

Also known as:

CTS

Carpal Tunnel Syndrome

Definition: A compressive disorder of the median nerve in the wrist.

GENERAL INFORMATION

- Usual cause: repetitive stress injury (RSI) from repeated wrist flexion (e.g., assembly line duties, computer keyboard work, playing an instrument, hobbies that include repeated handwork)
- Associated systemic conditions: diabetes, hypothyroidism, pregnancy, alcoholism, obesity, and rheumatoid arthritis
- Slow onset
- Duration of weeks or months, or lifetime
- Progressive; either chronic or acute
- Irreversible neuropathy possible if repetitive patterns are not halted
- Higher prevalence in middle-aged females

PATHOPHYSIOLOGY

Located at the anterior base of the wrist, the carpal tunnel is surrounded by carpal bones and covered by the transverse carpal ligament, a tight band that is also called the flexor retinaculum (Figure 9-1). Contents of the carpal tunnel include the median nerve and nine tendons and synovial sheaths (tubes of tissue that lubricate tendons) of the anterior forearm flexor muscles. Originating in the brachial plexus (located in the posterior neck), the median nerve travels distally to end by passing through the carpal tunnel (Figure 9-2). The median nerve is essential for normal hand function. It supplies sensory (feeling) fibers to the thumb, index finger, middle finger, and half of the ring finger, and motor (movement) fibers to muscles that allow thumb movement.

A syndrome is a group of simultaneously occurring symptoms that often result from different causes. In the case of CTS, debate continues between Occupational Safety and Health Administration (OSHA) and the American Society for Surgery of the Hand regarding whether there is truly a direct link between repetitive hand movements and the development of the disorder. As inflammation occurs, symptoms manifest from increased pressure in the normally very tightly packed carpal tunnel. Pain is due to nerve ischemia (temporary lack of oxygen and blood to a localized area), rather than from direct damage to the median nerve itself.

Acute CTS can develop after a fracture or trauma, such as a crush injury, or when chronic CTS remains untreated. Chronic CTS, also termed fibrotic CTS, can result from an abnormal bony growth or a slowly growing tumor that increases pressure within the carpal tunnel.

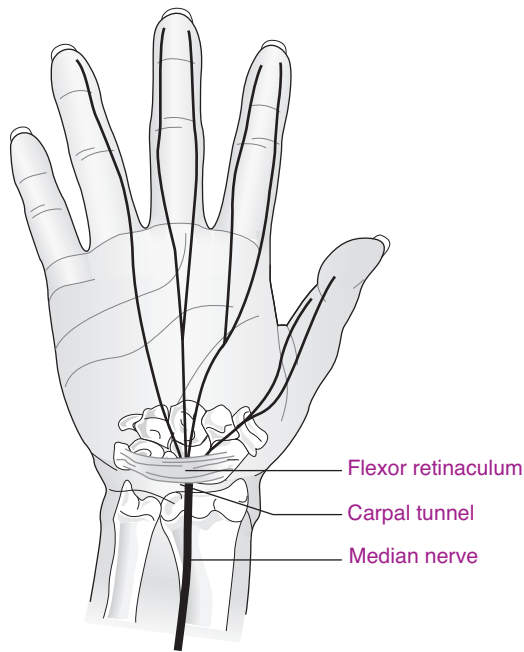


FIGURE 9-1 The carpal tunnel. Located at the anterior base of the wrist, the carpal tunnel is surrounded by carpal bones and covered by the transverse carpal ligament. From Bickley LS, Szilagy P. *Bates' Guide to Physical Examination and History Taking*, 8th ed. Philadelphia: Lippincott Williams & Wilkins, 2003.

OVERALL SIGNS AND SYMPTOMS

Acute CTS:

- Pain and inflammation that impair daily activities and interrupt sleep

Chronic CTS:

- Moderate pain and inflammation; daily activities and sleep still possible
- Burning and tingling
- Nighttime positional exacerbations resolved upon waking and handshaking

SIGNS AND SYMPTOMS MASSAGE THERAPY CAN ADDRESS

- Shortened, hypertonic forearm muscles that have lost flexibility and strength can be effectively treated with traditional massage therapy techniques, along with range-of-motion (ROM) and stretching exercises.

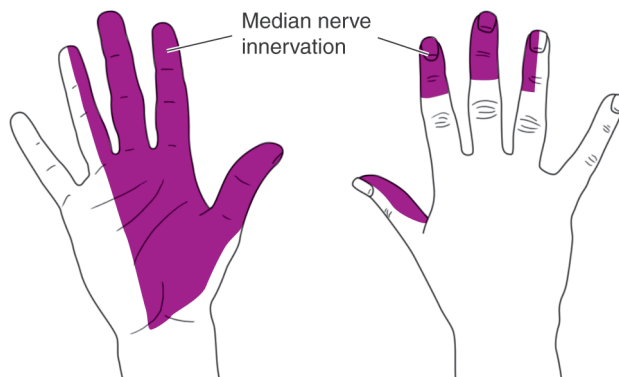


FIGURE 9-2 The distribution of the median nerve in the hands.



Massage Therapist Tip

Peripheral Nerves, Both Sensory and Motor

The pathophysiology of any peripheral neuropathy is more easily understood by visualizing a peripheral nerve as two differently colored, interwoven pipe cleaners—let's say red and green. The red pipe cleaner carries sensory nerves, which enable us to *feel* the cold of a glass of soda. The green pipe cleaner carries motor nerves, which let us *hold* the glass of soda in a sufficient grip without dropping it. Remembering that peripheral nerves are *both* sensory and motor helps us not only understand and treat peripheral neuropathies, but also explain symptoms to a client who is experiencing difficulty with both feeling and strength.



Thinking It Through

It is common to see wrist braces or stabilizers worn during the day by the general public. Upon questioning, the massage therapist will often find that the person has chosen to self-treat by wearing the brace and has not received an official physician's diagnosis of CTS. Often, the thinking is this: "My friend used it and she had carpal tunnel, and she said it seemed to help." At this point, the therapist, while not moving beyond her scope of practice, might think through the following and offer appropriate advice:

- Wrist braces and stabilizers are intended for nighttime use to prevent wrist hyperflexion that often occurs during sleep.
- Immobilized muscles (from the use of a splint or brace) become hypertonic, and if left immobilized, the pain-spasm-pain cycle begins. How would it help to immobilize an area of the body already at risk for pain and hypertonicity by further immobilizing it?
- Effective therapy for this overuse syndrome is stretching, deep massage, and warming techniques that will return blood to the area. The root of most nerve pain is a localized decrease in blood supply. Does splinting bring blood to the area or diminish the circulation?

- Lack of oxygen and blood supply to the median nerve and surrounding tissue can be increased with localized massage techniques and the application of heat.

TREATMENT OPTIONS

All treatment options focus on relieving pressure on the median nerve in order to increase local blood circulation. Rest, nighttime wrist immobilization, anti-inflammatory pain medications (nonsteroidal anti-inflammatory drugs [NSAIDs]), and stopping the offending activity is the normal treatment.

A nocturnal wrist splint can decrease the nerve compression that often occurs with wrist hyperflexion during sleep. Clients must be cautioned in the use of splints, because the initial success rate can be as high as 70%, but relapses are common. Moreover, since the condition manifests over a period of months or years, it will take time for symptoms to decrease. In addition, damaged nerve tissue typically takes longer to heal than muscle or bone.

Localized corticosteroid injections with added lidocaine can have an initial very high response rate, but the improvements significantly decline after 1 year.

Surgery involves either an open or an endoscopic release of the transverse carpal ligament. It is the treatment of last resort, and most physicians will allow a full year of unresolved symptoms, failed attempts at other treatment options, and serious compromise of daily activities before recommending surgery. According to some sources, surgical release of the carpal tunnel has a very high success rate, while other sources cite that numbness may persist despite complete surgical release.

Common Medications

- NSAIDs, such as ibuprofen (Motrin, Advil) and naproxen (Aleve, Anaprox, Naprelan, Naprosyn)

MASSAGE THERAPIST ASSESSMENT

Although it is outside the massage therapist's scope of practice to diagnose CTS, the condition can be confirmed and symptoms can be assessed by using provocative tests, which can recreate symptoms.

- *Phalen wrist flexion test*: The client either rests her elbows on a table or raises her arms to chest height; she then places the backs of her hands together and holds the position for 60 seconds. If numbness, tingling, or burning pain occurs along the median nerve path, it is considered a positive test for CTS.
- *Tinel test*: The therapist aggressively taps on the palmer surface of the client's wrist. If symptoms become evident, the test is positive for CTS.

A strong word of caution is necessary here. Since CTS is commonly self-diagnosed by clients resisting a visit to the physician, the massage therapist must remember that many CTS symptoms mimic other serious conditions, including neck and/or shoulder injuries. Her assessment skills are appropriately used to determine treatment efficacy rather than to diagnose. When in question, it is best to consult a physician before proceeding with treatment.

THERAPEUTIC GOALS

A mantra often repeated by one of my massage therapy instructors was: "A nerve in pain is a nerve screaming for oxygen." Although massage therapy cannot heal CTS,

common techniques can definitely decrease symptoms. It is therefore a reasonable goal for a compliant client with chronic CTS to expect reduced localized nerve pain, increased flexibility, and reduced pain in the flexor muscles. It is not reasonable to create massage therapy goals for acute CTS.

Because CTS symptoms manifest over a period of months or years, a few massage therapy sessions can provide only palliative relief. There is no quick fix. Truly successful therapy takes time, patience, change in movement patterns, and referring to and working with other health care professionals.

MESSAGE SESSION FREQUENCY

- 60-minute sessions once a week, with the first half-hour focused on the forearm, wrist, and hand until symptoms subside, and the second half-hour focused on the neck and shoulders
- Twice-a-week sessions if the client cannot perform self-care techniques, or refuses to do them

MESSAGE PROTOCOL

The preponderance of (real or self-diagnosed) CTS has reached an alarming rate in the U.S., and you will certainly encounter clients with CTS frequently throughout your career. As important as your work will be in helping alleviate symptoms, your ability to educate your client about the anatomy of the brachial plexus and carpal tunnel can lead to self-care compliance—and may help her avoid surgery. Showing the client a simple anatomic drawing of the brachial plexus—its origin, path, and endpoint—can help her understand that *her tight and hunched shoulders, sleeping patterns, or overworked forearm muscles* could be the cause of her symptoms. With the tendency of so many clients to move quickly to surgery in order to relieve symptoms, your intelligent and careful anatomic explanation, combined with skillful care, can help your client save money and avoid the inherent risks of surgery.

