

Anaphylaxis: A Sudden and Deadly Progression

Published in *Massage Today*, Co-authored with Dr. Thomas Walsh D.D.S.

The purpose of this article is to raise our collective awareness as Massage Therapists of anaphylaxis progression that potentially can be prevented by asking your clients a few simple questions. August 31, 2007, I got lucky and survived a severe anaphylactic reaction. In July of 2008, a dear friend's brother did not. I am introducing Dr. Thomas Walsh D.D.S. as the co-author of this article as his perspective on anaphylaxis was most helpful in assisting me to understand the full scope of this progression.

Anaphylaxis can exhibit a sudden, rapid, and deadly progression. Such systemic allergic reactions typically become progressively more severe with each additional exposure to an allergen. However, even the second exposure can be fatal if an individual has had a sensitization experience.(1) Acute anaphylactic shock which results in death is most often associated with the ingestion of peanuts for children and penicillin for adults or, as a result of an insect venom for all ages.(2)

The questions to ask your clients that seem most relevant to Dr. Walsh and myself are x

First, have you ever had any severe allergic reaction in which you have experienced one or more of the following:

- Itching and hives over much of the body
- Swelling in the throat or tongue
- Difficulty breathing or swallowing
- Dizziness, severe headache
- Stomach cramps, nausea, or diarrhea
- Rapid decrease in blood pressure
- Shock and loss of consciousness

The second most important question is have they had a previous exposure to a suspected allergen without any reaction. Remember that penicillin, peanuts, and insect stings tend to be the most deadly but other triggers of anaphylaxis do exist. The third question is have they told their physician about their reaction and have requested to be tested to determine the severity of their allergy.

My most important learning from Dr. Walsh has been the notion of a sensitization experience. I had such a sensitization in February 2007, during a dental cleaning at another dentist's office. My internal sensations included a sudden onset of severe itching spreading throughout my vascular system, my face turned bright red and became puffy, and my hands and feet swelled to the point of mild discomfort. My dentist administered 50 mg. of benadryl, by mouth, and a hygienist sat with me for 50 minutes while the symptoms gradually subsided.

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In discussion before I left the dentist's office we speculated about what might have been the trigger for my reaction. As nitrous gas was being administered, an iodine solution was used, and I had requested amoxicillin because of my genetic heart history, it was unclear what might have been the specific reactive cause. My dentist instructed me to seek out allergy testing to make this determination.

I was able to make the 40 min drive home and finish my afternoon schedule of three clients. Though quite tired that evening, I mentally and emotionally minimized the experience because there were no lingering effects over the next few days. Still, I was curious, so the next weekend I consulted a couple of physician friends who specialize in emergency medicine. Neither seemed alarmed by the description of my symptoms, noting that if 50 mg. of benadryl had been effective, they considered it a relatively mild reaction.

The key question that could have been the focus of our discussions was whether I had had an allergic reaction previously to anything. I have taken penicillin and its antibiotic derivatives all my life without any degree of reaction. This is what made the dental office experience qualify as a sensitization.

As part of our clients' early detection team we need to be aware of this notion of a recent sensitization. The general population has yet to be educated about this, and even well trained physicians sometimes forget to ask the most pertinent question. And, once a sensitization experience has been identified, follow-up allergy testing is a must – something that had been recommended by my dentist that I did not do.

So, the short tale of my near-death anaphylaxis experience began with a client confusing our appointment time and my grousing a bit wondering how to spend my time. I coughed a few times, jogging my memory that my last client from the evening before had been violently coughing and I had neglected to wear a face mask for self-protection. Ah, I thought, I'll take a couple of the antibiotic pills left over from a previous prescription as a hedge against any possible contagion. I had done this a few times before with success. Guess what I forgot in that moment? It was amoxicillin, one of the possible triggers of my reaction 6 months earlier. It is amazing how the mind compartmentalizes.

Immediately, the uncomfortable itching feeling began to spread throughout my veins. Oh, my gosh. I remembered my previous experience and began to evaluate my options. One being to just lay on my table and wait for it to pass; then my instincts motivated me to drive to a pharmacy – a mile away to purchase benadryl. I never once entertained the idea of calling 911 as I did not have the knowledge that such a reaction had the ability to escalate so fast or actually could kill me. As my symptoms escalated beyond what I had experienced in the dentist's office I abandoned the pharmacy idea.

Instead, I drove to an Urgent Care Center located 7 blocks away; along the way had numerous visual white-outs during which I had peripheral vision only, and one moment of total blindness. I stopped my vehicle completely in that moment until I was able to regain some slice of vision. The angels were watching over me.

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Upon reaching the physician's office and clutching at the office door, I collapsed completely. The Urgent Care Center's owner, Dr. John Van Tuyl M.D., reached me as quickly as he could and, palpating no pulse, announced me in full cardiac arrest instructing his staff to call 911. He later recounted to me that I rallied momentarily, lifted my head and stated, "No, I am not on amoxicillin." As an emergency care specialist he split the difference between the possible protocols and placed an atropine patch on my heart to increase its cardiac output. He later explained to me that the visual whiteouts I had experienced were in response to the lack of blood flow to my brain as my heart was being crushed by the sudden swelling of the pleural and pericardial sacs.

