CUPPING 707

Unlock myofascial manipulation with cupping





MASSAGE magazine

Table of CONTENTS

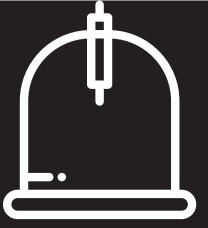
- History of cupping and types of modalities
- **5** Benefits of cupping therapy
- Cupping and pain science
 Mechanical effects of cupping
 Fluid dynamics
 Neuro-chamical effects

- 11 Cupping and sensory maps
- 14 Cupping research
- **17** Cupping education
- 18 About RockTape



HISTORY OF CUPPING

and types of modalities



History

Cupping (hijama in Arabic) is an ancient, holistic method for the treatment of a variety of conditions. Though the exact origin of cupping therapy is unclear, its use has been documented in early Egyptian and Chinese medical practices. The Ebers Papyrus, written c. 1550 BC and one of the oldest medical textbooks in the Eastern world, describes Egyptians' use of cupping, while mentioning similar practices employed by other Saharan peoples.

In Chinese medicine the classic cupping technique is called *ba guan zi*, which is fire or dry cupping. This involves the practitioner placing the cup over an ashi (painful area) point or an acupuncture point along an energy meridian.

Currently, the scope of cupping therapy is expanding, and a growing body of research is providing evidence-based data for the advancement of cupping therapy in the treatment of a variety of conditions and its integration into chiropractic care. Typically, cups are made of glass, earthenware, bamboo or silicone.

TRAPITIONAL CHINESE MEPICINE (TCM)

TCM teaches that it is the stagnation of *qi* and blood that causes pain and disease. Cupping invigorates local circulation of *qi* and blood in the area being treated, resolving swelling, pain, and tension. By drawing impurities to the surface, it removes toxins.



HIPPOCKATES used cupping for

internal disease and structural problems.

In ancient Greece,



WESTERN PHYSIOLOY

In Western perspective, cupping loosens connective tissue or fascia and stimulates blood flow to the surface of the skin. Cupping stimulates tissue relaxation and better neurosensory awareness.

Types of modalities

There are many types of cupping techniques in use today. Before offering any type of cupping, check your local and state laws to make sure it falls under your scope of practice. The types of cupping technique used today, according to Advanced Massage Arts & Education school owner Jimmy Gialelis, LMT, BCTMB, are:

DRY CUPPING uses cups to create a vacuum over the skin. A combustible material such as moxa or alcohol is lit, placed into the cup, then inverted over the region. The hotto-cold effect creates a vacuum affecting subcutaneous tissue. Skin is then allowed to rest for 10-20 minutes. To avoid burning the skin, a therapist must quench the flame immediately.

of needles, either heated or unheated, to further extract blood and heat from a pathogenic site. The needle may be a traditional single-edged acupuncture needle or more sophisticated multi-pronged, thicker needles.

LIQUID CUPPING employs bamboo cups filled approximately one-third with a water-based herbal solution. This solution is said to bathe and cleanse the skin of impurities.

MASSAGE CUPPING mobilizes the cups upon the skin, gliding over various pathogenic regions. Therapeutic massage oil may be placed upon the skin to help the cups glide upon the skin surface.

VACUUM CUPPING, also called air cupping, uses a pump designed to thrust air out of the cup. The therapist sterilizes the selected region, then applies an herbal oil or cream. A therapist may control the thrusting of air out of the cup with a valve atop the cup.

FACIAL CUPPING is employed in the esthetics and massage fields. The facial skin is prepared with an application of herbal oils or creams. Specially-designed glass cups are engaged to stimulate greater blood flow upon the facial structures. In theory, collagen and elastic fibers are restored to aid in a client receiving a more youthful appearance. The skin of the face is thinner; therefore, this method necessitates less suction force.



BENEFITS of cutting thekaty



Practitioners of cupping know that cupping therapy helps relieve pain, improve circulation, dispel stagnant blood and lymph, improve energetic flow, and even serve as a method to treat (when within scope of practice) such conditions as respiratory disease, bronchitis and pneumonia.

