Adopted 11/04
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Cervical Traction

General considerations before starting

Traction may be applied in a variety of ways and circumstances. **Below are a number of basic considerations before starting.**

- **Trauma**. Wait at least 24 hours following acute cervical spine injury. (Bland 1994)

- **Manual vs. Motorized mechanical traction**. Manual traction is simple to perform, requires no equipment, and the practitioner can get continuous verbal and tactile feedback from the patient. It can, however, be physically demanding on the practitioner and the practitioner must be constantly attending the patient (unlike motorized traction).

- **Seated vs. supine.** If motorized mechanical traction is utilized, the choice of seated versus supine traction will depend on patient response. Supine traction is the position of choice. The supine position provides improved muscle relaxation, vertebral separation and easier counter-traction and is therefore preferred. (Deets1977, Ellenberg 1994) Muscles are more able to relax than they are in the sitting position. In supine, the halter can be positioned so that more load is placed on the occiput, diminishing the load on the TMJ. When in the sitting position, the patient should be supported through the lower extremities, pelvic girdle, lumbar and thoracic spine, and upper extremities. This position is less desirable, but occasionally necessary (e.g., reflux esophagitis). It does not allow muscles to relax as well as traction that is done supine. Also, the halter pulls on the mandible, placing pressure on the TMJ. Flexion is applied by use of a posterior tilting traction chair or by the use of pillows behind the low back, sliding the hips forward and resulting in forward flexion of the neck when the traction force is vertical.

- **TMD**. Be sure that the patient does not have TMD. If contact is made with the chin, be sure that the amount of pressure is equalized between the chin and occiput. A piece of gauze placed between the molars can be used as a mandibular splint if there is concern. (Bland 1994)

- **Treatment frequency**. Frequency depends on the patient's response. Traction may be done daily, twice daily, or two to three times a week.

- **Patient response**. The patient's response should be closely monitored (see Table 1). The usual baselines will be pain severity, degree of peripheral-ization and any neurological deficits which may be present. These should also be monitored *during* treatment application and right after the procedure has been completed. For example, Erhard (Conley 1994) recommends that reflexes (if depressed) be checked at 5-10 minute intervals. He reports that the biceps DTR may improve within the first treatment. The brachioradialis takes longer to improve.

TABLE 1: MONITOR PATIENT RESPONSE

Decreased pain and neurological signs	Indicates that the condition is resolving	Continue traction protocol
Increased central pain; Decreased peripheral pain and neurological signs	Indicates that the compression of the spinal nerve root is decreased. Temporary increase in central pain may indicate a change in irritation to nerve root.	Continue traction protocol
Decreased central pain and increased peripheral pain	Indicates increased nerve root irritation.	Stop
Decreased pain & increased neurological signs (e.g., sensory deficits and/or motor weakness)	Indicates increased pressure to nerve root.	Stop
Severe cervical pain suddenly resolves during the treatment.	May indicate sudden decompression of a space occupying lesion or nerve root or sudden cord damage.	Stop and assess

CERVICAL MANUAL TRACTION

Manual traction can be applied by the clinician grasping the patient's head and utilizing his or her own force to create traction. This can be used both as a clinical test and as a treatment. The traction can be sustained or intermittent and, on occasion, can be combined with mobilization or a quick thrust. Manual traction also allows for pressure over trigger points for pain control as traction is being applied. Immediate feedback regarding changes in muscle tone is possible with this technique. Muscle relaxation achieved by manual traction may allow more successful manipulative therapy. On the other hand, in cases where applying traction results in aggravating symptomatic areas in the thoracic spine, the practitioner may wish to stop and treat the thoracic joint dysfunction first, before resuming the cervical traction.

When performing manual traction, the practitioner should explore a variety of neck positions. Traction is usually applied at about 20-30 degrees of flexion, but it may be important to explore other angles of flexion as well (including neutral), monitoring patient response. This position can be further modified by exploring the effects of chin retraction (which tends to increase flexion in the upper cervical spine and extension in the lower cervical spine), positions that open that IVF on the affected side (i.e., rotation and /or lateral bending away from symptomatic arm), as well as other combinations, including extension (see CSPE McKenzie protocol for further positioning ideas). For example, Cyriax (1984) suggested axial traction in extension for central lesions and in lateral bending for posterolateral lesions.