Getting Started

The following protocol is based on treating unilateral, chronic CTS. Wrist, hand, and forearm muscles are the focus of your work. Even with a firm diagnosis of CTS, the client's entire upper extremity and neck need to be addressed. The brachial plexus, from which the median nerve descends, originates in the neck, and a compression or impingement anywhere along the route from neck to fingers causes symptoms that mimic CTS.

Have hot packs readily available. If your practice allows, hydrotherapy techniques, in which the client's hand and forearm are submerged in a tub of warm water and the client is asked to perform gentle ROM movements of the wrist and fingers, can be quite helpful in preparation for your protocol.

Position the client supine, adding an extra pillow or two, as she will be in this position for about 30 minutes. Place a hot pack on the affected forearm and wrist. Use lubrication for this protocol.

HOMEWORK

Self-care is essential for your client if she hopes to recover. A combination of exercises, a change in work style and the way she uses her hand, and physical therapy are all essential for complete recovery. You will need to be diplomatic and persuasive to help your client comply with self-care techniques. Remember that unless she reverses the repetitive patterns, she remains at risk for increased symptoms in the



Thinking It Through (cont.)

- If the self-treating client insists that it "reminds her not to use the wrist," she is better reminded that a lifetime of hand movement retraining will serve her much better than a temporary, improperly used splint that could cause damage and will ultimately become discarded.



Massage Therapist Tip

Avoiding CTS Yourself

You, the therapist, are at risk for developing CTS. While performing massage, remember not to hunch your shoulders, lean too far forward, or apply too much pressure while leaning onto your hyperflexed wrist. Get adequate hydration. Rest between massages, and warm up and stretch your own forearms and shoulders before and in between every massage. A successful or growing massage practice can be halted by painful hand symptoms. You can use the techniques outlined in the following step-by-step protocol to take care of yourself and help you enjoy a long and pain-free career.



Contraindications and Cautions:

- When any massage technique or pressure used directly on the client's wrist elicits pain, all work must immediately stop.
- Although you will not work on a client who has acute CTS, there is a fine line between chronic and acute symptoms. If the condition is unstable enough to produce exacerbations during normal pressure on the median nerve, avoid that area completely. A decision must be made between client, physician, and massage therapist about whether to continue therapy.

Step-by-Step Protocol for Chronic Carpal Tunnel Syndrome

Technique	Duration
Effleurage, petrissage, compression, medium pressure <ul style="list-style-type: none"> • The entire <i>unaffected</i> upper extremity • Start proximally at the deltoid • Work down to the forearm and then the fingers and wrist • Remember, you are “slaying the dragon” by beginning on the least painful limb and getting the body used to your approach 	3 minutes
Effleurage, petrissage, compression, medium pressure <ul style="list-style-type: none"> • The entire <i>affected</i> upper extremity. (The remainder of this protocol will focus on the <i>affected</i> extremity.) • Remove the hot pack when you approach the forearm. • Perform no special techniques at this point; simply warm the tissue and prepare it for deeper, more aggressive work. 	3 minutes
Slow stroking, moderate pressure, using your fingertips <ul style="list-style-type: none"> • Fingertips to antecubital fossa (the bend in the arm) 	1 minute
Compression, starting light, watching the client's reaction for any signs of discomfort and then advancing to medium pressure <ul style="list-style-type: none"> • The entire forearm, wrist, palm, and fingers 	2 minutes
Muscle stripping, medium pressure <ul style="list-style-type: none"> • Use your fingers and imagine you are trying to separate the flexor muscles by firmly using a raking technique. • Work wrist to antecubital fossa. • Repeat slowly, multiple times. • Make sure you use sufficient lubricant to avoid irritating or pulling the skin too tautly. 	5 minutes
Effleurage, medium pressure <ul style="list-style-type: none"> • Wrist to antecubital fossa 	1 minute
Wringing, medium pressure <ul style="list-style-type: none"> • Wrist to antecubital fossa • Pretend you are literally trying to “wring out” the muscles of the forearm by gripping them firmly and moving your closed fists, which are gripping the forearm in opposite directions. 	2 minutes
Cross-fiber friction, deep work to the client's tolerance <ul style="list-style-type: none"> • Focus on the carpal tunnel itself by approaching the flexor retinaculum of the wrist. • Use your thumbs to cross-fiber friction the fully extended wrist. • Now, ask the client to hyperflex the wrist and perform cross-fiber friction. • Finally, ask the client to hyperextend the wrist and perform cross-fiber friction. • Remember, stop immediately if the client experiences pain during your work. 	5 minutes

(continued)

Technique	Duration
Effleurage, deep pressure <ul style="list-style-type: none"> • Wrist to antecubital fossa 	1 minute
Digital and/or knuckle kneading, deep pressure <ul style="list-style-type: none"> • The palm of the hand, paying particular attention to the thenar eminence 	2 minutes
Digital kneading, deep pressure <ul style="list-style-type: none"> • Each finger and thumb 	2 minutes
Compression, deep pressure <ul style="list-style-type: none"> • Fingers, thumb, palm, and forearm 	1 minute
Effleurage, deep pressure <ul style="list-style-type: none"> • Wrist to antecubital fossa 	1 minute
Stroking, light pressure <ul style="list-style-type: none"> • Using your fingertips • Fingers to antecubital fossa, spending a few extra seconds in the antecubital fossa for this final step 	1 minute (30 minutes total)
You have now completed the specific therapy for the localized symptoms of CTS; however, the entire cervical spine region, base of the skull, superior trapezius, and shoulder region must be addressed for the remaining time. <ul style="list-style-type: none"> • Use deep effleurage, petrissage, kneading, and compression techniques to the client's tolerance. • Grasp and nudge the scapula purposefully and carefully. • Digitally knead around the entire perimeter of the scapula. • Digitally knead deep into the laminar grooves of the cervical spine. • Digitally knead into the base of the entire occipital ridge. • Petrissage and effleurage often and with depth to tolerance. 	30 minutes
If time allows, perform some softening and relaxing techniques to the unaffected shoulder.	
If you are treating bilateral CTS, your time will be completely consumed with work of the upper extremity, and extra time will have to be scheduled for the essential work on the shoulders. One option is to see the client 2 times per week, focusing on one upper extremity during each appointment.	

future, and perhaps an irreversible neuropathy. Homework assignments can include the following:

- Stretch to warm up your hands and forearms before beginning your daily activities. (*Show her simple self-massage techniques of her forearms, with deep work to her tolerance, making sure she performs effleurage in the cephalic direction.*)
- Periodically stretch your wrists and forearms by interlacing your fingers and palms together at about chest height. Then, with your fingers still interlaced, open your palms away from your chest and straighten your arms out in front. This will place your wrists in a hyperextended position and will stretch the ligaments.

- Allow ample time to rest your arms and hands during the day. If this is not possible, be sure to rest your arms at night.
- If you experience wrist pain at the end of a day, apply ice to your wrist for 10–15 minutes every hour. Place the ice only on the wrist and not on the forearm muscles, as this will restrict needed blood flow in that area. Simply rubbing an ice cube over your wrist will work, too.
- Do doorway stretches if your symptoms originate in your neck. (*Refer to Figures 5-5 and 5-6.*)
- Perform simple ROM exercises while driving or talking on the phone to prevent forearm and wrist stiffening.

Review

1. What are some of the common causes of CTS?
2. What are the main symptoms of chronic CTS?
3. Describe the path of the median nerve and how it innervates the upper extremity.
4. Describe treatment options for CTS that are used before surgery is considered.
5. What are some techniques you can use to avoid developing CTS yourself?

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10

Cerebral Palsy

Also known as:
CP

GENERAL INFORMATION

- Specific causes: maternal illness and/or infection, seizure disorders, Rh incompatibility, genetic disorders, premature birth, low birth weight, brain damage early in life, lack of oxygen (before, during, or after birth)
- Results from damage to, or abnormal development of, motor areas of the brain (usually the basal ganglia and the cerebrum); responsible for muscle tone, muscular control, and movement activities
- No evidence for myth about cerebral oxygen deprivation at birth causing CP (“cord wrapped around the neck”)
- Associated musculoskeletal conditions: extreme muscular hypertonicity, abnormal muscular movements, skeletal deformities, and contractures
- Incidence: two to four cases for every 1000 live births
- No relation between CP and mental retardation (erroneous assumption)

PATHOPHYSIOLOGY

There are four types or categories of CP:

- *Spastic CP*: Extreme muscle stiffness, accompanied by jerky or awkward movements; accounts for 70–80% of all cases
- *Athetoid CP*: Weak, involuntarily writhing muscles; accounts for 10–20% of all cases
- *Ataxic CP*: Problems with balance, coordination, depth perception, and fine motor control; accounts for 5–10% of all cases
- *Mixed CP*: Any combination of the previous symptoms

OVERALL SIGNS AND SYMPTOMS

Because normal child development varies widely, delayed milestones, such as head control, rolling over, reaching out with both hands, sitting without support, and crawling and walking, can easily be misinterpreted as nonproblematic. As the child ages, the signs and symptoms of CP become more obvious:

- Stiff or spastic muscles
- Painful muscles secondary to constant hypertonicity and spasticity
- Abnormally relaxed muscles, or jerky or slow muscular movement
- Unusual or awkward positions of the limbs, primarily a “scissoring” of the lower extremities (legs crossing each other) and severely hyperflexed wrists

Definition: A collective term for nonprogressive disorders of the central nervous system (brain and spinal cord) affecting motor function; occurs during fetal development, at birth, or within 3 years of age.

- Seizures
- Compromised swallowing and chewing
- Hearing loss and vision problems
- Toileting difficulties
- Compromised respiratory system

SIGNS AND SYMPTOMS MASSAGE THERAPY CAN ADDRESS

Massage therapy cannot directly affect the pathophysiology of CP. Instead, the work affects secondary musculoskeletal signs and symptoms.

- Hypertonicity and the resulting pain-spasm-pain cycle can be treated to reduce the perception of pain, decrease tight muscles, and remove accumulated metabolites.
- Compromised breathing muscles are approached with detailed work to the thoracic cavity and careful resisted breathing techniques.
- Massage therapy can address decreased range of motion (ROM) and the potential for contractures with careful stretching techniques.

