



Canine Rehab Shop
All Things Rehab

Carpal Arthrodesis (complete and partial) Rehabilitation Guidelines

Description:

Used for the treatment of post-operative carpal arthrodesis

Precautions:

Orthopedic Precautions

Goal:

Return to patient to the highest level of pain-free function

Activity Restrictions:

Follow Orthopedic Precautions until patient has been cleared for full return to function

Treatment Frequency:

Twice daily in hospital; twice weekly for weeks 1-2; twice weekly for weeks 3-8; once weekly until patient has been cleared for full return to function

Treatments in Hospital:

1. Limb elevation, paw elevated slightly above greater trochanter
2. Electrical stimulation two spine segments cranial to the innervation of the surgical joint: 5Hz, 160 pulse width, burst mode, 30 minutes, to mild twitch
3. Laser 8J/cm² directly over surgical joint and soft tissues surrounding joint. Avoid laser directly over the surgical stabilization plate.
4. Effleurage distal to proximal over surgical joint, 5 minutes
5. Cold compression x 30 minutes

Treatment Weeks 1-2:

1. Limb elevation, paw elevated slightly above greater trochanter
2. Electrical stimulation two spine segments cranial to the innervation of the surgical joint: 5Hz, 160 pulse width, burst mode, 30 minutes, to mild twitch
3. Laser 8J/cm² directly over surgical joint and soft tissues surrounding joint. Avoid laser directly over the surgical stabilization plate.
4. Effleurage distal to proximal over surgical joint, 5 minutes
5. Passive range of motion of digits, elbow and shoulder x 25 (these joints will need to compensate for the loss of range of motion at the carpus)
6. Passive stretch of Latissimus dorsi, Triceps muscle group and Biceps brachii
7. Cold compression to surgical joint, 30 minutes

8. Underwater treadmill to allow carpal flexors to contract eccentrically in partially weight bearing environment. Water height should be high enough that no hypermobility is noted in the weight bearing phase of gait. If unable to achieve normalization in stance phase, use support wrap during UWT sessions until muscular stability is achieved. Treadmill speed should remain slow enough to avoid excessive terminal stance phase position as this may be too much load for the carpal flexors in the early phases of healing.

Treatments Weeks 3-8:

1. Underwater treadmill to allow normalization of gait in partial weight bearing environment. Water shoulder height. Treadmill speed should remain slow enough to avoid excessive terminal stance phase position as this may be too much load post-operatively.
2. Home exercise program twice daily to promote AROM of the shoulder, elbow and digits: "shake" x 15; crawling x 25 feet; passive stretch of Latissimus dorsi, Triceps and Biceps brachii

Treatments Weeks 9-return to function:

*As surgical site heals, slowly increase load through the carpus

1. Underwater treadmill to allow normalization of gait in partial weight bearing environment. Slowly lower water height to promote increased AROM of the shoulder and elbow. Slowly increase speed to promote functional compensation of the digits, elbow and shoulder.
1. Home exercise program to promote concentric contractions of the carpal and digital flexors with progressively increasing resistance: early phase may include digging for cookie under a blanket on a slick surface; intermediate phase may include digging in dry sand; advanced phase may include digging in wet sand; when cleared for full return to function, begin Graded Return to Activity Schedule.

Treatments Weekly:

***If patient is still unable to demonstrate consistent normalization of carpal extension range of motion in the UWT, continue with week 3-8 treatments.**

1. Underwater treadmill slowly lowering the water height to increase load to the carpal flexors.
2. Home exercise program: When carpal flexors are able to handle the load of the body in water below elbow height, shift to Return to Activity Schedule with the orthotic or carpal support in place. When the patient is able to complete full return to activity with the orthotic or carpal support in place, begin Phase I of the Return to Activity Schedule with the support device off. If there are no signs of exacerbation, continue until full return to function is achieved. In some cases, the patient may not be able to return to full function without a carpal support.