Ranging from bamboo cups, animal horns, bronze and pottery to glass, plastic and silicone, cupping tools have evolved over time. The theories behind the methods, however, haven't deviated much from tradition — until recently, that is.

Deeply rooted in ancient practices often tied to religious beliefs, cupping has been mostly viewed as the black sheep with no scientific validity" in the eyes of modern, Western medical science for, well, pretty much ever.

However, with the medical lens having recently broadened to consider fascial and neuroanatomy of the dermal and fascial subsystem, the cup might actually be looking half full versus half empty.

As health care providers we're inundated with a plethora of education, certifications, modalities and techniques that promise to leave our clients moving and feeling better. Let's continue on and see how cupping fulfills this promise.

How cupping works

Cupping can be used to reduce pain and improve movement. The potential mechanisms fall into 3 main categories:

- » Mechanical changes
- » Neurological changes
- » Fluid dynamics

The cup lifting the skin creates mechanical changes and the vacuum effect on fluids promotes diffusion and osmosis. The sensation of cupping also has significant effect on the nervous system and provides a sensory stimulation that can reduce pain and improve proprioception (course 3 will detail these effects).



What causes the red circles?

Sustained cupping creates two key physiological events: diapedesis and ecchymosis. Diapedesis is the passage of blood cells through the capillaries. Ecchymosis refers to a discoloration of the skin.

Cellular effects of cupping therapy:

Negative pressure



Dilation of capillaries



Capillary rupture/diapedeses



Ecchymosis



Macrophases digest the red blood cells



Heme oxygenase 01 (HO-!) digests the heme

Heme breakdown produces carbon monoxide. The negative pressure of the cup causes release of blood under the skin. This causes color changes but unlike a bruise, soft tissue damage is not the cause. Practitioners should explain the procedure and effects and gain consent. Also, be cognizant of location of cupping therapy.



CONDITIONS COMMONLY APPRESSED:

- - Carpal tunnel syndrome
- ---- Ankle sprains
 - -- Low back pain
 - - Elbow tendonitis
 - - Lumbar disc herniation
 - Cervical spondylosis

CUPPING PUKPOSES:

- » Pain
- » Inflammation
- » Blood flow
- » Relaxation and well-being

CUPPING AND PAIN SCIENCE

With cupping's popularity rising into mainstream therapeutic settings thanks to its use by Olympians such as swimmer Michael Phelps, some modern medical researchers are taking a closer look from a different vantage point in an attempt to understand and explain what might be happening physiologically and neurologically during cupping sessions.

With any type of touch therapy, whether performed with our hands or with tools, we automatically incite a cascade of chemical, neurological, physical and emotional responses in our clients, according to sports massage and movement therapist, and ROCKTAPE educator Stacey Thomas, LMT, SFA, FMS, NKT, ART, CF-L2.

Much of the formal research on cupping has involved its use with athletes, in the area of pain relief. A 2018 research review published in the *Journal of Alternative and Complementary Medicine* looked at 11 trials involving nearly 500 athletes in various sports and found a wide variation in conclusions.

"Cupping was reported as beneficial for perceptions of pain and disability, increased range of motion, and reductions in creatine kinase when compared to mostly untreated control groups," the authors wrote, going on to say they could not make a recommendation either for or against cupping's efficacy or safety.





This ability to decompress versus compress the tissue offers a unique method for mobilizing the underlying structures to enhance interlayer glide.

In another research study of 50 subjects, published in *Complementary Medicine Research* in 2017, the authors found that cupping "appears to be effective in reducing pain and increasing function and quality of life in patients with chronic nonspecific neck pain."

Cupping research has largely focused on the mechanical effects, with little attention given to the neurological aspects. In recent years, however, pain science leaders such as Lorimer Mosely and fascia researchers such as Robert Schleip have offered a new paradigm of thought to the way we understand our brain's response to touch.