TREATMENT OPTIONS

CP cannot be cured. The extent to which the signs and symptoms can be managed depends on the severity of the original causes and the level and timing of therapies. It takes a multidisciplinary medical, rehabilitative, and integrative medicine team to manage long-term symptoms. Therapy is never completed because the lifelong baseline of the muscles is extreme hypertonicity.

Physical therapy is essential for maintaining the patient's muscle control and increasing ROM, while preventing debilitating contractures. A PT can provide braces, crutches, a wheelchair, gym equipment, weights, balls, and resistance bands. An occupational therapist (OT) can use tools to help the patient perform the activities of daily living (ADLs).

Since the fine muscles of the mouth and face are often affected, a speech therapist will likely be part of the health care team to address speech, chewing, facial expressions, and swallowing challenges. Pneumonia is a major risk for the CP patient; therefore, a pulmonologist (a specialist in lung disorders) is also often engaged in the care.

In many cases, an orthopedic surgeon will perform a series of surgeries as the patient grows. Specific spinal cord nerves may be cut to reduce spasticity and aid in mobility. A small pump that releases a spasticity-reducing drug may be surgically implanted into the abdominal wall. If irreversible contractures occur, reconstructive surgery can release the contractures, stabilize joints, and improve limb function. In addition, surgery can lengthen permanently shortened tendons created by years of spasticity.

COMMON MEDICATIONS

- Antiparkinson medications, such as carbidopa-levodopa (Sinemet)
- Skeletal muscle relaxants, such as baclofen (Lioresal)
- Skeletal muscle relaxants and anticonvulsant sedatives, such as diazepam (Valium)

MASSAGE THERAPIST ASSESSMENT

During the early childhood stages of CP, there is an intense flurry of multidisciplinary teamwork, experiments with surgery and rehabilitation equipment, and medication successes and failures. With multiple PT, OT, speech therapy, and surgical



Massage Therapist Tip

Seeing the Real Effects of CP

It is almost impossible to truly comprehend the challenges an adult living with CP faces. To gain an understanding, follow and observe the patient for several hours. Discovering how he has to manipulate his body to get from the wheelchair to the front seat of the car, and seeing the challenges in something as simple as brushing his teeth, changing his clothes, or using the toilet, will make your therapeutic plan specific, detailed, and based on the real-life needs.

If logistics make visiting his home impractical, you can sit quietly and deeply concentrate for several minutes on how your own life might be compromised by the physical limitations and pain level manifested by your CP patient.

appointments and procedures, it is unusual for a parent to think beyond traditional care. This doesn't mean children with CP cannot be successfully treated with massage therapy. Early, focused weekly sessions can reduce spasticity and prevent contractures. However, given the lack of medical insurance coverage for massage therapy and the high medical costs of managing this condition, massage therapy is usually the last concern of struggling parents.

It is the adult CP patient who has survived being bound to a wheelchair, has endured reconstructive surgeries, has relatively controlled levels of pain and muscle spasm medications, and is now trying to live a limited but productive life who can be profoundly affected by massage therapy.

The history the therapist takes during the first session, with either the child or the adult CP patient, will include the cause (if known), the specific type of CP, past surgical procedures, past and present successful and unsuccessful therapies, medications, traumas or falls, communication skills, and pain level. Beyond the physical intake, the therapist also attempts to assess the client's emotional, social, and psychological adjustment to living with this challenging condition.

After taking the oral history and making copious notes, the therapist performs an assessment of full-body active and passive ROM. She asks how the patient's limitations affect his ADLs. Here are some examples of helpful questions:

- Do you crawl to the bathroom in the middle of the night, instead of getting into your wheelchair?
- Do you use crutches at home and your wheelchair in public?
- How do you get into and out of the bathtub or shower?
- Can you dress yourself and use the toilet by yourself?

THERAPEUTIC GOALS

Since CP affects multiple body systems and compromises almost all muscular activity, in general, the therapeutic goals must be the patient's goals. If he wants to improve wrist ROM in order to brush his teeth more efficiently, for example, that activity becomes the massage therapist's greatest priority. A CP patient will present with a different level of spasticity and a new challenge at each session. His spasticity depends on factors such as the weather, his emotional agitation, his level of psychological comfort with the therapist, or whether a new muscle relaxant has been prescribed.

As trust develops, the therapist not only attends to the patient's immediate needs, but also gradually convinces him of the importance of preventing contractures and of increasing, or at least maintaining, his lung capacity. CP does not kill the person living with the condition; secondary events, such as pneumonia or a hospital infection contracted after treatment for a fall, are usually responsible. His chances of dying of pneumonia or a respiratory infection can be significantly reduced by intelligent and focused massage therapy, combined with his own diligent self-care. Resisted breathing exercises, for example, can significantly decrease the risk of pneumonia (Figure 10-1).

MESSAGE SESSION FREQUENCY

Weekly sessions are essential because of the cumulative effects of the therapeutic work, and the surprising speed with which the muscles return to a hypertonic state. Sessions must be long enough to accommodate the time-consuming positioning challenges and the amount of time it takes to warm the muscles before real therapy can begin. Therefore, hourly sessions are not adequate. Of course, time and budget constraints may prohibit the necessary frequency, in which case the therapist must encourage the CP patient to schedule sessions as frequently as his lifestyle will permit.

- Ideally: 90-minute sessions once a week
- Moderately effective: irregular 60-minute sessions



Thinking It Through

Since the body affected by CP responds readily and strongly to many external factors, before your patient arrives, ask yourself the following questions:

- Could today's weather changes have caused him pain?
- How can I check on his emotional state? Will his journal accurately reflect his emotions and bodily responses this week?
- If he's not recording his exercises and pain levels in his journal, how can I help him comply?
- If he's agitated or depressed, how will that most likely affect his body and our session today?
- Am I completely calm, warm, and open, and is the room physically prepared for him to get on the table?

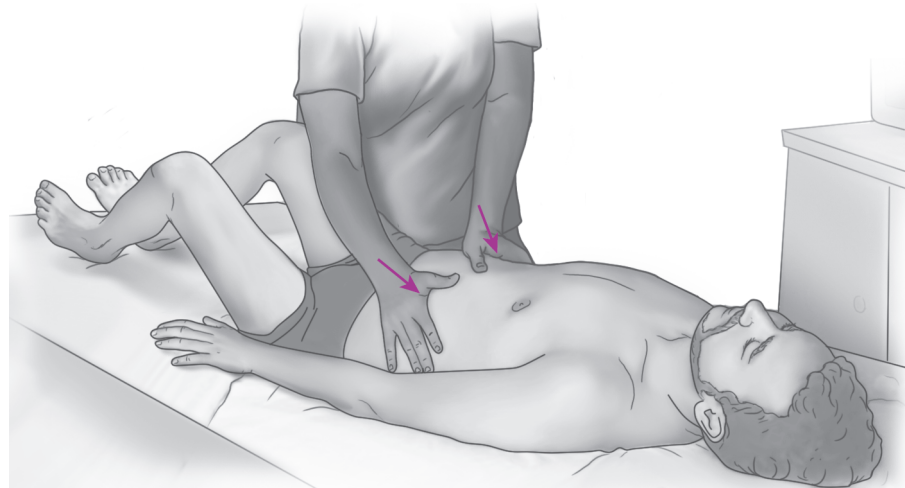


FIGURE 10-1 Resisted breathing technique. While applying gentle pressure to either side of the rib cage, with evenly spaced wide-open hands, apply gentle downward pressure on the rib cage (toward the table, not down toward the toes), while asking the patient to take three full deep breaths against your resistance.

MASSAGE PROTOCOL

The following protocol can be adapted to your patient's tolerance, pain level, and the timeframe in which you have to work. Pick and choose from the techniques according to your therapeutic goals for each session.



Massage Therapist Tip

Responding to a Spasm

When a spasm occurs, stop what you're doing. Keep your hands on the muscle that is in spasm. Slowly "ride out" the spasm, if the patient allows, by staying on the muscle, simply holding it firmly, not applying any pressure, but not coming off the body. It is important to keep contact with the body. The spasms will decrease in number and intensity—it will take weeks, though—as the body accustoms itself to being touched in this way. *It is important to maintain contact with the body during the spasm, but not to "force" any movement; just stay with it.* The spasm will calm, and the therapy can continue.

Getting Started

Positioning your patient on the table is your first challenge. You may need help from his partner or personal aid. Be sure to have plenty of pillows and bolsters on hand to position him comfortably. Do not expect this client to lie in a normal prone, side-lying, or supine position; you will have to accommodate for contracted limbs and breathing difficulties.

The placement of the body on the table, combined with pre-session small talk and bolstering, are enough to cause a spasm. Expect this, wait for it, and slowly stroke the body using medium pressure; talk to him soothingly, and the spasm will subside.

All therapy must be performed slowly, carefully, and to medium depth only. Do not use any stimulating techniques, such as muscle-stimulating devices, or light feathering or effleurage, that trigger the central nervous system. It cannot be emphasized enough—all work on the body of a patient with CP must be slow, even, rhythmic, just the right depth, not startling, and with full cooperation of the conscious patient.

Ask the patient where he would like you to begin. Only he knows the physical challenges he has experienced this week, so you will need to be flexible. The following protocol is based on therapy for an adult spastic CP patient, with work focused on upper extremities, lower extremities, the back, and the anterior chest and breathing muscles.

Begin your sessions with the application of heat. Because of extreme hypertonicity, blood circulation to the muscles will be compromised and the body will frequently be cold. (Winter is a particularly challenging time for CP patients.) Use the standard precaution of asking for feedback, but remember that this patient is taking pain medications and muscle relaxants and may not be able to accurately report sensation.

