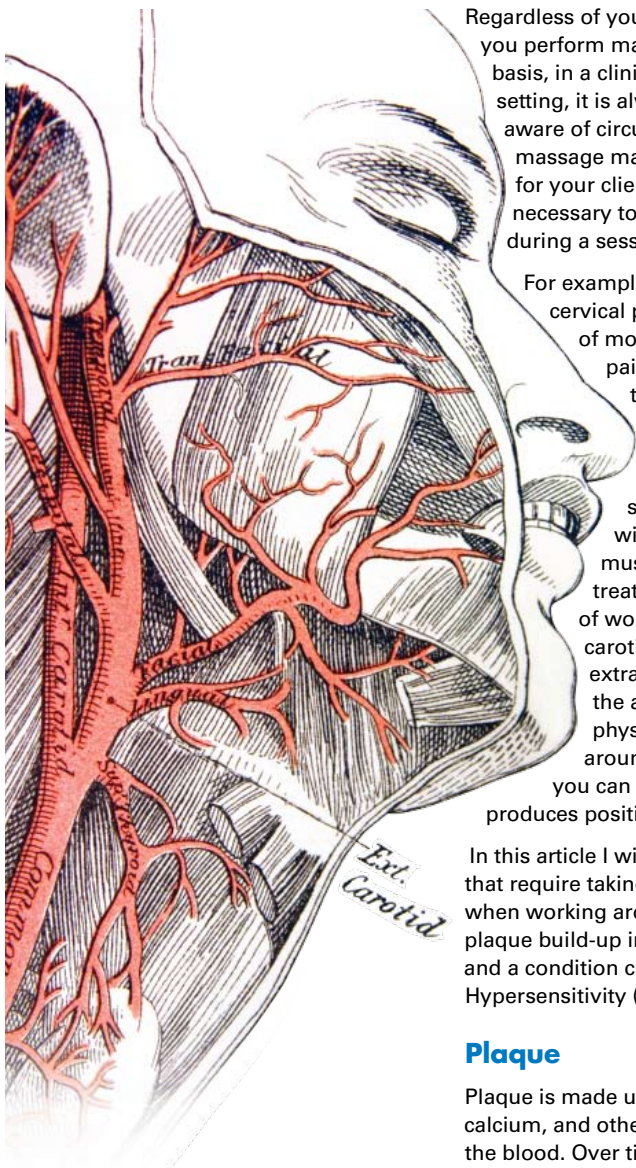




# Safety Protocols: The Carotid Artery

By David Kent, LMT, NCTMB

Keeping It Simple Series



Regardless of your modality and whether you perform massage on an outcall basis, in a clinic or spa, or in another setting, it is always important to be aware of circumstances in which massage may not be beneficial for your client or when it might be necessary to take extra precautions during a session.

For example, a client enters with cervical pain and limited range of motion, complaining of pain along the length of the sternocleidomastoid muscle, as well as temporal, frontal and orbital headache symptoms consistent with trigger points in that muscle. In this situation, treatment will likely consist of working very close to the carotid artery; therefore, it is extra important to understand the anatomy and the body's physiological responses around this region, so that you can ensure your massage produces positive outcomes.

In this article I will discuss two conditions that require taking extra precaution when working around the carotid artery: plaque build-up in the carotid artery and a condition called Carotid Sinus Hypersensitivity (CSH).

## Plaque

Plaque is made up of fat, cholesterol, calcium, and other materials found in the blood. Over time, plaque hardens and subsequently clogs the arteries, which decreases blood flow through the arteries to the heart and the brain. This is called atherosclerosis.

In my full-body dissection seminars, I always remove a portion of the carotid artery; then I cut and peel away the arterial wall to reveal a "tube" of plaque lining the artery. This tube looks like a crudely formed plastic straw that is thicker in some areas than others. When squeezed, the tube makes snapping and cracking noises similar to a piece of plastic braking. I demonstrate this for my students so

that they understand why it's important to administer precise palpation and avoid making contact with the carotid artery during a massage. Palpating an artery that has substantial plaque build-up could pose serious risks to the client. In a worst case scenario, a piece of plaque could break off inside the artery, travel to the brain and cause a stroke.

