## Causes of Hyperthermia

### Classic vs Exertional Heatstroke

<table>
<thead>
<tr>
<th>Classic heat stroke</th>
<th>Exertional heat stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial gases</td>
<td>Severe metabolic acidosis</td>
</tr>
<tr>
<td>Serum electrolytes</td>
<td>Hyperkalaemia</td>
</tr>
<tr>
<td>Blood glucose</td>
<td>Hypocalcaemia</td>
</tr>
<tr>
<td>Creatinine kinase</td>
<td>Hyperphosphataemia</td>
</tr>
<tr>
<td>Hepatic enzymes</td>
<td>Hypoglycaemia</td>
</tr>
<tr>
<td>Acute phase proteins</td>
<td>Markedly increased</td>
</tr>
</tbody>
</table>

### Factors Predisposing to Heatstroke

- Elderly
- High ambient temperature and humidity
- Heat waves
- Poor ventilation
- Lack of acclimatization
- Salt and water deprivation
- Obesity
- Infection/fever
- Diabetes
- Malnutrition
- Alcoholism
- Hyperthyroidism
- Impaired sweat production
- Healed burns
- Ectodermal dysplasia
- Impaired sweating
- Cardiovascular disease
- Fatigue
- Potassium deficiency
- Anticholinergics
- Antiparkinsonians
- Antihistamines
- Butyrophenones
- Phenothiazines
- Tricyclics
- Diuretics
- Sympathomimetics

### Disorders of Excessive Heat Production

- Exertional hyperthermia
- Heat stroke (exertional)
- Malignant hyperthermia
- Neuroleptic malignant syndrome
- Lethal catatonia
- Thyrotoxicosis
- Phaeochromocytoma
- Salicylate intoxication
- Sympathomimetic drug abuse
- Delirium tremens
- Seizures
- Tétanus

### Disorders of Diminished Heat Dissipation

- Heat stroke (classic)
- Dehydration
- Autonomic dysfunction
- Anticholinergic poisoning
- Neuroleptic malignant syndrome
- Cerebrovascular accidents
- Encephalitis
- Trauma
- Granulomatous diseases
- Neuroleptic malignant syndrome