The traction can be sustained or intermittent. There is no evidence that one form or dosage of traction is more effective than another. A common approach (Murphy 2000) is as follows: The patient lies supine with the head (and head piece) flexed at about 15-20 degrees. Intermittent traction is applied for up to 15 minutes at alternating intervals of 10 seconds of sustained tension and 10 seconds with reduced or no tension. Application and release of the tension should be done smoothly and gradually to prevent rebound pain.

The traction can be timed with the exhalation during a breathing cycle providing the tractional force during exhalation.

The practitioner may perform manual cervical traction using a towel or other device. A 2 inch wide belt may also be used. The belt is looped around the doctor's hips while s/he is seated or standing at the head of the treatment table. The practitioner's hands are then looped though the belt and placed under the patient's occiput. Once the doctor is positioned and the patient's head has the proper amount of flexion, traction can begin. The force is generated through the practitioner's legs and body rather than through the arms. This set up is easier for the practitioner if the proper doctor position is maintained. Using this technique, however, also can generate higher forces and so caution is advised.

MOTORIZED MECHANICAL TRACTION

Summary of steps for supine motorized traction

Step 1: Determine body weight.
Step 2: Remove earrings, glasses, or anything that may interfere with the halter/harness.
Step 3: With patient in the supine position, align the unit so that the force of pull runs in the midline of the patient's body.
Step 4: Place a pillow under the patient's knees.
Step 5: Secure the halter to the cervical region according to the manufacturer's instructions.
Step 6: Connect the pulley cable to the halter, take up excess slack in pulley.
Step 7: Set the angle of pull.
Step 8: Adjust all controls to zero. Be sure the patient's tongue is not between his/her teeth.
Step 9: Select sustained vs. intermittent.
Step 10: Adjust tension for correct weight (not to exceed 45 pounds).
Step 11: Instruct patient what to expect and to relax during the treatment.
Step 12: Give the patient the safety switch
Step 13: Monitor the patient's symptoms (see Table 1).
Step 14: Tension must be *gradually* decreased.
Step 15: If the unit does not turn off automatically, release the rope gently and gradually, making sure that no residual tension on the rope remains.
Step 16: Loosen and remove head harness.
Step 17: The patient should lie still for 1-2 minutes.
Step 18: Ask the patient about any perceived benefits or complications derived from treatment. Some patients with disc herniations report pain immediately following traction.
Step 19: The patient should be cautioned against extreme flexion movements and may require a cervical collar for support.
Step 20: Progression of weight over subsequent visits is based on patient response and tolerance. Use five pound increments up to a limit of 40-45 pounds.

Motorized traction can be used to exert a pulling force through a rope and various halters and straps. The traction force results in a gliding and longitudinal separation of the cervical spinal segments.

The set up for supine traction

Step 1: Determine the patient's body weight. This can be done by simply asking patients or weighing them in the

office. The patient's weight is used in selecting the initial tractional force. (See step 10.)

Step 2: Instruct the patient to remove any earrings, glasses, or anything else that may interfere with the halter/harness.

Step 3: Have the patient lie on the treatment table in the supine position. Position the unit so that the force of pull runs in the midline of the patient's body.

Step 4: Place a pillow under the patient's knees.

Step 5: Secure the halter to the cervical region according to the manufacturer's instructions. Apply the head halter under the mandible and on the occiput and attach it to the spreader bar. **Be sure that the patient's tongue is not between his/her teeth.** The patient should feel the halter snug around the occipital area, not the chin or any other structure. The rope must be slack to attach the spreader bar, but remove the slack prior to initiating treatment. Adjust the halter so that approximately 70% of the pull is absorbed by the occiput. If the line of pull is set too far anterior to the posterior neck structures, the traction will pull the neck into extension.

The position of the halter has a significant effect on cervical spine flexion.

- A halter placed and tightened too low on the neck will result in head on neck extension and the inability to eliminate the cervical lordosis.
- A halter placed too high on the head, past the occiput, or placed too loosely will slip off when a traction force is applied.
- Ideally, the occipital pad is placed directly on the occiput and tightened snugly enough to prevent slipping.
- A poor set-up will result in head on neck extension and uncomfortable loading of the mandible and in effect the TMJ.
- Halters should not be utilized on patients with a history of TMJ dys-function or patients with poor dental occlusion. A note on the Saunder's Device: Saunders or similar traction devices utilize a sliding track, with placement of the head on a pad that slides in a rail**.** This decreases the load necessary to produce traction force by eliminating most of the friction. Stabil-ization is provided by a head strap and posterior pads that are tightened against the occiput and the mastoid processes.

