

**Part II**

# Step-by-Step Massage Therapy Protocols



Also known as:

**AS; commonly,  
Ankylosing  
Spondylitis**

# Ankylosing Spondylosis

**Definition:** A chronic, systemic inflammatory disease of the axial skeleton joints, characterized by pain and progressive stiffening of the spine.

## GENERAL INFORMATION

- Etiology (cause or origin) unknown
- Chronic multisystem inflammatory condition; considered in the group of spondyloarthropathies (multisystem inflammatory disorders affecting the axial skeleton, the bones of the head, spine, sacrum, coccyx, and thoracic cage)
- Onset usually late adolescence to early adulthood
- Genetic predisposition
- Prevalence in males

## Morbidity and Mortality

Exacerbations (temporary worsening of symptoms) and remissions (temporary lessening of symptoms) are common with this condition. The prognosis is good, especially with early diagnosis and ongoing management. Patients can live a productive, if limited, life, and they often continue to work following a diagnosis of ankylosing spondylosis.

A common nonskeletal concern is iritis (inflammation of the colored portion of the eye). The skeletal complications include an increased risk of spinal fracture, reduced lung volume, and in severe cases, spinal fixation in a flexed position. At this stage, the patient is unable to stand upright, lift his head, or look forward. Balance is compromised and accidents occur frequently.

## PATHOPHYSIOLOGY

Ankylosing spondylosis typically begins at the sacroiliac joints with cephalic (toward the head) progression; hip and shoulder joints are affected less commonly, while peripheral joints are affected least of all. Inflammation occurs at the sites along the spine where the tendon and ligament attach to bone. This inflammation causes damage and erosion of vertebral bone tissue, leading to fusion of the spine.

Although the etiology is unknown, the presence of large macrophages (white blood cells that destroy foreign cells in the body) during the acute stage indicates a probable autoimmune response. Fibrosis, calcification, ossification (tissue turning into bone, in this case, abnormally), and stiffening of the joints are common.

The inflammatory nature of this disease is not isolated to bone and may spread to major organs, including the eyes, lungs, heart, and kidneys.

## OVERALL SIGNS AND SYMPTOMS

- Chronic low-back pain extending into the buttocks and down to the heels, especially upon rising

- Increased pain with inactivity and decreased pain with movement or a hot shower
- Pain worst at rest, reduced by mild activity
- Swelling and tenderness at tendon and ligament insertions along the spine
- Reduced lateral flexion (bending to one side)
- Fatigue resulting from pain, stiffness, and decreased functionality
- Hyperkyphotic changes (abnormal posterior curvature of the spine) from fusion in cervical and thoracic regions, leading to limited ability to ambulate and look straight ahead
- Labored breathing and chest tightness from decreased thoracic range of motion (ROM) and limited expansion from costovertebral (rib-to-spine) joint movement
- Decreased temporomandibular joint (TMJ) ROM and increased pain in 10% of cases
- Immobilization of spine in late stages

## SIGNS AND SYMPTOMS MASSAGE THERAPY CAN ADDRESS

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- Because living with ankylosing spondylosis demands a constant repositioning of the cervical and thoracic spine, as well as an altered forward-bending walking gait, both of which produce low-back and buttocks pain, the therapist can work to relieve muscle stiffness at multiple sites.
- The pain associated with kyphotic changes that lead to stiffness due to decreased costovertebral joint ROM—if treated in early stages—can be addressed with massage therapy.
- The therapist can significantly help increase the restricted breathing patterns often associated with this condition, thereby reducing the risk of pneumonia.

## TREATMENT OPTIONS

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Therapeutic exercises to help maintain motion, combined with strengthening exercises to work the involved spinal extensor muscles, can be directed by a physical therapist (PT). Heat application in the form of a hot shower or hot packs can be used by the patient himself or anyone involved in his care. Swimming is excellent because of the lack of joint impact. Although pain and fatigue may lead to stasis, immobilization is not recommended, and regular lifelong exercise should be the mainstay of any therapeutic program.

Patients are strongly encouraged to maintain healthy weight, to avoid smoking, and to perform daily diaphragmatic breathing exercises.

Although there is no cure, the previous treatments and the following medications can help control symptoms and minimize the worsening of the condition.

### Common Medications

- Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (Motrin, Advil) and naproxen (Aleve, Anaprox, Naprelan, Naprosyn)
- Salicylate nonopioid pain relievers, such as aspirin (Ecotrin, Empirin, Astrin)

## MASSAGE THERAPIST ASSESSMENT

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The therapist must obtain an official diagnosis from the patient's physician before beginning treatment. In addition, treatment is more beneficial if, with the patient's permission, any written reports from CT scans, MRIs, or X-rays are made available to the massage therapist to help her understand the extent of the condition. (These



## Thinking It Through

Because ankylosing spondylitis affects many aspects of the patient's life, the therapist must look at the whole person. To achieve the best possible outcome from massage therapy, the therapist can tactfully ask the patient about certain areas of his life.

- If he is overweight, I can recommend a dietitian to help him begin a weight-loss program.
- If he smokes, I can anatomically show how lung capacity is already compromised because of his condition, and offer information about a program to quit smoking.
- If the patient suffers from depression, I can expect to see antidepressant medication on the intake form, and I can gently suggest counseling.



## Massage Therapist Tip

### Structuring—Not Removing—the Art of Massage

The step-by-step protocols in this book include suggested time durations, in addition to the use of specific techniques. As you come to know your patient's body and tolerances and what works and what doesn't, you can alter the suggested times and techniques. If you are trained in the use of other techniques and modalities, you can use every skill in your toolkit to treat patients. The protocols are presented as a springboard for starting your work.

documents are reasonable for the therapist to request and are kept confidentially in the patient's chart.)

The entire first session consists of the massage therapist's assessment, combined with patient education as the therapist and patient determine joint goals. To begin, the therapist performs gentle ROM assessments of the patient's cervical, thoracic, and lumbar spine, including lateral bending ability or limitations. Limitations and pain experienced by the patient during these movements are carefully noted. Charting should be very specific, and the use of the 0–10 pain scale is an excellent monitor of progress. If a goniometer is used (a plastic, hinged measuring device used more typically by PTs to determine degrees of joint movement), the massage therapist records ranges; if not, she estimates degrees of movement with the patient's help.

The patient takes several deep breaths while the therapist notes appropriate diaphragmatic movement (the shoulders should be relaxed, and the abdomen might extend slightly during inhalation). However, if the patient's shoulders elevate sharply during the inhalation, and if the therapist notes muscles of the neck and upper chest are involved during the inhalation, the patient is using secondary (inefficient) muscles of breathing. This indicates there is much work to be done by both the patient and the therapist.

If the patient is experiencing any vision problems or TMJ pain, he should be referred to his physician, but the therapist's work can continue.