Step-by-Step Protocol for

Cerebral Palsy

Technique	Duration
Firmly place a hot pack anywhere on the body requested by the patient. Leave the pack in place for the next few steps. Watch the clock and remove the pack after about 10 minutes.	5–10 minutes
Begin with the patient positioned supine and hold the foot. Allow the body to become accustomed to your touch. Compression, medium pressure, very rhythmic <ul style="list-style-type: none"> • Dorsal, plantar, and lateral surfaces of the entire foot • Squeeze the foot between your hands 	1 minute
ROM, slow moving to end-feel (the normal “end” of his ROM, not stretching beyond the normal “springiness” at the end of normal joint movement) <ul style="list-style-type: none"> • Toes • Ankles 	2 minutes
Digital kneading, slow, medium pressure. Warm lubricant in your hands; cold lubricant can cause a spasm. <ul style="list-style-type: none"> • Around the malleoli • Repeat ROM at the ankle 	1 minute
Effleurage, medium pressure, rhythmic <ul style="list-style-type: none"> • Follow the path of the tibia both medially and laterally, from malleoli to knee. • Work on as much of the gastrocnemius as can be reached with the patient supine. Have him bend his leg at the knee if he can. 	1 minute
Kneading, using the heel of your hand, slow, rhythmic, medium pressure <ul style="list-style-type: none"> • Follow the path of the tibia; focus laterally on the tibialis anterior, from the lateral malleoli to the knee. 	2 minutes
Effleurage, slow, medium pressure <ul style="list-style-type: none"> • Anterior leg 	1 minute
Compression and digital kneading, slow, medium pressure <ul style="list-style-type: none"> • Knee and all surrounding tissues 	1 minute
Compression, even, slow, medium pressure <ul style="list-style-type: none"> • Adductors • Quadriceps • Iliotibial (IT) band 	2 minutes
Effleurage, long, slow, medium pressure <ul style="list-style-type: none"> • Adductors • Quadriceps • IT band 	3 minutes
Petrissage, slow, even, medium pressure <ul style="list-style-type: none"> • Adductors • Quadriceps 	2 minutes

(continued)



Contraindications and Cautions

- Beware of redness over bony prominences and avoid massaging areas that have broken down because of poor circulation (e.g., heels, coccyx, and elbows). Be sure that the patient and caregiver are aware of broken or compromised skin.
- Understand the patient’s method of communication. High-dose pain medication, combined with possible speech challenges, could result in your unintentionally treating the patient beyond his pain tolerance.
- Because of facial muscle hypertonicity, combined with high-dose pain medications, CP patients often appear to have intellectual disabilities. Do not speak to them in an elevated tone or assume limited mental capacity until this is proven to be the case.
- Before applying significant pressure to the chest wall during resisted breathing exercises, make sure the patient does not have osteoarthritis or osteoporosis.



Contraindications and Cautions: (cont.)

- The hands of most people with CP are often contracted in unusual positions from decades of compensatory activity or nonuse. A wrist may be in complete contracture, in a state of immovable hyperflexion. Before proceeding with ROM exercises, know the patient's "normal" hypertonicity (which can be improved with therapy) and whether the joint is permanently contracted (a position not alterable with therapy).

Technique	Duration
Friction, medium pressure, performed with the palm or heel of the hand or forearm. <ul style="list-style-type: none"> • IT band 	1 minute
ROM, slow, purposeful, moving joint to end-feel and not beyond, with the body well supported <ul style="list-style-type: none"> • Toes, ankle, knee, hip 	5 minutes
Effleurage, slow, medium pressure <ul style="list-style-type: none"> • Entire lower extremity <p>Stop and rest. Perhaps reposition the hot pack. No body contact for a minute. Wait to begin contralateral work.</p>	1 minute bilateral At this point, your protocol has lasted ~23 minutes.
Repeat the protocol to the contralateral lower extremity	Approximate duration for bilateral lower extremity work = ~45 minutes.
Digital kneading and compression, medium pressure, rhythmic <ul style="list-style-type: none"> • Hand 	1 minute
ROM, slowly, moving to end-feel <ul style="list-style-type: none"> • Wrist, fingers, and thumb 	2 minutes
Digital kneading, slow, medium pressure <ul style="list-style-type: none"> • Fingers, palm, and the back of the hand 	2 minutes
Effleurage, medium pressure, rhythmic <ul style="list-style-type: none"> • Follow the path of the wrist flexors (anterior surface of the forearm) from wrist to antecubital space (bend in the arm) • Follow the path of the wrist extensors (posterior surface of the forearm) from wrist to elbow 	3 minutes
Muscle stripping, medium pressure (Use caution; this work can set off a spasm.) <ul style="list-style-type: none"> • Anterior wrist flexors and posterior wrist extensors 	2 minutes
Digital kneading, medium pressure <ul style="list-style-type: none"> • Around the elbow joint, paying attention to the insertion points of all muscles but be careful not to press the medial nerve 	1 minute
Compression, medium pressure, rhythmic <ul style="list-style-type: none"> • Biceps • Triceps • Work all the way up to the axilla and pectoralis major 	2 minutes
Effleurage, slow, rhythmic, medium pressure <ul style="list-style-type: none"> • Biceps • Triceps • Work all the way up to the axilla and pectoralis major 	3 minutes

(continued)

Technique	Duration
<p>Petrissage, slow, evenly rhythmic, medium pressure</p> <ul style="list-style-type: none"> • Biceps • Triceps • Work all the way up to the axilla and pectoralis major 	3 minutes
<p>ROM, slow, purposeful, moving joint to end-feel and not beyond, with arm well supported</p> <ul style="list-style-type: none"> • Fingers, wrist, elbow, and shoulder 	3 minutes
<p>Effleurage</p> <ul style="list-style-type: none"> • Upper extremity <p>Stop and rest. No body contact for a minute while waiting to move to the contralateral upper extremity and repeating this same protocol.</p>	1 minute bilateral At this point, your upper extremity work has lasted ~23 minutes.
Repeat protocol to other side.	Approximate duration for bilateral upper extremity work = ~45 minutes.
<p>Place your hands on either side of the rib cage and gently rock your client's chest from side to side. He will probably be very stiff. This movement will be unusual for him; don't force it. You are trying to get the chest wall acclimated to touch and movement. Have him take two or three full deep breaths, as deep as he can tolerate. Inhalation is important, but so is <i>forced exhalation</i>. The attempt at forced exhalation may make him cough or laugh, which may send him into a spasm; be patient. Both laughter and coughing are good for respiratory vigor.</p>	5 minutes
<p>Digital muscle stripping, slow, even, medium depth and pressure</p> <ul style="list-style-type: none"> • Lean over the body, reach underneath him as far as you can, try to find the spaces between the ribs in which the intercostal muscles are nestled, beginning at the posterior surface of the rib cage and pull upward and medially, ending at the sternum. • Below the 10th–12th ribs, along the surface of the diaphragm. • Repeat on the other side. 	5 minutes
<p>Two-handed effleurage, alternating hands with broad sweeps. Slow, gentle work that progresses to slow deeper work.</p> <ul style="list-style-type: none"> • Over entire anterior and medial surface of the rib cage 	3 minutes
<p>While applying gentle pressure to either side of the rib cage, with wide-open hands, evenly spaced, apply gentle downward pressure (toward the table, not down toward the toes) on the rib cage while asking him to take three full deep breaths against your resistance. Stop if this causes a spasm.</p>	3 minutes Total ~16 minutes

(continued)

Technique	Duration
Turn him to either a comfortable side-lying or prone position. <i>Note:</i> The back of a person with lifelong CP will be hypertonic to a level you probably have not experienced; decades of unrelenting hypertonicity will have produced a contorted back that will not easily yield to massage therapy. Have patience; be thorough and be gentle; the muscles will release in time; it can take months.	Allow about 5 minutes for repositioning.
Compression, evenly rhythmic, medium pressure <ul style="list-style-type: none"> • Back, from the base of the neck to the sacrum 	3 minutes
Effleurage, rhythmic, medium pressure, using flat open hands or a soft forearm <ul style="list-style-type: none"> • Trapezius, latissimus dorsi, rhomboids, teres major/minor, erector group, and all back muscles 	5 minutes
<i>Note:</i> It may take months before the back muscles have relaxed into any measure of normal tone that would let you use techniques such as petrissage. When and if that occurs, move carefully into the next level of the back, understanding that this “peeling of an onion” technique may take as long as a year to finally reach the erector spinae group.	
To finish the massage, ask your patient where he would like you to spend the last few minutes. Rubbing his head? Returning to his feet?	7 minutes Total: about 15 minutes on his back

HOMEWORK

Keeping a Journal

If your patient is committed to improving his muscle tone and breathing capacity, ask him to begin a “pain, spasm, and victory journal.” Have him carry a small notebook in which he (or his caregiver) regularly answers the following questions:

- What is my level of pain? (*Explain the 0–10 pain scale so you are both using the same reference.*)
- Which events caused pain or spasms today?
- Were there any changes in medication level? Why?
- Were there any unusual emotional stressors today?
- Did the weather affect my pain and mobility?
- How often did I perform my deep-breathing exercises?
- Did I notice any small improvements in mobility or ADLs?
- Is there anything else I would like my therapist to know at our next session?

Although this seems like a lot of work for both you and the patient, in time it will reveal patterns or cycles in the onset of pain or spasm. The journal will show whether he is consistently responding to certain weather conditions; it will make clear that he always gets spasms when his in-laws visit, for example. This knowledge will help keep him accountable to his therapy and allow you to determine future therapeutic goals.

Other Assignments

Here are some recommended homework assignments:

- Inhale and exhale deeply three times every day.
- Purchase a bag of multisized balloons, and blow up at least three a day.
- Roll a volleyball or softball under your feet while watching TV or reading.
- Try to grip a small towel or washcloth with your toes.
- Perform slow, gentle ROM exercises of every joint in your body every day.

Review Questions

1. What are some of the causes of CP?
2. What other health care specialists might also help a person living with CP?
3. Why must you be particularly cautious in the use of depth and heat for these patients?
4. What are some external factors that might cause a spasm before and during your massage therapy session?
5. Can a contracted joint be improved by massage therapy?

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Also known as:

CFS; Chronic Fatigue and Immune Dysfunction Syndrome (CFIDS)

Chronic Fatigue Syndrome

Definition: A complex disorder characterized by profound fatigue and impaired short-term memory that are not relieved by sleep or rest and that worsen with physical or mental activity.

GENERAL INFORMATION

- Cause unknown
- Onset usually in middle age, although sometimes in adolescence; can be related to the aftermath of a serious immune system disease
- Duration from 2 years to decades
- Affects people of every age, gender, ethnicity, and socioeconomic background
- Prevalence is two to four times higher in women than men

Morbidity and Mortality

The multisystem effects, unknown origin, and similarity to other autoimmune disorders combine to make an accurate estimate of people with CFS almost impossible. Estimates range from tens of thousands to 500,000 to as high as one million people in the U.S. affected annually. Contributing to the wide range of occurrence is the finding of the Centers for Disease Control and Prevention (CDC) that perhaps only 20% of those who have the disorder are actually diagnosed and reported.

The severe, unpredictable nature of the condition results in serious lifestyle changes, psychological adjustments, loss of self-esteem, and decreased financial security.