As it pertains to cupping, this sheds new light on the potential advantages of this ancient practice having a place in modern-day clinics. More than just another method of manual tooling, cupping can offer advantages in the realm of fluid dynamics, neurological effects and mobility because of the decompression it provides. Cupping directly affects the tissue being treated, and creates the potential for a global response by way of influencing the molecular properties of fluid and neurological responses to the external stimuli.

Practitioners of cupping believe there are three main categories of effect:

- » Mechanical effects
- » Fluid dynamics
- » Neuro-chemical effects

Mechanical effects

The mechanical effects and benefits of cupping are fairly easy to observe and understand. Unlike the compressive characteristics of massage techniques, cupping primarily decompresses tissues and creates space between multiple layers. The mechanical stress created by cupping helps improve the interlayer gliding of tissues starting at the skin, moving through superficial and deep fascia and into the underlying tissues such as muscles, tendons, ligaments or organ structures.

This ability to decompress versus compress the tissue offers a unique method for mobilizing the underlying structures by creating interlayer space for both internal and external glide. Pain mitigation can effectively be applied through static external glide with optimal vectors and continued along a spectrum of progression, such as external glide coupled with passive and active mobilizations and movement patterns. These progressions can also be introduced in the absence of pain in order to influence mobility and movement patterning.

The most recognized effects of cupping are the large, blood-red, bruise-like circles on the surface of the skin. These appear because the vacuum effect between the cup and the skin creates enough negative pressure to draw blood to the surface of the skin.

As we continue to develop a greater understanding of the neuro-chemical effects, the colors of this bruising can actually provide us with valuable details regarding the stages of healing in the underlying tissues. This drawing of blood to the surface is what led ancient practitioners to believe in cupping's ability to improve blood and energy flow, as well as rid the body of unwanted toxins; this is still widely believed by cupping clinicians and clients today.

Fluid dynamics

Cupping's ability to create space between the interstitial layers of tissue has a direct effect on the fluid content therein. An increase in molecules such as proteoglycans, hyaluronic acid and glycosaminoglycans all contribute to the surrounding connective tissues' ability to glide, thus improving the ability to mobilize the area being treated as well as improve blood and lymph flow.

Creating a change in fluid dynamics by way of decompression creates an opportunity for therapeutic intervention for clients who might not otherwise be able to tolerate pressure from traditional massage strokes or other treatment methods. It also has implications for tissue recovery methods due to its facilitating greater motility of blood and lymph flow.

Neuro-chemical effects

The neurological and chemical aspect of touch is an ever-increasing wellspring of information, new understandings, hypotheses and implications for effective treatments.

The neuro-cognitive approach has shed light on the fact that chronic pain results in a disruption in our proprioceptive cognition in relation to the area affected. As a result, this "brain smudging" or "sensory blind spot," terms coined by Steven Capobianco, DC, medical director for RockTape, causes a degradation of motor control and movement patterning.



Above: Meet RockTape Instructor Meghan Helwig, DPT. Here she is treating athletes with RockPods & Mohawk.

We can use the example of the GPS on our smartphones to illustrate this phenomenon of body mapping and brain smudging. If our GPS loses its signal, we can't navigate very well. The same can be said of the phenomenon of compensational movement patterns, poor proprioception and loss of efficient motor control.

When our brain dissociates from an area of the body due to chronic pain, it's similar to our GPS losing its signal. That area of the body loses sensory awareness, which has a deleterious effect on how we move and even how we relate to that particular body part.



While heme is important for healing, too much heme can actually cause greater tissue injury. As a result, hemoxygenase begins to degrade excessive amounts of heme to buffer any further damage. In this process of consuming heme, hemeoxygenase releases carbon dioxide, biliverdin, bilirubin and iron.

By using touch, such as cupping, the sensory map is improved, pain is decreased, and body awareness and motor control are improved by providing stimulus to mechanoreceptors underlying the skin. However, touch stimulus combined with functional context such as relevant movement patterns, whether passive or active depending on a client's abilities, have a greater effect on improving the sensory representation for that area.

