# hyperthermia

## factors predisposing to heatstroke

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

## causes of hyperthermia

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|---|---|
| **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 |
| | Tetanus |
| **Disorders of diminished heat dissipation** | Heat stroke (classic) |
| | Dehydration |
| | Autonomic dysfunction |
| | Anticholinergic poisoning |
| | Neuroleptic malignant syndrome |
| **Disorders of hypothalamic function** | Cerebrovascular accidents |
| | Encephalitis |
| | Trauma |
| | Granulomatous diseases |
| | Neuroleptic malignant syndrome |

## classic vs exertional heatstroke

| | Classic heat stroke | Exertional heat stoke |
|---|---|---|
| Arterial gases | Mixed respiratory alkalosis | Severe metabolic acidosis |
| Serum electrolytes | $Na^+$, $Mg^+$, $Ca^{2+}$, $Mg^{2+}$ are usually normal | Hyperkalaemia |
| | | Hypocalcaemia |
| | Hypophosphataemia | Hyperphosphataemia |
| Blood glucose | Hyperglycaemia | Hypoglycaemia |
| Creatinine kinase | Moderately increased | Markedly increased |
| Hepatic enzymes | Markedly increased | Moderately increased |
| Acute phase proteins | Markedly increased | Moderately increased |