needs evaluated,*
- C. *-Carrying out Pre-Employment-Medical-Examinations as per the revised company recruiting standards and as inflexible as possible,*
- D. *-Scrutinizing accident reports and investigation onto the root causes & promulgating the results to all the fleet as lessons to be learnt,*
- E. *-Conducting timely Management Reviews & analyzing near-misses & accidents therein, where after setting goals to reduce the number as well as the effects of unwanted hazardous incidents.*

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It can be quite useful to have a look at the tables below:

Points to ponder for accident prevention

Many accidents can be prevented if vessels keep good housekeeping and ensure that maintenance is carried out as required. The following procedures will assist the officers in identifying hazardous areas before the accident happens. These suggestions should be implemented into the managers ISM (International Safety Management) Code.

- Follow a checklist, which identifies potentially hazardous conditions, including a simple vessel diagram showing the main deck, cargo holds and other areas where the stevedores are scheduled to work.
- Before arrival, the Chief Officer should inspect each hazardous area including, but not limited to the condition of hatchways, latches, ladders, lighting, twist locks, wires, cables, cargo equipment, cranes and rusty conditions of deck.
- Stevedores should be informed about any planned or ongoing maintenance in the area they will be operating.
- The Chief Officer should take digital pictures of inspected spaces.
- The Chief Officer should present the stevedores with the checklist before cargo operation commences.
- If the vessel provides any equipment for the cargo operation e.g. twist locks, lashing chains, or hooks, this equipment should be regularly inspected, serviced, and replaced as necessary. Any inspection and maintenance should be recorded in the vessel's PMS (Planned Maintenance System).
- The Master should ensure that critical equipment such as cranes are regularly inspected and working properly.

The concept of Pre-Employment Medical Examination

Illness claims are somewhat different in nature to injury and cargo claims. To prevent illness it is essential that the company has established preventative measures, before the crew member joins the vessel, and that the company promotes healthy living on their vessels. It is also very important to have comprehensive new-hire procedures, to ensure that the new crew member is healthy. It is unfortunate that the normal health certificate appears to be insufficient and the Club believes that a more extensive health certificate is required. The best prevention is to carry out a PEME.

Of course there is also a need for procedures that ensure that all the crew in the company are healthy. Illness can strike at any time but by trying to identify problem areas and risks before they occur is good loss prevention and minimises the exposure in this respect.

- If possible complete a PEME on the crew member
- Promote healthy food and diet on board the vessel
- Help crew members to stop smoking
- Ensure alcohol consumption is limited
- Promote both physical activity on board and when home on vacation
- Have a functional gym on board the vessel

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