

The **FAINTING MYSTERY**

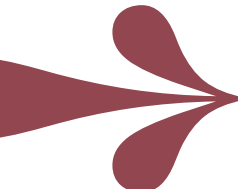
A phenomenon unique
to chair massage

by ERIC BROWN

photography by ELLEN JASKOL

I've owned two successful massage clinics and my staff has done tens of thousands of massage treatments over the years. In all that time, we've never had anyone faint on a massage table. Occasionally, people report feeling dizzy immediately after getting off the table, but that's known as postural hypotension, which is self-correcting after a few seconds. →





When I first learned about chair massage, however, I was told that about one in 1,000 people would faint when getting a seated massage. That seemed odd, and I couldn't understand why it would happen, but I kept it in the back of my mind as I excitedly branched into this up-and-coming field.

My workplace chair massage business took off like a rocket. My staff and I did massages at some of the biggest corporations in Canada—American Express, Dell, Ernst & Young, Gap, IBM, Kellogg's, Levi Strauss, Nintendo, and United Way, to name a few—as well as most major Canadian banks, hospitals, financial institutions, and law firms.

I kept waiting, with a certain level of anxiety, for someone to pass out in the chair, but four years went by without incident.

Up to that point, I trained all my practitioners personally to guarantee a safe and consistent quality massage for each client. However, to feed the growing demand for practitioners, I started a professional training program in chair massage in 1998, where I brought in teaching staff to assist me with the large groups of students.

A few months after we started our first program, it happened—somebody fainted! The incident occurred during an open house for the school. I was teaching the group a few techniques so they could get a sense of how chair massage worked. I passed one woman who lifted her face out of the face rest and said, "It's hot in here." Then, almost immediately, her eyes rolled into the back of her head and she began shaking. As I reached to stop her from falling out of the chair, I asked the woman's husband, who had been massaging her, if she was prone to seizures. It wasn't a seizure. She had simply fainted.

The woman regained consciousness relatively quickly and ended up continuing with our mini-workshop. She and her husband even enrolled in the professional training program. I had finally had my first experience with someone fainting in the chair, but it certainly wasn't going to be my last. In that first year of the training program,

we experienced a series of fainting episodes—up to 10 occurrences!

I was alarmed and baffled. How was it possible that I could go for years without having anyone faint and then suddenly have people start dropping like flies? It didn't make any sense. We had to investigate. The first question I asked myself was: why do people faint?

WHY DO PEOPLE FAINT?

Fainting occurs when the blood supply to your brain is momentarily inadequate. The loss of consciousness is usually brief.

There are many reasons why the brain might suddenly be deprived of blood, and the physiological basis behind some of these causes can be quite complex. Some medical and nonmedical reasons include:

- Anemia.
- Anxiety.
- Blood loss from a wound or internal bleeding—for example, a peptic ulcer.
- Blood pressure issues, including those associated with pregnancy.
- Dehydration.
- Eating disorders, such as anorexia and bulimia.
- Extreme pain.
- Fright or other sudden emotional stress.
- Heart and circulatory problems, such as abnormal heart rhythm, heart attack, or stroke.
- Heat stroke or heat exhaustion.
- Low blood sugar (hypoglycemia).

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- Prescription medicines, including antidepressants, blood pressure medications, and tranquilizers.
- Standing in one place too long.
- Sudden changes in body position, like standing up quickly (postural hypotension).
- Toxic shock syndrome.

Although we didn't do full case histories with each client, we always took our clients through a systematic screening process before they sat in the chair. We did this to ensure we were massaging healthy individuals. Anyone with significant injuries or pathologies would have been referred to a clinic, so although we weren't sure of the exact cause of the fainting, it was evident that in these clients it was a problem with blood pressure regulation, not serious pathology.

A HYPOTHESIS

Why is this fainting reflex triggered with chair massage? I heard a number of possible explanations. I was told that hitting certain acupressure points in the hand could cause someone to pass out. But I had never heard of someone fainting while receiving hand massage when lying on a table, so it couldn't be the massage technique itself. I had also been told fainting was more likely if the client hadn't eaten. But we couldn't correlate all these fainting episodes with the timing of meals, and again, table massage clients don't faint when they haven't eaten first.

We knew that massage would decrease a person's blood pressure to a certain extent. When you are relaxed, your heart doesn't pump as vigorously as it normally does and your blood pressure drops. With chair massage, the person remains upright and the heart must continue to pump blood against gravity toward the brain as



the person relaxes. But blood pressure regulation systems in healthy people should be able to compensate for this. And of course, you never faint when you are just sitting upright in a normal chair, no matter how relaxed you are.