Prognosis is difficult to determine because some patients suffer for years, yet others recover more quickly if the condition is identified and treated early. Most CFS patients do improve very slowly, sometimes in response to a medical treatment regimen, but just as often, the condition resolves with the passage of time.

PATHOPHYSIOLOGY

A syndrome is a group of simultaneously occurring symptoms that often result from different causes. There may be a few precursors for the existence of CFS that relate to immunosuppression, but there is no single “CFS pathogen” that can be identified in a lab test. CFS can begin after a bout of cold, hepatitis, bronchitis, or flu in adults or infectious mononucleosis in teenagers. Also, patients who have experienced a sustained stress-inducing life event are predisposed to manifest CFS within a short time after apparent resolution of the crisis. However, these findings are confused by the fact that CFS also occurs for no obvious reason.

Because immune function is directly related to the endocrine and nervous systems, this trilogy of systems is the arena for medical experts who are trying to determine the etiology of CFS. And, because CFS so frequently mimics other conditions, a final, confirmed diagnosis takes the path of ruling out (via medical tests) other possible related conditions, including multiple sclerosis, HIV infection, mononucleosis, Lyme disease, thyroid conditions, cancer, depression, and bipolar disorder.

CFS can be migratory, meaning that it moves from one point in the body to another, often unpredictably. However, the presence of multiple trigger points is not indicative of CFS. Although they are migratory, inexplicable trigger points are an indicator of fibromyalgia. While these two conditions share some symptoms and an unclear cause, a muddy etiology, each has its own distinct diagnostic criteria.

Because CFS shares similar symptoms with other immune system disorders, diagnosticians insist on a rigorous “four of eight symptoms” guideline. This guideline further designates mental confusion and/or short-term memory loss, combined with profound fatigue not relieved by rest, as the two most important requisites for making a final diagnosis. Indeed, if the patient has all the attendant physical manifestations but is not experiencing cognitive difficulties (short-term memory loss or problems concentrating or finding the right word while speaking), a final diagnosis of CFS cannot be made.

OVERALL SIGNS AND SYMPTOMS

Although 20–50% of CFS patients also complain of abdominal pain, bloating, chest pain, chronic cough, diarrhea, dizziness, dry eyes or mouth, irregular heartbeat, jaw pain, morning stiffness, depression, tingling sensation, and weight loss, a final diagnosis of CFS is made if a patient experiences four out of eight of the following symptoms, with deep fatigue and cognitive difficulties as the two “mandatory” symptoms:

- Fatigue not relieved by sleep or rest
- Impaired short-term memory, inability to concentrate
- Joint pain not accompanied by redness or swelling
- Muscle pain
- Weakness
- Persistent, sometimes daily, headache
- Tender neck or axillary lymph nodes
- Postexertion fatigue lasting more than 24 hours

SIGNS AND SYMPTOMS MASSAGE THERAPY CAN ADDRESS

- Because the immune system is severely compromised and sleep does not provide its normal healing properties, massage techniques that move the immune, nervous, and endocrine systems toward a parasympathetic (deeply restful) state will be beneficial.
- The patient is unable to exercise her muscles to the level that would allow normal toxin release; moderate petrissage and kneading can relieve the muscles of their toxic load.
- Gentle joint range-of-motion (ROM) movements, accompanied by muscle and joint massage, can help alleviate the perception of joint pain.
- Head and shoulder massage can help reduce headaches.

TREATMENT OPTIONS

Since there is no cure, treatment options range from strict medical regimens, to experimental alternative protocols, to doing nothing. No uniformly effective treatment exists.

A multidisciplinary team of health care professionals, starting with an infectious disease physician and including a physical therapist, massage therapist, dietitian, and psychotherapist, aims for symptom relief. The team attempts to help the patient adjust to a (relatively) stress-free life structured around carefully planned daily activities. The patient is instructed to prioritize tasks and to try to minimize mental and physical exertion.



Massage Therapist Tip

Listen, Listen, Listen

People with CFS have a story to tell. They have seen multiple physicians, have had many inconclusive lab tests, and have been told by well-intentioned friends that they are “just tired” or “it’s all in your head.” One of the keys to helping your patient feel accepted and comfortable is to simply listen to her story. Listen deeply without giving your own story in return, without offering advice, without assuring that you can help—because your contribution to this condition may be minimal. Just listen with a compassionate heart.

Light exercise, combined with gentle stretches and strengthening routines, is strongly suggested. Walking is the ideal light exercise, and it can be modified by starting with only a few minutes per day and building gradually to a level that does not cause undue fatigue.

Diet modifications include avoiding stimulants, such as caffeine or sugar, and avoiding depressants, such as alcohol.

Overall, the health care team will counsel “moderation in all things” when attempting to treat CFS. The previous treatments, and the following listed medications, can provide periodic symptomatic relief of pain, anxiety, depression, and fatigue.

Common Medications

Recent experiments with low doses of hydrocortisone have met with some success, although the attendant risk of possible adrenal suppression may outweigh the benefits of increased energy.

- Antihistamines, such as fexofenadine hydrochloride (Allegra)
- Tricyclic antidepressants, such as amitriptyline hydrochloride (Apo-Amitriptyline, Endep)
- Anticonvulsants, such as gabapentin (Neurontin)
- Tetracycline antibiotics, such as doxycycline (Doryx, Vibramycin)
- Benzodiazepine anxiolytics, skeletal muscle relaxant sedatives, such as diazepam (Valium)
- Local anesthetics, such as lidocaine topical (Lidocream, Lidoderm, Xylocaine)
- Selective serotonin and norepinephrine reuptake inhibitor (SSNRI) antidepressants, such as duloxetine (Cymbalta)



Thinking It Through

A patient who is dealing with the complex issues of CFS can easily overwhelm a massage therapist who is not familiar with treating multisymptomatic conditions. Before beginning treatment, the therapist might consider the following:

- What is my patient’s chief complaint today?
- Is she comfortable with my focusing on that one area of pain for the entire session?
- If the patient cannot decide where to start because she is experiencing so much discomfort, would a whole-body Swedish massage be the best treatment?
- Am I thinking through every technique to ensure I avoid triggering even a minor stress response?

MESSAGE THERAPIST ASSESSMENT

An overly zealous ROM intake assessment, combined with a well-intentioned comment about “looking on the bright side,” could do real physical or psychological harm to a patient who has CFS. Before attempting to treat someone with multiple complaints, the massage therapist must obtain an official medical diagnosis. She should be aware of the diagnostic mimicry of fibromyalgia and other autoimmune disorders. The therapist must be sure not to rely on the patient’s self-report and self-diagnosis. Once a confirmed diagnosis is made, the therapist can perform a full intake to determine her patient’s symptoms. Then, with the patient’s guidance, they can both determine reasonable treatment goals.

THERAPEUTIC GOALS

With a condition as complicated and mercurial as CFS, it is difficult for both the therapist and the patient to develop consistent goals, such as reduced pain or increased ROM. Since the patient’s primary concern is how the fatigue and cognitive difficulties are affecting her life, perhaps the underlying therapeutic goal should be to perform any technique that will help move her into a parasympathetic state.

All therapists come to the table with their own toolkit of skills, and this full array of talent should be offered to the patient before each session so she can choose what she believes will help the most. On a day when headaches, for example, are distracting and irritating, the patient and therapist may choose to focus on the head and neck only. On a day when anxiety is high, she might need simply a moderate whole-body effleurage, followed by the opportunity to fall asleep on the table and be left until she awakes.

Long-term, measurable goals of “improvement” may be unreasonable or impossible to achieve. This is not to undervalue the benefit of helping a patient achieve a parasympathetic state, but the therapist should use caution in trying to develop the same kind of measurable goals as when treating less complicated conditions.

MESSAGE SESSION FREQUENCY

Since the success of medication and medical treatment is so spotty with CFS, estimating the efficacy of massage is solely based on the accumulative effect of helping the person reach a deeply relaxed state.

- Ideally: 60-minute sessions once a week
- Minimally: 60-minute sessions every other week
- Irregular sessions will provide little real accumulative physiologic benefit

MESSAGE PROTOCOL

When treating orthopedic and soft tissue conditions, you have a good idea of your beginning, middle, and end-point for a successful plan. Unfortunately, with CFS, your challenge is much more subtle, and your protocol may change mid-session based on your patient's response. Deep breathing is a gentle tool you can use throughout the session. This is not taking a big breath and holding it, as we sometimes do when addressing trigger points (see Chapter 43). While treating CFS, you are always gentle, thoughtful, and carefully watching a patient who could be moved to the stress response by the simplest of requests. Long, smooth, medium pressure using your forearm could be more relaxing for cleaning out the biceps femoris than possibly jerky petrissage. Silence, stillness, and sleep are the surest indicators that you have helped her immune system heal, if only temporarily.

Getting Started

Be well-prepared for your CFS patient, and try to anticipate her needs. Make sure the lights are low and the music is soft, because she'll probably have a headache; provide extra blankets, because she might chill easily; have extra pillows so none of her joints are strained, and so that even while side-lying, she'll feel like she's floating on a cloud; have a cup of water readily available for her dry mouth, and offer sips throughout your session. A visual image that might help you is to view each patient as if she is a porcelain doll to be attended to with great care and gentleness.

A patient with CFS may fall asleep or choose to remain in one position for the entire session. Therefore, side-lying or supine may be the best starting point.

The following protocol assumes the patient has requested focused work on her head and upper shoulders and prefers to remain supine for the entire session.

HOMEWORK

This is not the time for aggressive or even mildly energetic homework assignments. Because your patient is in pain, many of her joints ache, she has a headache, and sleep offers no respite, she may be inclined to limit all activity and simply sit. But that's the worst thing she can do. The immune and lymphatic systems work best with movement—even the slightest movement—and if she chooses immobility, she'll have many more complications down the road. Encourage her to keep moving and to maintain an exercise journal.

As mentioned, the typical CFS patient is probably being seen by a team of health care professionals. However, you can make the following suggestions if she is relying on you for guidance in her activities. Start by explaining that although you realize she's in pain and it's hard to even think about moving, these exercises will only benefit her in the long run.

- At night when you're watching TV or reading, get a small soup can and do a few biceps curls—not to exertion, but just to keep your arm muscles strong and moving. Begin with three curls and increase gradually if it feels okay.



