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Ministry of Health

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General Circular No: 01-20/2001

Provincial/ Regional Directors of Health Services, Medical Officers of Health, All Heads of Medical Institutions

# **Guidelines for Initial Management of Anaphylaxis at Field Settings**

Anaphylaxis is one of the most acute life-threatening hypersensitivity reactions that could occur following administration of a vaccine or any pharmacological agent. This could occur very rarely following vaccination, as an allergic reaction to the vaccine or its components. On average when a million is immunized one may develop anaphylaxis. Usually an anaphylactic reaction occurs within minutes of vaccination but in rare instances it could occur even after 12 hours of immunization.

Some people are more prone to develop anaphylaxis. e.g. persons who had developed an allergic reactions to a drug, vaccine or a food previously or those with a history of asthma or eczema. However some people without any such known risk factors could also develop anaphylaxis for the first time.

A person who develops anaphylaxis should be treated immediately to prevent life-threatening reactions and death. Hence it is very important to recognize the condition immediately in field clinic settings by the vaccinator, age appropriate first dose of adrenalin 1:1000 to be given immediately and the patient to be taken to the closest hospital for further management as soon as possible. To implement the contents of this guideline you are kindly requested to adhere to the following.

- a) Ensure competency of the field health staff including Medical Officers, Nursing Officers, Public Health Inspectors and Public Health Midwives to recognize anaphylaxis early and administer the first dose of adrenaline, by thorough training of all field health staff as per national guidelines.
- b) Estimate, procure and make available required quantities of Adrenaline 1: 1000 vials and 1 CC disposable syringes with 23 Gauge one inch needles.
- c) Authorize field health staff in charge of field clinics to hire a vehicle in an emergency to transport the patient to the nearest hospital. The vehicle hire could be reimbursed to the field health staff subsequently.

### Signs and symptoms of Anaphylaxis

Signs and symptoms of anaphylaxis are not distinctive to this condition alone. Signs and symptoms of anaphylaxis could be grouped according to the system of the body that is affected.

#### Skin and mucous membranes.

In over 80 % to 90 % of anaphylaxis reactions, skin and mucous membranes are affected. When only skin and mucous membranes are affected without involvement of other systems it could not be called anaphylaxis. However anaphylaxis could occur without the skin being affected.

- Tingling sensation around the lips
- Oedema of lips
- Itching of skin
  - o specially in small children
- scratching of forehead
- scratching of hands
- scratching of eyes & ears
- Generalized skin erythema
- Urticaria and oedematous patches
- Swelling in the throat (angio-oedema)
- Hoarseness of voice

## **Respiratory system**

If a person prone to asthma develops an acute attack of asthma or difficulty in breathing after immunization it should be assumed that this could be a sign of an anaphylaxis reaction instead of assuming it as another attack of asthma and should mange accordingly.

<ul><li>Cough</li></ul>	
<ul> <li>Wheezing</li> </ul>	<ul> <li>Hoarseness</li> </ul>
<ul> <li>Difficulty in breathing</li> </ul>	<ul><li>Rapid breathing</li><li>Stridor</li></ul>

#### **Circulatory system**

<ul><li>Weak peripheral pulse</li><li>Lowered blood pressure</li></ul>	<ul> <li>Increased heart/pulse rate</li> <li>Cold and clammy hands and feet</li> </ul>
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#### Nervous system

Feeling of Anxiety and distress
 Loss of consciousness

### **Digestive system**

<ul> <li>Stomachache (specially in small children)</li> <li>Abdominal cramps</li> </ul>	Vomiting Diarrhoea
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### **Diagnosis of anaphylaxis**

Following administration of a vaccine to a healthy recipient, if criteria mentioned below are met it could be suspected that the person is suffering from anaphylaxis.

- 1. with rapid onset of occurrence of signs and symptoms
- 2. when two or more of the above systems are affected

### Treatment of anaphylaxis

The vaccine recipient with suspected anaphylaxis should never be left alone. Obtain help from those who are around and should ask to arrange transport the patient to the nearest hospital immediately. Vaccine recipient should be stretched out with the airway clear. If the vaccine recipient is conscious he/she should be kept supine with the feet raised higher than the head. If the patient is unconscious he/she should be kept in the left lateral position.