What is most important is to anchor this notion of sensitization in your awareness and to specifically ask your clients if they have had allergic responses to any of the common triggers that are described below, especially a recent one. If they have, please do encourage them to seek out allergy testing with the guidance of their physician.

Beyond my personal story, as Massage Therapists it is important to know that anaphylaxis affects more than 10% of our population in North America and is increasing in frequency. In more than 25% of cases there is a delayed or biphasic course with severe symptoms occurring 3 to 5 hours after exposure. In more than 20% of cases hypotension or laryngeal edema occurs without hives and can be difficult to identify. Most fatal reactions occur in people who knew they were allergic but had accidental exposures. The cause is often not the most obvious and may include combinations of factors including food and exercise. Moreover, most individuals do not inform their personal physicians that they have had severe allergic reactions during routine history and examination. (2)

Once a person has medically identified that they are susceptible to severe anaphylactic reactions, they are typically prescribed and encouraged to carry with them at all times an Epi-Pen® that contains epinephrine, i.e. adrenaline. Twinject® is another product that is sometimes prescribed that contains a double dose of epinephrine.(3) Epinephrine has shown itself clinically effective in stabilizing the severity of an anaphylactic reaction thus, enabling a person to be transported to an emergency room for further treatment.(2)

The most commonly documented causes or triggers of anaphylaxis are: food, medication, insect venom, latex and exercise. In situations where a specific trigger remains unidentified, the patient is said to suffer from idiopathic (Latin, meaning of unknown origin) anaphylaxis. (2)

Food allergies are an increasingly common cause of anaphylaxis that result in about 125 deaths each year in the United States. Some allergists believe this perceived rise in incidence may be attributed to increased exposure to certain foods, such as peanuts, before a child's immune system is mature enough to handle them.

There are eight types of foods that are accountable for 90% of all food-allergic reactions. The foods that most commonly cause anaphylaxis are:

- Peanuts
- Tree nuts (walnuts, pecans, etc.)

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- Shellfish
- Fish
- Milk
- Soy
- Wheat
- Eggs

Sulfites added to foods can also set off anaphylactic reactions. And, for a small number of people who do not otherwise experience food-related anaphylaxis, exercising within a few hours of eating has been documented as an allergic trigger. (2)

Within our profession of Massage Therapy many of the oils used contain either peanut or almond oil. These may be triggers for more compromised clients.

In the United States, approximately 550,000 serious allergic reactions to medications occur annually in hospitals. While it is unclear how prevalent drug allergies are among the general population, allergic reactions to medications cause the highest number of documented deaths from anaphylaxis each year. Penicillin and its derivatives alone accounts for an estimated 75% of the known anaphylaxis deaths in the United States.

Most deaths occur in people who have had no medical history of allergic reactions. I would add that probably no medical history existed because many people, like myself, didn't take their first allergic reaction seriously enough to seek out allergy testing. And, as just stated, death from anaphylactic shock can occur from a person's very first exposure to an allergen.

The most common medications that cause allergic reactions are:

- Penicillin
- Sulfa antibiotics
- Allopurinol
- Seizure and anti-arrhythmia medications
- Nonsteroidal anti-inflammatory drugs (NSAIDS, such as aspirin and ibuprofen)
- Muscle relaxants
- Certain post-surgery fluids

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Other medications known to cause severe allergic reactions include vaccines, radiocontrast media, antihypertensives, insulin, and blood products. (2)

It is estimated that 0.5% to 5% of the population of the United States, or as many as 13 million people, have insect venom allergies. Many of these venom-sensitive individuals are at risk for life-threatening anaphylactic reactions. An estimated 40 to 100 deaths due to anaphylaxis caused by insect venom are reported each year, half of which are attributed to fire ants, an increasingly common pest that is spreading throughout the United States from the south.

The insects most commonly associated with triggering severe allergic reactions belong to the Hymenoptera order of insects. This order is comprised of:

- Bees
- Wasps
- Yellow Jackets
- Hornets
- Ants, especially the fire ant

Unlike people susceptible to anaphylaxis triggered by food, medication or, latex, those allergic to insect venom have the option of undergoing immunotherapy, a preventive course of treatment that may provide long-term protection against insect sting allergies. (2)

An additional few points for your consideration include that using latex gloves for inter-oral work may trigger allergic responses in your clients. This did occur for me once over my 29 years of clinical practice. Nitrile gloves are now considered to be the best for such applications. Also, many of the essential oils or scented candles that are used by Massage Therapists can trigger respiratory allergies. Rarely do these provoke a systemic anaphylaxis but they are not practice builders either.

This article only scratches the surface of the complex subject of anaphylaxis yet, presents you with those triggers considered most deadly. Immediately, I encourage you to integrate the proposed three questions with both new and established clients.

1. Have you ever had any severe allergic reaction of any kind?
2. Have you had a previous exposure to the suspected allergen without any reaction?
3. Have you told your physician about your reaction and requested to be tested to determine the severity of their allergy?

Your genuine interest, willingness to listen and personal encouragement for them to seek out advice from their physician may save a life.

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