Step 6: Connect the pulley cable to the halter, take up excess slack in pulley.

Step 7: Set the angle of pull.

If the segment to be treated is below C-2, position the cervical spine in 20º-30º of flexion, just sufficient to flatten the lordotic curve. (Colachis 1966, Harris 1977) Flexing beyond neutral for the segment will decrease the intervertebral space as the ligamentum flavum tightens. To effect 20º-30º of flexion, the rope angle will need to approach 45º due to the flexibility of the rope resulting in a sagging with the weight of the head. Piva's (2000) approach to traction is to use an angle of flexion just less than would cause symptoms. If the C1-C2 segment is treated, allow the normal lordotic curve to remain and treat patient in 0º of flexion

Unilateral traction. Traction may be given unilaterally to patients demonstrating unilateral signs and symptoms (e.g., hypomobility and/or muscle guarding) or when symptoms are alleviated to a greater degree with manual unilateral traction. This option is most successful when applied manually or with a Saunders or similar device. The table and traction unit may be angled to produce a greater side-bending and rotation. When a halter is used, there is

a tendency for it to slide around and reposition, so uniform pull is not possible.

Step 8: Ad just all controls to zero. Be sure tongue is not between the teeth.

Step 9: Select Mode: Sustained vs. Intermittent.

Sustained Traction: A steady constant tension is applied at a prescribed load (weight). Sustained traction is well suited for disc herniations, muscle spasms other soft tissue tightness.

Intermittent traction: Tension is applied for a "hold" period at a prescribed load (weight) for a prescribed amount of time (seconds) followed by a "rest" period at a lower load (weight) for a prescribed amount of time (seconds). Intermittent traction works well for joint hypomobility and degenerative disc disease with shorter rest and hold times (mobilizing effect).

For intermittent traction, generally there is a 20-30% difference in the "maximal" amount of tension during the "hold" period and the "minimal" amount of tension during the "rest" period. Releasing the tension during the "rest" period by a relatively small percentage of the maximum assures that some tension will always act on the tissues without causing irritation or placing too high a demand on them.

The method of traction is based on the type of condition being treated, goals of treatment, and the patient's response.

A. Nerve root compression:
Intermittent traction is suggested: 7 seconds hold and 7 seconds rest time for 20-30 minutes.

In addition to cervical flexion, lateral or rotational components may be added. Maximal separation will occur within 7 seconds (Colachis 1965). Additional time produces no further separation. A balanced cycle is usually perceived as more pleasant. Patients can tolerate greater poundage because of the rest periods.

B. Discogenic pain: Use either sustained or intermittent traction.
Sustained traction should have "hold" periods no longer than 10 minutes. If the treatment is too long, intradiscal pressure may increase from imbibition of too much fluid, and symptoms may be aggravated following treatment. Patients tolerate less poundage than with intermittent. There is a greater degree of ligament deformation with a slow rate of loading compared to a more rapid rate.

Intermittent traction would commonly have 60 second holds with a 10-20 second rest applied for 10-15 minutes. Longer or shorter times may be indicated by changes in signs and symptoms. If the treatment is too long, intradiscal pressure may increase from imbibition of too much fluid, and symptoms may be aggravated following treatment. Patients can tolerate greater poundage with intermittent traction as compared to sustained traction because the rest periods of intermittent reduce the load on the tissues.

C. Muscle guarding: Traction can also be used to relax the neck muscles. Studies suggest there is little or no difference between methods. (DeLacerda 1980, Hood 1981) Sustained traction uses low weight with 3 to 30 minute holds**.** Electrical silence from stretching occurs only after 3 minutes of sustained stretch. (Cyriax 1975) Manually applied traction allows immediate feedback to the doctor regarding the degree of tension. It may be useful in itself, or as a pre- or post- manipulative strategy.

Patients tolerate less poundage with sustained traction than with intermittent**.**

There is a greater degree of ligament deformation with a slow rate of loading compared to a more rapid rate. This may be of importance if hypomobility and/or soft tissue shortening accompanies the muscle

guarding. Sustained traction will restore a greater degree of mobility than intermittent traction in these cases. Intermittent traction can be applied with 10-15 second holds and 1-15 second rests for about 10-20 minutes. Cycling at a comfortable rate stimulates the stretch reflex, causing intermittent muscle contraction and increasing blood flow. (DeLacerda 1980) Patients can tolerate greater poundage with the rest periods.