Contraindications and Cautions

- If your patient's normally subtle symptoms turn into an active infection accompanied by fever, do not treat.
- While your patient may complain of deep muscle pain, the use of deep massage, cross-fiber work, or trigger point work is not appropriate and may set off an inflammatory response.
- Although a 60-minute session should be well-tolerated, gently check in with your patient (either verbally or using your keen observation skills) slightly more frequently than normal to determine if she is truly relaxed.
- As tempted as you may be to offer advice or a pep talk about how much she's going to improve, it is not wise to make even the slightest promise about the improvement of a condition as mercurial and unrelenting as CFS. Just be with her in the moment.
- If you apply a hot pack to a painful joint, be sure to reduce the amount of time the pack is on the body to avoid triggering an inflammatory response.

Step-by-Step Protocol for Chronic Fatigue Syndrome

Technique	Duration
<p>Compression, light pressure, using your whole hand, moving slowly</p> <ul style="list-style-type: none"> • Entire anterior surface of the body • Start at the feet, work up one leg, include the side of the body, move to the arm and shoulder; move to the other shoulder and arm, down the side of the body, down the contralateral leg and back to the other foot. 	2 minutes
<p>Stroking, medium pressure, using your whole hand, making slow, big clockwise circles</p> <ul style="list-style-type: none"> • Abdominal region, including the area below the rib cage and above the pubic region 	2 minutes
<p>Stroking through the hair, using full fingers, making sure not to tug any strands</p> <ul style="list-style-type: none"> • Work the entire region of the scalp. • Work both left and right sides of the scalp, repositioning the head side to side slowly and carefully, pausing in the middle before rolling the head to the other side. 	3 minutes
<p>Digital kneading, medium pressure, entire surface of the scalp</p> <ul style="list-style-type: none"> • Start at the forehead hairline, move to above one ear, move to the back of the head, work down to the occipital ridge. • Hold the head firmly but gently in your nontreating hand as you roll the head to the side to allow for thorough work on the occipital ridge. <p>Repeat the sequence on the other side of the head.</p>	4 minutes
<p>Digital kneading, slightly more firm than medium but not invasive</p> <ul style="list-style-type: none"> • The occipital ridge with the head cupped evenly in both of your hands • When the patient is ready (an intuitive understanding on your part), move the mandible toward the ceiling by sliding your fingers into the occipital ridge and pressing your fingertips toward the ceiling. Allow the head to rest in your hands and the patient's chin to point toward the ceiling until you feel a release of the cervical muscles. Rest here for a minute and then return the head to its normal, resting position on the table. 	4 minutes
<p>Effleurage, light pressure, as you apply lubricant</p> <p>One side of the superior trapezius</p>	1 minute
<p>Effleurage, medium pressure</p> <ul style="list-style-type: none"> • All regions of the superior trapezius working up to the occipital ridge and out to the acromion process and around the top of the deltoids • Aim most of your strokes <i>away</i> from the head to avoid increasing cranial pressure and exacerbating the headache. <p>Repeat the sequence on the other side.</p>	3 minutes

(continued)

Technique	Duration
Digital kneading, medium pressure <ul style="list-style-type: none"> • Along the pectoralis major region just below both clavicles • Work both sides of the pectoralis major simultaneously, moving medial to lateral in small, distinct circles 	2 minutes
Effleurage, medium pressure <ul style="list-style-type: none"> • Both sides of the neck • Both sides of the shoulders • Both sides of the pectoralis major 	3 minutes
Effleurage, light pressure, as you apply lubricant <ul style="list-style-type: none"> • One arm, starting proximally (near the armpit), working cephalically (toward the head) 	1 minute
Effleurage, petrissage, effleurage, medium pressure <ul style="list-style-type: none"> • The entire arm • Including attentive, not flimsy, work to the hand Repeat the last two sequences on the other arm.	4 minutes (5 minutes)
Effleurage, light pressure, as you apply lubricant <ul style="list-style-type: none"> • One leg, starting proximally (near the top of the thigh), working cephalically 	1 minute
Effleurage, petrissage, effleurage, medium pressure <ul style="list-style-type: none"> • The entire leg • Including attention, detailed, work to the foot Repeat the last two sequences on the other leg.	5 minutes (6 minutes)
Compression, light pressure, using your whole hand <ul style="list-style-type: none"> • Entire anterior surface of the body • Start at the feet, work up one leg, include the side of the body, move to the arm and shoulder; move to the other shoulder and arm, down the side of the body, down the contralateral leg, and back to the other foot 	3 minutes
Stroking, over the covers, medium pressure <ul style="list-style-type: none"> • Entire anterior surface of the body, aiming toward the feet, not toward the head 	3 minutes

- Whenever you go to the bathroom, try doing one wall push-up on the back of the bathroom door to help your biceps and your core stay strong.
- If you are fond of walking, go outside for a few minutes every day and really try to stride and take some full, deep breaths. You'll be helping prevent pneumonia, stimulating your lymphatic and immune systems, and getting some vitamin D. Walking can help you feel better than being stuck inside. If the weather isn't cooperating, walk around the house to music.
- Isometric contractions are good muscle strengtheners. Push your palms together as hard as you can until you feel a little wobbly. Then stop and repeat that one or two times. This exercise helps keep your arm and chest muscles strong.
- Sit at your kitchen table in a strong, stable chair. Stand up and sit down a few times in a row. This helps with balance, leg strength, and back strength and provides a little cardiovascular exercise as well.

- Be sure to write in your journal how many times you repeat all the exercises to chart your progress.
- Remember, never work to exertion; you're not aiming for "no pain, no gain" workouts.
- Don't forget: Immobility will only make your symptoms worse down the road.

Review

1. Name the eight most common diagnostic symptoms associated with CFS.
2. Which two symptoms are mandatory for a CFS diagnosis?
3. What common autoimmune disorders mimic CFS?
4. What is your main goal during your treatment of patients who have CFS?
5. List some massage contraindications for CFS.

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12

Constipation

GENERAL INFORMATION

- Dietary causes: insufficient fiber and too much animal fat (e.g., cheese, eggs, meat)
- Activity-related causes: sedentary lifestyle and aging
- Medical causes: third-trimester pregnancy, surgery, stroke, hypothyroidism, diabetes, postural abnormalities, colon cancer, hyperkyphosis, multiple sclerosis
- Medication causes: antidepressants, narcotic pain relievers, iron supplements
- Psychological or psychiatric causes: severe anxiety, depression, obsessive-compulsive disorder, eating disorders, physical or sexual abuse
- Onset usually secondary to changes in diet, fluid intake, activity level, or lifestyle, and/or compromising medical conditions
- Higher prevalence in rural, cold, mountainous states and among women, non-Whites, those who are economically disadvantaged, and all adults more than 65 years old

PATHOPHYSIOLOGY

Most (secondary) constipation is temporary and not serious. The myth that a “daily BM is a sign of health,” combined with a belief that stool should pass frequently and with no discomfort, has persisted to such an extent that Americans annually spend \$725 million on laxative products and make 2.5–4.0 million visits to their physicians complaining of frequent constipation. In fact, normal bowel movement (BM) frequency ranges from three times a day to three times a week.

There are two basic categories. Functional constipation is a secondary result of easily recognizable causes, such as diet, exercise, medications, or medical conditions. Idiopathic constipation is due to a more serious medical condition or blockage, such as pelvic floor dysfunction, descending perineum syndrome, or retrosigmoid obstruction.

It is important to review the basic anatomy and physiology of digestion and the colon before discussing the pathophysiology of this condition. Although a small amount of carbohydrate breakdown begins in the mouth, most food digestion begins in the stomach. Once the stomach processes and liquefies the food, usable components of the digested mass are absorbed into the bloodstream through the walls of the small intestine. Still in a predominantly fluid state, unusable food debris moves to the colon (also called the bowel or large intestine) before exiting the body.

The colon has three major sections: ascending, transverse, and descending (Figure 12-1). The fecal matter moves around the bowel loop slowly and continuously, aided by the efficient, forward-pulsing, smooth muscular action of peristalsis. As the food mass leaves the small intestine and moves up the ascending colon, some water in the stool can be absorbed back into the body, if needed. By the time the stool reaches the S-shaped curve of the sigmoid colon, however, no extra fluid is available to aid the transit from the

Definition: Fewer than three bowel movements per week; a symptom rather than a disease.



Massage Therapist Tip

Red Flags and Open Communication

When you and your client review his medications list, watch for antidepressants, anticonvulsants, narcotic pain relievers, or frequent antacid use. These are red flags signaling that he probably is constipated. Rather than wait for him to broach the topic, you can diplomatically inquire, “Are you constipated?” Most clients will not mention this condition out of embarrassment, or because it is not common knowledge that massage therapists can be of help. Your relaxed and open attitude can help break the ice.

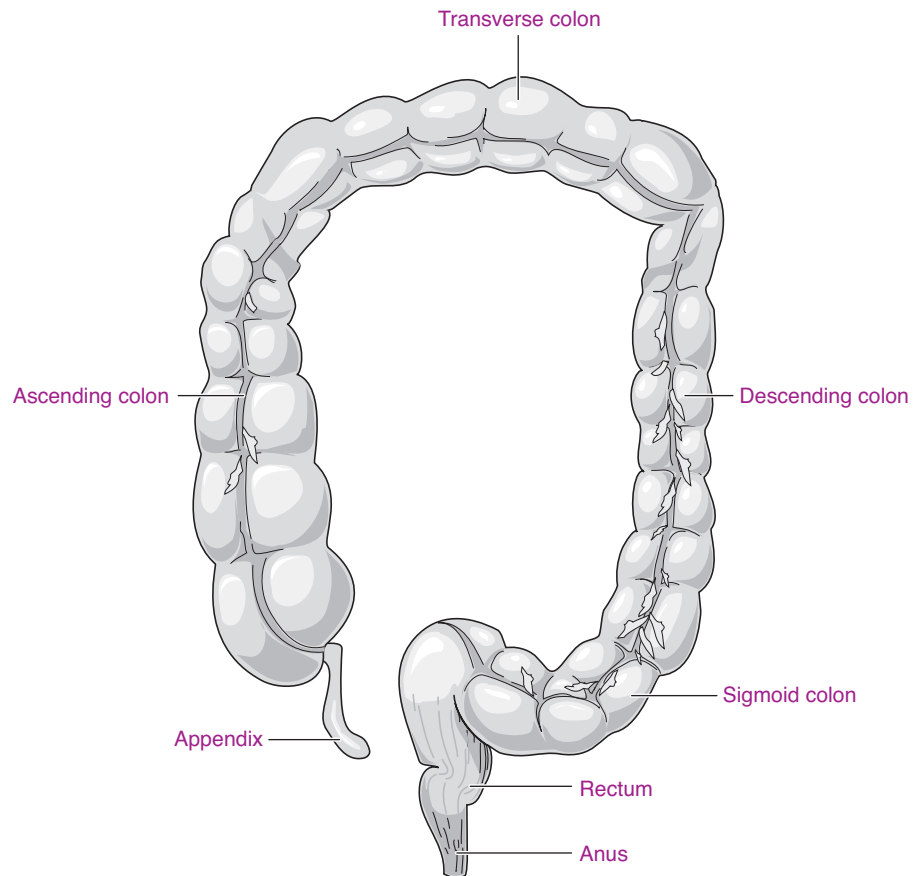


FIGURE 12-1 The three main sections of the colon. The descending colon runs down the left almost lateral abdominal cavity, the transverse colon runs just under the diaphragm, and the ascending colon runs along the right almost lateral abdominal wall. Modified from LifeART image. Philadelphia: Lippincott Williams & Wilkins.