The therapist asks the patient to lie on the table supine, prone, and side-lying, determining which position is most comfortable, which one produces labored breathing, which causes pain, and so on. Because positioning can be a major source of either discomfort or relaxation, positioning challenges should be charted for future reference, and plenty of pillows should be kept on hand.

Finally, the therapist inquires about the patient's activities of daily living (ADLs), such as brushing his teeth, getting dressed, tying his shoes, and driving. She can ask if he currently exercises. The therapist asks about the patient's profession, whether his condition affects his work, if he experiences pain during the day, and how often he might be able to perform regular stretching exercises.

## THERAPEUTIC GOALS

There are two primary therapeutic goals for patients with ankylosing spondylitis: maintaining mobility and increasing lung capacity. Secondary goals are maintaining proper posture, positioning, and ROM. Alleviating as much localized pain as possible, of course, accompanies all goals.

## MESSAGE SESSION FREQUENCY

Ankylosing spondylitis is a complicated condition with multiple joint and systemic manifestations; it is therefore not possible to treat *every* symptom at *every* session. This patient will present with different complaints each time. It is important to address his greatest concerns, remembering that increased lung capacity and overall mobility are paramount.

- Ideally: 60-minute sessions twice a week
- Minimally: 60-minute sessions once a week
- Infrequent, inconsistent therapy will not be effective

## MESSAGE PROTOCOL

It may be difficult to imagine the effects of a condition that slowly and insidiously forces the spine to bend forward. However, your effective treatment of a person who has ankylosing spondylitis depends on your understanding of the pain caused by the infinitesimal daily muscle adjustments necessary to live with this condition.

To understand how ankylosing spondylosis affects your patient, you may choose to perform the following exercise: Slightly hunch your shoulders and angle your torso so you are leaning about 3 inches more forward than you normally walk. Now try to go about your usual daily routine—shopping, bending, and twisting—in this position. It will soon become obvious that compensating muscles of much of the rest of the body can easily be thrown into the pain-spasm-pain cycle by maintaining this position.

## Getting Started

Side-lying is usually the preferred position for treating patients with ankylosing spondylosis. Pillow and bolster appropriately to maintain spinal alignment. Although this position presents a body mechanics challenge for you, the massage therapist, it is often more comfortable for the patient because of his compromised breathing and extensive spinal changes.

With the patient lying on one side, cervical spine supported with a pillow, arms supported by “hugging” another pillow, and another pillow between knees to the ankles, the protocol that follows is based on working muscles nearest you, those that are not lying on the table. You will turn the patient over to repeat the same sequence on the other side of the body.

You can lay a hot pack on the patient’s back as you perform your preparatory strokes and/or throughout the entire sequence.

## HOMEWORK

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Give weekly written self-care instructions according to your patient’s tolerance. Challenge him, but don’t overtax his ability. Pick and choose from the following items over your weeks of care, and he will find his favorites. Impress upon your patient the importance of self-care and the fact that his consistent therapy will help slow the inevitable progression of this disease.

Although ankylosing spondylosis is a serious condition, humor and an element of play can contribute much-needed levity to your approach to his self-care. Homework assignments can include the following:

- “Tarzan” is a silly but helpful exercise. Beat your chest with lightly clenched fists while humming as loudly as you can (preferably not in public). This increases the exhalation of dormant air, increases lung capacity, and is just silly enough for you to remember to perform daily.
- Do deep breathing, four breaths at a time, three times a day, every day. Raise your arms overhead while inhaling deeply; hold the breath for a few seconds, and then forcibly exhale while bringing your arms back down to your sides.
- Bending your arms at the elbows, try to touch your elbows behind you. Hold for 30 seconds, head up, looking straight forward, not at the floor, then release.
- Either in bed, in the shower, or anytime during the day, perform gentle ROM exercises of every joint in your body. With a little thought, most of the exercises can be performed while driving, while sitting at a desk, while in the bathroom, or while on the phone. Be creative, be a “belly dancer,” or use a hoola hoop to keep the lumbar spine supple.
- One of the most effective and simple exercises is the doorway stretch (Figure 6-1). Place one hand on either side of any doorway, stand in the doorway, legs shoulder-width apart. As you exhale, gently lean through the doorway, *leading with your chest*. When you’re all the way through the door, inhale and exhale to your maximum capacity one more time. Then return to your starting position in the doorway. This stretch not only helps increase lung capacity, but it also stretches most of the chest and back muscles. (Refer to Figures 5-4, 5-5, and 5-6 for more doorway stretches.)



### Contraindications and Cautions:

- Because ankylosing spondylosis is an inflammatory disease and can spread during the acute, inflamed stage (when the patient is in extreme pain, may have a fever of 100.5°F or higher, and medications are not easing the pain as usual), perform massage therapy with caution only during the subacute stage (no active signs of fever or increased pain). You must develop an ongoing professional relationship with the patient's physician or health care team and become comfortable asking about symptomatic flare-ups.
- Spinal fracture is a complication of ankylosing spondylosis, especially in the cervical spine. Any recent trauma or unusual increase in neck or back pain signals a referral to a physician.
- Unusual increases in movement or changes in spinal position may indicate a spinal fracture and also signal a physician referral.

### Step-by-Step Protocol for

### Ankylosing Spondylosis

Technique	Duration
<p>Greet the patient's body with general warming compression. (The patient is side-lying.)</p> <ul style="list-style-type: none"> <li>• Use this time to evaluate tissue and the patient's response to your touch.</li> <li>• Note any differences from previous treatment.</li> </ul>	3 minutes
<p>Effleurage, medium pressure, evenly rhythmic</p> <ul style="list-style-type: none"> <li>• Anterior, lateral, posterior thoracic region</li> </ul> <p>Digital muscle stripping, medium pressure, evenly rhythmic</p> <ul style="list-style-type: none"> <li>• Intercostal muscles</li> <li>• Work anterior, lateral, and posterior intercostals from the sternum to the posterior thoracic vertebrae</li> <li>• Include serratus anterior muscles, pectoralis major and minor</li> <li>• Watch your body mechanics; walk around the table to get at the rib cage effectively without hurting your wrists or back</li> </ul>	5 minutes
<p>Kneading, medium pressure, evenly rhythmic</p> <ul style="list-style-type: none"> <li>• Pectoralis major and minor</li> <li>• Transverse abdominis</li> <li>• Quadratus lumborum</li> </ul> <p>Digital diaphragm kneading, working as if you are trying to move that muscle away from the bottom ribs</p>	5 minutes
<p>Rocking, gentle, rhythmic</p> <ul style="list-style-type: none"> <li>• Thoracic cavity while the patient slowly and evenly breathes deeply</li> <li>• During inhalations, instruct him to stretch his arm over his head near his ear.</li> <li>• During exhalations, instruct him to stretch his arm as far behind himself as he can. Four inhalations and exhalations in this position. (Be careful, this will be difficult work for him; don't let him overexert.)</li> </ul>	2 minutes
<p>Fist or forearm kneading, evenly rhythmic, medium pressure</p> <ul style="list-style-type: none"> <li>• Gluteal muscles with pressure working medially (down toward the table, if side-lying) toward the sacroiliac joint</li> </ul> <p>Kneading, medium pressure, evenly rhythmic</p> <ul style="list-style-type: none"> <li>• Proximal hamstring muscles that insert up under the gluteal muscles</li> </ul>	5 minutes
<p>Digital kneading, medium pressure, evenly rhythmic</p> <ul style="list-style-type: none"> <li>• Sacrum, all the way from the coccyx (ask the patient's permission before working in this area) to the sacroiliac joint</li> </ul> <p>Finish with large kneading strokes and effleurage of the gluteal complex.</p>	3 minutes