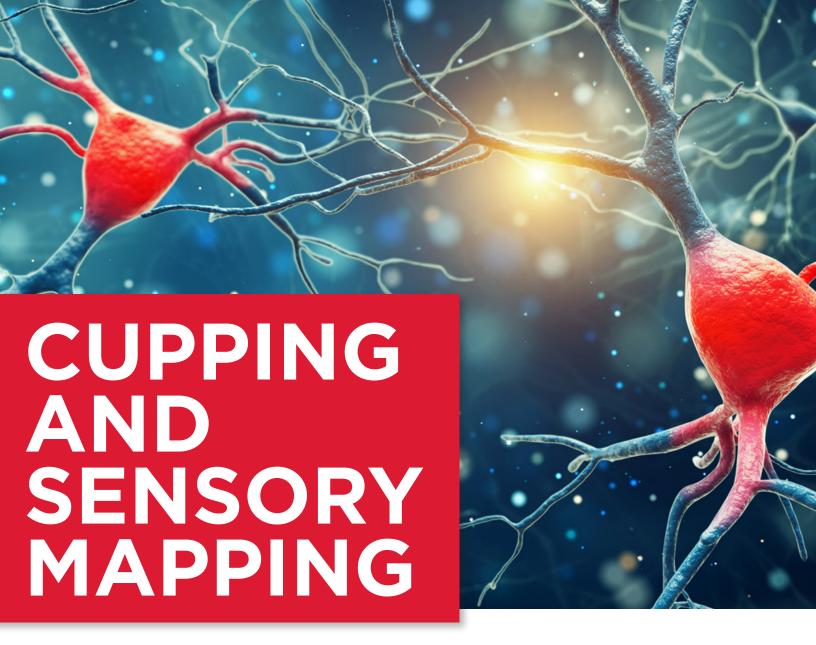
Studies have shown that touch therapy also increases the release of nerve growth factor, which aids in rewiring the brain for improved motor patterning and decreasing the loss of proprioception or brain smudge to areas of chronic pain and dissociation.

In regard to the chemical or immune benefits of cupping, enzymatic reactions occur due to the tissue strain to the sub-dermal tissue caused by cupping treatment. When this tissue strain occurs, bleeding just below the surface of the skin occurs, releasing hemoproteins containing heme.

While heme is important for healing, too much heme can actually cause greater tissue injury. As a result, hemoxygenase begins to degrade excessive amounts of heme to buffer any further damage. In this process of consuming heme, hemeoxygenase releases carbon dioxide, biliverdin, bilirubin and iron.

All three of these molecules, in low concentrations, have been found to have positive effects on pain and inflammation. Carbon dioxide in low concentration has been shown to decrease pain at the spinal cord level, and biliverdin and bilirubin have been found to serve as anti-inflammatories, anti-apoptotics and antioxidants.

These findings offer valid speculation regarding the discoloration of the tissue seen after cupping sessions. This discoloration is possibly an indicator of a healing response; the colors are induced by biliverdin and bilirubin, which bathe the tissues as a result of cupping treatment.



While the notion of touch used to create better sensory mapping isn't a new conversation, the introduction of visual cueing is not frequently discussed in the realm of cupping. Often found in therapeutic treatments for amputee clients, visual observation of the applied intervention has been found to increase the neurological and sensory association with that area of the body.

By combining touch, movement and visual observation, we provide a rich environment of feedback for the client's neurological system to process and re-assimilate back into the motor control system, according to sports massage and movement therapist, and RockTape educator Stacey Thomas, LMT, SFA, FMS, NKT, ART, CF-L2. A tactic as simple as using mirrors for clients to be able to see areas of their back being treated, or having them look at the cups on their skin while they move, can possibly stimulate a faster associative, neurological experience that contributes to their improvement as opposed to the traditional methods of disengagement during the session.

There is remarkable value in both the traditional insights as well as the emerging science behind all touch therapy. A thorough combination of understanding movement, pain science and the neurology of touch will have a huge impact on the effectiveness of your treatments.

Clinical trial results and low-back pain

Pulsatile dry cupping resulted in a significant decrease in chronic low-back pain, along with an increase in back function and an improvement in the physical aspect of health-related quality of life, according to recent research.