Massage Therapist Tip

What Is an Impaction?

If a large amount of stool becomes lodged in the rectum, an impaction can occur. This impacted fecal mass is too large for normal passage through the anal opening. The person may experience watery mucus or a small amount of liquid stool and therefore believes he is having diarrhea. This material, however, is only the small amount of waste that is forced, through straining, out the anus around the perimeter of the impaction. If this leakage is accompanied by a lack of BM and an extremely uncomfortable sensation of rectal fullness, the person should see a physician quickly to resolve this serious blockage.

sigmoid to the rectum and out the anal canal. The easy passage of waste out of the body depends on sufficient dietary fiber, bulk in the stool, and peristalsis.

The average transit time for food to pass through the digestive system, from the mouth at the time of ingestion to the rectum at the time of evacuation, is 24–48 hours. If food remains in the body for much longer, more water is absorbed through the walls of the colon, the feces become harder and therefore more difficult to pass, and constipation can result. If the transit time is substantially shorter, not enough water is absorbed into the body, and liquid stool, or diarrhea, can result.

When constipation seems to worsen and is accompanied by any of the following, the person should see a physician: if fecal matter significantly changes in appearance (size, shape, and color) or is accompanied by blood; if abdominal pain, fever, nausea, or vomiting accompanies the constipation; if uncontrolled leakage of stools occurs; if stools are black or darkly bloody; if rectal pain is recurrent; or if a BM is not possible without laxatives.

OVERALL SIGNS AND SYMPTOMS

- Hard, dry, marble-sized stools
- Stools that are difficult to pass
- Sensation of bloating or a too-full abdomen
- BM accompanied by excessive straining
- Feeling of incomplete or unsatisfying evacuation
- Feeling of a blocked rectal region

- Headache or feeling of malaise
- Fewer than three satisfying BMs per week

Related to the primary signs and symptoms of constipation are two sometimes alarming secondary signs. When excessive straining is necessary to pass stools, bright red streaks may appear on the toilet paper or on the stool itself, indicating a slight anal tear. Persistent straining can lead to hemorrhoids or rectal prolapse; the former can be chronic, and the latter usually resolves once straining stops.

SIGNS AND SYMPTOMS MASSAGE THERAPY CAN ADDRESS

- Functional constipation can be treated with a specific massage protocol to the entire bowel loop.
- Since the parasympathetic state supports and the sympathetic state inhibits digestion, massage therapy techniques that help the client rest and relax can be beneficial.

TREATMENT OPTIONS

Most people who have functional constipation don't need medical testing and can self-treat. Functional constipation that results from short-term medical conditions or a long-term disease is treatable with medications.

When a few bouts of uncomfortable straining are combined with the understanding that lifestyle changes can all but eliminate most constipation, preventive measures such as the following find their way into the self-treatment plans of most people: increased water intake to at least 8–10 glasses a day; increased fruits and vegetables; increased whole grains and fiber; decreased animal fats, such as cheese; decreased alcohol and caffeine; and increased physical activity. It's strongly suggested, even in a busy schedule, not to ignore the urge to have a BM.

Another simple technique used in other cultures but not found commonly in the U.S. is keeping a small footstool (at a height of about 6 inches) directly in front of the toilet on which to place both feet while defecating. This position flexes the hips and puts the pelvis in more of a squatting position, which is ideal for bowel evacuation.

Enemas should be taken only with a physician's approval and direction.

For medication-related constipation, treatment may include discontinuing or changing a medication or at least decreasing the dose. This is no easy decision if the medication relieves pain, stops seizures, or relieves severe depression, in which case the person might take a more aggressive approach to dietary and lifestyle changes, rather than discontinue the medication.

Common Medications

- Bulk-forming laxatives, such as methylcellulose (Citrucel) and psyllium (Fiberall, Metamucil, Serutan)
- Stimulant laxatives, such as bisacodyl (Correctol, Dulcolax, Fleet, Feen-a-Mint)
- Emollient laxatives, such as docusate sodium (Colace)
- Saline laxatives, such as magnesium citrate (Milk of Magnesia)

MASSAGE THERAPIST ASSESSMENT

Since evaluating bowel contents and peristalsis is well beyond the massage therapist's scope of practice, the assessment available to the therapist in attempting to treat functional constipation is based on the client's oral history. Taking into account the precautions outlined in this chapter regarding idiopathic constipation and the commonsense massage therapy cautions of not massaging a person who is experiencing abdominal



Thinking It Through

Most complaints of constipation encountered by the massage therapist do not have a serious medical component. However, even though functional constipation is fairly common, the therapist should use careful consideration before starting treatment. For example:

- If the client is constipated secondary to taking antidepressants, although he may be inclined to do so, I should counsel him not to abruptly discontinue or alter the medication because a very serious physical and psychiatric side effect could result.
- Many people insist they are constipated because their BM frequency does not match that of other family members. I should review the signs and symptoms of constipation with him, reassure him if he falls in the normal clinical range, but suggest that he see and consult his physician if he is still concerned.
- If constipation is secondary to narcotic medications, I must bring the relationship between narcotic intake and constipation to the client's attention, and let him decide his alternatives. Suggesting he reduce his pain medication or take an over-the-counter (OTC) replacement is outside my scope of practice.
- If the client regularly administers enemas or takes laxatives "to get cleaned out properly" and has few uninduced BMs, I should recommend that he see his physician.

Step-by-Step Massage Therapy Protocols for Common Conditions

pain, vomiting, and nausea, the decision to proceed with the step-by-step protocol is based on the client's accurate description of signs and symptoms.

THERAPEUTIC GOALS

The primary goal of massage therapy for treating constipation is for a BM to occur within 6–12 hours. Secondary goals include offering preventative education and self-massage techniques to help keep the BMs regular. Lastly, the massage therapist may be aware of troublesome symptoms warranting a physician's visit and can then appropriately counsel her client.

MASSAGE SESSION FREQUENCY

Constipation is not a chronic condition that should be regularly treated by a massage therapist; the bowels should move on their own, without manual prompting. Because it is inadvisable to routinely perform colon massage on a healthy client, listing massage frequency is not appropriate.

However, if the client is bedridden, temporarily immobile, suffers from postural abnormalities (such as hyperkyphosis) or other chronic medical conditions, and is taking constipating medications that he cannot discontinue, then helping evacuation of the bowel aided by regular massage is appropriate.

- Ideally: 60-minute sessions daily until evacuation is achieved
- Minimally: 60-minute sessions every other day, until evacuation is achieved

MASSAGE PROTOCOL

There are two theories about why massage of the colon produces results. One theory is that by applying direct, deep, rhythmic pressure to the colon, we are stimulating the body's natural peristaltic action. The other theory assumes that the same pressure and action gently force the movement of the fecal matter itself. Either way, it is reasonable to expect your client will experience a BM after you perform this work. The protocol is so effective that during a short internship at a nursing home where I performed multiple colon massages on elderly, bedridden residents every week, I gained the reputation as "The BM Queen"—not a title to be included on a resume, but one that brought no small relief nonetheless.

With this protocol, remember you are massaging and stimulating the colon and its contents. You must *work into and beyond* the multiple layers of very strong abdominal muscles in order to achieve results—and this means you are working very deeply into the abdominal cavity. It is a three-step process that includes starting very lightly to gain your client's trust and ending with your supported fingers 3 inches deep into the abdomen.

During colon massage, you will encounter various soft and hard, solid and bubbly substances beneath your fingers. The mobile, slightly fluttery, yet sometimes hard masses you feel are probably gas. Gas will break up with repeated strokes, and you may hear the colon "gurgle." You may encounter a solid, roundish mass that does not budge but does not feel like muscle; this is probably fecal matter. Trust yourself; you know what muscle feels like, and if you run into anything that does not feel like muscle, it's a good sign you are in the territory you hope to influence. Of course, your work on tender areas demands that you check in with your client and continue only as he directs.

This protocol has very limited efficacy if your client carries a large amount of excess adipose tissue (fat) around his abdomen.

Getting Started

Consistent with "slaying the dragon," it's best to initially position your client prone. You can place a small pillow in the abdominal region to create some pressure, if the

client will allow it. Because the client has been straining, his gluteal muscles, piriformis, hip flexors, and lumbar spine region are hypertonic. There is an ulterior motive in starting on the gluteals: An effective colon massage is based on trust. Your client must allow you to work deeply into his entire abdomen, and by working carefully and thoroughly on another very personal region (the gluteals), you set the stage for trust when you begin working on his abdomen.

After placing your client supine, perform the remaining protocol with his legs bent, feet flat on the table. This position softens the abdominal muscles, allows you easier access, and is essential for optimal results.

All of your strokes, including the digital scooping techniques, will be smooth, *slow*, and rhythmic as you mimic peristalsis. You will always begin your protocol *at the point of the sigmoid colon* and work *counterclockwise*—starting on the descending colon, then working the transverse colon, and then to the ascending colon—while your scooping fingers follow the *clockwise* direction of natural peristalsis (Figure 12-2). You will perform three passes around the colon, each time working progressively deeper. By the time you perform your third pass, your fingers should be about 3–4 inches into the abdominal wall; superficial work will not be effective.