D. Hypomobility: Traction can also be used to mobilize joints. Intermittent traction is applied with 5-10 second hold and 5-10 second rest periods for about 20-30 minutes. There is minimal specific research on hold/rest times. Research shows vertebral body separation with a 10 second hold (Colachis 1965, Harris 1977). Longer hold times will allow soft tissue deformation. Use relatively short hold times. Note: A balanced cycle is usually perceived as more pleasant. Patients can tolerate greater poundage with the rest periods.

Table 2: Suggested applications

Intermittent		Sustained	Special comments
Nerve root compression	HOLD 7 sec REST 7 sec For 20-30 min		May need unilateral traction or add cervical rotation. Need at least 25-30 lbs.
Deranged/ degenerative disc	HOLD 60 sec REST 10-20 sec For 10-15 min	No >10 min!	Sustained: use < weight than intermittent
Muscle splinting	HOLD 10-15 sec REST 1-15 sec For 10-20 min	3-30 min	
Joint Hypomobility	HOLD 5-10 sec REST 5-10 sec For 20-30 min		

Step 10: Adjust tension: 10% of body weight is appropriate to start. Do not exceed 45 lbs.

For cervical treatment, pull is determined by patient comfort and may be progressively increased with subsequent treatments. To achieve separation of the C0-C1 and C1-C2 joints, it takes 10 pounds. (Wong 1992) For the rest of the vertebral components, at least 20-25 lbs is necessary to produce measurable separation of the cervical structures (Judovich 1952, Harris 1977, Saunders 1983). The usual range of treatment weight is 25 to 45 lbs. If the patient resists with muscle tension, no benefit will be achieved.

Stoddard suggested that between 24 and 30 pounds (11-14 kg) of traction was necessary for relief of radicular symptoms. The initial load at the first visit should begin with 10% of the patient's body weight. Increasing to thirty pounds may be a good traction force with disc patients to truly assess their tolerance.

Erhard (Conley 1994) suggests setting the maximum poundage at whatever begins to change the radicular symptoms (e.g., 30 lbs); the minimum poundage is set just above resumption of symptoms (e.g., 10 lbs).

Less than 25 pounds may be effective if separation of vertebral bodies is not the goal. Stretching musculature and opening the intervertebral foramen occurs at less poundage. Normally greater than 10 pounds is required just to offset the weight of the head. The practitioner may also palpate the spinous processes to feel for separation.

Step 11: Instruct patient what to expect and to relax during the treatment.

Step 12: Important SAFEGUARD. Give the patient the safety switch and explain that if pressed, the traction will decrease to zero force gradually and will not release all at once. Tell the patient to use the switch if discomfort is experienced.

Step 13: Monitor the patient's symptoms (see Table 1).

Step 14: Tension must be *gradually* decreased unless the traction unit shuts off automatically.

Step 15: If the unit does not turn off automatically, release the rope gently and gradually, making sure that no residual tension on the rope remains. If the tension is not released gradually, dizziness, headaches, or an increase in symptoms may ensue. These side effects may be due to rebound of intradiscal pressure or a shift of cerebrospinal fluid.

Step 16: Loosen and remove head harness.

Step 17: The patient should lie still for one or two minutes to allow the body's tissues and spinal structures to naturally adjust to pre-traction condition.

Step 18: Ask the patient about any perceived benefits or complications derived from treatment. Some patients with disc herniations report pain immediately following traction**.** This may be due to the patient's inability to tolerate the amount of tension or the angle of pull. Consider using a passive modality such as ice or interferential to manage the temporary flare-up. Proceed with caution if attempting traction again. Re-assess any neurological deficits.

Step 19: The patient should be cautioned against extreme flexion movements and may require a cervical collar for support. For patients who demonstrate a temporary improvement of the biceps reflex during traction which immediately degrades again in the upright position, Erhard (Conley 1994) suggests having the patient wear a collar for 1-2 hours following traction.

Step 20: Progression of weight over subsequent visits is based on patient response and tolerance. Use five pound increments up to a limit of 40-45 pounds.

<u>Treatment application and dosage</u>

Initial treatment time should be set for 3-4 minutes to allow patient to adjust to traction. Build up to 20-30 minutes or as per the protocol for disc lesions.