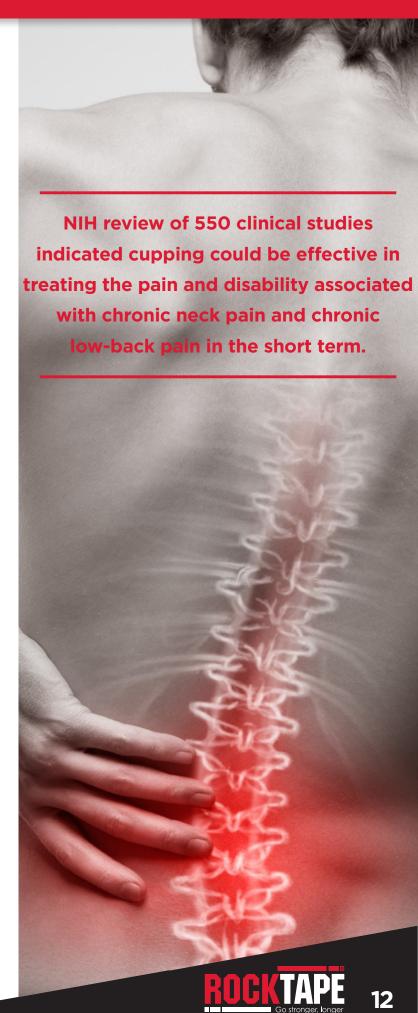
The study, "Pulsatile dry cupping in chronic low-back pain — a randomized three-armed controlled clinical trial," involved 110 people who had been clinically diagnosed with nonspecific chronic low-back pain.

Participants were randomly assigned to receive either regular pulsatile cupping plus paracetamol on demand, minimal cupping plus paracetamol on demand or only paracetamol on demand. The latter of the three served as the control group, and participants in all three groups were permitted to receive up four 500 mg doses of paracetamol per day.

Subjects in both cupping groups received eight sessions during the four-week intervention period, and each session lasted eight minutes. The same HeVaTech PST 30 cupping device, with the suction interval set for two seconds, was used in both groups. In addition, the placement of the two silicone cups, one on each side of the low back, was identical for all cupping sessions.

The difference between the two groups was the pressure setting. In the regular cupping group, a negative pressure between -150 and -350 megabars was used, whereas subjects in the minimal cupping group received a weaker negative pressure of around -70 megabars.

The main outcome measure in this study was intensity of low-back pain, which was assessed using a visual analog scale. Secondary outcome measures were back function and health-related quality of life. All assessments took place before the start of the study's intervention period and again four and 12 weeks later.



Results of the research revealed a significant improvement in pain intensity after four weeks among subjects in both the regular and minimal cupping groups as compared to the control group. After 12 weeks, only the subjects in the regular pulsatile cupping group continued to show an improvement in pain intensity as compared to the control group.

Regular pulsatile cupping also had a greater positive effect on back function after four weeks and on the physical component of health-related quality of life after both four and 12 weeks as compared to the control group. Subjects in the minimal cupping group showed no significant differences in these two outcome measures as compared to the control group.

Even though the practice of cupping is thousands of years old, we are still scraping the surface of understanding the intricacies of the science behind it. As with any treatment method, seek out reputable education before offering it as a service.

Authors: M. Teut, A. Ullman, M. Ortiz, G. Rotter, S. Binting, M. Cree, F. Lotz, S. Roll and B. Brinkhaus.

Sources: Institute for Social Medicine, Epidemiology and Health Economics, Charité-Universitätsmedizin Berlin, Germany. Originally published online in April 2018 in *BMC Complementary and Alternative Medicine*.



Cupping primarily decompresses tissues and creates space between multiple layers.





After reviewing 135 randomized controlled trials published between 1992 and 2010 — the majority of which were published between 2008 and 2010 — researchers from the Beijing University of Chinese Medicine revealed that the mechanism behind cupping therapy is not yet completely understood.

However, these researchers also went on to say that some health and wellness experts feel that placing the cups on specific acupoints creates a therapeutic effect by either producing hyperemia (an excess of blood flow in a particular body part) or hemostasis (the stoppage of blood flow), sometimes resulting in harmless marks on the skin.

