

Appendix

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Appendix 1. Rapid Response Team diagnoses

- **Airway**

Airway threatened (tracheostomy-related)

Examples include a blocked, dislodged or malpositioned tracheostomy tube.

Airway threatened (excluding tracheostomy-related)

The airway was threatened by some other problem. Examples include epistaxis or bleeding into the airway, compression of the airway from a haematoma, subcutaneous emphysema or ligature, obstruction of the airway by food or a foreign body, and swelling in the airway due to allergy, prolonged surgery or inhalation injury.

- **Breathing**

Atelectasis

Pulmonary atelectasis.

Macro-aspiration

Gross aspiration of food or vomit with soiling of the large airways, but without obstruction of the airway. It is different to aspiration pneumonia in that the main problem is soiling of the airways; aspiration pneumonia may or may not develop after macro-aspiration.

Sputum retention

Accumulation of airway secretions or plugging of sputum in the airways. It has been observed in patients with an impaired cough or with copious sputum or with particularly tenacious sputum.

Pneumonia

Infection of the lung parenchyma. Where there were also significant signs of systemic inflammation such as hypotension, high temperature or tachycardia, it should be classified as sepsis (chest).

COPD

Exacerbation of COPD.

Hypoventilation

It can occur in contexts including morbid obesity, obstructive sleep apnoea, severe chest wall deformity and advanced neuro-muscular disorders such as multiple sclerosis and muscular dystrophy. An elevated CO₂ and decreased GCS are common features; hypoxaemia can also occur. It is not the same as oversedation or narcosis.

Fluid overload

Contexts where this can arise include excessive fluid administration, blood transfusion, chronic heart failure and ischaemic heart disease. If it occurs in the context of an acute coronary artery problem it should be classified as an acute coronary syndrome. If it occurs in the context of cardiogenic shock it should be classified as cardiogenic shock.

Complex respiratory failure

Some combination of pneumonia, fluid overload, pleural effusion, pneumothorax, exacerbation of underlying pulmonary disease or another respiratory problem, and no one item could be identified as the main cause of the patient's deterioration.

Breathing (other)

Another breathing problem. Examples include exacerbation of asthma and pulmonary embolus.

- **Cardiac**

Angina

Pain due to myocardial ischaemia. Chest pain due to gastric reflux, pleurisy etc. is not angina.

Acute coronary syndrome

There was evidence of an acute problem with a coronary artery such as compelling ECG changes or a significant troponin rise. A small troponin rise after a period of hypotension or after a tachyarrhythmia is not sufficient to indicate an acute coronary syndrome.

Heart block or bradycardia (medication-related)

Examples include overdose of beta-blocking or antiarrhythmic drugs.

Heart block or bradycardia (excluding medication-related)

Examples include problems with mechanical pacemakers and problems with the patient's conduction system.

Cardiac syncope

Collapse or near collapse due to cardiac insufficiency as may occur in contexts such as severe cardiomyopathy and severe aortic stenosis.

Cardiogenic shock or acute heart failure

Acute deterioration in cardiac function resulting in compromised systemic organ perfusion.

Cardiac arrest

There were clinical signs of cardiac arrest and cardiac compressions and/or electrical defibrillation were provided.

- **Tachyarrhythmia**

When there is a tachyarrhythmia and there are also significant signs of another problem (e.g. sepsis, hypovolaemia, pulmonary embolus) the event could be classified according to that other problem. Choose the diagnosis that best explains the patient's presentation.

Atrial fibrillation (AF) or atrial flutter (AFL)

Examples of possible contexts include new-onset, paroxysmal and chronic where usual medications had been omitted.

Supraventricular tachycardia

Supraventricular tachycardia. It is not sinus tachycardia, AF or AFL.

Ventricular tachycardia

Ventricular tachycardia. If there was associated cardiac arrest the event should be classified as cardiac arrest.

Tachyarrhythmia (other or unknown)

There was another type of tachyarrhythmia or the mechanism of the tachyarrhythmia was unknown. Sinus tachycardia is usually a normal response to physiological stress and is not an arrhythmia. However, it could be regarded as a tachyarrhythmia if the rate is inappropriately high.

- **Circulatory**

Bleeding (gastrointestinal)

Gastrointestinal bleeding.

Bleeding (excluding gastrointestinal)

Examples include retroperitoneal bleeding and bleeding from an operation site.

