

## Acute Spinal Cord Injury (Quadriplegia/Paraplegia) Therapy Guideline

### Goals for the care of a SCI Patient:

1. Level of spinal cord injury is confirmed and communicated to entire healthcare team
2. Prevent harm events (HAI, pressure ulcers, etc)
3. Promote an environment of safety (adequate method to communicate needs, adaptive call system for nurse, and interventions to prevent falls)
4. Patient and family will receive education regarding injury and plan of care
5. Facilitate timely discharge
6. Prevent Readmissions

### Trauma Alert / Admission

- ATLS protocol work-up
  - Airway/Breathing:
    - Assess need for intubation
    - If needed, Rapid Sequence Intubation per ORMC ED protocol with HiLo Evac ET-Tube
    - Sedation (*if intubated*): Fentanyl drip 50 mcg/h IV continuous – titrate to keep SAS 3-4  
Lorazepam 1-2 mg IV Q1H prn agitation/anxiety (SAS > 4)
  - Circulation
    - Goal MAP > 80
    - “Labile” response to fluid challenge – maximum 2 L NS bolus
    - Norepinephrine 0.05 mcg/kg/min titrate to keep MAP > 70
- Immobilize the spine of all patients with a potential spinal injury
- Remove backboard within 3 hours of placement
- ACLS protocol if needed
- Complete detailed history/physical
- Obtain initial labs: Trauma A, ABG
- Baseline CXR
- Baseline EKG
- Baseline Respiratory Mechanics: NIF, FVC, TV
- Pain management (*non-intubated*) : Fentanyl 50-100 mcg IV q1h prn pain OR Morphine 1-5 mg IV q1h prn pain
- Admission Orders
  - Utilize the “Spinal Cord Injury Admission Order Set”
  - Addresses all systems (respiratory, CV, skin, VTE prophylaxis, GI, bowel regimen, standard ICU orders)
  - In the ED, transfer the patient with potential spinal injury as soon as possible off the backboard onto a firm padded surface/mattress while maintaining spinal alignment

### Admission Units

- All traumatic spinal cord injured patients are admitted to designated units (NSICU, TICU, TSD, NSD, or 10NT only)
- All cervical spinal cord injuries with deficits are initially admitted to NSICU or TICU for close respiratory monitoring
- Lower spinal cord injured patients (thoracic/lumbar) with deficits are admitted to any of the described units depending on clinical stability and need of monitoring
- Patients with complete or incomplete quadriplegia are only transferred to TSD when stabilized after ICU admission and are not to be transferred to any med-surg level unit without a designated respiratory therapists

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	<b>Phase 1 Critical Care Unit</b>	<b>Phase 2 Step down or Med/Surg</b>
<p><b><u>Neurological Status</u></b>  <i>Goals:</i></p> <ul style="list-style-type: none"> <li>Define level of injury</li> <li>Set a baseline for sensory, motor, &amp; reflex status</li> </ul>	<ul style="list-style-type: none"> <li>Consider use of the Rotorest bed for patients who will require prolonged spine immobilization</li> <li>Document sensory, motor, and reflex status within first 24 hours to ICU and then Q24H x 3 days</li> <li>Neurosurgery/Attending to communicate level of injury to patient and family</li> <li>Basic neuro assessment by nursing per unit protocol</li> <li>Repeat neuro assessments after any transfer for reduction movements</li> </ul>	<ul style="list-style-type: none"> <li>Continue current care</li> <li>Basic neuro assessment by nursing per unit protocol</li> </ul>
<p><b><u>Respiratory System</u></b>  <i>Goals:</i></p> <ul style="list-style-type: none"> <li>Decrease/prevent atelectasis</li> <li>Enhance clearance of secretions</li> <li>Prevent pneumonia</li> </ul>	<p><b><u>Monitoring parameters:</u></b> (monitor per ICU protocol)</p> <ul style="list-style-type: none"> <li>Fever (Temperature &gt; 38.5°C)</li> <li>Change in respiratory rate</li> <li>Increased work of breathing</li> <li>Increased pulse rate</li> <li>Increase or change in secretions (color, quantity, consistency)</li> <li>Declining respiratory mechanics</li> <li>Decrease in SaO<sub>2</sub></li> </ul> <p><b><u>Standard Monitoring Orders:</u></b></p> <ul style="list-style-type: none"> <li>Respiratory: FVC, NIF, &amp; Peak Flow Q-SHIFT</li> <li>Vital signs per ICU protocol</li> <li>Non-intubated: Incentive spirometer readings Q1H</li> </ul> <p><b><u>Ventilator Orders:</u></b></p> <ul style="list-style-type: none"> <li>Mechanical ventilator orders per RT/SCC protocol</li> <li>Consider using higher tidal volumes (10-15 ml/kg) to resolve or prevent atelectasis</li> <li>Begin weaning ventilator per protocol</li> </ul> <p><b><u>Standard Respiratory Care for all VENTILATED SCI Patients:</u></b></p> <ul style="list-style-type: none"> <li>VAP protocol (oral care Q4H, HOB&gt;30°, etc)</li> <li>Peridex oral rinse 15mL swish &amp; suction Q12H</li> </ul>	<p><b><u>Monitoring parameters:</u></b> (per unit protocol)</p> <ul style="list-style-type: none"> <li>All quadriplegic patients are only to be transferred to TSDU due to high risk of respiratory deterioration and availability of respiratory therapist</li> <li>Same as Phase 1</li> <li>Respiratory &amp; ST to assess need for in-line Passy Muir Valve (PMV)</li> </ul> <p><b><u>Standard Monitoring Orders:</u></b></p> <ul style="list-style-type: none"> <li>Respiratory: FVC, NIF, &amp; Peak flow Q-SHIFT (decrease to Q24H if stable x 72 hours)</li> <li>Vital signs per unit protocol</li> <li>Non-intubated/trached: Incentive spirometer readings Q1H</li> </ul> <p><b><u>Ventilator Orders:</u></b></p> <ul style="list-style-type: none"> <li>Continue weaning per protocol</li> <li>Consider larger TV ventilation</li> </ul> <p>For C1-C4 quadriplegics, consider diaphragmatic pacer placement to facilitate ventilator weaning (</p> <p><b><u>Standard Respiratory Care for all VENTILATED SCI Patients:</u></b></p> <ul style="list-style-type: none"> <li>Continue current care</li> <li>If minimal to no secretions, change albuterol to PRN</li> </ul>

