

# Safety Alert

**Number: 21-12**

**Published: 02/07/2021**

**Subject: Suspension Trauma**

## What Happened / Narrative

For the purpose of a rescue at height drill a person on the main deck suspended himself 1,5 meters from the deck in a safety harness with a ladder stand-by, while crew gathered on the bridge.

After contacting crew on the bridge by radio the person in the safety harness stepped on the ladder for a second time to reposition the safety harness. After this the person stepped of the ladder to make it look like a real situation for rescue.

A fall arrestor was used for lifting the person to disconnect him from the sling he was hanging on. During this phase of the exercise he passed out and lost his consciousness whilst being lifted. At this time the crew members on deck were not sure if the situation was real, or 'played' as a scene for the drill?

Once lowered to the deck the crew discovered blood coming from his mouth and directly applied medical first aid to the casualty, realizing the situation was real! Further medical treatment was immediately carried out. Medical oxygen was applied, and the Automated External Defibrillator (AED) was connected for heart monitoring.

Authorities and the office Emergency Response Team were informed immediately, and a nearby sister company vessel assisted. The casualty was medevacked by helicopter to hospital, shortly after regaining consciousness. After numerous scans and tests the person was discharged from hospital within two days to recover at home and more tests to be conducted, as no clear diagnosis could be determined at this time.

Amongst the conclusions was that the immediate first aid response by the vessel crew significantly reduced the impact on the person. Severely emotionally shaken by the experience, the crew looks back on an incident that obviously could have resulted in a very different / less favourable outcome. Due to prudent action by the crew this was fortunately prevented.

## Why Did it Happen / Cause

When suspended in the harness, the straps around the legs and limbs may have obstructed the blood flow, as indicated in the graphics on the following page, which is commonly known as suspension trauma.

## Corrective Actions Taken / Recommendations

1. Performing drills and exercises to a realistic scenario is essential to ensure crew can act promptly and effectively in emergency situations. However, the risks of such exercise shall always be carefully assessed.
2. The risk of trauma from being suspended in a harness can be effectively reduced by using suspension trauma relief straps after falling into the harness, this places the weight of the body on the feet while awaiting rescue.

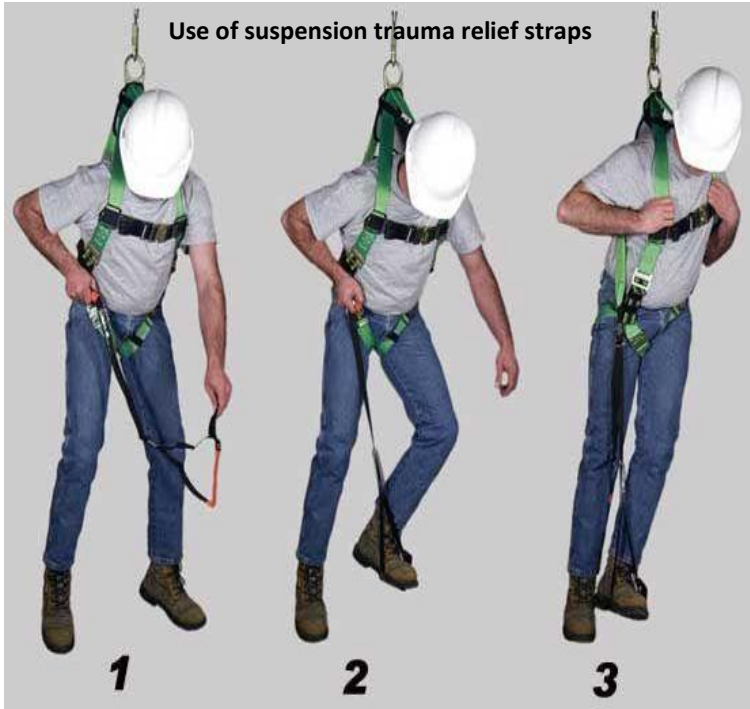
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## Photographs / Supporting Information



Incident location, with harness hanging from belt, and fall arrestor connected for retrieval, as a demonstration of the situation at the time of the incident. The fallen ladder was part of the drill scenario.




### HARNESSES SUSPENSION TRAUMA BODY MALFUNCTIONS AFTER A FALL ARREST



**Brains**


- Oxygen deprivation of the brain may lead to fainting and eventual death.



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**Heart:**


- Drop in blood return to the heart.
- Oxygen supply to the brain and other vital organs is reduced.



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**Legs:**

- Femoral veins compressed by harness leg straps.
- Skeletal muscle pumps in legs are less active or completely inactive.
- This causes blood to pool in the victim's legs.



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