

# Massage Therapy Side Effects

**What could possibly go wrong with massage? The risks and side effects of massage therapy are usually mild, but “deep tissue” massage can cause trouble**

Paul Ingraham • Feb 10, 2024 • 25m read

## Article Summary



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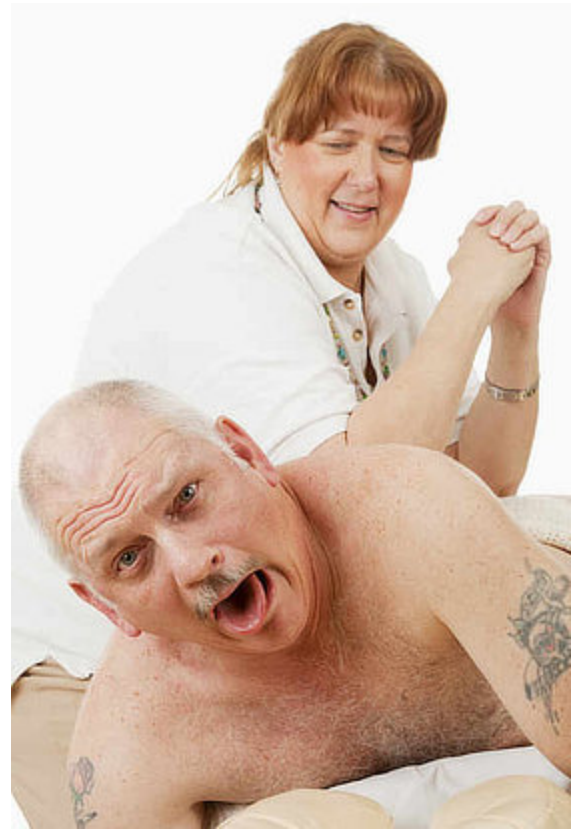
People think of massage therapy as a “safe” therapy, and of course *it mostly is*. But things *can* go wrong, or at least a bit sour, especially with “deep tissue” massage. For instance, Sun *et al.* reported a case of a “large buttocks hematoma” in an older patient directly caused by “aggressive” gluteal massage, intended to relieve back pain, leading to a hospital stay and surgery to resolve substantial swelling and leg numbness. <sup>1</sup> Although that was an unusually severe example, blood vessels do get more fragile with age, and strong massage can break them — sometimes even the big ones.

While significant injuries in massage therapy are rare, cases that are diagnosed and reported in medical journals are probably greatly outnumbered by less dramatic examples.

And *minor* side effects are downright common. A 2007 survey of 100 massage patients <sup>2</sup> found that 10% of 100 patients receiving massage therapy reported “some minor discomfort” in the day following treatment. This would mainly be a familiar slight soreness that is common after a massage, known as “post-massage soreness and malaise” (PMSM) — and I’m surprised *only* 10% reported it. The massages they were getting must have been quite gentle. <sup>3</sup>

Interestingly, 23% reported unexpected benefits that had nothing to do with aches or pains. (Benefits for musculoskeletal problems were not documented.)

This study is underpowered; it cannot and does not rule out rare and / or serious side effects of massage therapy, which do exist. You could probably do several studies of 100 patients without encountering a single nasty situation. But what if you surveyed 1,000 patients? Or 10,000? Massage is not completely safe — what is? — and other adverse effects would almost certainly turn up in a big enough survey. Nevertheless, according to one of alternative medicine’s most vigorous critics, Dr. Edzard Ernst, “Serious adverse events are probably true rarities.” <sup>4</sup> And yet, reviewing the literature again in 2013, Ernst and Posadzki found at least 18 reported examples of “moderately severe” reactions to normal massage, especially of the neck. <sup>5</sup>



People love to joke about their massage therapists “torturing” them, but the laughing stops when you get a “large buttocks hematoma.” Or worse.

## Side effects and other harms of massage, especially the dangers of deep tissue massage

So what *specifically* could possibly go wrong with massage?

- directly cause new injuries, mostly bruises and nerve lesions (mostly minor, but certainly not all, and again)
- aggravate existing injuries and chronic pain problems
- distract patients from more appropriate care
- mildly stress the nervous system

- probably cause rhabdomyolysis (too much protein released into the bloodstream from crushed muscle)
- probably slightly impair athletic performance (or just do much less good than a proper warmup)
- drain wallets (not an injury, but another kind of pain) <sup>6</sup>
- distract patients from more appropriate health care

A little more on that last one: I've seen many patients unwisely prioritize massage over medical care, and way too many massage therapists who went along with it and missed the medical significance of serious symptoms, overconfidently attributing them to something like "toxins" or "cranky muscles." Massage therapists are prone to pseudoscientific beliefs, <sup>7</sup> and appalling diagnostic ignorance is probably the *most* dangerous thing about massage therapy, as with all alternative medicine. <sup>8</sup>

