

# F01: Altered Levels of Consciousness

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## Introduction

The altered level of consciousness is a common prehospital emergency. Paramedics are frequently faced with patients with changes to their baseline consciousness, ranging from unconsciousness to hyperarousal. The underlying causes for this are varied and numerous. Some of these conditions are relatively benign, while others are rapidly lethal. Differentiating between these, in the prehospital environment, can be extremely difficult. In assessing and caring for these patients, paramedics should focus on broad goals, such as maintaining a patent airway and supporting oxygenation and ventilation and circulation, while at the same time searching for and treating potentially reversible causes.

## Essentials

- Regardless of the underlying cause, patients with altered levels of consciousness are at high risk of functional airway obstruction and hypoxia. Management of oxygenation and ventilation must take priority over a search for potentially reversible causes.
- Syncope should be considered a diagnosis of exclusion: paramedics must look for reversible or life-threatening causes of unconsciousness and rule these out prior to considering syncope as the cause of the altered level of consciousness.
- The search for reversible causes should be conducted systematically. A number of mnemonics exist to guide paramedics in their investigations. Regardless of which tool is used, paramedics should consider, at a minimum:
  - Alcohol and intoxicants
  - Epilepsy, endocrine (hypoglycaemia), electrolytes
  - Insulin
  - Overdoses, accidental or intentional
  - Underdosing of medication or uremia
  - Trauma
  - Infection
  - Psychosis
  - Sepsis, shock, stroke
  - Hypotension
  - Hypoxia
  - Hypo- or hyperthermia
- If a potentially reversible cause is found, refer to the appropriate CPG for management details

## Additional Treatment Information

- All patients with an altered level of consciousness require comprehensive monitoring, including blood glucose measurements, temperature, and a 12-lead ECG
- Complete a physical exam with specific attention to lateralizing neurological symptoms
- Patients who have regained consciousness must have a FAST-VAN assessment performed

## Referral Information

Patients who experience syncope are often inclined to refuse service. The diagnostic tests required to safely include or exclude potential causes of syncope or transient loss of consciousness are not available in the prehospital environment. Paramedics are expected to follow the appropriate guidelines with respect to these refusals.

## General Information

- Syncope is a clinical syndrome in which a transient loss of consciousness is caused by a period of diminished cerebral blood flow. By definition, the duration of the event is usually brief, and with a spontaneous to normal baseline consciousness. Recovery from syncope is usually rapid and complete, with episodes rarely lasting more than a minute or two. Syncope can also be a sign of a potentially serious and life threatening condition. Some patients experience syncope without warning. They lack pre-syncope signs or symptoms, and experience a sudden collapse followed immediately by a return to normal mental status. Paramedics should consider these patients to have suffered from a cardiac dysrhythmia until proven otherwise, regardless of vital signs or ECG findings.
- Immediately life-threatening causes of syncope or unconsciousness include:
  - Cardiac dysrhythmias with or without associated ischemia
    - [→ C01: Acute Coronary Syndrome](#)
    - [→ C02: Bradycardia](#)
    - [→ C03: Narrow Complex Tachycardia](#)
    - [→ C04: Wide Complex Tachycardia](#)
- Structural heart disease (outflow obstruction or cardiomyopathy)
- Hypovolemia from occult hemorrhage
  - [→ D01: Shock](#)
  - [→ D02: Bleeding](#)
- Hypotensive distributive shock
- Pericardial tamponade
- Pulmonary embolism resulting in obstructive shock
  - [→ C06: Pulmonary Embolism](#)
- Hypoglycemia
  - [→ E01: Hypoglycemia and Hyperglycemia](#)
- Heat exhaustion and stroke
  - [→ I02: Hyperthermia](#)
- Cerebrovascular accidents, including transient ischemic attacks and subarachnoid hemorrhage
  - [→ F03: Stroke](#)
- Toxicity from anticonvulsants, beta blockers, calcium channel blockers, benzodiazepines, or narcotic analgesics
  - [→ J01: Approach to Toxic Exposures](#)
  - [→ J07: Beta Blockers](#)
  - [→ J09: Calcium Channel Blockers](#)
  - [→ J12: Opioids](#)
- Some patients experience syncope without warning. They are devoid of any pre-syncope signs or symptoms and experience a sudden collapse followed immediately by a return to normal mental status. This type of syncope should be considered to be from a cardiac dysrhythmia until proven otherwise, even if the vital signs are normal when you arrive on the call.
- Loss of postural tone is inevitable with loss of consciousness, resulting in a collapse that can cause traumatic injuries. Longer periods of real or apparent loss of consciousness suggest either an alternative cause, or a concurrent injury that prolongs the syncopal event.
- Patients can have symptoms associated with syncope without loss of consciousness. This is referred to as pre-syncope, and should be investigated and managed in the same manner as syncope.
- Vasovagal syncope is a common and benign cause of syncope. It occurs due to an inappropriate response by the autonomic nervous system, typically to triggers such as changes in posture, pain, the sight of blood, or extreme emotional distress. Prodromal symptoms are common, and can include a feeling of lightheadedness or dizziness, weakness, nausea, blurred vision, and a general sensation of unwellness or unease. Patients may be pale and diaphoretic. Vasovagal syncope is a diagnosis of exclusion, and should be considered only after all potentially serious, life-threatening causes have been ruled out.

## Interventions

### First Responder

- Position the patient. If symptoms suggest hypotension, lay flat provided this does not increase symptoms.
- If no suggestion of hypotension, place patient in position of comfort
- Maintain airway as required
  - → [B01: Airway Management](#)
- Provide supplemental oxygen as required
  - → [A07: Oxygen and Medication Administration](#)

### Emergency Medical Responder – All FR interventions, plus:

- Provide supplemental oxygen to maintain SpO<sub>2</sub> ≥ 94%
  - → [A07: Oxygen and Medication Administration](#)
- Correct hypoglycemia if present
  - → [E01: Hypoglycemia and Hyperglycemia](#)

### Primary Care Paramedic – All FR and EMR interventions, plus:

- Assess for source of syncope
- Monitor for signs of improvement if patient initially hypo-perfusing
- Obtain vascular access and correct hypoperfusion
  - → [D03: Vascular Access](#)
- Correct hypoglycemia
  - [Glucagon](#)
  - [Dextrose](#)

### Advanced Care Paramedic – All FR, EMR, and PCP interventions, plus:

- Provide advanced airway management if required
- Correct rhythm disturbances

## Evidence Based Practice

[Syncope](#)

## References

1. Benditt D. Syncope in adults: Clinical manifestations and diagnostic evaluation. In UpToDate. 2019. [[Link](#)]
2. Benditt D. Syncope in adults: Epidemiology, pathogenesis and etiologies. In UpToDate. 2019. [[Link](#)]