(continued)

Technique	Duration
Digital kneading, medium pressure <ul style="list-style-type: none"> <li>• Every vertebrae starting at L-5 and working to C-2, as high as you can palpate</li> <li>• Work cephalically (toward the head) with medium digital pressure into the laminar grooves. Pay great attention to detail.</li> <li>• Follow with rhythmic light effleurage to the spine.</li> </ul>	5 minutes
Effleurage, rhythmic, pressure to tolerance <ul style="list-style-type: none"> <li>• Erector spinae complex and entire back, working off onto the posterior deltoid</li> </ul>	5 minutes
Carefully turn the patient over and repeat the protocol on the other side. End the massage with soothing techniques, such as slow-stroke back massage, stroking the legs, quietly placing your hand on a body part, or a gentle head massage.	
Additional steps in your protocol can include the following, per your patient's request: <ul style="list-style-type: none"> <li>• Medium pressure effleurage, petrissage, kneading, and final effleurage to the lower extremities</li> <li>• Digital kneading to the TMJ muscles</li> <li>• Head massage and digital kneading at the occipital ridge (for relaxation)</li> </ul>	



**FIGURE 6-1** The doorway stretch. Placing her hands on the two sides of the doorway, the patient exhales while leaning through the doorway leading with her chest, inhales and exhales to her maximum capacity, and then returns to her starting position.

- Hot showers can provide relief, and hot packs can be used at work or at home. (Hot rice packs or beanbags are not effective; the heat must be moist.)
- Every time you get into your car, place your right arm behind the passenger seat and look into the back seat as far as you can stretch, holding it for 30 seconds. Your physical limitations may make you a driving hazard, and you need to be able to look over your shoulder quickly and painlessly.

### Review Questions

1. What are some of the signs and symptoms of ankylosing spondylitis?
2. Besides the musculoskeletal system, what other body systems may be affected by this condition?
3. What is one primary goal of your therapeutic sessions with an ankylosing spondylitis patient?
4. What is a secondary goal in your therapy?
5. Is infrequent therapy effective? If not, why not?

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# 7

## Bell's Palsy

### GENERAL INFORMATION

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- Direct cause unknown; correlations with respiratory infections, viral infections, stress, trauma, previous diagnosis of cold sore or fever blister, previous diagnosis of shingles
- Usually sudden onset without warning
- Unilateral condition
- Temporary condition, lasting from 1 week to 3 months
- Men and women equally affected

### Morbidity and Mortality

More than 40,000 people in the U.S. are affected. The annual incidence is about 23–25 cases in 100,000 people. The prognosis is good; 80–90% of patients recover with no noticeable facial disfigurement. The rate of recurrence is 10–15%, in the same or the opposite side of the face.

### PATHOPHYSIOLOGY

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The facial nerve, which is affected by Bell's palsy, travels from the brain to a wide area of muscles in the face (Figure 7-1). This nerve controls the movement of the eyelids, the muscles around the mouth, and the muscles for tearing (eyes), chewing, and facial expression, among other actions.

Paralysis of the facial nerve is believed to result from either edema (swelling) or ischemia (temporary reduced blood flow), both of which compress the nerve against bony areas in the base of the skull where it travels from the brain to the muscles of the face. The reason for the presence of edema and/or ischemia continues to be the subject of debate.

There are usually no warning signs or symptoms. However, similar symptoms may be caused by a stroke or tumor. Therefore, the final appropriate diagnosis of Bell's palsy must be made by a physician to rule out more serious conditions.

### OVERALL SIGNS AND SYMPTOMS

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- Self-discovery upon waking: wet pillow from salivation (drooling), a drooping eyelid, sagging mouth, crooked smile, and an inability to completely close the eyelid
- Weakness or paralysis of one entire side of the face
- Pain around the ear on the affected side
- Inability to taste foods or a disturbance in normal taste

**Definition:** A motor paralysis of cranial nerve VII, the facial nerve, affecting one side of the face.



## Thinking It Through

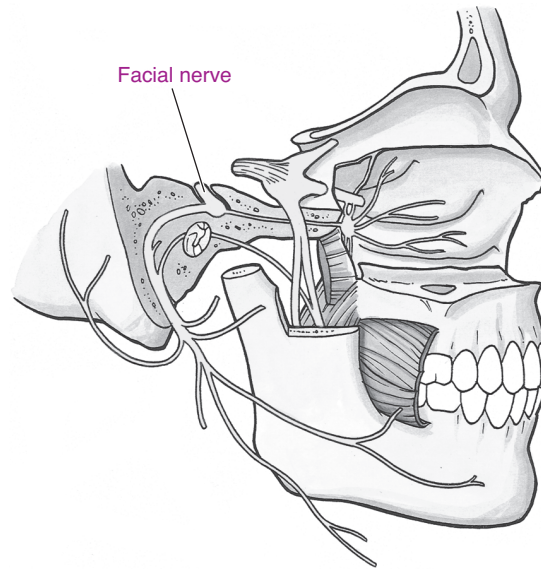
Before the therapist begins working on the face and eyes of any client, she must ask herself some practical questions:

- Does she wear contact lenses?
- Does she have dentures?
- Does she have any facial implants or internal fixations that should not be massaged directly?

The massage for Bell's palsy, although it begins lightly, ultimately moves "to the bone" with deep work that is highly stimulating. The therapist must be sure the client's face can safely tolerate the work.

Since the face often represents a person's sense of self-esteem and privacy, and can carry a history of abuse, it is important at the beginning of the therapeutic relationship to build trust with the client. During the initial interview, the therapist might ask:

- How do you feel about this change in your face?
- May I ask if you will be able to tolerate therapy on your face for about 30 minutes?
- Do you understand this is usually a temporary condition and that it will pass?
- Do you understand that we'll take this therapy at your pace, and we'll sit back and relax at any time?
- Do you think you'll be comfortable massaging your own face and helping me along in this process?