Using appropriate intake forms can help you identify clients who are at risk for plaque build-up. Intake forms should inquire about previous surgeries, health conditions and prescription medications. Some procedures to look out for include carotid endarterectomy: a surgical procedure for cleaning out the carotid artery and restoring blood flow to the brain. Other related procedures include coronary bypass, stenting or angioplasty. Blood clots are also related to plaque build-up, so look out for medications that include blood thinners and anticoagulants.

When red flags come up, heed the warnings—even if a client says he/she has received massage previously. In cases such as these, I will not proceed without a prescription for massage therapy from the physician currently treating the client's condition. This is a safeguard for everyone involved, and most patients will thank you for your concern and professionalism.

If you do not understand something a client wrote on an intake form, make sure to look it up before you proceed. For example, some clients use acronyms to describe their conditions; however, it is important not to assume you know what an acronym stands for. CSH is one such acronym that has multiple meanings.

## The Carotid Sinus and Carotid Sinus Hypersensitivity (CSH)

The carotid sinus plays a key role in regulating blood flow to the brain; it contains baroreceptors that are sensitive to changes in blood pressure. It is part of the internal carotid artery just after it emerges from the common carotid artery, located just above the superior border of the thyroid cartilage (Adam's apple) at the level of C3; it is attached fascially to the sternocleidomastoid muscle. SEE IMAGE



Carotid Sinus Hypersensitivity (CSH) is an exaggerated response to carotid sinus baroreceptor stimulation. Massaging the carotid sinus stimulates nerve endings, which can cause the heart rate to slow. CSH is the most common reported cause of falls and syncope (fainting) in persons over 65 year of age. In a study of 1,000 people with no history of syncope, dizziness or falls, participants were given carotid massage for an average of 7.3 seconds, in a supine and upright position with beat-to-beat heart monitoring. The study showed that 39 percent of the participants had some form of carotid sinus sensitivity; 24 percent had asystole (absence of cardiac heartbeat) for three seconds or greater; and 16 percent had symptoms, including syncope with carotid sinus hypersensitivity.<sup>1</sup>

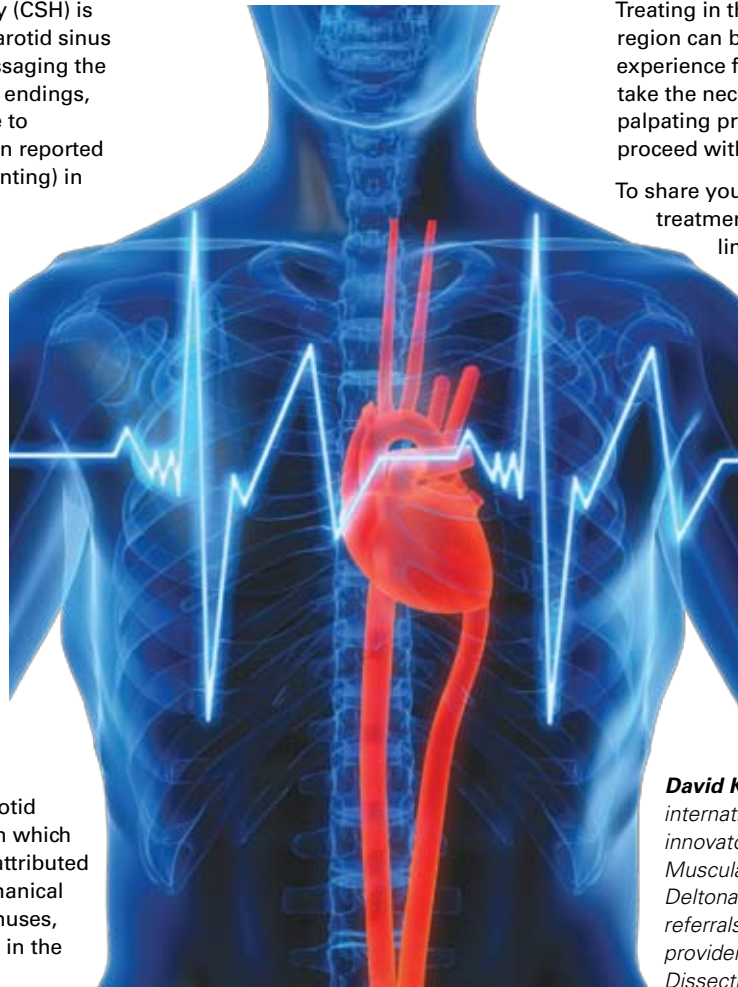
In rare cases, only 1 percent experiences Spontaneous Carotid Sinus Syndrome: a situation in which the symptoms can be clearly attributed to a history of accidental mechanical manipulation of the carotid sinuses, for example, by taking a pulse in the neck or by shaving.<sup>2</sup>