In my decade as a Registered Massage Therapist, <sup>9</sup> I met *many* patients who had been harmed by massage therapy one way or another — fortunately, mostly just expensive disappointments and minor backfires, but quite a few more serious cases too. <sup>10</sup>

## Sensory injury from painful massage

One of the first massage clients I ever had started our relationship with this warning:

My last massage therapist ruined me. I do not have a high pain tolerance. I begged her to be gentle, she ignored me, and I winced and sweated through the whole experience. I felt awful, and I've never been the same since. I feel like it ruined me. That was a year ago. I'm here for a gentle massage. If you aren't gentle, I will get off the table and walk out the door without paying you.

I was gentle, and she was a regular client for the rest of my ten-year career. She was probably my first clinical example of "sensory injury," years before I thought of those words. My reputation for being a gentle therapist started with her, and led to me becoming the go-to therapist for patients who were "refugees" from intense massage. I have been paying attention to this topic for 24 years now.

A painful, alarming sensory experience can actually *dial up pain sensitivity* — even long term. <sup>11</sup> Furthermore, vulnerability to this awful phenomenon is much more common and significant in desperate patients who already have chronic pain — so they seek and tolerate intense therapy.

The experience of pain is affected by many factors, including emotional and psychological ones. People in chronic pain usually experience some degree of pain neurology dysfunction, and a breakdown of the relationship between

***People experiencing pain  
system dysfunction can have***

how bad things feel and how much is really wrong. That breakdown can be seriously worsened by threatening sensations. Thus, people experiencing pain system dysfunction can have minor and major setbacks in response to excessively painful massage.

## ***minor & major setbacks in response to excessively painful massage.***

One of my readers suffered this kind of disaster. She was injured by “fascial release” therapy, a style which is often too intense and may focus on treating connective tissues to the exclusion of considering the patient’s comfort and nervous system.

I may have been too aggressive with a few patients over the years. I never did serious harm this way as far as I know, but I’m sure that I occasionally did more harm than good. This failure was due entirely to my ignorance of pain science: despite being an unusually well educated massage therapist, I simply did not know that an intense massage could change pain sensitivity itself. Does *your* therapist?

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**Pain is Weird** — Pain science reveals a volatile, misleading sensation that comes entirely from an overprotective brain, not our tissues

~ 16,000 words

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**The Pressure Question in Massage Therapy** — What’s the right amount of pressure to apply to muscles in massage therapy and self-massage?

~ 6,500 words

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## **Poisoned by massage**

People often feel sore and a bit “oogy” after strong massage, the phenomenon of post-massage soreness and malaise (PMSM). It’s routinely dismissed and rationalized by massage therapists as a necessary evil, a “healing crisis,” the effect of detoxification. That’s all bullshit. At best, it could just be a form of mild disorientation, basically feeling “weird” after an unusual and intense sensory experience. But it’s probably more biological, and actually the *opposite* of detoxification: a light *poisoning*.

Excessive pressure can probably cause rhabdomyolysis (“rhabdo”): poisoning by proteins liberated from injured muscle, known as a “muscle crush” injury. It would usually be mild with massage, but not necessarily.

For example: an 88-year old man collapsed the day after an unusually strong 2-hour session of massage therapy. <sup>12</sup> He had too much myoglobin in his blood, and it was

clogging his kidneys and generally making him feel rotten. It's not a sure thing that his condition was caused by the massage — but it is quite likely. It is almost certainly a perfect example of one of those rare but serious complications of massage. Another case study comes up below.

True rhabdo is a medical emergency in which the kidneys are poisoned by myoglobin from muscle crush injuries. But many physical and metabolic stresses cause milder rhabdo-like states — even just intense exercise, and probably massage as well. There are many well-documented cases of exertional or “white collar” rhabdo, and there is a strong similarity between PMSM and ordinary exercise soreness. A rhabdo cocktail of waste metabolites and by-products of tissue damage is probably why we feel a bit cruddy after all biological stresses and traumas — including massage, sometimes.

PMSM is just an unavoidable mild side effect of strong massage. And for a few more vulnerable patients, it could actually be a little dangerous.

***Excessive pressure can probably cause “rhabdo”: poisoning by proteins liberated from injured muscle, a “muscle crush” injury.***

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**Poisoned by Massage** — Rather than being DE-toxifying, deep tissue massage may actually cause a toxic situation

~ 9,500 words

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## **Impaired performance: the minor but educational example of pre-event sports massage**

There's a minor old idea in massage therapy that you can enhance athletic performance by stimulating or invigorating an athlete before they do their thing. It's not nearly as popular an idea as post-event massage, but it's still a thing.