If relaxation was, in fact, the mechanism behind the fainting, we would expect this to be a gradual process and for the person to report feeling lightheaded or dizzy. Sometimes this did occur. But these kinds of occurrences didn't seem that significant.

What surprised my team was that almost every fainting episode happened very quickly and with very little warning. A relaxation-induced drop in blood pressure couldn't account for this sudden and dramatic effect.

We began to interview chair massage clients who had experienced a fainting episode to find commonalities that we could include in a screening process. Much to our dismay, they seemed to have very little in common. Most were women. Their ages ranged from 10 years to about 60. The fainting occurred at no particular time during the massage session—within a couple of minutes of starting in one case, and at the end of a half-hour massage in another. There was absolutely no trend in what part of the body was being massaged when the fainting episode occurred, and it did not seem to be related to low blood pressure or menstruation.

One day, the staff and I were discussing the issue when one of my senior trainers, Kam Toor, suggested the carotid sinus reflex might be the culprit. As we started to discuss this possibility, it made perfect sense.

The FAINTING MYSTERY

IF
SOMEONE
BEGINS
TO FAINT



1) Stand behind the person and put one foot forward.



2) Hook your elbows under her armpits and support some of her weight as she stands up.



3) Stay behind her in this position and shuffle back away from the chair.



4) Keep one leg in front of the other and support the client's weight as you lower her to the floor.



5) If she faints as you are getting her out of the chair, don't try to hold her up: let her slide down your body and fall with her. Most importantly, stop her head from hitting the floor. If you managed to get her to the floor, put her into a recovery position, semi-prone with the upper leg flexed forward.

WHAT'S THE CAROTID SINUS REFLEX?

The carotid artery is a major blood vessel supplying the head. This artery contains baroreceptors (blood pressure sensors) that help regulate the flow of blood to the brain. If the baroreceptors sense a high level of pressure in the carotid artery, they initiate a reflex—the carotid sinus reflex—that slows down the heart and causes a generalized peripheral vasodilation to quickly drop the blood pressure.

This is a simple protective reflex. If your blood pressure increases suddenly, for whatever reason—let's say you are a 90-year-old man sprinting for the bus—you'd have a sudden surge of blood to your head. This could rupture blood vessels and cause bleeding in the brain. That's not a good thing. These baroreceptors trigger regulatory mechanisms to get the arterial blood pressure quickly normalized when necessary.

Pressure on the front of the neck blocks the flow of blood in the carotid artery. The rushing blood has nowhere to go and stretches the arterial walls. The baroreceptors interpret this stretch as increasing blood pressure and trigger the reflex that causes the heart to slow down quickly and dramatically. The result is rapid and extreme lightheadedness, or a rapid fainting episode. This is exactly what we were seeing in the chair. It wasn't a slow process. One second they felt fine; the next, without warning, they were out cold.

It doesn't take a lot of pressure on the carotid artery to cause the reflex. Researchers have noted that this carotid sinus reflex is sometimes triggered by neck movements, such as turning the head while shaving or when reversing a car, and it can even be triggered by wearing a tight collar.¹

Tip

A buttoned-up shirt or tie is unlikely to elicit the carotid sinus reflex, but have your client undo the top button and loosen his tie for comfort, just in case.

The carotid sinus reflex becomes more sensitive after the age of 35. Furthermore, some people seem to have a genetic hypersensitivity to this reflex. In some cases, elicitation of the reflex can cause the heart to stop momentarily. It's very unlikely that this will arise as a situation in your chair massage practice, however. Researchers have performed studies that involved conducting pressure experiments on approximately 8,000 individuals between 15 and 95 years of age, including at-risk individuals, without a single fatality occurring as a consequence of triggering the carotid sinus reflex.²

In another set of experiments on 3,507 individuals, of whom 9 percent were found to have hyperactive sinus reflexes, researchers noted that from the age of 40, the responsiveness of the carotid sinus reflex increased in proportion with increasing age.³ Arteriosclerosis was assumed to be the reason for this connection with aging.

PREVENTING FAINTING EPISODES

When I first started teaching chair massage to large groups of people, one of the most common mistakes I saw was the positioning of the massage chair's face rest. Almost all students had a tendency to put the person's face too high on the face rest. Instead of supporting the forehead, the top of the padding came closer to eye level. And the sides of the face rest, instead of supporting the sides of the face, came down to the sides of the neck, allowing the padding to push into the carotid artery just below the jaw.