Some equipment provides for progressive and regressive steps of traction. These steps allow the patient to adjust gradually to the onset and release of the pull. Regressive traction, over a period of 2 to 5 minutes may prove safe and effective.

Significant improvement is expected within 8-10 sessions or traction should be discontinued (Bland 1994). Erhard (Conley 2000) reports a usual treatment schedule of 5-6 treatments.

CONTRAINDICATIONS

1. Significant diseases

- Traumatic injury in the acute phase or gross inflammation
- Spinal infections: meningitis, arachnoiditis
- Spinal cancer (traction may increase metastases or promote instability)
- Tumors
- Active infectious disease of the spine or bone disease

2. Certain types of disc herniation

- Midline disc herniation associated with acute torticollis
- Extruded disc fragmentation or rupture

3. Poor treatment response

- With peripheralization of symptoms
- Conditions that worsen following traction treatments

4. Weakened or unstable structures

- Prolonged systemic steroid use
- Vertebral fractures
- Joint instability due to trauma or ligamentous laxity: Rheumatoid Arthritis, Marfan's Syndrome, Down's Syndrome, Ehlers Danlos Syndrome

5. Other

- Clinical signs and symptoms of spinal cord compression
- Vascular compromise
- Serious cardiovascular disease

RELATIVE PRECAUTIONS

Patients with these conditions should be closely monitored for adverse changes in their sensory and motor response, exacerbation or significant changes in pain, emotional or psychological intolerances, or inability to accurately report their subjective experience. In these circumstances traction may need to be discontinued or significantly reduced.

1. Certain types of disc herniation

- Patients with a displacement of a fragment of annulus fibrosis (non-contained)
- Patients with a medial disc protrusion

2. Poor treatment response

- Patients who cannot tolerate the prone or supine position

3. Weakened or unstable structures

- Osteoporosis (or significant risk for osteoporosis, see osteoporosis care pathway)
- Joint hypermobility: If manual testing or active range of motion indicated ligamentous strain or increased mobility. Common areas include the cervico-thoracic junction.

4. Other

- Hiatal hernia
- Pregnancy: cervical traction may
- be performed under close
- supervision.
- Patients experiencing
- claustrophobia
- Disoriented patients
- Patients with temporo-
- mandibular\joint (TMJ) problems
- Patients who wear dentures
- Traction anxiety: Patient cannot relax or is very anxious. Try manual traction first.

DOCUMENTATION

It is important to carefully document the following parameters of the treatment.

1. The type of traction.
2. The area of the spine treated.
3. The patient's position.
4. Halter type - if used.
5. Mode of treatment (manual vs. motorized mechanical; sustained vs. intermittent)
6. Maximum force and the total treatment time.
7. Response to treatment.
8. The force during the hold time and relax times.

Rationale/ Theoretical Mechanism

The main purpose of mechanical traction is to reduce signs or symptoms of spinal compression. There are several mechanisms by which this is accomplished. Traction separates vertebral bodies, resulting in reduced intradiscal pressure and a straightening of the spinal curves. (Mathews 1972, Grieve 1982, Wong 1992). The posterior facet joints are also separated, stretching the joint capsules and widening the intervertebral foramen. (Mathews 1972, Harris 1977)

Additional soft tissue structures such as ligaments as well as tense muscles are stretched or mechanically relaxed. In the case of sustained traction, the stretch reflex of the muscle spindle is silenced, relieving the muscle guarding. (Cyriax 1975, Mathews 1972, Hood 1981) Blood supply to the posterior soft tissues and the intervertebral discs is also improved. (DeLacerda 1980)

The vertebral separation which occurs during traction may assist in treating disc lesions by decreasing intradiscal pressure and increasing the superior-inferior dimension of the intervertebral foramen. In addition, tightening the annular fibers and the posterior longitudinal ligament may flatten a bulge. (Roaf 1960, Mathews 1972) The effects, however, are only transient, reversed with weight bearing and flexion.

Degenerative disc disease results in narrowing of intervertebral spaces. In some cases this can cause increased pressure on nerve roots and increased load on facets. Traction widens space and decreases pressure temporarily. Longitudinal traction force provides a gliding separation of facets, general capsular stretch, and opening of the intervertebral foramen. This may result in realignment that decreases pressure or impinged capsule.

