

# **Human Element Issues KISHPNI-HEI-08-2021**

(First aid for unconsciousness while onboard)

#### **►** Introduction:

Sudden loss of consciousness is usually caused by a sudden drop in blood pressure: this is called syncope. Syncope is often described by patients "as if the lights went out". Once the patient has lost consciousness, recovery is rapid as soon as blood flow to the brain is restored.

Loss of consciousness can occur due to a very slow heart rate, an abnormal heart rhythm or loss of small blood vessel tone, causing pooling of blood in the legs. There are three common forms of syncope: postural syncope, micturition syncope, and vasovagal syncope (fainting).

# Reflex (neurally mediated) syncope

#### Vasovagal

Mediated by orthostatic or emotional stress

#### Situational

Cough, sneeze, gastrointestinal, micturation, post-exercise, post-prandal, others (laugh, brass instrument playing, weightlifting)

# Carotis sinus syncope

#### Atypical forms

Without apparent triggers and/or atypical presentation

# Syncope due to orthostatic hypotension

# Primary autonomic failure

Pure autonomic failure, Multiple system atrophy, Parkinson's disease with autonomic failure, Lewy body dementia

# Secondary autonomic failure

Diabetes, Amyloidosis, Uraemia, Spinal cord injuries

#### Drug induced

Alcohol, vasodilators, diuretics, phenotiazines, antidepressants

#### Volume depletion

Haemorrhage, diarrhoea, vomiting etc.

# Cardiac syncope

# Arrhythmias

#### Bradycardia

sinus node dysfunction, atrio-ventricular conduction system disease, implanted device malfunction

# Tachycardia

supraventricular, ventricular (idiopathic, secondary to structural heart disease or to channelopathies)

## Drug-induced

Cardiac
cardiac valvular disease (or
prosthetic valve dysfunction),
acute myocardial infarction/
ischemia, hypertrophic
cardiomyopathy, cardiac
masses, pericardial disease/
tamponade, congenital
anomalies of coronary
arteries

## Other

Structural heart disease

pulmonary embolus, acute aortic dissection, pulmonary hypertension

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# **▶** General differentiation:

# No. 1 Postural syncope:

- The patient becomes dizzy and pale, then loses consciousness after standing up.
- Postural syncope often occurs after a period of bed rest lasting more than a few days, such as during an illness.
- Medicines, especially those used for treating high blood pressure, are a common cause of postural syncope.
- Postural syncope can be the first symptom of blood loss, as from a bleeding peptic ulcer.

# No. 2 Micturition syncope:

- An attack usually occurs immediately after urination, often during the night.
- The underlying cause is not fully understood but it may be a result of vasovagal response, postural hypotension, or a combination thereof.

## No. 3 Fainting:

- A fainting episode can occur after a few seconds or minutes of nausea, skin pallor, sweating, and light-headedness.
- Common triggers include: standing for long periods of time, heat exposure, seeing blood, fear of bodily injury
- The episode may be precipitated by a strong emotion or fear.

In most cases, syncope is not a sign of serious illness. Syncope can be the first or only indication of serious heart disease, especially if an attack occurs while the patient is lying or sitting and the patient has a history of heart disease. In a few cases, generalized epilepsy can occur without tonic-colonic movements can mimic syncope. Epilepsy is likely to be the correct diagnosis if the patient is dusky blue (cyanosed) rather than pale; recovers slowly and is confused for a period after the episode.

#### ► What to do if someone losses consciousness onboard:

- Lay the patient flat.
- Check for injuries (one third of patients with syncope injure themselves falling).
- If you think that medications may have caused postural syncope, seek medical advice about stopping these medications.
- If there are indications of a serious cardiac cause seek medical advice with a view to evacuation.
- If no cause can be found, keep the patient lying down and check frequently for evidence of bleeding, such as blood in the stools.

#### ► Keep in mind:

Loss of consciousness might have no medical significance or on the other hand, the cause can be a serious disorder, often involving the heart. Therefore, treat loss of consciousness as a medical emergency until the signs and symptoms are relieved, and the cause is known. Talk to a doctor if fainting becomes repetitive. Also, pay attention if you begin to feel lightheaded, dizzy or clammy, or if you have unusual sweating, nausea or heart palpitations. Sit or lie down until you feel stable or are able to call for assistance and be sure to be evaluated if this occurs.

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