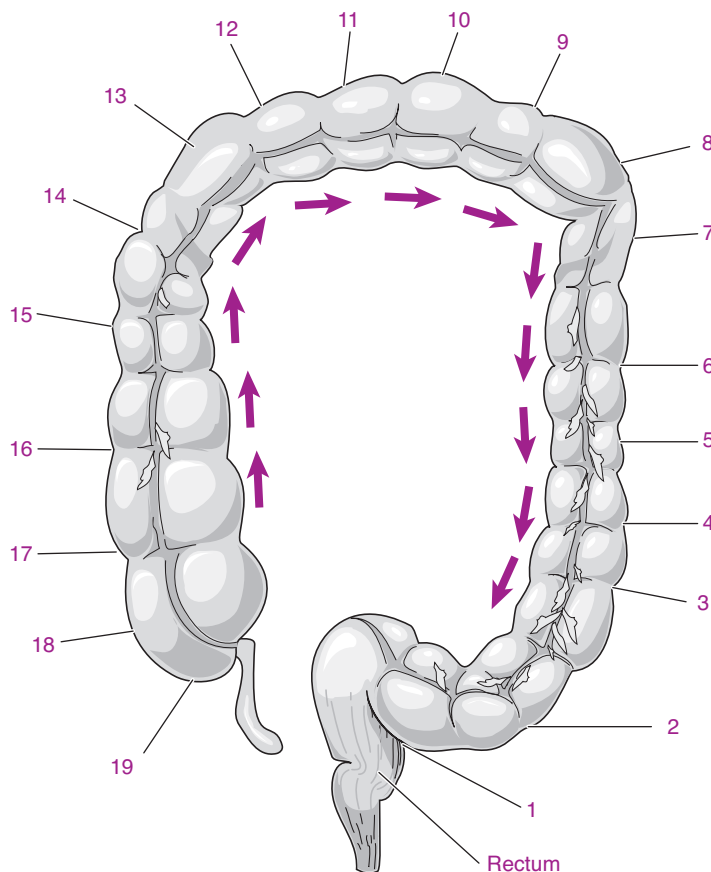


FIGURE 12-2 The direction of the colon massage. Starting at the sigmoid colon, begin scooping toward the rectum while working up the descending colon. When the bottom of the left rib cage is palpated, continue scooping with little right-to-left scoops, again following the route of the transverse colon. When the bottom of the right rib cage is palpated, continue scooping down the ascending colon; this time, scooping in little down-up scoops, following the path of the ascending colon. Numbers on the illustration serve as a guideline for direction, not the number points of treatment. Modified from LifeART image. Philadelphia: Lippincott Williams & Wilkins.



Massage Therapist Tip

Giving Permission to Pass Gas

In our culture, flatulence, the passing of gas, is considered impolite outside the confines of a highly private space. However, you will be stimulating your client's colon; it is to be expected—even welcomed—that he will pass gas. During the early stages of the protocol, be sure to casually mention that you expect he will pass gas, and that it's a welcome sign the massage is working. Assure him there is no need for embarrassment.



Contraindications and Cautions

- Active irritable bowel syndrome, Crohn's disease, or any intestinal inflammatory disease is a contraindication; however, because of the chronic constipation secondary to these conditions, the protocol could be performed with a physician's approval.
- A history of appendicitis-like symptoms and/or localized acute pain and fever are absolute contraindications.
- The complete absence of defecation after 3 days and/or the absence of defecation accompanied by fecal leakage are contraindications.
- Distention of the abdomen accompanied by nausea, pain, or vomiting is a contraindication.
- Pregnancy is a contraindication.
- A history of high blood pressure or cardiac compromise is a contraindication.
- Hydrotherapy should not be used unless the therapist has received specific training in the effects of heat and cold on the abdomen and bowel, and only if the client does not have any blood pressure or cardiac abnormalities.
- It's not wise to perform this protocol on a client who has just eaten a large meal.

Step-by-Step Protocol for Constipation

Technique	Duration
Position the client prone with a small pillow under his abdomen; support his ankles with a bolster. Ask permission to work on his gluteal muscles.	1 minute
<p>Compression, medium pressure, evenly rhythmic, using your entire hand</p> <ul style="list-style-type: none"> • Superior hamstring muscles • Lumbar spine region • Entire gluteal complex from the gluteal fold to the sacroiliac joint to the lateral head of the femur <p>Work bilaterally.</p>	4 minutes
<p>Digital or heel of the hand kneading, deep pressure, evenly rhythmic</p> <ul style="list-style-type: none"> • Along the border of the ischial tuberosity • Gluteus maximus, medius, and minimus • Piriformis muscle • Muscles in the lumbar spine region <p>Work bilaterally.</p>	10 minutes
<p>Position the client supine, knees bent, feet flat on the table, head resting on a pillow. Drape appropriately: The area from the bottom of the rib cage to the top of the mons pubis should be exposed. Explain the colon massage protocol to your client when he is comfortably positioned.</p> <p>In a trusting, nonthreatening overture to a very aggressive protocol, place your hand on his abdomen and begin stroking with a flat, firm hand in a clockwise direction over the entire abdomen as you speak. Once he is relaxed and understands the protocol, you can begin the actual sequence.</p>	3 minutes
<p>Digital scooping, light pressure. Place all four fingertips of one hand directly over the region of the sigmoid colon; place the other hand on top of these fingers for both support and added pressure. Now begin a scooping motion, performing about five <i>stationary</i> scoops, in the direction of the rectum. (<i>This hand-finger placement is used for the entire protocol.</i>)</p> <ul style="list-style-type: none"> • Directly over the sigmoid colon 	2 minutes
<p>Digital scooping, light pressure, moving up toward the left lower rib cage, about 2 inches at a time, using five <i>stationary</i> scoops at each stop along the way, pushing in the direction of the rectum</p> <ul style="list-style-type: none"> • Entire descending colon 	3 minutes
<p>Digital scooping, light pressure, moving across the bottom of the rib cage, about 2 inches at a time, using five <i>stationary</i> scoops each stop along the way, moving your fingers in small right-to-left scoops.</p> <ul style="list-style-type: none"> • Entire transverse colon 	3 minutes

(continued)

Technique	Duration
Digital scooping, light pressure, moving up the ascending colon, about 2 inches at a time, using five <i>stationary scoops each stop along the way</i> , moving your fingers in down–up scoops in the direction of the bottom of the right rib cage. <ul style="list-style-type: none"> • Entire ascending colon 	3 minutes
Stroke with a firm, flat hand, clockwise, while checking in with the client to make sure he is comfortable before you advance to the next, deeper step. <ul style="list-style-type: none"> • The entire route of the colon 	1 minute
Digital scooping, medium pressure, at least five stationary strokes <ul style="list-style-type: none"> • Directly over the sigmoid colon 	2 minutes
Digital scooping, medium pressure, at least five stationary scoops at each point along the route <ul style="list-style-type: none"> • Entire descending colon 	3 minutes
Digital scooping, medium pressure, at least five stationary scoops at each point along the route <ul style="list-style-type: none"> • Entire transverse colon 	3 minutes
Digital scooping, medium pressure, at least five stationary scoops at each point along the route <ul style="list-style-type: none"> • Entire ascending colon 	3 minutes
Stroke with a firm, flat hand, clockwise, while checking in with the client to make sure he is comfortable with your moving to the next, deeper step. <ul style="list-style-type: none"> • The entire route of the colon 	2 minutes
Digital scooping, deep pressure, at least five stationary strokes <ul style="list-style-type: none"> • Directly over the sigmoid colon 	4 minutes
Digital scooping, deep pressure, at least five stationary scoops at each point along the route <ul style="list-style-type: none"> • Entire descending colon 	4 minutes
Digital scooping, deep pressure, at least five stationary scoops at each point along the route <ul style="list-style-type: none"> • Entire transverse colon 	4 minutes
Digital scooping, medium pressure, at least five stationary scoops at each point along the route <ul style="list-style-type: none"> • Entire ascending colon 	4 minutes
Stroke with a firm, flat hand, clockwise, while thanking the client for cooperating with this protocol. <ul style="list-style-type: none"> • Entire abdominal region 	1 minute
Cover the client's abdomen and ask him to rest for a while before getting off the table.	

HOMWORK

Functional constipation caused by diet or lifestyle can be resolved by reversing the problems that created it. If your client is sedentary, suggest a walking regimen. If he is eating too much cheese or meat, suggest decreasing animal fats and increasing fruits and vegetables. In addition, although it is not possible for some clients limited by obesity or arthritis, you can teach your client to perform deep abdominal massage on himself.

Be careful not to go outside your scope of practice by offering a complete exercise or dietary regimen, or by suggesting that your client might find relief by taking OTC or prescription medications.

For Fast Results

If you have performed the colon massage protocol and expect the client to have results within 6–12 hours, you can offer the following assignments:

- When you get home, or as soon as possible, have a cup of hot water or hot lemon water. This will help stimulate a BM.
- If you don't have a BM by tomorrow, schedule another session.

Preventing Recurrences

- If your daily routine changes due to a vacation or new job, for example, be sure to continue to make time for your BM when you feel the urge. Don't ignore your body's signals.
- Increase your intake of fruits, vegetables, and fiber. There are healthy bran cereals on the market that help meet your daily fiber requirements.
- Drink 8–10 glasses of water every day. Keep a container filled and handy. Caffeine, soda, juice, and alcohol don't count.
- Buy a small footstool, about 6 inches high, and place it in front of your toilet. Put your feet on it each time you try to have BM; it will make passing the feces easier.

Performing a Colon Self-Massage

- Lay comfortably on your back in your bed, or in the bathtub filled with warm water.
- Raise your knees so your feet lay flat.
- Starting at the lower *left* side of your abdomen, just inside from your hip bone, place all of the fingertips of one hand into your abdomen and put your other hand on top of those fingertips to give you some support and strength.
- Now, start scooping into your abdomen as deeply as you can, moving your fingers clockwise in about 2-inch increments, working up to the *bottom of your ribs on the left side*. When you feel your rib cage, start scooping across your abdomen, from left to right, along the bottom of your rib cage, moving your fingers in little right-to-left movements. When you reach the bottom of your right rib cage (still scooping deeply into your abdomen), start moving *down the right side of your abdomen, working from the rib cage down to the area inside your right hip bone*.
- Try to relax and breathe during the entire procedure.
- *Remember your scooping is performed in a clockwise direction, but your hands are moving from the left side of your abdomen to the right.*

Review

1. What is the difference between functional and idiopathic constipation?
2. What is the range of "normal" BM frequency?

3. What are the signs and symptoms of functional constipation?
4. Name four contraindications for the colon massage protocol.
5. Explain, as you would to a willing client, how to perform a colon self-massage at home.
6. What is the first task you want your client to perform when he gets home after having your protocol?
7. During what timeframe is it reasonable to expect results from the protocol?

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