Adrenaline is the most important and effective drug in the treatment of anaphylaxis. Complications and death could be prevented by giving this drug as soon as possible (with the exception of infants).

Adrenaline 1:1000 solution should be given intra muscular (IM). It should NEVER be given subcutaneous (SC) or intravenous (IV).

It should be given on the middle 1/3 of the anterolateral aspect of the thigh.

In immunization field clinic settings **ONLY ONE DOSE** of adrenaline should be given.

#### Dosage of adrenaline 1:1000

Anaphylaxis among infants (less than 1 year of age) is very rare and **infants should not be given adrenaline in field clinic settings.** 

Age	Dose of Adrenaline (1:1000)
12 months to 06 years	0.15 mg ( <b>0.1ml</b> )
06 years to 12 years	0.2 mg ( <b>0.2ml</b> )
12 years and over	0.3 mg ( <b>0.3ml</b> )

Dose of adrenaline should not be changed even if the child is obese. A one inch 23 Gauge needle could be used to inject adrenaline to make sure it is delivered into the muscle. Before injecting the piston of the syringe should be drawn back to make sure that there is NO blood drawn into the syringe and hence the needle is not in a vein.

Immediately after administration of adrenaline patient should be taken to the closest hospital.

## Management of a case of anaphylaxis

- Keep the patient in the supine position and ensure the airway is clear and keep the feet elevated higher than the head.
- If vaccine recipient is unconscious, keep in the left lateral position
- Give a single, age appropriate dose of adrenaline intra muscular (IM)
- Take the patient to the closest hospital immediately

#### Differentiation between anaphylaxis and a fainting attack.

Adults and adolescents could faint due to their fear of the anticipated pain or fear of the injection itself. In the case of infants and preschool children fainting is rare. Hence if an infant or preschool child becomes unconscious after immunization anaphylaxis should be suspected first.

Signs and symptoms that differentiate a case of anaphylaxis from a case of fainting

	Fainting attack	Anaphylaxis  Anaphylaxis
Onset of	Before immunization	Generally within minutes after
signs and	Or	immunization
symptoms	While immunizing	
J 1	Or	Could also occur a few hours after
	Minutes after immunizing	immunization
skin and	Generalized pallor	Generalized skin erythema
mucous		
membranes	Cold and clammy hands	Itching of the skin (in children specially
		forehead, hands, eyes and ears)
		Tingling sensation around the lips
		TT
		Urticaria
		Swelling of lips (Angio-oedema)
		Swelling of tips (Aligio-ocdellia)
		Cyanosis of finger tips and lips
Respiratory	Rate of respiration normal	Rapid respiratory rate
system	- I am a confirmation of the confirmation of t	
	Shallow breathing	Difficulty in breathing
		Cough
		Wheezing
		Stridor
		Hoomson ass of voice
		Hoarseness of voice
		Constrictive feeling of the chest
		Constitute recining of the effect
		In drawing of the chest

Circulatory	Reduced heart rate	Increased heart rate
system	Weak pulse	Weak pulse
	Transient <b>absence</b> of peripheral pulse	Pulse not felt sometimes
	Carotid pulse is strong and easily felt	Carotid pulse weak
	Blood pressure could drop but when keeping the patient in	Hypotension.
	supine position blood pressure soon returns to normal	When keeping the patient in supine position blood pressure does not return to normal
Nervous system	Fiendishness or feeling faintish	Patient is anxious and distressed
	Light headedness  Loss of consciousness.  When keeping the patient in a supine position he soon becomes conscious	Becomes unconscious and keeping the patient in supine position makes no difference
Digestive	Vomiting	Vomiting
system		Diarrhoea
		Stomachache (specially in small children)
		Abdominal cramps

Please be kind enough to bring the contents of this circular to the notice of all concerned in your institution.

Dr. Ajith Mendis

Director General of Health Services

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