When nerve roots are actually impinged, traction may have a beneficial effect by widening the intervertebral foramen and decreasing spasms that may be the cause of compression**.** Some investigators report increased fluid in the nucleus pulposus from traction. (Roaf 1960, Mathews 1972)

Typically in a relative forward-bending direction, traction will increase the superior-inferior dimension of the intervertebral foramen and possibly relieve nerve root impingement resulting from narrowing. (Crue 1965)

Effectiveness

Cervical traction is believed (Rodgers 1998, Murphy 2000), but not yet proven (Geert 195) to be of benefit in patients with cervical radiculopathy. According to the guidelines presented by the Philadelphia Panel (2001) “There is lack of evidence at present regarding whether to include or exclude mech-anical traction…in the daily practice of physical rehabilitation of patients with acute and chronic neck pain.” There is even less evidence available for radicular syndromes.

Zylbergold (1985) demonstrated a significant improvement in cervical flexion and right rotation following cervical traction in patients with whiplash; however, no difference in symptomatic outcome was demon-strated. Intermittent traction performed better than the other forms of traction. Geert reports that other studies have shown poor results (Goldie 1970;

Harris 1977) but were also methodologically flawed.

On the whole, utilization is still based primarily on expert opinion. Bland (1994) writes “In my experience, 75% to 80% of patients with radicular symptoms receive clear benefit from traction, usually lasting months to years.”

Erhard contends in his experience that “virtually all patients with foraminal compression type patterns respond to a combination of traction manipulation (applied at the involved segment) and intermittent cervical traction.” If cervical extension does not aggravate the arm symptoms, the prognosis is even better. (Conley 1994)

Piva (2000) suggests that “in our experience, patients with arm symptoms that are increased by neck movements and have myotomal weakness respond well to intermittent cervical traction.”

In general relief of pain occurs sooner and more completely in patients with radicular symptoms than those with only local injury. (Bland1994).

HOME TRACTION

Patients who benefit from in-office traction may be good candidates for home traction units. Patient selection is partially based on the competency of the patient in following instructions.

HOME SUPINE TRACTION UNITS

- Readily available in pharmacies and medical supply stores.
- Reasonably priced home treatment devices.
- Consist of a door-mounted pulley system with patient in the supine position.
- The patient pulls on a rope until appropriate tension is reached as determined during the in-office procedure. In some cases the practitioner can use a strain-gauge to get a visual read on the amount of desired traction.
- Some units come with a strain gauge to measure tension.
- Utilized a harness without a chin strap. Secure behind the occiput without any pressure on the mandible.
- Neck may be flexed for positioning

HOME PNEUMATIC SUPINE TRACTION UNITS

- Available at medical supply stores.
- Cost is higher. Approximately $400.00-$450.00.
- Consist of a Saunders or similar traction device that utilizes a sliding track, with placement of the head on a pad that slides on a rail. This decreases the load necessary to produce traction force by eliminating most of the friction.

Stabilization is provided by a head strap and posterior pads that are tightened against the occiput and the mastoid processes.
- The patient pumps a pneumatic device to the desired level of tension as determined by the practitioner. The practitioner can use the pneumatic gauge to get a visual read on the amount of desired traction.
- No harness is used and there is no pressure on the mandible.
- Neck may be flexed for positioning

WALL or DOOR MOUNTED TRACTION UNITS

Over-the-door seated home traction may provide some relief. (Vernon in Conley 2000)

- Readily available in pharmacies and medical supply stores.
- Reasonably priced home treatment for patients with chronic neck problems, but often used incorrectly.

- Consist of a pulley, often mounted over a door.
- A plastic bag filled with water is utilized as a weight for appropriate tension.
- Requires the use of a halter and is often applied incorrectly with the patients back to the door which results in the head and neck being pulled into extension.

The patient should receive careful instructions and demonstrate in front of the practitioner. The patient should sit facing the door and try an initial weight of 8 pounds for women and 10 pounds for men. Work up to 20-30 pounds. The neck is in some cervical flexion. The angle of the rope is about 20-30 degrees from the vertical. The traction should be applied for 15-20 minutes once or twice a day. If neck pain or peripheral symptoms should increase, the patient must immediately discontinue the procedure. (Murphy 2000)

Effectiveness
In one retrospective review of patients treated with an overhead home traction device, 10/58 patients were diagnosed with cervical radiculopathy. 9/10 were considered to be “improved” by the last visit. (Swezey 1999)

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