Once we recognized that, we became very strict about the adjustment of the face rest, making sure the padding supported the face properly. In addition, before each massage, we had students ensure there was clearance between the neck and the pad. Since that time, we have had almost no reported cases of fainting. This is extremely strong evidence to support the hypothesis that the fainting phenomenon associated with chair massage is very much related to pressure on the carotid sinuses.

The small act of ensuring that your client's head is positioned correctly in the face rest should almost entirely eliminate the possibility of someone fainting in your chair. But why, you may ask, can the fainting happen at any point in the massage? Shouldn't it happen in the beginning, when the client puts his or her head into the face rest?

There's a simple explanation for this and it's once again related to setting your client up in the chair properly. When most clients sit in the massage chair, they tend to sit near the back of the seat. Because the seat is usually angled downward, typically the client slides forward as the massage progresses, especially when the therapist pushes into the back.

As the body slides forward, the head moves up on the face rest and the bottom ends of the pads start to press against the neck. Once there is sufficient pressure to the carotid arteries, the reflex is triggered.

You can largely prevent this movement in the chair and face rest by telling your client to slide forward, and

ensuring that their abdomen is fully supported by the chest support before starting the massage.

Even if you do this proactively, I would still advise that you check the positioning of your client's head partway through your massage. In particular, you want to confirm that the bottom ends of the face rest are not pressing against the neck. Taking a moment to check for this, and repositioning the face rest if necessary, will again significantly reduce your chances of having someone faint in your chair.

DIZZINESS, LIGHTHEADEDNESS, AND NAUSEA

These, too, are symptoms of decreased blood flow to the brain, and are much more common among chair massage clients than fainting. They could be caused by a low-level activation of the carotid sinus reflex, or could simply result from decreased blood pressure brought about by relaxation.

IF SOMEONE FAINTS IN THE CHAIR



1) If a client faints as you are massaging her, don't panic. Keep her resting forward in the chair and prevent her from falling.

2) Even if the client is slumping or leaning to one side, don't try to get her off the chair or straighten her up.

3) Wrap your arms around her and hold onto the frame of the chair firmly to prevent her from falling, and just wait until she recovers.

They are more likely to occur in circumstances that cause blood to be diverted from core circulation. In these situations, there is simply less blood for the heart to pump to the brain, so the effect is easier to elicit.

In my experience, these symptoms do not go away if the massage continues. It is best to end the massage as soon as the client reports feeling dizzy, lightheaded, or nauseous. Assist the client slowly out of the chair and let them sit with their head between their knees, or better yet, lie down in a side-lying position until the sensation subsides.

Here are some contributing factors you should be particularly aware of:

1. **Food:** If someone has just eaten a meal, there will be a diversion of blood to the stomach and intestines to digest the food. There is less blood circulating to the muscles and other organs. That's why you often feel tired after a big meal.

2. **Recent exercise:** If someone has just exercised without cooling down, the blood will be diverted to the muscles. In exercise classes, they typically have you do cool-down exercises at the end of your exercise session. In the cool-down exercises, the instructor has you do light muscle contractions to force the blood out of the muscles and into circulation again.

Don't massage anyone who has been exercising if they are actively perspiring, breathing heavily, flushed, or hot. If the client sits in the massage chair without cooling down sufficiently first, blood pools in the muscles, especially in the legs, which are in a flexed position. Ask her to wait, perhaps until after she has taken a shower, which should give ample time for blood flow to normalize.

3. **Heat:** When someone is too hot, blood flow is diverted to the skin, where the air can take the heat away from the body. Exercise caution in situations where your client:

- Is in a hot environment (outside on a hot day, or in a room with little air circulation, for example).
- Has just exercised.



FAINTING PROTOCOL

No matter what the situation, don't panic! The fainting spell will pass. Stay calm. The client will most likely regain consciousness within seconds.

In my experience, a fainting client almost always regains consciousness in less than 30 seconds. If it takes longer than 2 minutes, then something more serious may have occurred. Call for emergency care.

Call 911 if the person is recovered, but shows any of the following:

- **Signs of heart attack:** chest pain, chest pressure, chest discomfort, or a pounding or irregular heartbeat.

- **Signs of stroke:** can't speak, has vision problems, or can't move a limb.

- **Signs of seizure:** convulsions, tongue trauma, or loss of bowel control.

Otherwise, keep the client lying down for at least 10–15 minutes or until she is fully lucid. Once she is conscious, you may have her roll onto her back and either bend the hips and knees or elevate the feet.