Unfortunately, the evidence is fairly unambiguously negative. Three small studies since 2007 have all concluded that, at the best, precompetition massage is of no help to sprinters, <sup>13</sup> <sup>14</sup> and one of them found that <sup>15</sup> “massage *decreased* 60-meter sprint performance in comparison to the traditional warm-up.” It's not clear if that means massage actually impaired performance or if it simply couldn't match the well-established value of a warm-up ... but athletes who choose pre-competition massage are still shooting themselves in the foot.

Pre-event massage is obviously potentially a problem for athletes because of all the other potential harms mentioned in this article. Even a hint of PMSM is clearly *not* what an

athlete wants right before, say, a soccer match. But there a particularly likely problem with massage right before trying to be all sporty: massage can be *discombobulating*. A blast of novel stimuli can be surprisingly disorienting, even if it is also invigorating. And it doesn't take much to throw an athlete off-kilter.

It's an interesting example of "harm," because it would be trivial for anyone *but* a serious athlete. But if you're really trying to excel, and every possible advantage matters, and the stakes are high — *very* high for some athletes! — then being even slightly off-kilter is actually a very serious side effect.

## Getting on your nerves

Nerves aren't nearly as vulnerable to pressure as people generally think — most of them can actually take quite a licking and keep on ticking without a single symptom — but they aren't invulnerable. Push hard enough in the wrong place, and you can injure a nerve, of course. In a 2017 incident, a woman's radial nerve was crushed by an aggressive massage in her upper, inner arm. It's rare, but it happens. **16**

And I once caused such a nerve injury myself: it was a minor injury, but it did — *augh* — result in weeks of aggravating discomfort for my client.

The *Archives of Physical Medicine & Rehabilitation* reported a similar spinal accessory nerve injury: "a rare and illustrative case of spinal accessory neuropathy associated with deep tissue massage leading to scapular winging [the shoulder blade sticking out] and droopy shoulder as a result of weakness of the trapezius muscle." **17**

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**Can Massage Therapy Cause Nerve Damage?** — It is possible, but hard to do, rare, and the damage is usually minor

~ 6,500 words

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## The neck is a vulnerable spot

The neck is not an especially fragile structure, but it is in *some* people, and there's always a danger — with any kind of neck manipulation — of disastrously messing with a critical vulnerability that's lurking in the spine. This can lead to two main kinds of rare but truly dangerous side effects of massage: spinal cord injury associated with instability of the upper cervical spine, or stroke caused by tearing of the vertebral arteries. I've had personal experience with three cases:

1. What happened to my barber — either a brain stem injury or mini-stroke caused by careless massage of a vulnerable neck, an interesting example of *beauty parlour syndrome*, a stroke caused by sustained neck extension while hair-washing. Similar neck positioning isn't unusual in massage therapy.
2. One of my own patients was injured the same way by another therapist. She vomited and retched for hours afterwards: the nasty effects of brain stem impingement, or ripping of an artery going to the brain.
3. I came somewhat close to inflicting the same fate on another patient of mine early in my career, but I'm proud to say that I spotted the warning signs and avoided disaster.

These problems aren't common, but that's three in my own relatively short (10-year) career, so it's hardly unheard of. <sup>18</sup> And then there are examples I had no involvement in ...

A weird case of brain artery damage (extracranial internal carotid artery dissection, specifically) was reported in 2004 by the *Southern Medical Journal*: a 38-year-old woman gave herself a stroke by using a vibrating massage tool for too long and too hard on her neck. <sup>19</sup> Obviously such an incident has little to do with professional massage. Nevertheless, it demonstrates that the arteries of the neck are a little bit fragile — and I have no doubt that there are poorly trained or incompetent therapists out there who might get carelessly exuberant in this region, while trying to treat the scalenes: see [Massage Therapy for Neck Pain, Chest Pain, Arm Pain, and Upper Back Pain](#).

***There's always a danger — with any kind of neck manipulation — of disastrously messing with a critical vulnerability lurking in the spine.***

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**What Happened To My Barber?** — Either atlantoaxial instability or vertebrobasilar insufficiency causes severe dizziness and vomiting after massage therapy, with lessons for health care consumers

~ 4,000 words

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## **More miscellaneous cases studies and tales of massage woe (some serious, some a bit silly)**

A weird, extreme case study paper tells the horror story of one person's awful experience with a severe reaction to (apparently) infrared heat and massage therapy. <sup>20</sup> The trouble started after several treatments. His neck and arms were swollen, the pain became "unbearable," and his "serum muscle enzymes were increased" — which means some degree of rhabdo, which implicates the massage itself as a significant mechanism of injury. Massage is not likely to blame for the incident, though — it was probably interacting with some unidentified vulnerability in the patient, such as a muscle disease



or a complication caused by a medication. Clearly massage and heat alone do not normally cause such severe side effects! Nevertheless, the potential for awful interactions does exist, and this is a good example of it.

