

# Glycaemic Emergencies (Adults)

- Diabetic patients may present with significant dehydration resulting in reduced fluid in both the vascular and tissue compartments. Often this has taken time to develop and will take time to correct. Rapid fluid replacement into the vascular compartment can compromise the cardiovascular system particularly where there is pre-existing cardiovascular disease and in the elderly. Gradual rehydration over hours rather than minutes is indicated.
- Ketone measurement (blood or urine) is useful in the diagnosis of DKA.

## 3. Assessment and Management

For the assessment and management of hyperglycaemia refer to Table 3.61.

### Methodology

For details of the methodology used in the development of this guideline refer to the guideline webpage.

**Table 3.60 – SIGNS AND SYMPTOMS OF HYPERGLYCAEMIA**

#### Symptoms

- Polyuria
- Polydipsia
- Increased appetite

#### Signs

- Fruity odour of ketones on the breath (resembling nail varnish remover)
- NB Not everyone can detect this odour
- Lethargy, confusion and ultimately unconsciousness
  - Dehydration, dry mouth and possible circulatory failure due to hypovolaemia
  - Hyperventilation
  - Kussmaul breathing
  - Weight loss

**Table 3.61 – ASSESSMENT and MANAGEMENT of:**

## Hyperglycaemia in Adults

ASSESSMENT	MANAGEMENT
<ul style="list-style-type: none"> <li>● Undertake ABCD assessment</li> </ul>	<ul style="list-style-type: none"> <li>● Start correcting ABC problems (<b>refer to medical overview guideline</b>).</li> </ul>
<ul style="list-style-type: none"> <li>● If the patient is <b>TIME CRITICAL</b></li> </ul>	<ul style="list-style-type: none"> <li>● Correct life-threatening conditions, airway and breathing on scene.</li> <li>● Then commence transfer to nearest suitable receiving hospital.</li> </ul> <p>NB These patients have a potentially life-threatening condition – they require urgent hospital treatment including insulin and fluid/electrolyte therapy.</p>
<ul style="list-style-type: none"> <li>● Consider and look for medical alert/information signs (alert bracelets, chains and cards)</li> </ul>	
<ul style="list-style-type: none"> <li>● Assess for blood glucose level</li> </ul>	<ul style="list-style-type: none"> <li>● Measure and record blood glucose level.</li> </ul>
<ul style="list-style-type: none"> <li>● Assess for signs of dehydration</li> </ul>	<p><b>Signs may include:</b></p> <ul style="list-style-type: none"> <li>● The skin of the forearm remains tented following a gentle pinch, only returning to its normal position slowly.</li> <li>● Dry mouth.</li> <li>● In severe cases this may lead to hypovolaemic shock – If the patient is shocked, with poor capillary refill, tachycardia, reduced Glasgow Coma Score (GCS) and hypotension, then <b>refer to the intravascular fluid therapy guideline</b>.</li> <li>● <b>DO NOT</b> delay at scene for fluid replacement.</li> </ul>
<ul style="list-style-type: none"> <li>● Assess heart rhythm</li> </ul>	<ul style="list-style-type: none"> <li>● Undertake ECG.</li> </ul>
<ul style="list-style-type: none"> <li>● Measure oxygen saturation (SpO<sub>2</sub>)</li> </ul>	<ul style="list-style-type: none"> <li>● Administer supplemental oxygen if the patient is hypoxaemic SpO<sub>2</sub> &lt;94%.</li> <li>● <b>Refer to oxygen guideline</b>.</li> </ul>
	<ul style="list-style-type: none"> <li>● Provide a pre-alert/information message.</li> <li>● If the patient has records of their blood or urine glucose levels, ensure these accompany the patient.</li> </ul>

## KEY POINTS

### Glycaemic Emergencies in Adults

- Clean skin prior to obtaining blood glucose reading (using either soapy solution or an alcohol wipe, allowing the finger to dry).
- If blood glucose reading of <4.0 mmol/L treat with oral solids (glucose drinks, chocolate or hypostop solutions) if GCS >13.
- If GCS ≤13 consider IM glucagon or 10% IV glucose 100 ml bolus and review patient's condition titrate to effect.
- Consider fluid therapy to counteract the effects of dehydration.