Stay with the client until she is fully recovered. Do not leave her for any reason. Simply talk to her in a relaxed voice as she regains consciousness.

Comfort her. Let her know that everything is OK; she just fainted. Tell her to lie still and assure her she'll feel fine in just a few minutes.

Don't slap or shake anyone who has just fainted and don't splash water in their face. That only works in the movies. In addition, don't try to give the person anything to eat or drink, not even water, until they are fully conscious.

There are really no lasting effects from fainting. The person may feel a little queasy, but once blood pressure normalizes, she should feel fine. Some people feel quite normal within 5–10 minutes. Others have reported feeling a

little off or unsettled for hours afterward.

Be sure to explain what has happened so that they understand it was not something that happened as a result of the massage, but rather a simple reflex that was likely caused by some pressure to the front of their neck. Let them know that about 10 percent of the population has a hypersensitive reflex and they could possibly be one of those people. If you don't help them understand what has happened, they will likely overreact and you could find yourself with a liability claim on your hands.

If a client faints, be sure to call your insurance provider and report the incident to a claims specialist so that you have it on record, should anything more come of it.



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- Has just had some hydrotherapy application involving heat (a hot whirlpool or a sauna, for example).

4. Pregnancy: Pregnant women are also predisposed to these incidents. Pregnancy involves significant shifts in levels of various hormones, some of which are involved in blood pressure regulation. The changes in hormone levels, combined with the increasing load the growing fetus places on the cardiovascular system, makes this population particularly vulnerable to these negative side effects.

5. Medications: Some medications—and not just blood pressure pills—may interfere with normal blood pressure regulation and may predispose someone to an episode of lightheadedness. Without knowledge of pharmacology, however, it's difficult to screen for these.

WHAT TO DO IF A CLIENT FAINTS

Just before fainting, a person may:

- Feel a sense of anxiety.
- Feel dizzy or lightheaded.
- Feel nauseated.
- Feel weak.
- Have the sense that surrounding noises are fading into the background.
- See spots before his or her eyes.

The person knows that something is not quite right, but unless they've experienced it, they may not know that they are about to pass out. And they are often too embarrassed, or too confused, to say anything, which means they often faint without warning.

The most common indicator that a client is not feeling well is if she is squirming in the chair. If you see her moving around, and the reason is not immediately evident, stop and ask specifically if she feels lightheaded or nauseous. You may

see her skin turn pale, even on the back of her neck, but often this happens only as the person passes out.

The experience can be frightening if you've never seen it before. The person's eyes will roll back into her head and you'll hear a very distinct breath sound. The client may start to stiffen up and maybe even convulse. Sometimes the convulsions are like a light tremor or shake, and sometimes it may appear as though the person is having a mild epileptic episode.

It's important to note that fainting itself is not harmful. It is simply nature's way of making you stop what you're doing and putting you on the ground until your blood pressure normalizes.


The therapist's primary concern is making sure that the client does not fall and hurt herself in the process. Being on the floor is the safest position for the client until she recovers. If someone reports feeling nauseous or dizzy, don't leave her in the chair while you fetch a glass of water or a cold compress. Get her on the floor first.

Rather than being angry or upset after they recover, most people are simply embarrassed, so be as discreet as possible in handling the situation. Don't make a big deal out of the incident; reassure the people around you that your client has just fainted. Let them know this happens occasionally and that there is no need for alarm or to call emergency medical services (of course, unless the client insists).

In a busy massage practice, it's not unlikely that you will sometimes have a client faint. Fortunately, you can largely prevent these fainting episodes by simply paying close attention to the way you set your client up in the chair and being in tune with the client's body language. If someone does faint, following the simple guidelines outlined here will help prevent injuries, keep your client safe, and make sure everybody walks away unfazed.

Notes

1. J. E., "Hyperactive Carotid Sinus Reflex and Carotid Sinus Syncope," *Mayo Clinic Proceedings* 44, no. 2 (February 1969): 127-39.
2. W. J. Kleemann et al., "Kann ein Griff an den Hals zum reflektorischen Herztod führen?" [Can pressure applied to the neck cause a reflex leading to cardiac death?], in *Erstickten: Fortschritte in der Beweisführung* (Springer, 1990), B. Brinkmann, K. Püschel (eds.).
3. H. Franke, "On the Hyperactive Carotid Sinus Syndrome," *Acta Neuroveg* 25 (1963): 187-203.

 Eric Brown is a frequent *Massage & Bodywork* contributor. Learn more about him and his work at www.bodyworkbiz.com.