“Alternative therapies may have serious complications, and patients usually do not report them unless asked specifically,” the authors point out. Although notice that some of these are too serious not to report.

**Headaches** are an extremely unpredictable and complicated category of problems with countless possible causes, and they can be seriously aggravated by massage. I’ve heard many such stories over the years. One of the worst came from one of my own massage therapists, who suffered “the worst migraine of my life,” which started during a relatively innocuous neck and head massage. “I knew it was happening. I could feel it getting worse as she worked. I still can’t believe I didn’t stop the treatment.”

**Stretching injuries.** Stretch is sometimes applied to patients by massage therapists, sometimes very strongly, and of course they routinely recommend it. Although mostly safe, obviously you can overdo it. I know this one from personal experience: Stretching Injury.

**Fractures.** I am one-degree of separation from a patient whose *femur* (the big leg bone!) was fractured by a massage. It was a weak and vulnerable femur to a modest degree ... but still, wow! It’s the only fracture I’ve ever heard of personally, but I bet there are a few other examples out there.

**Intestinal rupture.** In 2019, a 68-year-old man with chronic constipation had a habit of abdominal self-massage, and “did it hard” shortly before developing severe belly pain. He had ripped a five-centimetre hole in his upper colon, and bled a litre-and-half of blood into his abdomen before diagnosis. He got lucky, but this certainly could have killed him. <sup>21</sup> While a severe injury may be exotically rare, consider how many people have suffered consequences less dire but still actually injured. How many *one-centimetre* tears have gone undiscovered? How many cases of “just” severe bruising?

**Massage can dislodge blood clots**, which can then get trapped in the lungs or brain or other tissues, a potentially deadly complication. This would likely only occur with vigorous and careless massage of higher risk patients, but there are a few published case reports, <sup>22 23 24 25 26 27</sup> and it’s probably an under-reported complication.

**Falling off the table.** An elderly and obese woman fell off a massage table while trying to turn over, “resulting in serious bodily injuries” ...and a lawsuit, which is ridiculous. <sup>28</sup> While I do not wish to make light of the woman’s injuries, I am including this case rather whimsically. It is a legitimate example of “what could possibly go wrong,” but it doesn’t have much more to do with massage than tripping on the doormat at a massage clinic. Still, massage tables *are* quite narrow...

**Dizziness and vertigo attacks.** These are classic non-specific symptoms that are easily triggered in many people, especially by massage for some reason, <sup>29</sup> and just because many people are

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**Dizziness versus vertigo.** What’s the difference? Dizziness is the feeling of lightheadedness and unsteady, very familiar



vulnerable to them for all kinds of reasons. There are potentially serious causes of dizziness/vertigo during a massage (see above), but there are probably many less worrisome cases as well. For instance, a reader told me this story:

from “head rushes,” whereas vertigo is the more exotic sensation with a rotational element: if you have the spins, that’s vertigo.

I have Meniere’s disease. A month ago I had surgery: a surgeon cut my left ear “balance nerve” [vestibular nerve section] so it couldn’t send screwy signals to brain anymore. Post-surgery imbalance is expected for a few months as the brain adjusts, but a “vertigo attack” is supposed to be a thing of the past.

I went and had a two hour “deep tissue” massage. Near the end the room started to slowly rotate on me: the beginning of a vertigo attack! Do you think the massage could have caused this episode?

A good question without a good answer. Meniere’s is a peculiar disease, and the results of such a surgery are probably erratic and imperfect. I have no doubt a strong massage could trigger a vertigo attack in such a patient simply because *practically anything can*, including just stress, and a massage like that is a large dose of novel sensations and biological challenges (read: stress) — lots of potential triggers for Meniere’s, never mind in someone who got their vestibular nerve pruned just a month ago!

## Lessons for professionals and patients

These are rare but real incidents. Healthy people are unlikely to be injured by massage. Most of dangers are related to undetected vulnerabilities, and they emphasize the importance of alternative health professionals being trained to spot the scary stuff. The measure of a health professional’s competence is not what they do with relatively healthy patients, but whether they have the training and humility to recognize more precarious clinical situations.