**FIGURE 7-1** The facial nerve, or cranial nerve VII. The facial nerve travels from the brain to a wide area of muscles in the face, and controls movements of the eyelids, the muscles around the mouth, and the muscles for tearing (eyes), chewing, and facial expression, among other actions. From Moore KL, Agur AMR. *Essential Clinical Anatomy*, 2nd ed. Baltimore: Lippincott Williams & Wilkins, 2002.

- Acute sensitivity to sound
- Inability to create normal facial expressions of eyebrow crinkling, smiling, squinting, and pursing lips
- Decreased tearing; susceptibility to corneal abrasion and dryness of the eye
- Drooling from decreased control of the muscles inside, outside, and around the mouth

## SIGNS AND SYMPTOMS MASSAGE THERAPY CAN ADDRESS

- Given the transient nature of this muscular paralysis, the massage therapist can affect the condition of the facial muscles upon their return to normal functioning, but not the duration of the disorder.
- Although addressing salivation, tearing, corneal abrasion, acute hearing, and taste disturbances is beyond the massage therapist's scope of practice, every facial muscle affected by Bell's palsy—and all muscles on the opposite, unaffected side of the face—can be treated to reduce hypertonicity (muscle tightness), increase range of motion (ROM), and decrease hypotonicity (decreased muscle tone).
- Because of the understandable psychological impact of temporary facial disfigurement, the therapist can significantly help reduce the client's general stress level by performing both Swedish massage and the suggested treatment protocol.

## TREATMENT OPTIONS

Because the condition is usually short-lived and the efficacy of medication continues to be debatable, treatment is often conservative and based on symptoms. Eye drops can prevent corneal damage; wearing an eye patch at night protects the eye; the client is advised to try to reduce her stress level.

## Common Medications

- Adrenocorticosteroids, such as prednisone (Deltasone, Orasone, Meticorten)
- Antivirals, such as acyclovir (Zovirax)

## MESSAGE THERAPIST ASSESSMENT

It is critical for the massage therapist not to proceed with client care until both stroke and tumor have been ruled out. Once the physician has made a clear diagnosis of Bell's palsy, the massage therapist performs a very simple assessment. Since conditions of the face carry a psychological component, the first massage therapy session focuses on reinforcing that the condition is temporary, and that the combined efforts of the client and therapist will probably return the client's facial muscles to normal. Warmth, compassion, humor, and hope are important components of the first assessment appointment.

With the client fully clothed and seated directly in front of the therapist, the client performs a normal set of facial ROM movements. *The therapist performs the requested movements along with the client.* Because of the location and size of the facial muscles, it is difficult to measure or assess their ROM. Instead, the therapist records the notable limitations of the unilateral muscles on the affected side compared to the muscles on the contralateral (opposite) unaffected side of the face. Movements include the following:

- Wrinkling the forehead
- Blinking the eye
- Wiggling the nose
- Squinting
- Puckering the lips
- Smiling
- Frowning
- Grimacing

## THERAPEUTIC GOALS

Since there is a good chance that, left untreated, Bell's palsy would resolve in time, the massage therapist is in the unique position of being able to (1) help hasten the facial muscles' return to normal ROM and tone, (2) help ensure that the flaccid muscles' return to normal is not accompanied by disfigurement, and (3) provide a hopeful and humorous companion for the client's often frustrating return to normalcy. The therapist's goals reflect those of the client: to regain normal use and movement of the facial muscles with as little remaining disfigurement as possible.

## MESSAGE SESSION FREQUENCY

- 60-minute sessions twice a week for the first 2 weeks
- 60-minute sessions once a week until complete recovery
- Exercise sessions performed twice a day by the client alone

## MESSAGE PROTOCOL

After the initial assessment session, during which you write extensive SOAP notes, explain to your client why you will be working on both the affected and unaffected sides of her face. Explain that the affected side needs stimulation, increased circulation, and venous drainage, and the unaffected side is hypertonic from compensating and needs the same therapy. Finish this first session with some relaxation techniques in order to reduce the client's stress level and accustom her to your touch.

Since the facial muscles are not accustomed to deep therapy, your early therapeutic sessions will last about 15 minutes. Do not start with extensive and deep



### Thinking It Through (cont.)

An understanding of the face's muscular anatomy is essential for the best therapeutic outcome in treating Bell's palsy. Sloppy or general work will result in a relaxed face, but not a face in which every muscle set has benefited from massage therapy. The therapist must visualize exactly what she is doing as she works by thinking, for example:

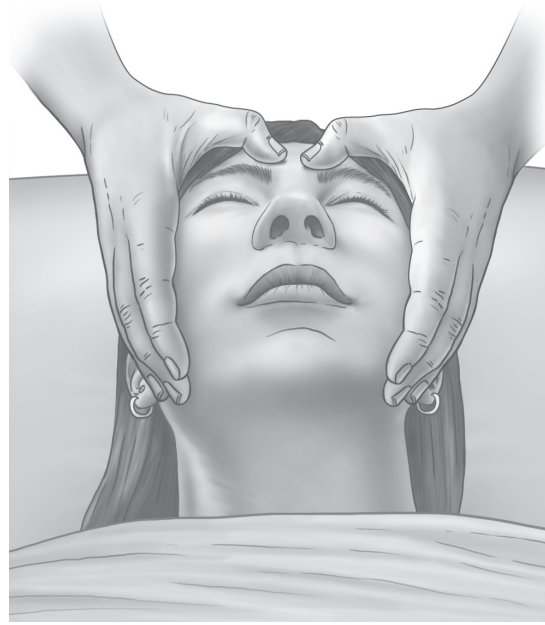
- Where does the masseter muscle begin and end? Can I find the anterior edge by slowly dragging my fingers anterior to posterior on the mandible?
- When working the temporomandibular joint (TMJ), am I following the zygomatic arch all the way to the base of the nose and then back to just in front of the ear?
- When I'm working the orbital ridge, am I being careful to stay on the outside edge and not invade the soft tissue or nerves of the orbit?
- Am I willing to work deeply to the client's tolerance without letting my own personal "face agenda" interfere with the work?



### Massage Therapist Tip

#### Massaging Your Own Face

To overcome your own hesitation about working on a client's facial muscles too deeply, practice on your face first. Start by placing your fingertips on the zygomatic arch. Now make small circles using medium pressure. Increase your pressure until you can feel the bone beneath the skin and muscles. Continue working to this depth for 1 minute. Work slowly and with focus. Try to feel the contour of the bone and feel the muscle moving over the bone. When you remove your hands, your face will feel a slight tingling sensation that's quite pleasant. Move to various parts of your face, and repeat this process. No harm has been done. This exercise can help you overcome any hesitancy about working as deeply as you need to in effectively treating Bell's palsy.