Another group of researchers reviewed 16 trials with 921 participants. This review suggests a potential positive short-term effect of cupping therapy on reducing pain intensity compared with no treatment, heat therapy, usual care, or conventional drugs.

Although many still question how it works, research is continuing to find that it does, in fact, provide therapeutic benefits. Below are two published studies on neck and low back pain.

CHRONIC NECK PAIN Study

The effect of traditional cupping on pain and mechanical thresholds in patients with chronic nonspecific neck pain: a randomized controlled pilot study.

CUPPING RESEARCH

ABSTRACT

INTRODUCTION:

Cupping has been used since antiquity in the treatment of pain conditions. In this pilot study, we investigated the effect of traditional cupping therapy on chronic nonspecific neck pain (CNP) and mechanical sensory thresholds.

METHODS:

Fifty CNP patients were randomly assigned to treatment (TG, n = 25) or waiting list control group (WL, n = 25). TG received a single cupping treatment. Pain at rest (PR), pain related to movement (PM), quality of life (SF-36), Neck Disability Index (NDI), mechanical detection (MDT), vibration detection (MDT), and pressure pain thresholds (PPT) were measured before and three days after a single cupping treatment. Patients also kept a pain and medication diary (PaDi, MeDi) during the study.

RESULTS:

Baseline characteristics were similar in the two groups. After cupping TG reported significantly less pain (PR: -17.9 mm VAS, 95%CI -29.2 to -6.6; PM: -19.7, 95%CI -32.2 to -7.2; PaDi: -1.5 points on NRS, 95%CI -2.5 to -0.4; all P < 0.05) and higher quality of life than WL (SF-36, Physical Functioning: 7.5, 95%CI 1.4 to 13.5; Bodily Pain: 14.9, 95%CI 4.4 to 25.4; Physical Component Score: 5.0, 95%CI 1.4 to 8.5; all P < 0.05). No significant effect was found for NDI, MDT, or VDT, but TG showed significantly higher PPT at pain-areas than WL (in $\lg(kPa)$; pain-maximum: 0.088, 95%CI 0.029 to 0.148, pain-adjacent: 0.118, 95%CI 0.038 to 0.199; both P < 0.01).

CONCLUSIONS:

A single application of traditional cupping might be an effective treatment for improving pain, quality of life, and hyperalgesia in CNP.

CHRONIC LOWER BACK PAINSTUDY

A pilot study analyzing the effects of Chinese cupping as an adjunct treatment for patients with subacute low-back pain on relieving pain, improving range of motion, and improving function.

OBJECTIVE:

To evaluate the effectiveness of Chinese cupping in acutely reducing pain, decreasing tenderness to palpation, and improving range of motion for patients with subacute or chronic LBP.

PATIENTS/SETTING:

Twenty-one patients who reported back pain for at least eight weeks volunteered at a multidisciplinary holistic outpatient clinic.

INTERVENTION:

After completion of a medical screening questionnaire and collection of baseline data, four glass cups were applied and pressurized over the lower erector spinae muscles.

OUTCOME MEASUREMENTS:

Baseline data included demographic characteristics and the Oswestry Disability Questionnaire score. Pre- and postintervention data included perceived pain on a visual analog scale (VAS), lumbar spine range of motion, straight-leg raise test (SLR), and pain-pressure threshold (PPT) assessed with a digital force gauge. The data were analyzed by using a Wilcoxon signed-rank test and Spearman rho correlations.

RESULTS:

Of the 17 patients who completed the study, there were significant post-treatment improvements in VAS scores (p=0.0001), SLR motion on the left (p=0.043), and lumbar flexion range of motion (p=0.016) and improvements in PPT at all four investigated points (p<0.007). Significant relationships were identified between the improvement in low-back flexion with the improvement in PPT at bilateral lumbar paraspinal muscles at the L4 levels and at the left L2 level.