**Massage therapists need to know** that the most important part of their job is the smart management high-risk situations that they may see only a handful of times in their entire career. It’s like being on guard duty: 99.9% of the time, nothing bad happens. But how do you handle a curve ball when it finally comes? But they also need to know that chronic pain is a relative *common* dangerous situation, easily aggravated by

**Consumers need to know** that massage isn’t perfectly safe, that a “no pain, no gain” attitude is the source of most of the danger, especially for chronic pain patients. They should run away from cocky therapists who trash-talk “mainstream” health care — they are the most likely to ignore, minimize, or rationalize side effects, while missing or misinterpreting serious symptoms.

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## About Paul Ingraham



Headshot  
of Paul  
Ingraham

*I am a science writer in Vancouver, Canada. I was a Registered Massage Therapist for a decade and the assistant editor of ScienceBasedMedicine.org for several years. I've had many injuries as a runner and ultimate player, and I've been a [chronic pain patient myself](#) since 2015. [Full bio](#). See you on [Facebook](#) or [Twitter](#), or subscribe:*

## Related Reading

The major myths about massage therapy are:

- [Massage increases circulation](#). Probably not... and *definitely* not as much as a little exercise.
- ["Tightness" matters](#). The three most common words in massage therapy — "you're really tight" — are pointless.
- [Massage detoxifies](#). It's actually the opposite, if anything.
- [Massage patients need to drink extra water](#) to "flush" the toxins liberated by massage.
- [Massage treats soreness after exercise](#). Studies have shown only slight effects.
- [Massage reduces inflammation](#). An extremely popular belief based mainly on a single seriously flawed study.
- [Fascia matters](#). The biggest fad in the history of the industry.
- [The psoas muscle is a big deal](#). The most overhyped single muscle.
- Massage stimulates endorphins (natural opioid) and reduces cortisol (stress hormone). They do not.
- ["Trigger points" are evidence-based](#). Actually, the science is seriously half-baked.
- [Massage therapists have spooky palpation skills](#). No, it's just ordinary expertise... and misleading.

The complete list of dubious ideas in massage therapy is *much* larger. See my [general massage science article](#). Or you can listen to me [talk about it for an hour \(interview\)](#).

And massage is still awesome! It's important to understand the myths, but there's more to massage. Are you an ethical, progressive, science-loving massage therapist? Is all this debunking causing a crisis of faith in your profession? This one's for you: [Reassurance for Massage Therapists: How ethical, progressive, science-respecting massage therapists can thrive in a profession badly polluted with nonsense.](#)

## What's new in this article?

Eight updates have been logged for this article since publication (2010). *All* PainScience.com updates are logged to show a long term commitment to quality, accuracy, and currency. [more](#)

Feb 10, 2024 — Added citation to a case study of a gluteal blood vessel seriously damaged by “deep tissue” massage (see [Sun](#)). Also added a fairly substantive footnote about the reaction this item got on social media.

2021 — New and upgraded citations of case studies of massage dislodging blood clots and causing dangerous pulmonary emboli. There are now six interesting summaries of these alarming stories.

2020 — Added a significant case study of severe injury to the colon from strong abdominal massage, and a story of a woman who was badly injured falling off her massage table. Also edited the intro to make it clear that the severe injuries we can read about are probably outnumbered by unreported/milder ones.

2018 — New section: “Impaired performance: the minor but educational example of pre-event sports massage.” Added and discussed “distraction from more appropriate care” to the introductory section. Updated the conclusion so it's in sync with changes made in the last couple years.

2018 — Added article summary, and made numerous other miscellaneous improvements.

2018 — Added discussion of dizziness, vertigo, and Meniere's disease.

2017 — Added emboli (blood clots stuck in vessels) with three case studies.

2016 — Minor reorganization of the article; added a couple more examples.

2010 — Publication.

## Notes

1. Sun F, Yuan QL, Zhang YG. [Large Buttocks Hematoma Caused by Deep Tissue Massage Therapy.](#) Pain Med. 2015 Jul;16(7):1445–7. [PubMed 26176792](#) [PainSci Bibliography 51701](#) [Sun F, Yuan QL, Zhang YG. Large Buttocks Hematoma Caused by Deep Tissue Massage Therapy.](#) Pain Med. 2015 Jul;16(7):1445–7. [PubMed 26176792](#) [PainSci Bibliography 51701](#)

In February 2024, I promoted this study with a [quick share on social media](#):




Do you joke with your massage therapist about how they are “torturing” you? It’s all fun and games until someone loses a buttock. I’ve added this case study of a major butt injury from “aggressive” massage to my article about massage harms.

Some folks did not get/like the joke and were *quite* butt-hurt about “loses a buttock” mainly because no one *literally* lost a buttock. To be excessively clear: *it was a whimsical play on words*, specifically the English cliché “it’s all fun and games until someone loses an eye.” Most people did get that joke, or at least understood there was some kind of word play at work.