**FIGURE 7-2** Gently cradle the client's face at the beginning of this protocol.

facial massage. Each session will include some form of relaxation massage that will consume the appropriate remaining time of your 60-minute session. Ask the client what might relax her; you might massage the hands, feet, shoulders, or abdomen. Your ultimate goal will be 30-minute sessions focused solely on the muscles of the face.

Remember, the face is “private property,” and many people hold personal agendas associated with issues of the face. Approach the face with extreme care and tenderness, being careful to “invade” as little as possible. Figure 7-2 is one example of how the face can be carefully cradled before beginning the protocol.

### Getting Started

As fragile, small, and circuitous as they are, the facial muscles can be stimulated and stretched, drained of and refreshed with blood, just like any other muscles of the body. Study a good diagram of the nerves, muscles, and bones of the face, and imagine these structures under your hands as you work with a gentle yet firm technique. Work to your client's tolerance—not to your level of discomfort or preconceived notion of how much pressure the muscles of the face can tolerate.

While treating conditions involving only the face and neck, it is advisable for the client to disrobe only to the extent necessary for your work. In this case, she need only remove her blouse; drape appropriately. Position your client comfortably supine (laying on her back, face up). The absence of a pillow makes it easier for you to perform your work, but the client's comfort is paramount. Seat yourself at the client's head for most of this protocol. Remember these guidelines:

- Clean hands, short fingernails, and no jewelry are essential.
- Do not use lubricant.
- Your hands must be scent-free.
- After massaging the muscles of the scalp, rewash your hands before returning to work on the face.

You will spend no more than 30 minutes focused on the facial muscles, with the remaining 30 minutes dedicated to relaxation techniques per your client's request.

## Step-by-Step Protocol for Bell's Palsy

Technique	Duration
Place your hands on either side of the client's face as if to embrace it. Rest here for a moment before beginning your therapy. No pressure, just simple presence.	1 minute
Compression, light pressure, using your whole hand <ul style="list-style-type: none"> <li>• Both sides of the face</li> <li>• Covering every inch of the face from the hairline to underneath the mandible</li> </ul>	1 minute
Digital kneading, medium pressure, circling clockwise and counterclockwise <ul style="list-style-type: none"> <li>• Entire forehead from the hairline to above the brows</li> <li>• Both sides of the forehead, including the temple region</li> <li>• Do not engage the hair or scalp (cross-contamination risk when you return to the face)</li> </ul>	2 minutes
Digital kneading, medium pressure, circling toward the chest; small, slow circles <ul style="list-style-type: none"> <li>• Work down the lateral perimeter of the face, from the temples to the medial, anterior mandible</li> </ul> Repeat the sequence twice.	2 minutes
Digital kneading, medium pressure; tiny, slow circles performed with finger pads, not fingertips <ul style="list-style-type: none"> <li>• Entire bilateral bony ridges of the orbit</li> <li>• Do not invade the soft tissue near the eyeball; stay on the bony ridge.</li> </ul>	1 minute
Digital kneading; slow, small circles; medium-to-deep pressure (This is the first time "deep" pressure is applied: "go for the bone" to the client's tolerance; this work must be deep to be effective.) <ul style="list-style-type: none"> <li>• Bilateral zygomatic arches</li> <li>• Work out to the TMJ and in to about 0.5 inch lateral to the nose</li> </ul>	1 minute
Digital kneading, using finger pads; slow, small circles <ul style="list-style-type: none"> <li>• Maxilla region below the nose (the mustache ridge)</li> <li>• Do not invade the nose or the mouth or touch the upper lip</li> </ul>	1 minute
Digital kneading, using finger pads; slow, larger circles; medium-to-deep pressure <ul style="list-style-type: none"> <li>• From the TMJ to the anterior middle of the maxilla</li> </ul>	1 minute
Stop a moment. Stroke the entire face using both open hands simultaneously, moving from the midline of the face to the lateral hairline. Finish this resting period with soft compression of the entire face. Ask the client how she is doing. Reconfirm comfortable positioning.	
Digital kneading, a little faster but still very smooth; larger, deeper circles on the entire surface of the face. <ul style="list-style-type: none"> <li>• From the hairline to mandible, from the base of the nose to the TMJ, all cheek muscles; include the maxilla region</li> </ul>	2 minutes

(continued)



### Contraindications and Cautions:

- Do not proceed with this therapy until stroke and tumor have been ruled out by a physician.
- Bell's palsy clients experience good days and bad days based on swelling, discomfort, acute hearing, lack of sleep, eye pain or discomfort, side effects of medications, and self-image. Do not perform therapy if the face is extremely sensitive or if the client is experiencing pain. *As in all massage therapies, "no pain, no gain" is not our motto, and it certainly applies to work on the face.*
- Do not apply deep pressure near the styloid or mastoid processes at the lateral bases of the skull during the scalp massage or when positioning the client's head; allow the client's head to rest in midline, with little pressure to the base of the skull for most of the treatment. Roll the head from side to side only when absolutely necessary. The facial nerve exits the brain at a small hole near the base of the skull behind the earlobe, and pressure on this area can further inflame or compress an already agitated nerve.

Technique	Duration
<p>Pincement or plucking. Quick, light, careful but thorough enough to displace more than superficial tissue</p> <ul style="list-style-type: none"> <li>• Start at the mandible.</li> <li>• Use the procedure on every part of the face that allows you to grasp a little muscle or skin; even try to engage the small thin muscles of the forehead.</li> <li>• Do not use pincement around the eyes or nose.</li> </ul>	2 minutes
<p>ROM and gentle resistance of all facial muscle actions</p> <ul style="list-style-type: none"> <li>• Ask the client to wrinkle her forehead by raising her eyebrows; return to normal.</li> <li>• Place your fingertips along the superior ridge of the forehead just below the hairline.</li> <li>• While providing very gentle resistance against the movement of the frontal muscle, ask the client to wrinkle her forehead again and gently push against her movement. Return to normal. Repeat 5 times.</li> </ul>	2 minutes
<p>Ask the client to close her eyes; ever so gently place two fingertips on her closed eyelids. Apply no pressure to the eyeball. (Make sure she is not wearing contact lenses.)</p> <ul style="list-style-type: none"> <li>• Ask her to try to open her eyelids while you apply the gentlest of resistance pressure, not allowing the eyelids to open completely, not applying any pressure to the eyeball. Repeat slowly 5 times.</li> </ul>	2 minutes
<p>Ask the client to grimace, teeth gritted, mouth slightly open, pulling the platysma (superficial muscle of the neck) very tight.</p> <ul style="list-style-type: none"> <li>• Massage the entire mandibular ridge with deep, large circles on the bone, while she holds this position.</li> </ul>	2 minutes
<p>Allow the client to rest from these exercises, and gently massage the face with large, slow, progressively deeper circles. Stroke the face when the therapy is finished. Massage the superficial muscles of the neck lightly and massage the superior trapezius. (Remember to apply no pressure to the occipital ridge; a contraindication for this work.) You are taking focus away from the face for a moment and allowing the client to take a break.</p>	2 minutes
<p>Scalp massage, deep to tolerance, digital kneading of all muscles of the scalp (being careful not to apply pressure behind the earlobes). End with “scrubbing” the hair by using quick, “washing” movements of the entire surface covered by hair. Be careful not to tug the hair.</p>	4 minutes
<p>Sit the client up on the side of the table and stand in front of her.</p> <ul style="list-style-type: none"> <li>• Demonstrate (or review) the AEIOU exercises you want her to perform several times throughout the day.</li> <li>• Teach (or review) how to deeply and thoroughly massage every bony ridge of her face and all major muscles.</li> <li>• Teach (or review) the plucking (pincement) of all the muscles of her face.</li> <li>• Teach (or review) how to massage the muscles of her neck.</li> </ul>	5 minutes
<p>Inform the client that the therapeutic face work has ended, and ask her which area of her body she would like to have massaged, simply for relaxation, for the remaining 30 minutes.</p>	30 minutes