CONCLUSIONS:

Chinese cupping may be a low-risk, therapeutic treatment for the prompt reduction of symptoms associated with subacute and chronic low-back pain. Cupping may allow patients to progress to functional movement training in a timely manner by promptly reducing pain and muscle tenderness and improving range of motion.

Link to study: https://www.ncbi.nlm.nih.gov/pubmed/24299469



Study of 70 patients suffering from tension and migraine headaches. Cupping improved 95 percent of cases reducing severity of headaches by an average of 66 percent, and the patients experienced the equivalent of 12.6 fewer days of headache per month.

CUPPING

Until now, choices were limited if you wanted to learn how to treat with cups.

You had to read a book or attend an expensive class that locked you into treating clients with specific, complex protocols.

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FMT RockPods explores the science of tissue gliding, traction and decompression with easy-to-use myofascial cups. RockPods are one of the latest additions to the RockTape tool arsenal to better equip each clinician and therapist to deliver superior client outcomes.

FMT RockPods Certifications are intended for health and fitness professionals. CEUs may be offered for DC, ATC, PT, LMTs, LAc, OT and personal trainers—depending on location and class type. FMT Certified professionals receive an additional 10% discount on most of the RockTape product line after taking a class.

FMT RockPods Certification introduces the concept of skin/fascial decompression to help improve tissue mobility, improve movement and modulate discomfort* with myofascial cupping. This course will cover the anatomy, physiology and neurology of the effects of myofascial cupping

on connective tissue gliding, tissue traction and tissue decompression. FMT RockPods Certification will explore skin and fascial decompression with myofascial cups by evaluating the dermal and fascial systems. Interventions with cupping (RockPods) will be reviewed based on the literature and integrated into current rehabilitative concepts.

This 6-hour certification course is intended for practitioners and therapists with a basic understanding of soft tissue techniques. All supplies needed for the course are provided. There are no prerequisites for FMT RockPods.

Learn more about FMT RockPods visit:

https://www.rocktape.com/medical/education/fmt-rockfloss-rockpods/

*Not clinically proven for all injuries

ABOUT ROCKTAPE

We believe that everyone needs to keep moving.

You can't get enough compliments, right?

We receive them daily.

We hear from people who have been injured — from car accidents, to horseback riding, and the gym. Olympic athletes to weekend warriors.

It's sometimes overwhelming, the stories. Debilitating discomfort*. Terrible diagnoses.

"You'll never run/bike/swim/lift again," they've heard.

We've heard it. Everyone in our office has a story. A bad cycling fall. Sprains. Bruises.

That's why we do what we do.

We believe recovery is more than discomfort*, painkillers or injections. We believe through movement, mobility and stability you can heal yourself.

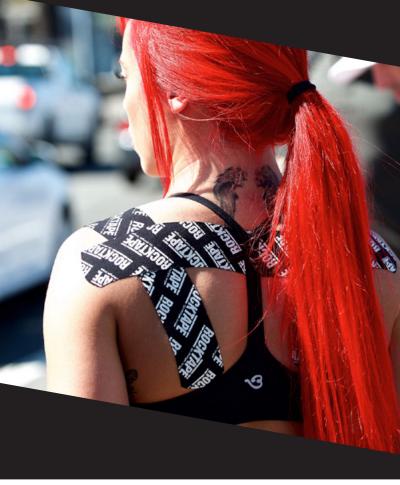
Our tape is the best in the world. There's no question. Ditto for our lotions and potions, and our joint products. But what we do is about more than what we sell.

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Join us in staying fit, healthy and discomfort*-free. We'll be there when you need us.

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SOURCES

https://en.wikipedia.org/wiki/Cupping_therapy

https://www.nccaom.org/science-of-cupping/

https://www.nccaom.org. Retrieved 2019-02-24.

https://www.webmd.com/balance/guide/cupping-therapy#2-3

https://www.nccaom.org/science-of-cupping/

https://www.ncbi.nlm.nih.gov/pubmed/25710765

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3289625/

 $\label{lem:https://www.medicinenet.com/cupping/article.htm#what_are_the_different_types_of_cupping$

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4488563/