And yet my summary would still be fine for anyone who missed the winking entirely and took my statement literally ... because the message would still be, at worst, just a *minor over-statement of an actual harm*. “Losing a buttock” is really not that far off from what happened to this person! Plus there were (and this is important) prominent links to the paper and to this article, to a more much more nuanced and referenced exploration of the topic. I did not *just* publish a snarky hot take. I almost never do that.

What *does* concern me is that harms like this are chronically *under*-stated by health professionals and wellness influencers. Meanwhile, they hose us down with egregious hyperbole about benefits, peddling a million times more false hope and bullshit than I can ever hope to counter with my whimsical little exaggeration in the other direction. But it’s a good idea to at least \*try\* to put a bit of flamboyant emphasis on harms instead of benefits, for once.

But again: *most people just get the joke.* 😊

2. Cambron JA, Dexheimer J, Coe P, Swenson R. Side-effects of massage therapy: a cross-sectional study of 100 clients. J Altern Complement Med. 2007 Oct;13(8):793–6. [PubMed 17983334](#) 
3. Indeed, that seems very likely given the context. I doubt they would test painfully strong massage on 100 people without mentioning the intensity. However, painfully strong massage is quite common “in the wild.” Certainly intense massage is unusually common here in Vancouver, where there’s a regrettable professional predilection for it.
4. Ernst E. The Safety of Massage Therapy. Rheumatology. 2003;42 (9):1101–1106. [PubMed 12777645](#)  [PainSci Bibliography 54834](#) 

Is massage safe? Researchers attempted to answer that question. Four databases were reviewed; all articles which reported adverse effects of any type of massage therapy were looked at. In the end, 20 reports were looked at. “The majority of adverse effects were associated with exotic types of manual massage or massage delivered by laymen, while massage therapists were rarely implicated.”

The conclusion was that, while not entirely risk free, “serious adverse events are probably true rarities.”

5. Posadzki P, Ernst E. The safety of massage therapy: an update of a systematic review. Focus on Alternative and Complementary Therapies. 2013;18(1):27–32. [PainSci Bibliography 53974](#) 

#### ABSTRACT

**OBJECTIVE:** To update a systematic review evaluating the safety of massage therapy.

**METHODS:** A literature search was carried out using four electronic databases for the period December 2001 to May 2012. All articles reporting adverse effects of massage therapy were retrieved. Adverse effects relating to atypical massage, aromatherapeutic massage oil or ice were excluded. No language restrictions were applied. Data were extracted and evaluated according to predefined criteria.

**RESULTS:** Seventeen case reports and one case series were published since our previous review. The reported adverse effects comprised acute paraplegia and abdominal distension, bladder rupture, bilateral cerebellar infarction, cervical lymphocele, cervical cord injury, cervical internal carotid and vertebral dissection, chylothorax, haematuria, interosseous nerve palsy, myopathy, perinephric haemorrhage, rhabdomyolysis, severe headache, blurred vision, paraesthesia and focal motor seizures. In the majority of the reports, a cause–effect relationship was certain or almost certain. Serious adverse effects were most commonly associated with massage techniques applied to the neck area.

