

ANAPHYLAXIS



- Anaphylaxis is a sudden and severe allergic reaction that may be life threatening.
- It must be treated as an emergency.
- Patients who have anaphylaxis or are at risk for anaphylaxis must know how to reduce their risk by preventing exposure to triggers, knowing how to recognise early signs and be prepared for emergency treatment at any time.

TRIGGERS

Allergens (substances to which you are allergic) differ between patients. Some people have anaphylaxis without any cause being identified. Common triggers of anaphylaxis are:

Foods

Egg, milk, peanuts, nuts, fish, shellfish, sesame, soya and wheat are the most common foods that cause anaphylaxis. However almost any food can cause anaphylaxis.

Insect stings

Bee venom is the most common cause of anaphylaxis due to insect stings in South Africa.

Medications

Any medications can cause an allergy. More common causes include antibiotics, pain medication and drugs used during anaesthesia.

Other

Latex allergy is less common. Some people have anaphylaxis only when 2 triggers are present, such as a specific food with exercise.

SYMPTOMS OF ANAPHYLAXIS

- Symptoms of anaphylaxis usually occur soon after exposure to an allergen, within 15 minutes to 1 hour. The fast onset and rapid worsening of anaphylaxis makes it a very dangerous condition.
- Symptoms of anaphylaxis can range from mild skin changes and swelling of the face to life-threatening lung and heart involvement.
- Skin signs include flushing, redness, itching, hives, and local swelling especially of the face.



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- Abdominal symptoms include cramps, nausea, vomiting and diarrhoea.
- The most life-threatening features of anaphylaxis involve the respiratory system and the heart.
- Respiratory involvement can cause swelling of the upper airways such as the tongue, the back of the throat and the voice box. This may start with a hoarse voice and a persistent dry cough and progress to throat tightness and difficulty breathing. The lungs may be involved causing chest tightness and wheezing.
- Symptoms involving the heart and circulation are the most severe and may include a sudden drop in blood pressure, irregular heartbeat and general collapse.

WHAT HAPPENS IN ANAPHYLAXIS?

- Why some people become allergic to allergens such as foods, venoms or medicines is not well understood.
- What is known is that a special type of antibody known as IgE antibody is produced by allergic people who have become sensitised to that specific allergen (see “what is an allergy”).
- These antibodies recognise the allergens and bind to them, causing the release of very powerful chemical substances such as histamine from certain cells in body.
- These chemicals result in the symptoms of anaphylaxis.

The body's natural response to anaphylaxis is to release a natural body chemical called adrenaline. Adrenaline, the fight or flight chemical, is the natural antidote to the anaphylactic reaction. Adrenaline:

- Reduces swelling of the airways.
- Stimulates the hearts circulation to vital organs.
- Constricts dilated blood vessels.



TREATMENT FOR ANAPHYLAXIS

- Anaphylaxis can be prevented and treated.
- Identifying triggers and avoiding them is far better than treating an anaphylactic reaction!
- Anaphylaxis must be recognised early and treated quickly before it progresses.
- Call for an ambulance:
 - **Municipal:** 10177
 - **ER24:** 084 124
 - **Netcare 911:** 082 911
- The most effective treatment for the serious effects of anaphylaxis is adrenaline. Adrenaline must be injected into a muscle as soon as anaphylaxis occurs. If someone has an emergency injection with them, either assist them to inject it into the large muscle of their thigh, or give it to them yourself.
- Help avoid shock by lying the person down with their feet raised off the ground.
- Do not give any medication by mouth if the person is having difficulty breathing. Other treatments that can help after adrenaline has been given include antihistamine and steroids.

PREVENT ANAPHYLAXIS

- To prevent anaphylaxis, people who have a reaction must identify the trigger and avoid future exposure.
- This is done by a trained allergist taking a good history, doing allergy tests and occasionally by doing specific controlled challenges.
- People at risk for anaphylaxis must be taught to immediately recognise the early signs of anaphylaxis.

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- They must be provided with an emergency action plan that describes the signs of a mild-moderate attack versus a severe anaphylactic attack, and taught the correct response for either possibility.
- Patients must carry emergency treatment with them at all times and know how to inject themselves with adrenaline for a severe attack
- People at risk of anaphylaxis must wear a Medic Alert disc identifying them as being at risk as well as detailing their own unique trigger factors.



ADRENALINE

- In your doctor's surgery or in the Emergency Department of a hospital, adrenaline is injected using a syringe and needle.
- For non-medical people adrenaline should preferably be given using an automatic injection device.
- The device simply has to be pressed against the outer aspect of the upper thigh and adrenaline will automatically be injected into the person's muscle.
- The only adrenaline auto injector in South Africa at present is the EpiPen®. EpiPen® comes in 2 strengths, EpiPen® junior for children between 8 and 25kg and EpiPen® for adults and children greater than 25 kg. Large adults may need 2 EpiPens®.
- Where EpiPen® is not available, patients should carry a vial of adrenaline and a needle in a secure case and will require extensive education and training to teach them to draw up and give the correct dose (0.01 ml/kg) in an emergency.
- Remember to check expiry dates on adrenaline and replace immediately if expired, or if used for an anaphylaxis episode.


