Post-op Cervical Fusion Protocol

(Anterior or Posterior)

Weeks 4-8	Weeks 8-10
Initial Evaluation	**Evaluate**
➢ History of injury/Premorbid activity level ➢ Incisional integrity/Inspect for infection ➢ Cervical AROM (to discomfort only) ➢ Myotomes, dermatomes, DTR's ➢ Assess functional expectations or RTW ➢ Generally de-brace at 6 weeks, physician directed. ➢ Assess for upper motor neuron findings (Hoffman's, Babinski's, and clonus)	➢ Ability to display neutral head position ➢ Compliance with post op precautions ➢ ROM ➢ Strength: Upper extremity and periscapular ➢ Thoracic intervertebral joint mobility ➢ Review ADL/work tolerance and return to work plans
Patient Education	**Patient Education**
➢ Compliance with post op PRECAUTIONS: • No lifting greater than 5-10 lbs • No end range AROM, no PROM • No sitting or car rides greater than 30 minutes • No smoking, avoid NSAID's • Collar/ de-brace as directed ➢ Body mechanics for lifting and ADL's ➢ Sleeping positions/postures ➢ Neutral head positions to prevent postural irritants and neural tension	➢ Continued compliance with post op precautions ➢ Progress ADL, lifting and car riding as patient tolerates ➢ Continued postural awareness for neutral posture and sleeping positions
Therapeutic Exercise*	**Therapeutic Exercise***
➢ UBE - NO RESISTANCE (must be pain free/start at 6 weeks) ➢ Treadmill progression, walking program ➢ Strength • Supine core stabilization – No bridging • Scapular retraction, chin tucks • Upper quadrant resistive bands/pulleys to focus on postural stability – low resistance ➢ Aquatics • When incision is well healed, walking activities with UE movements • Cardiovascular – deep water cycling ➢ Work simulation • Begin ergonomic postural education and endurance	➢ ROM • Pain free AROM ➢ Strength • Progress core stabilization in sitting and standing • Increase resistance with band/pulleys with focus on postural stability • Gradually increase resistance on UBE as tolerated • Begin PRE's with 1-2 lbs for scapular and shoulder strength • Cervical stabilization exercises for deep neck flexors/extensors as needed ➢ Aquatics • Begin resistive devices in UE's ➢ Work Simulation • Lifting simulation with 5-10 lbs
Manual Techniques	**Manual Techniques**
➢ Thoracic spine – Grade I mobilization as indicated ➢ Soft tissue mobilization: • Gentle scar mobilization once incision healed • Decrease muscle guarding and soft tissue restrictions ➢ Neural glides as needed, do not reproduce symptoms	➢ Thoracic Joint mobilization: Gr I-II, may use wedge ➢ Soft tissue mobilization: Cervical, periscapular, upper thoracic musculature as needed
Goals	**Goals**
➢ Understand post-op precautions ➢ Postural awareness with neutral head position ➢ Independence with HEP and walking program ➢ Minimize swelling and pain ➢ Return to work target date, consider restrictions and ergonomics of the work place	➢ Independent with body mechanics for ADL's ➢ Independent with HEP and walking program
* Exercises within each category are to provide the clinician with examples based on evidence based research, but are not all inclusive	

Weeks 10-12	Weeks 12 - Discharge
Evaluate	**Evaluate**
➢ Cervical ROM ➢ Strength: Upper extremity and periscapular ➢ Assess return to work/recreation goals	➢ AROM and PROM in all directions ➢ Strength: Upper extremity and periscapular ➢ Assess return to work/recreation goals
Patient Education	**Patient Education**
➢ Progress ADL and lifting tolerance with proper mechanics ➢ Continue postural awareness with neutral posture with functional tasks and static positions ➢ Body mechanics with work specific activities with neutral posture	➢ Progress lifting tolerance with proper mechanics ➢ Progress body mechanics with work/sports specific activities with neutral posture
Therapeutic Exercise*	**Therapeutic Exercise**
➢ ROM • Progress AROM in all directions ➢ Strength • Progress core strengthening as tolerated • Increased resistance with upper extremity stabilization exercises as tolerated • Dynamic, multiplane exercises • Increase lifting tolerance up to 25# ➢ Cardiovascular • May progress to elliptical	➢ ROM • Progress AROM in all directions ➢ Strength • UE and LE strengthening exercises as tolerated • Progress core stabilization in multiplane • Elliptical training, treadmill • May begin straight line jogging • Begin plyometric exercises as tolerated (with physician approval) ➢ Work simulation • Increase lifting as tolerated
Manual Techniques	
➢ Joint mobilization. No joint mobilization within 2 segments of fusion ➢ Soft tissue mobilization: as needed	➢ Joint mobilization: as needed. No joint mobilization within 2 segments of fusion ➢ Soft tissue mobilization: as needed
Goals	**Goals**
➢ Full functional ROM of cervical spine ➢ Able to demonstrate neutral spine posture in static and dynamic activities ➢ Independent with pain management strategies	➢ Return to work ➢ Gradual return to sports as tolerated (with physician approval) ➢ Full functional ROM of cervical spine ➢ Able to demonstrate neutral spine posture in static and dynamic activities ➢ Independent with pain management strategies
* Exercises within each category are to provide the clinician with examples based on evidence based research, but are not all inclusive	

References

1) A. Peolsson, B. Oberg, J. Wibault, A Dedering, P.Zsigmond, L. Bernfort, A Kammerlind, L. Persson, H. Lofgren. "Outcome of Physiotherapy After Surgery for Cervical Disc Disease: A Prospective Randomized Multi-centre Trial" BioMed Central Ltd. 2014.