## HOMWORK

### A E I O U

Unlike many self-care assignments that require space, privacy, and the right time of day, one of the most effective exercises your client suffering with Bell's palsy can perform is a simple exaggerated enunciation of the vowels A E I O U. This exercise can be performed anywhere, anytime—although probably not in a crowd or when being observed too closely by coworkers. It is fun and silly enough to add a little humor to this otherwise psychologically devastating temporary condition.

Explain the homework exercise to your client as follows, while demonstrating every move with your own face:

- Remember when you learned the vowels A E I O U in school? I want you to overenunciate each one very slowly while stretching every single muscle in your face and holding the position for several seconds at a time. *(At this point, you demonstrate, so she can see how humorous the exercise can be. Exaggerate each move.)*
- Open your eyes and mouth wide for the "AAAAAAAAA."
- Grimace to the point of (feigned) horror and show all your teeth for the "EEEEEEE."
- Open your mouth and eyes wide for the "IIIIIIII."
- Furrow your brow, pull the muscles tight over your cheekbones, and open your eyes wide for the "OOOOOOOO."
- Purse your lips, thrust your jaw forward, and look devilish for the "UUUUUUU."

Then, place your client in front of a mirror; stand behind her, also looking in the mirror, and ask her to perform the exercises again. She will begin to feel how the stretches affect every muscle of the face and will undoubtedly understand the value of performing this easy exercise frequently throughout the day. If she's performing the exercises correctly, her facial muscles will feel as if she has been working them out.

### More Homework Assignments

It is essential that your work be accompanied by exercise sessions the client performs twice a day. In addition to the previous exercises, you can give her the following, which can be done in any combination:

- Purchase a package of helium balloons (they are tougher to inflate), and blow up several throughout the day.
- When washing your hair, apply more than the usual amount of vigor to your entire scalp.
- Allow the water to hit your face for a longer time while showering.
- Splash alternating warm and cold water on your face during the normal face-washing routine.
- Try whistling throughout the day.

## Review

1. What are some signs and symptoms of Bell's palsy?
2. Can you begin therapy on this condition without a physician's clearance?
3. What is the condition's typical duration, and is recurrence normal?
4. What is the duration of treatment on the client's face, and which techniques can be used effectively?
5. Name some homework exercises for the client, and explain why self-care is important for this condition.

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# 8

## Bursitis

**Definition:** Inflammation of a bursa, a small fluid-filled sac that cushions and lubricates the areas in and around joints.

### GENERAL INFORMATION

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- History of progressively worsening local tenderness; decreased, painful range of motion (ROM); redness or swelling; inflammatory disease, such as rheumatoid arthritis
- Pain lasting from a few days to a few weeks
- General bursitis: secondary to fracture, dislocation, trauma, or tendonitis
- Septic (infective) bursitis: from bacteria introduced into the joint after a traumatic injury or a systemic spread of microorganisms
- Superficial bursitis: over a bone, just beneath the skin (as in prepatellar bursitis); deep bursitis: embedded in the joint, sometimes lodged between complicated joints (as in the multiple bursae located in the shoulder girdle)
- Most common in the elbow, knee, shoulder, and hip

### PATHOPHYSIOLOGY

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Bursae are jelly bean-shaped, flexible, fluid-filled sacs containing synovial fluid; they ensure the smooth pain-free movement of bone around bone (Figure 8-1). There are about 160 bursae in the body. Trauma, overuse, sustained pressure, or bacteria can disrupt the functioning of the bursae. As inflammation sets in, the sacs swell and small surrounding hemorrhages sometimes occur; the normally noninvasive sacs then push against surrounding tissue, causing pain and more inflammation. As the adjacent muscles receive the pain signal, they initiate small spasms in an attempt to brace (splint) the now painful joint. This cycle of inflammation and pain-spasm-pain must be halted or the condition will worsen. Diagnosis is made by physical examination after ruling out other possible joint conditions, such as arthritis, tendonitis, or sprains, and after a history taking of all activities.

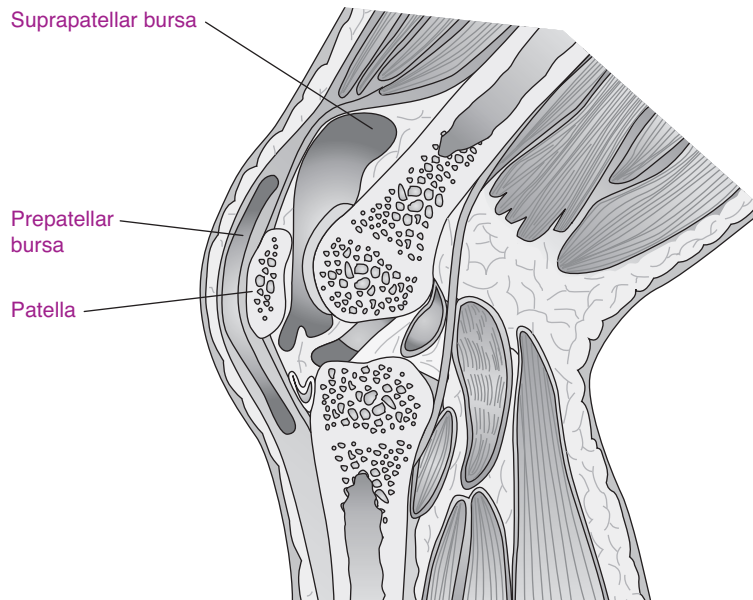
### OVERALL SIGNS AND SYMPTOMS

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Acute and chronic bursitis can occur either superficially or deep, and each has a distinct set of symptoms.