Therefore, it is necessary for massage therapists to be aware of the potential physiological effects when treating in this region.

### Providing Safe, Effective Massage

There are several ways to ensure that you provide safe, effective massage therapy:

- Use intake forms to screen clients for potential risks prior to performing therapy. Make sure that forms are updated on a regular basis, especially if you haven't seen a client for several months.
- Thoroughly review your client's health history on a regular basis. Ask routinely if your client is under a doctor's care.
- Clarify the meaning of acronyms.
- Look up the unknown before you proceed.



Treating in the sternocleidomastoid region can be a safe and satisfying experience for the client as long as you take the necessary steps to ensure you are palpating properly and precisely. Always proceed with caution.

To share your tips and experiences in the treatment room, please drop me a line at [info@kenthealth.com](mailto:info@kenthealth.com).

And for more information about keeping it simple in your day-to-day practice, be sure to check out my other articles at [www.massagetoday.com](http://www.massagetoday.com).

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**David Kent, LMT, NCTMB**, is an international presenter, product innovator and writer. His clinic, Muscular Pain Relief Center, is in Deltona, Florida, where he receives referrals from various healthcare providers. David teaches Human Dissection, Deep Tissue Medical Massage and Practice Building seminars, and has developed a line of products, including the Postural Analysis Grid Chart™, Trigger Point Charts, Muscle Movement Charts, Personalized Essential Office Forms™, and DVD programs. Visit [www.KentHealth.com](http://www.KentHealth.com) or call (888) 574-5600 for more information.

- Make use of resources like the Internet, textbooks, medical books and medical dictionaries to look up information.
- Educate your clients by using postural analysis photos and trigger-point charts to illustrate their problem areas.
- Perform muscle tests to ensure that you working on the right muscle and to help avoid critical structures like the carotid artery and carotid sinus.
- Integrate orthopedic assessments.
- Continue to expand your knowledge by investing in DVD programs and other continuing-education programs that review the specifics, such as anatomy, contraindications, precautions, trigger points, safe therapy techniques, etc.
- Take live seminars to continually hone and refine your hands-on techniques and reinforce anatomy

<sup>1</sup> Kerr SR, Brayne MS, et. al. Carotid sinus hypersensitivity in asymptomatic older persons: implications for diagnosis of syncope and falls. *Arch Intern Med* 2006; 166(5):515-20. Institute for Ageing and Health, University of Newcastle upon Tyne, England. [www.medscape.com/medline/abstract/16534037](http://www.medscape.com/medline/abstract/16534037).

<sup>2</sup> Wijetunga MN, Schatz IJ. Carotid Sinus Hypersensitivity. [www.emedicine.com/med/TOPIC299.htm](http://www.emedicine.com/med/TOPIC299.htm).



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