V: The treatment of anaphylaxis and other medical emergencies

V.1: Anaphylaxis

V.1.1 An anaphylactic reaction is an exaggerated immunological response to a substance that an individual has become sensitised to, in which inflammatory mediators (such as histamine and serotonin) are released from basophils and mast cells. Anaphylactoid reactions are clinically indistinguishable from anaphylaxis but they have a non-immunological basis, the reaction being directly mediated by the drug or substance in question. Any drug can potentially cause an anaphylactoid reaction. For the purposes of this policy, "anaphylaxis" and "anaphylactoid reactions" will be referred to collectively as "anaphylaxis".

V.1.2 The presentation of anaphylaxis can be variable. For example, it can occur:

- After single exposure to the agent concerned or it may require a history of repeated exposure before it manifests for the first time.
- Immediately on exposure to the causative agent or after a delay of up to several hours. In some cases it demonstrates a biphasic pattern, apparently improving and then returning again.
- In mild and severe forms.

V.1.3 Mild cases may involve little more than some urticaria (skin redness and swelling) and a slight fall in blood pressure.

V.1.4 In more severe cases, symptoms and signs may include:

- **Facial and cutaneous:** Flushing, erythema, urticaria, angioedema, rhinitis, conjunctivitis.
- **Cardiovascular:** Hypotension, tachycardia, cardiac arrhythmias, cardiac arrest.
- **Respiratory:** Oedema of the oropharynx and hypopharynx (causing stridor and airway obstruction) and bronchospasm (causing a tight chest, breathlessness and wheeze).
- **Gastrointestinal:** Abdominal pain, vomiting, diarrhoea.
- **Haematological:** Clotting problems.
- **Psychological:** Sense of impending doom.

V.1.5 It is important to distinguish between anaphylaxis, vasovagal reactions and panic attacks as the medications used in the management of anaphylaxis could make a vasovagal or panic attack much more serious. The following italicised features may help to distinguish between the three conditions, although *they are not failsafe discriminators and you are advised to urgently seek medical advice if you are in doubt*:

	Anaphylaxis	**Vasovagal reaction**	**Panic attack**
Blood pressure	Low	Low	*Normal/high*
Skin changes	*Rash and swelling*	No rash or swelling	Possible rash, no swelling
Panic	Yes	Yes	Yes
Breathing problems	*Stridor/Wheeze*	No	*Hyperventilation*
Pulse	Fast	*Slow*	Fast

V.1.6 Management of anaphylaxis must be individualised to the patient and to the severity of the reaction. It can include any of the following, preferably adopted in the sequence below:

1) Confidently diagnose anaphylaxis.
2) Prevent further exposure to the likely incriminated substance.
3) Maintain a clear airway.
4) Nurse in the head-down position.
5) Administer 100% oxygen at a rate of 10-15 litres per minute
6) *Intramuscular* administration of 0.5mg adrenaline (0.5mL of a 1: 1000 solution) if there are definite clinical signs of shock or breathing difficulties.
   - This dose can be repeated after 5 minutes if necessary.
   - Adrenaline works best when given early after the onset of the reaction.
   - It is advised that *patients who are taking beta-blockers, tricyclic antidepressants or monoamine oxidase inhibitors should receive only 50% of the usual dose of adrenaline* to reduce the risk of potentially dangerous drug interactions.
7) Nebulised salbutamol 5mg for refractory bronchospasm.
8) Intravenous saline to expand circulating blood volume.
9) *Intramuscular* antihistamine (e.g. chlorpheniramine 10mg) to help counter histamine-mediated vasodilatation
10) *Intramuscular* corticosteroid (e.g. dexamethasone 8mg), although it must be remembered that it takes several hours for this to have any clinical impact.
11) Emergency transfer by ambulance to the local casualty unit.

V.1.7 There is a red pencil case in the injectable medicines cabinet that is clearly labelled "anaphylaxis". This contains:

- One prefilled 1ml syringe of 1:1000 adrenaline.
- One nebule of salbutamol 5mg.
- One ampoule of chlorpheniramine 10mg.
- Two ampoules of dexamethasone 4mg.
- Two syringes, four needles, three sterets and a sterile pack of cotton wool swabs.

V.1.8 In cases of severe anaphylaxis when immediate treatment is required to save life, making contact with a doctor could represent an avoidable and potentially fatal delay in responding to the situation. In such circumstances, it is acceptable for the nurse to position the patient appropriately, administer intramuscular adrenaline and give oxygen before contacting a doctor if s/he is confident of the diagnosis and the procedure for treating anaphylaxis (including the method of administration of any appropriate drugs).

V.1.9 *Intramuscular injections into the thigh* must be used in the management of anaphylaxis because:

- Adrenaline and chlorphiniramine can cause very serious complications if given by the intravenous route.
- Peak plasma levels are reached faster from injections into the thigh than injections into the upper arm.

V.1.10 After successful management of anaphylaxis, any patients who are not urgently transferred to the local casualty department must be monitored closely for the following 8-24 hours to ensure there is no recurrence. This is particularly important for patients who fit into any of the following groups:

- Those who had severe reactions with a slow onset.
- Those with a severe asthmatic component to their anaphylaxis or with a strong history of severe asthma in the past.
- Those who may be at continued risk of exposure to the causative agent.
- Those with a previous history of biphasic reactions.

V.2: Other medical emergencies in palliative care

V.2.1 Other acute medical emergencies include:

- Acute severe haemorrhage.
- Acute severe dyspnoea.

V.2.2 Whilst such acute medical emergencies are infrequent in the unit, they often prove to be terminal events when they do arise. The most important part of the management of such situations is the prompt administration of subcutaneous midazolam at an anxiolytic and potentially sedating or amnesic dose. All inpatients are written up for PRN midazolam as a matter of routine. If a patient is considered to be at particularly high risk of such an emergency then this drug can be stored at the patient's bedside in accordance with Section B.3.3 of this policy.

V.2.3 There is a separate policy for cardiopulmonary resuscitation

V.3: Medical emergencies in staff and visitors

V.3.1 If a member of staff or visitor to the hospice suffers an acute medical emergency in the unit, then the default position is to administer appropriate resuscitative and first aid measures until an emergency ambulance arrives.