**Acute bursitis:**

- Local inflammation, swelling, and heat
- Deep, burning pain; often referred pain during rest and activity
- Restricted ROM accompanied by muscle spasm and voluntary splinting



**FIGURE 8-1** Bursae are fluid-filled sacs that contain synovial fluid to cushion joint movement. From Porth CM. *Pathophysiology Concepts of Altered Health States*, 7th ed. Philadelphia: Lippincott Williams & Wilkins, 2005.

#### *Chronic bursitis:*

- Local dull, aching pain; or tenderness, usually with activity or when pressing on the bursa
- Restricted ROM but not as severe as in acute bursitis
- Muscle spasm and voluntary splinting
- Local warmth and swelling (less likely than acute bursitis)
- Adhesions, low-grade inflammation, and fibrosis

## SIGNS AND SYMPTOMS MASSAGE THERAPY CAN ADDRESS

- Joint pain results in restricted ROM, forcing the client into compensatory patterns. The pain-spasm-pain cycle of the muscles surrounding the affected joint, as well as the stiffened compensating muscles, can be treated to reduce painful symptoms, decrease hypertonicity, and remove accumulated cellular waste products.
- Localized inflammation, if it is low grade, can be addressed effectively with cryotherapy (cold packs).

## TREATMENT OPTIONS

The physician managing bursitis may be an orthopedic surgeon or a physical medicine physician, both of whom may refer the client to a physical therapist (PT).

Most cases of bursitis can be treated at home by a regimen of rest, ice application, over-the-counter (OTC) pain relievers suggested by the physician, and gentle exercises and stretching to prevent stiffness. Typically, these steps will reduce pain and tenderness and the bursa will heal.

Septic bursitis, however, is treated with antibiotics. With more persistent or puzzling forms of bursitis, the physician might perform a needle aspiration (inserting a hollow needle into the bursa to draw fluid out) to determine whether the condition is septic or aseptic, local or systemic. Needle aspiration is often followed by bandage compression of the joint.

Ultrasound treatments performed by a PT are commonly used for chronic bursitis. Corticosteroid injections into the joint may be used to reduce inflammation if no infection is present. Surgical excision of the bursa is reserved for severe cases that do not respond to other treatments.

A challenge to the healing process, especially for the athlete or the worker who depends on a certain activity for his livelihood, is the necessary change or eradication of the offending behavior that created the bursitis in the first place.

## Common Medications

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

## MASSAGE THERAPIST ASSESSMENT

Clients sometimes say, “Oh, it’s just my bursitis acting up again,” but rather than using potentially harmful assessment techniques that may be outside the therapist’s scope of practice, it is best to begin the treatment of joint pain with a sound diagnosis from a physician. It is then safe to proceed with ROM evaluations of both the affected and the contralateral joints (joints on the other side of the body), while taking detailed notes. Watching for compensatory movement, painful facial expressions, limitations in ROM, the therapist also notices whether the client is voluntarily or involuntarily holding the joint or limb (splinting).

## THERAPEUTIC GOALS

The pain, inflammation, and muscle spasm bursitis causes can certainly be addressed by clinical massage. The therapeutic goals must take into consideration decreased ROM, the pain-spasm-pain cycle, and the fact that the person is probably irritated, frustrated, and facing a possible change in lifestyle, or at least the temporary or permanent loss of a favorite sport or activity.

Although the ultimate goal is to restore full, painless ROM and strength, this cannot be accomplished with massage therapy alone. The massage therapist’s work is often accompanied by prescribed physical therapy, appropriate medications, and the client’s performance of persistent, cautious self-care.

## MASSAGE SESSION FREQUENCY

### *Acute bursitis:*

- When pain is severe, 30-minute sessions twice a week on the affected joint, followed by 30 minutes of relaxation massage, including careful work of the entire affected limb.
- Once pain and severity lessen, continue to have weekly sessions as mentioned previously until all symptoms resolve.

### *Chronic bursitis:*

- With the presence of fibrosis, adhesions, and trigger points, 45-minute sessions once a week on and around the affected joint and affected extremity, followed by 15 minutes of relaxation massage.
- Once fibrosis, adhesions, and trigger points are resolved, continue to have weekly sessions as mentioned previously until full ROM and flexibility return.



## Thinking It Through

Before treating bursitis, the massage therapist should ask herself these questions:

- Do I have a firm diagnosis from a physician, or has the client self-diagnosed?
- How exactly will I use my hands and fingers, and why? While massaging over joints, in the area of released metabolites and waste products, in which direction should I “clean out” the debris using effleurage?
- While softening surrounding fascia, what are the most effective techniques I can use without creating pain?
- How will I alter my direction and depth to avoid creating drag or pressure on the affected joint?
- Does the client intend to return to the offending activity (if the bursitis was created by repetitive activity or pressure)? How can I best counsel him to consider changing his activity or behavior?



### Massage Therapist Tip

#### Using Caution with Treatment Options

There are many theories about how to work a trigger point out of a muscle belly. The techniques vary in the level of aggressiveness, the therapist's body part used (I have seen one massage therapist apply his heel to the belly of gastrocnemius muscle), and the overall approach. Treating trigger points is covered in Chapter 43, and hands-on practice is essential to ensure no harm is done to the client. It is best to err on the side of caution until expertise in these techniques is achieved.

## MASSAGE PROTOCOL

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The following protocols will focus on acute bursitis and chronic bursitis of the knee, but each explanation is applicable to bursitis occurring anywhere in the body.

### Getting Started: Acute Bursitis

Comfortable, pain-free, and sometimes creative positioning, bolstering, and pillow-ing are necessary to ensure the safe treatment of acute bursitis. Therapeutic work is combined with relaxation massage techniques to distract and relax the client.

Be willing to hear “war stories” about the occurrence of the bursitis: what brought it on, how much your client enjoyed playing tennis, or how miserable the working conditions are tiling those roofs in August. Always remember that there is a person and an interesting story attached to every condition.

### Getting Started: Chronic Bursitis

Initial client positioning is important in treating chronic bursitis, but it does not present as great a challenge as with cases of acute bursitis. Make sure both cold packs and hot packs are accessible. Direct therapeutic work is alternated with relaxation techniques, although clients with chronic bursitis can tolerate longer, deeper, and more detailed work.

## HOMEWORK

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### Acute Bursitis

Self-care is essential in order to halt further injury and complications. Make the following suggestions to your client:

- Rest, ice, elevate, and take the anti-inflammatory and pain medications prescribed by your physician.
- Although rest is essential, don't completely immobilize your limb; this can initiate a pain-spasm-pain cycle.
- Move your limb well within your pain tolerance, and don't completely immobilize it unless, of course, instructed to do so by your physician.

