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FIGHTING ANAPHYLAXIS: HOW AND WHY TO USE AN EPINEPHRINE AUTO-INJECTOR

* **Anaphylaxis** is a **potentially fatal allergic reaction** that can occur anywhere and at any age. It results from exposure to one of many substances, including foods, insect venoms, drugs or latex. Approximately 3% of all school age kids have diagnosed food allergies. 150 people die annually from food allergies and at least 40 deaths occur annually from reactions to insect stings while approximately 220 cases of anaphylaxis and 3 deaths per yr are caused by latex allergy.

* Anaphylaxis is a severe **systemic allergic reaction** which means it generally affects the whole body although some reactions involve only the respiratory tract. **Anaphylaxis is generally sudden** yet reaction time depends on individual patient sensitivity plus the method and amount of exposure to any allergen. Some people have symptoms within seconds, others in hours. In general, it is believed that more severe reactions begin quicker. The signs of anaphylaxis can range from relatively mild symptoms, involving only the skin, to life-threatening reactions, involving breathing and the heart.

* What are the signs of a **life-threatening or anaphylactic response**? They **include**: skin that turns red, hives, itching skin or mouth, tightness in the throat, wheezing, difficulty breathing, cardiovascular collapse with sweating, pale tint or blue tint to skin or nails, unresponsiveness, coughing, vomiting, diarrhea, behavioral changes, hoarseness or change in the voice, swelling in the face, hands, or feet, feeling a sense of doom, becoming faint or unconsciousness. Some persons may have all of these symptoms or they may show only one or a few of these symptoms. If someone has potentially life-threatening allergies and they have **any of these reactions, treat it as a threat**.

* The **only way to treat anaphylaxis** is with an immediate injection of **adrenaline**, also know as **epinephrine**. If not injected, the person can die within minutes. If injected and epinephrine wasn't needed (a false alarm) there is no long-term bad effect. It is better to give the injection then to second-guess and not use the drug. **A precaution**: if the patient uses beta blocker drugs, there may be a serious interaction to epinephrine. Epinephrine should still be used but it's imperative that the patient immediately go to the hospital for further care.

* **Epinephrine is delivered by injection**. Two formats are currently available, the EpiPen and the Twinject and both by prescription. Many times, people will require a second shot of epinephrine. The Twinject is a self-injecting system that has a built-in second dose; the EpiPen system requires a second injector. *Everyone that has life-threatening allergies MUST have at least one of these auto-injectors with them at all times due to the speed of an anaphylactic reaction.* The injector serves no purpose at home in the medicine chest if the patient is camping and stung by bees or is at school and is exposed to a food allergen. **Three of four anaphylactic deaths occur in school**. Emergency response vehicles aren't required by law to carry epinephrine. Waiting until a patient gets to the hospital may be too late. **Being prepared** is the only method to prevent tragedy. But how do you **use an epipen auto-injector**? It's **easy and painless** and is designed to be self-injected but anyone can help. **Follow these steps** when a reaction is suspected and you're using the epipen:

1) There is a black tip and a grey tip to the epipen injector. Immediately before using, grasp the pen, but don't touch the black tip which is where the needle is housed. Remove the gray activation cap with your other hand.

2) Either standing upright or lying flat, grasp the pen and place the **black tip at arms' length** on the outside, fleshy part of the **thigh**. It isn't necessary to undress; the needle is **designed to go through clothing** but try to avoid the seam, especially in jeans. **Never touch the black tip**.

3) With a quick motion, **swing out and jab firmly into the outer thigh**, so that the injector is at a 90 degree angle to the thigh. Hold firmly in the thigh for several seconds. During this time, a spring-activated mechanism is released, and a dose of epinephrine is administered. **Remove the unit and massage the injection site** for an additional few seconds.

4) Once administration is complete, **check the black tip** of the auto-injector. If the needle is exposed, a dose of epinephrine was injected. If not, the above steps should be repeated. Most of the liquid (90%) stays in the auto-injector after the dose is administered and cannot be reused.

5) To avoid an accidental needle stick, the needle of the fired unit should be bent backwards against a hard surface. Carefully return the auto-injector to its carrying tube (NEEDLE FIRST) without replacing the gray safety cap. **Recap the carrying tube and bring it to the emergency care facility for proper disposal**.

* If the patient is a child, remember that even if theoretically able to self-administer the drug, in an emergency, the child (or even adult) may not be able to self-administer. If the incident occurs in school, the staff should follow the emergency procedure plan. **Never leave the child alone**, always follow physician directions. Another adult calls 911 then contacts parents, and a staff member or the nurse should accompany the child to the hospital until parents arrive. Being prepared through training and using emergency plans will save lives. For more information, contact info@aafatexas.org

Upcoming AAFA-TX programs: 1) **Aug. 17**, "Asthma Management & Education" a CE program for nurses and respiratory therapists, Ft. Worth, instructor TBA. Pre-registration required. Ft. Worth ISD nurses are automatically registered. 2) **Aug. 24**, "Asthma Management & Education" a CE program for nurses, respiratory therapists and educators, Cleveland, Ohio. Dr. Maureen George, PhD, RN, AE-C, instructor. Pre-registration required. Cleveland P. S. nurses automatically pre-registered. 3) **Aug. 25** "Tools To Manage Asthma & Allergies" worksite wellness program, Gulfstream Aerospace, Dallas, Eric Schmitt, MD, instructor 4) **Sept. 3**, "Asthma Management & Education" a CE program for nurses and respiratory therapists, Seattle, WA, instructor TBA. Pre-registration required. Seattle Public School nurses are automatically pre-registered. For more info or to register, contact info@aafatexas.org or see www.aafatexas.org/events

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