**CONCLUSION:** Evidence suggests that massage may occasionally lead to moderately severe adverse effects.

6. If someone spends \$5,000 on massage therapy that has only a minor therapeutic effect, or none at all, is that an “injury”? It’s an insult, at the least!
7. Ingraham. 🙏 [Massage Therapists Say: A compilation of more than 50 examples of the bizarre nonsense spoken by massage therapists with delusions of medical knowledge.](#) PainScience.com. 11683 words.
8. Many naturopaths, chiropractors, acupuncturists and massage therapists are overconfident in their diagnostic skills, and overlook or underestimate serious symptoms—a basic and serious problems with the idea of having an “alternative” type of medicine. For more information, see [Missing Serious Symptoms: Alternative medicine often diagnoses overconfidently while overlooking or underestimating serious symptoms.](#)
9. I was a Registered Massage Therapist with a busy practice in Vancouver, Canada, from 2000–2010, RIP. After that, science journalism and this website took over my career and they remain my sole focus today. See [my bio.](#)
10. Several dozen at least who experienced minor negative effects and a lighter wallet. I recall only about dozen or so having really poor experiences, mostly aggravated chronic pain. Only a handful of those were obviously significantly injured by massage. But those were sad cases.
11. Woolf CJ. [Central sensitization: Implications for the diagnosis and treatment of pain.](#) Pain. 2010 Oct;152(2 Suppl):S2–15. [PubMed 20961685](#) [PainSci Bibliography 54851](#) [□](#)  
 Pain itself often modifies the way the central nervous system works, so that a patient actually becomes more sensitive and gets more pain with less provocation. That sensitization is called “central sensitization” because it involves changes in the central nervous system (CNS) in particular — the brain and the spinal cord. Victims are not only more sensitive to things that should hurt, but also to ordinary touch and pressure as well. Their pain also “echoes,” fading more slowly than in other people.  
 For a much more detailed summary of this paper, see [Sensitization in Chronic Pain.](#)
12. Lai MY, Yang SP, Chao Y, Lee PC, Lee SD. [Fever with acute renal failure due to body massage-induced rhabdomyolysis.](#) Journal of Nephrology, Dialysis and Transplantation. 2006 Jan;21(1):233–4. [PubMed 16204282](#) [□](#) [PainSci Bibliography 54301](#) [□](#)
13. Goodwin JE, Glaister M, Howatson G, Lockey RA, McInnes G. [Effect of pre-performance lower-limb massage on thirty-meter sprint running.](#) J Strength Cond Res. 2007 Nov;21(4):1028–31. [PubMed 18076229](#) [□](#)
14. Fletcher IM. [The effects of precompetition massage on the kinematic parameters of 20-m sprint performance.](#) J Strength Cond Res. 2010 May;24(5):1179–83. [PubMed 20386129](#) [□](#)
15. Moran RN, Hauth JM, Rabena R. [The effect of massage on acceleration and sprint performance in track \& field athletes.](#) Complement Ther Clin Pract. 2018 Feb;30:1–5. [PubMed 29389467](#) [□](#)
16. Hsu PC, Chiu JW, Chou CL, Wang JC. [Acute Radial Neuropathy at the Spiral Groove Following Massage: A Case Presentation.](#) PM R. 2017 Apr. [PubMed 28400223](#) [□](#)
17. Aksoy IA, Schrader SL, Ali MS, Borovansky JA, Ross MA. [Spinal accessory neuropathy associated with deep tissue massage: a case report.](#) Arch Phys Med Rehabil. 2009 Nov;90(11):1969–72. [PubMed 19887226](#) [□](#)
18. For perspective, there are many real-but-rare scary things in medicine that rare enough that the huge majority of clinicians will *never* encounter them — not a single case in a full multi-decade career, as far as they know.
19. Grant AC, Wang N. [Carotid dissection associated with a handheld electric massager.](#) South Med J. 2004 Dec;97(12):1262–3. [PubMed 15646768](#) [□](#)

20. Tanriover MD, Guven GS, Topeli A. An unusual complication: prolonged myopathy due to an alternative medical therapy with heat and massage. South Med J. 2009 Sep;102(9):966–8. [PubMed 19668045](#) [PainSci Bibliography 52515](#) [PainSci Bibliography 52515](#)
21. Mori S, Ai T, Otomo Y. Laceration of the transverse mesocolon in an old man with a habit of abdominal massage for constipation: a case report. Surg Case Rep. 2020 Jan;6(1):1. [PubMed 31898753](#) [PainSci Bibliography 52515](#) [PainSci Bibliography 52515](#)

The patient was misdiagnosed with a tumour at the hospital. A day later, still bleeding internally, a surgeon found the lesion and attempted to close it, but the tissue was too fragile for proper suturing. Luckily, the patient recovered surprisingly well, and his only complication was an ironic increase in constipation from a paralyzed intestine. When traumatized, the intestine stops contracting for safety.

The authors of the report reasonably assume that the injury was caused by massage, but note other possible explanations, “such as rupture of small aneurysms.” However, the lesion was quite a bit too large to be explained by anything but the most obvious.

22. Warren SE. Pulmonary embolus originating below knee. Lancet. 1978 Jul;2(8083):272–3. [PubMed 79075](#) [PainSci Bibliography 52515](#)

Case report of an elderly woman who developed a lung embolus after her husband vigorously massaged her leg, which had a known deep vein thrombosis — a serious contraindication to massage which any competent massage therapist would certainly avoid. But not all of them...and not husbands as a general rule.

23. Mikhail A, Reidy JF, Taylor PR, Scoble JE. Renal artery embolization after back massage in a patient with aortic occlusion. Nephrol Dial Transplant. 1997 Apr;12(4):797–8. [PubMed 9141017](#) [PainSci Bibliography 52515](#)

A case report: “massage” in the form of walking on the back (which is not as rare or necessarily as reckless as it sounds) dislodged a clot in the aorta at the site of a graft (aortobifemoral bypass graft). This is an unusual case (but not because of the massage), which is why they wrote it up: “It is controversial whether aortic occlusion can lead to retrograde thrombosis of the renal arteries.” But it appeared to in this case, and that’s what the report is focused on. But the graft “occluded over a year before admission but the loin symptoms only appeared after the massage. We presume that in this case in the presence of normal renal arteries the physical trauma led to dislodgement of thrombus...”

