



An Affiliate of Baptist Health Care

REHAB PROTOCOL CERVICAL FUSION

GENERAL PRINCIPLES / PRECAUTIONS

- Limit lifting per MD orders for proper amount of time after surgery.
- Avoid postures and movements that stress fused segments.
- Implement safe and appropriate mobility treatments to the thoracic and upper cervical spine to prevent stiffness in the unfused segments.
- This protocol, as well as most others, is a general guideline. Patients should not be progressed to the next phase until they demonstrate proper form with all activities and all criteria are met in the current phase.
- Rehabilitation may be started at different times post-operatively. Exercises / treatment should be prescribed based on time since from surgery and patient functional levels.
- When clinically appropriate, properly assess the whole body and incorporate treatment for loss of mobility and stability. Not doing so can prevent optimal outcomes and increase risks of future injuries.

IMMEDIATE POST OPERATIVE PHASE (Weeks 1-2)

- **Goals:**
 - Retard muscular atrophy
 - Decrease / minimize pain, muscle spasm and fascial binding
 - Educate in prevention, proper body mechanics and postures
- **Treatment (Days 1-7)**
 - Focus on cervical / scapular stabilization and thoracic spine mobility. The key to getting off to a good start includes sound training of deep cervical flexors using proper verbal and tactile cues
 - Supine lying head nod
 - Two pillows is often helpful at first
 - Cue patient to minimize use of SCM
 - C-spine isometrics x 4
 - Shoulder retractions
 - Thoracic mobility
 - Start in lower and mid thoracic areas
 - Manual interventions and exercise
 - Education in neutral spine body mechanics for sitting, standing, and bending.
 - Soft tissue mobilization, modalities as needed for spasm, fascial binding and pain
- **Treatment (Days 8 – 14)**
 - Continue week 1 exercises and add
 - Light rotator cuff and scapular strengthening exercises
 - Continue STM and modalities as needed
 - Continue postural / body mechanics education as needed

MODERATE PROTECTION PHASE (weeks 3-6)

- **Goals**

- Progress stabilization and general conditioning exercises
- Assess and safely treat other areas for loss of mobility and stability including core and lower extremities.
- **Treatment (Weeks 3 – 4)**
 - Continue exercises / STM / modalities from previous phase as needed
 - Arm bike – light resistance
 - Seated / standing cervical retraction
 - Incorporate this in other exercises as precursor movement
 - Theraband Rows
 - Theraband shoulder extension
 - Theraband bilateral shoulder ER
 - Theraband dynamic hugs
 - Open book
 - Pec stretch
 - Lat stretch
 - Thoracic mobility
 - Progress up T-spine towards C-spine as tolerated
 - Manual intervention and exercise
 - Upper Cervical mobility
 - Exercise and manual treatments to maintain Atlanto-occipital flexion and C1-C2 rotation
 - Assess other areas of the body for therapeutic needs
- **Treatment (Weeks 5 and 6)**
 - Many of the exercise in weeks 3 and 4 will be continued in 5 and 6 but the complexity of the movements will be increased to improve reactivity of deep cervical flexors muscles and overall conditioning
 - Standing arm bike or Elliptical
 - Machine rows
 - Theraband shoulder flexion, scaption, and abduction
 - Theraband shoulder horizontal abduction (T's)
 - Theraband scaption for lower trapezius (Y's)
 - Theraband ER at 90 degrees abduction (L's)

MINIMAL PROTECTION PHASE (weeks 7-12)

- **Goals**
 - Promote increasing overall conditioning, strength and deep cervical flexor endurance
 - Advance exercises in preparation for the return to activity phase
- **Treatment**
 - Elliptical
 - Prone cervical extension
 - Prone T's, Y's, and L's
 - Sports / vocation specific exercises

DISCHARGE TESTING / PLANNING (usually after 3-4 months post-op)

- Based on a patient's age, sex, specific sport / activity, and level (i.e. recreational, amateur, professional) that they are returning to, a decision is made to endorse their return to sport or to ask that the patient refrain from doing so. Currently we strive for the following criteria before fully endorsing going back to more activities:
 - Demonstrate quality and symmetrical movement throughout the body evaluated with comprehensive movement screen or assessment process
 - Symmetrical and acceptable comprehensive scores on CKC UE testing
 - Be within one standard deviation of established norms for deep cervical flexor endurance testing.
- Biomechanical assessment of their performance helps safe return to sport / higher level activity. Patient's may be videoed and analyzed doing activities such as throwing or hitting to see if sound body mechanics are being utilized.
- Not all patients who have undergone cervical fusion are candidates for functional testing. Those undergoing these tests should be chosen with proper consideration given to what they plan to return to and there general fitness level.
- No matter how well a patient is doing with return to sport testing it is prudent to remember how important time is to full healing and safe return to sport / activity.
- Often times, patients are scheduled periodically during the phase in which they are trying to return to sport / higher level activities to assess their progress and properly change their program until they are deemed safe to return to all activities.