Hypovolaemia (postoperative)

Inadequate blood volume in the postoperative period due to postoperative fluid shifts, fasting status or normal surgical blood loss.

Hypovolaemia (excluding postoperative)

Examples of contexts where it can occur include inadequate oral intake, anaemia without active bleeding, and large gastrointestinal losses.

Hypotension (spinal-anaesthesia-related or epidural-analgesia-related)

Hypotension that is due to the effects of spinal anaesthesia or epidural anaesthesia.

Hypotension (medication-related)

Examples include hypotension due to the effects of cardiovascular medications or analgesics. If the patient was over-sedated or narcotised the event should be classified as over-sedation or narcosis.

Hypotension (other)

Examples include postural hypotension and chronic hypotension.

Hypertension

The focus of management is on blood pressure control. If the hypertension was due to acute respiratory distress or to acute cardiac ischaemia or to an acute intra-cranial event or to severe pain it should be classified according to that problem.

- **Sepsis and non-septic SIRS**

Sepsis (abdominal)

Sepsis or septic shock arising from the abdomen, which includes the gut, liver, pancreas and gall bladder.

Sepsis (chest)

Sepsis or septic shock arising from the chest.

Sepsis (urinary)

Sepsis or septic shock arising from the urinary tract, which includes the bladder, prostate, ureters and kidneys.

Sepsis (other or unknown)

Sepsis or septic shock arising from another source or from an unknown source.

Non-septic SIRS

Non-septic SIRS can occur after a significant non-septic inflammatory insult. It may give rise to injury to organs, such as the kidneys and lungs. Vasopressors and/or respiratory support might be required.

- **Adverse Reactions**

Adverse reaction (drug)

The adverse reaction could be a histamine/anaphylactic/allergic-type reaction or some other adverse reaction, such as acute back pain or dyskinesia. Common precipitants are antibiotics, iron infusions, monoclonal antibodies, radiocontrast, metoclopramide and anti-psychotics.

Adverse reaction (blood product)

Common precipitants are packed cells, platelets and immunoglobulin.

- **Neurology & Consciousness**

Seizure (known epilepsy)

Seizures in a patient already diagnosed with epilepsy.

Seizure (excluding known epilepsy)

Seizures in a context other than known epilepsy. Examples of contexts include alcohol withdrawal, brain tumours, CNS infections and neurosurgery.

Oversedation or narcosis

Oversedation or narcosis due to medically-sanctioned or patient-initiated opiates or sedatives.

Delirium

The key feature is inattention. It can be agitated or hypoactive.

Hypoglycaemia

The blood glucose level is too low and brain function is impaired.

Metabolic encephalopathy

Accumulation of metabolic wastes or toxins and brain function is impaired.

Vasovagal

Slowing of the heart rate is a key characteristic. There is often pallor, dizziness, diaphoresis or nausea prior to transient loss of consciousness. Precipitants can include venepuncture, the sight of blood, painful or invasive procedures, sudden psychological or emotional stress, straining with micturition or defecation, prolonged sitting, prolonged standing and warm rooms. It is not the same as cardiac syncope, delirium or seizures.

Acute intracranial event

Examples include new or extended intracranial bleeding, new or extended stroke and new or extended hydrocephalus. Fluctuant GCS without a new or extended problem does not count.

Transient neurological change (known cause)

For example, there was fluctuant GCS in a patient who had had a stroke but there was no worsening or extension of the underlying stroke.

Transient neurological change (unknown cause)

There was a transient change in neurological signs but the cause was not clear.

Neurological problem (other)

There was another type of neurological problem.

- **Pain & Psychology**

Pain

Examples of contexts where pain can occur include chronic pain syndromes, post-operative pain and non-ischemic chest pain.

Anxiety or panic attack

Acute anxiety or panic attack.

Behavioural episode

Abnormal behaviour that is not due to organic pathology.

Pseudoseizure

Seizure-like behaviour.

- **Death & Dying**

Dying (pain or distress)

A dying patient in pain or distress.

Dying (terminal hypotension, hypoxia or altered GCS)

A dying patient experiencing terminal hypotension, hypoxia or altered conscious state.

Deceased

The patient was deceased and no attempt was made to resuscitate.

- **Falls, Technical & Other**

Fall

There was a 'mechanical' fall. Typically the patient will trip or stumble. It is not the same as collapse due to cardiac syncope or vasovagal syncope.

Technical

Possible examples include misinterpretation of monitor output and faulty equipment.

Other

There was some other problem.