24. Jabr FI. Massive pulmonary emboli after legs massage. Am J Phys Med Rehabil. 2007 Aug;86(8):691. [PubMed 17667202](#) [PainSci Bibliography 52515](#)

This letter to the editor of *The American Journal of Physical Medication & Rehabilitation* describes a case of a 53-year-old woman with progressively worsening shortness of breath, which started after a “vigorous” massage of her calf muscles at a pedicure shop. She had “filling defects” in “several” lung arteries. She survived this: the emboli were successfully dissolved by anti-coagulants. But a close call for sure.

“Not only can [massage] dislodge an already established blood clot, but, as in this case, it can also predispose an individual to venous thrombosis and subsequent pulmonary embolism. ... there is likely underreporting.”

25. Lim DCG, Jayanthi HK, Money-Kyrle A, Ramrakha P. Massaging the outcome: an unusual presentation of pulmonary embolism. BMJ Case Rep. 2009;2009. [PubMed 21687002](#) [PainSci Bibliography 51824](#) [PainSci Bibliography 51824](#)

This is a case study of a man who’d had deep vein thrombosis presumably caused by a long-haul flight (flex your ankles regularly on flights!). He was treated with anticoagulants for months, but the clot remained... until it was dislodged in a massage two years later. The massage was a “full-body” massage and included the legs, but no other details were noted. “The onset of dyspnoea soon after leg massage suggests that this was the likely cause of thrombus embolisation.” It does seem likely.

His only symptom was shortness of breath, which is impressive considering how serious the embolus was. It was a “worm-shaped right atrial embolus, most probably a femoral cast.” Meaning the embolus was basically the shape of the vessel where it had lived until it was dislodged, and wormed its way into a lung. Shudder.

26. Behera C, Devassy S, Mridha AR, Chauhan M, Gupta SK. Leg massage by mother resulting in fatal pulmonary thromboembolism. Med Leg J. 2018 Sep;86(3):146–150. [PubMed 28441907](#) [PainSci Bibliography 52515](#)

This is case study of a young man who *died* because his mother gave him a leg massage after an ankle fracture. “Autopsy confirmed the cause of death as pulmonary thromboembolism due to deep vein thrombosis of the leg



veins which was dislodged and travelled to his lungs consequent to the leg massage. The treating doctors did not warn the patient of the risk of developing pulmonary thromboembolism."

27. Sutham K, Na-Nan S, Paiboonsithiwong S, Chaksuwat P, Tongsong T. Leg massage during pregnancy with unrecognized deep vein thrombosis could be life threatening: a case report. BMC Pregnancy Childbirth. 2020 Apr;20(1):237. PubMed 32321459 [PainSci Bibliography 51826](#)

This is a case study of a pregnant woman who fell into a coma after a traditional Thai massage at a shopping center in Chiang Mai, Thailand. Her baby miscarried. The cause was a clot in her leg, which was dislodged and carried to her lungs, where it stuck, cutting off lung circulation.

About 10 minutes after her massage, the woman developed shortness of breath, became disoriented, convulsed, lost consciousness, and had a heart attack. She was initially resuscitated at the hospital, but remained comatose, and she remained unconscious for two months until the case report was written.

"Pregnant women are at a higher risk of undetected or subtle thromboembolism..." and "it is reasonable to conclude that the patient had undetected preexisting deep vein thrombosis, which was mechanically dislodged by the massage and travelled massively to both lungs, leading to a life threatening condition."

28. I was contacted by the woman's lawyer. "We feel there should have been some assistance to her turning over and that she was injured do to the lack of that assistance," she wrote. But, unsurprisingly, she was "having difficulty finding cases or statutes to support her claim and would like to know if you have heard or experienced any situations as this in which to help guide me in the right direction."

My rather flummoxed reply:

This seems to be firmly in the category of a "freak accident." Not only is falling off the table itself exceedingly rare (never heard of even that), but sustaining severe injuries is just insanely bad luck. A hundred people could fall off a massage table without getting anything more than bruise, maybe one fracture.

This hazard didn't come up even as a hypothetical one single time in my training or in my 10-year clinical career. I don't think it is a clear duty of massage therapists to prevent people from falling off their massage tables... because it's an impossible misfortune to predict and prevent, and the ability to do so is irrelevant to the training and skills of a massage therapist. In short, there is nothing *anyone* could do to reliably prevent such an incident.

29. Nausea and fatigue, for instance, are also classic non-specific symptoms, but they seems like a much rarer side effect of massage. I have no idea why. The unusual positioning (face down) may have something to do with it.

## Permalinks

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