### Chronic Bursitis

Remind your client that the work you and he accomplish on the table is only part of his rehabilitation process. Here are some homework assignments to help him regain strength and mobility:

- Use wringing and kneading techniques on the tissues surrounding your painful joint. Remember to push the tissue *toward* your affected joint.
- Use hot packs alternated with cold packs to help move waste products out of the surrounding tissue (this is called contrast therapy).
- Perform pain-free ROM exercises of your entire limb, and especially to the joints above and below your knee (hip and ankle).
- Stroke deeply your entire leg (toward your heart) when you have completed your localized work.

Reiterate that once the pain has subsided, he should not return to the same harmful activity, or at least be willing to modify it. He must change his movement patterns that caused the bursitis in order to avoid painful recurrence.

## Step-by-Step Protocol for Acute Bursitis of the Knee

Technique	Duration
Lightly place a cold pack on the client's knee, allowing him to help with exact placement. Leave the pack in place for the next few steps. Watch the clock and remove the pack after about 10 minutes, or when the client has reached his tolerance.	
Have the client take some deep breaths to help relax him and oxygenate the muscles.	2 minutes
Effleurage, light pressure, using your entire hand. Lubricate the limb appropriately. <ul style="list-style-type: none"> <li>Entire lower extremity from the foot to the groin</li> <li>Get the client used to your touch; help him relax and nonverbally assure him that your work will not hurt</li> </ul>	3 minutes
Compression and effleurage, light pressure, centripetal direction, using full, open hands, no knuckles or fists <ul style="list-style-type: none"> <li>Gastrocnemius muscle from the Achilles tendon to the popliteal fossa</li> <li>Tibialis anterior and medial portion of the soleus muscle</li> </ul> Positioning may include a slightly bent knee, placed on a pillow to allow you access to both the front and back of the leg.	4 minutes
Compression and effleurage, light pressure, working toward the knee (not centripetally), using full, open hands, no knuckles or fists <ul style="list-style-type: none"> <li>Quadriceps complex</li> <li>As much of the hamstring complex as you can comfortably (for the client) access</li> </ul> Remove the cold pack.	5 minutes
Effleurage, light pressure, with full, open hands <ul style="list-style-type: none"> <li>The entire lower extremity, anterior and posterior surfaces</li> </ul>	3 minutes
Petrissage, light pressure <ul style="list-style-type: none"> <li>Gastrocnemius muscle belly</li> <li>As much of the soleus as you can grasp</li> </ul>	3 minutes
Petrissage, light pressure Entire quadriceps <ul style="list-style-type: none"> <li>Adductors and hamstrings</li> </ul>	4 minutes
ROM, gentle, active (the client performs the movement), pain-free <ul style="list-style-type: none"> <li>At the ankle</li> <li>At the knee</li> <li>At the hip</li> </ul>	3 minutes
Effleurage, light pressure <ul style="list-style-type: none"> <li>Entire lower extremity, as the client takes a few, final, deep breaths</li> </ul>	3 minutes (Total first half of the protocol = 30 minutes)
Reposition the client comfortably and offer him relaxation Swedish techniques according to his preference, making sure to include deep, appropriate work to the contralateral lower extremity, which may be compensating.	30 minutes



### Contraindications and Cautions

- In acute bursitis, techniques that pull tissues surrounding the affected joint are *locally* contraindicated, because they worsen the condition.
- Septic bursitis is a *systemic* contraindication.
- Never "drag" or pull tissue away from the affected bursa. Instead, perform deeper, more invasive techniques *toward* the affected area, not always cephalically, as in typical massage therapy.
- If you feel warmth or swelling or notice redness, proceed no further; consult the client's physician.

## Step-by-Step Protocol for

## Chronic Bursitis of the Knee

Technique	Duration
Place a moist hot pack on the client's thigh, hamstring, or gastrocnemius (not the knee). Leave the pack in place for the next few steps, watching for any skin reddening and client discomfort.	
Have the client take some deep breaths to help relax him and oxygenate the muscles.	1 minute
Effleurage, medium pressure, using small circling motions rather than a straight line from the foot to the groin. Avoid placing a drag on the tissues of the knee joint. <ul style="list-style-type: none"> <li>• Begin proximally at the quadriceps muscles</li> <li>• Move to the hamstring muscles</li> <li>• Then massage the tibialis anterior and medial soleus</li> <li>• End with the gastrocnemius</li> </ul>	5 minutes
Petrissage, medium pressure, assuring that your direction now is toward the knee, not cephalic <ul style="list-style-type: none"> <li>• Begin proximally at the quadriceps muscles</li> <li>• Move to the hamstring muscles</li> <li>• Then to the tibialis anterior and medial soleus</li> <li>• End with the gastrocnemius</li> </ul>	8 minutes
Digital kneading, light-to-medium pressure, using your fingertips <ul style="list-style-type: none"> <li>• The knee joint and tissue surrounding the patella</li> </ul>	5 minutes
Skin rolling, nonaggressive to the client's tolerance, but engaging sufficient tissue to bring blood to the area <ul style="list-style-type: none"> <li>• 2–3 inches both proximal and distal to the knee joint</li> </ul>	4 minutes
Cross-fiber friction, nonaggressive to the client's tolerance, using your thumb and/or fingertips <ul style="list-style-type: none"> <li>• All muscle attachments around the knee joint</li> </ul>	4 minutes
Place a cold pack on the knee to reduce any inflammation the previous techniques might have created.	Leave on for 5 minutes
With the cold pack in place and before moving ahead with further techniques to the affected side: effleurage, petrissage, compression techniques to the client's tolerance <ul style="list-style-type: none"> <li>• Entire unaffected limb</li> </ul>	10 minutes
Return to the affected limb and remove the cold pack. Passive ROM, slightly beyond the client's tolerance. <ul style="list-style-type: none"> <li>• Hip joint</li> <li>• Knee joint</li> <li>• Ankle joint</li> </ul>	5 minutes
Active ROM, slightly beyond the client's tolerance; make sure the client is not holding his breath. <ul style="list-style-type: none"> <li>• Hip joint</li> <li>• Knee joint</li> <li>• Ankle joint</li> </ul>	5 minutes
Close the session with relaxation techniques to the shoulders or anywhere the client requests.	13 minutes

## Review Questions

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1. Where can bursitis occur in the body?
2. What are the various types of bursitis that can occur?
3. What is different about the directional work when treating bursitis?
4. Are hot packs or cold packs used in treating acute bursitis?
5. Is it appropriate to perform therapy for the full 60 minutes when treating either acute or chronic bursitis? If not, why not?

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