ACTION PLAN FOR ANAPHYLAXIS

NAME:
DATE OF BIRTH: DD/MM/YYYY

PHOTO

CONFIRMED ALLERGENS:

FAMILY EMERGENCY CONTACT:
 1 NAME:
 PHONE (M):
 2 NAME:
 PHONE (M):

Plan prepared by:

This treatment plan has been recommended by my/my child's doctor and explained to the patient. While this plan does not expire, review is recommended by: DD/MM/YYYY.

SIGNED:
DATE: DD/MM/YYYY

HOW TO GIVE EPIPEN®

- 1 Form fist around EpiPen® and PULL OFF BLUE SAFETY RELEASE
- 2 Hold leg still and PLACE ORANGE END against outer mid-thigh (with or without clothing)
- 3 PUSH DOWN HARD until a click is heard or felt and hold in place for 3 seconds REMOVE EpiPen®

EpiPen® is prescribed as follows:

- EpiPen® Jr (150mcg) for children 7.5-25kg
- EpiPen® (300mcg) for children over 25kg and adults

Adrenaline gives in the appropriate dose is safe. I give permission for nominated caregivers, teachers and caregivers to administer adrenaline to my/our child and advise their nearest emergency should they do so in the case of suspected anaphylactic reaction.

SIGNED:

SIGNS OF MILD TO MODERATE ALLERGIC REACTION

SWELLING OF LIPS, FACE OR EYES ABDOMINAL PAIN, VOMITING HIVES OR WELTS TINGLING MOUTH

ACTION FOR MILD TO MODERATE ALLERGIC REACTION

- 1 Stay with the person, call for help and locate adrenaline autoinjector
- 2 Give antihistamine (if prescribed) _____
- 3 Phone family/emergency contact

MILD TO MODERATE ALLERGIC REACTIONS (SUCH AS HIVES OR SWELLING) MAY NOT ALWAYS OCCUR BEFORE ANAPHYLAXIS

WATCH FOR ANY ONE OF THE FOLLOWING SIGNS OF ANAPHYLAXIS (SEVERE ALLERGIC REACTION)

DIFFICULT OR NOISY BREATHING DIFFICULTY TALKING OR HOARSE VOICE
 SWELLING OF TONGUE PERSISTENT DIZZINESS OR COLLAPSE
 SWELLING OR TIGHTNESS IN THROAT PALE AND FLOPPY (YOUNG CHILDREN)
 WHEEZE OR PERSISTENT COUGH

ACTION PLAN FOR ANAPHYLAXIS

- 1 LAY PERSON FLAT - do not allow them to stand or walk
 If unconscious or pregnant, place in recovery position - on left side as shown here:
 If breathing is difficult allow them to sit with legs outstretched
 Hold young children flat, not upright
- 2 GIVE ADRENALINE AUTOINJECTOR
- 3 CALL AMBULANCE: Municipal: 10177, ER24: 084124, Netcare 911: 082911
- 4 PHONE FAMILY/EMERGENCY CONTACT
- 5 Further adrenaline may be given if no response after 5 minutes
- 6 Transfer person to hospital for at least 4 hours of observation

IF IN DOUBT GIVE ADRENALINE AUTOINJECTOR

Commence CPR at any time if person is unresponsive and not breathing normally

ALWAYS GIVE ADRENALINE AUTOINJECTOR FIRST, and then asthma reliever (puff) if someone with known asthma and allergy to food, insects or medication has SUDDEN BREATHING DIFFICULTY (including wheeze, persistent cough or hoarse voice) even if there are no skin symptoms. ASTHMA RELIEVER MEDICATION

This plan was developed as a medical document that can only be completed and signed by the patient's doctor or a nurse practitioner and cannot be altered without their permission.



CHILDREN AND ANAPHYLAXIS

- Children must be taught to avoid foods to which they are allergic.
- The school should have a copy of the action plan, the adrenaline emergency EpiPen® or kit must be with the child at school and teachers must be fully informed about these risks and be trained to give adrenaline in the case of an emergency.
- Where schools have children who are allergic to a specific food, in particular peanuts, it may be wise to prohibit that specific food from being bought to school by other school children.

KEY POINTS

- It is important to consult your doctor if you think you have ever experienced an anaphylaxis attack. The doctor must assess whether this was anaphylaxis or not, and if so, they will provide education, complete an action plan and an application form for a Medic-Alert bracelet, and prescribe an automatic adrenaline injector or adrenaline kit for emergency use.
- Anaphylaxis is the most severe form of sudden and life-threatening allergic reaction.
- Foods, insect venoms, antibiotics and some other medications are the main triggers for anaphylaxis.
- Adrenaline is the essential treatment for anaphylaxis.
- Adrenaline can only be given by injection.
- The EpiPen® is a device designed for emergency use by people at risk, which injects adrenaline automatically.
- Antihistamines do not reverse the dangerous complications of anaphylaxis and must only be used after adrenaline has been injected.

A medical specialist with a special interest and skill in allergy might be able to help. See the list of health professionals with skills in allergy on the AFSA website.