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	<ul style="list-style-type: none"> <li>• Metaneb Q4H</li> <li>• Cough Assist Q4H following Metaneb if PEEP &lt;5 cm H2O</li> <li>• Consider Vest Therapy Q4 hours if can't tolerate Metaneb</li> <li>• Albuterol 2.5mg/3mL nebulized Q4H</li> <li>• Abdominal binder when OOB to chair</li> <li>• Assess need for respiratory suctioning frequently to avoid mucous plugs</li> </ul>	<ul style="list-style-type: none"> <li>• Discontinue peridex when patient is tolerating oral diet</li> </ul>
	<b>Phase 1 Critical Care Unit</b>	<b>Phase 2 Step Down or Med/Surg</b>
<u>Respiratory System (continued)</u>	<p><b>Standard Respiratory Care for all <u>NON-VENTILATED SCI Patients WITHOUT evidence of respiratory compromise/disease:</u></b></p> <ul style="list-style-type: none"> <li>• Monitor for need for mechanical ventilation (respiratory failure, intractable atelectasis on CXR, weakening voice, etc)</li> <li>• Incentive Spirometry Q1-2 hours</li> <li>• EZ-PAP Q4H</li> <li>• Cough Assist Device Q4H following EZ-PAP</li> <li>• Albuterol 2.5mg/3mL nebulized Q4H prn increased secretions</li> </ul> <p><b><u>NON-VENTILATED SCI Patients “aggressive protocol” WITH history of smoking/respiratory disease OR increased secretions / change in pulmonary function:</u></b></p> <ul style="list-style-type: none"> <li>• Assess need for NT suctioning</li> <li>• Discontinue EZ-PAP</li> <li>• Metaneb Q4H</li> <li>• Cough Assist Device Q4H following Metaneb</li> <li>• Albuterol 2.5mg/3mL nebulized Q4H</li> <li>• Abdominal binder when OOB to chair</li> </ul>	<p><b>Standard Respiratory Care for all <u>NON-VENTILATED SCI Patients WITHOUT evidence of respiratory compromise/disease:</u></b></p> <ul style="list-style-type: none"> <li>• Continue current care</li> <li>• Discontinue albuterol if not needed for &gt; 72 hours</li> </ul> <p><b><u>NON-VENTILATED SCI Patients on “aggressive protocol”</u></b></p> <ul style="list-style-type: none"> <li>• Assess need for NT suctioning</li> <li>• Continue current care</li> <li>• When improved mechanics, switch Metaneb to EZ-PAP</li> <li>• If minimal to no secretions, change albuterol to PRN</li> </ul>
	<p><b><u>Thick Secretions</u></b></p> <ul style="list-style-type: none"> <li>• Add heated humidification to ventilator circuit</li> <li>• 3% Normal Saline or Mucomyst nebulized Q4H or Q6H (consider adding bronchodilator due to bronchospasm risk)</li> </ul>	<p><b><u>Thick Secretions</u></b></p> <ul style="list-style-type: none"> <li>• Continue current therapy</li> <li>• Discontinue Mucolytics when secretions become thin</li> </ul>

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	<ul style="list-style-type: none"> <li>Consider bronchoscopy/BAL</li> </ul>	
	<b>Phase 1 Critical Care Unit</b>	<b>Phase 2 Step Down or Med/Surg</b>
<p><b><u>Cardiac</u></b> <i>Goals:</i></p> <ul style="list-style-type: none"> <li>Restore normal hemodynamic parameters</li> <li>Goal MAP &gt; 80</li> <li>Goal HR &gt; 60</li> </ul>	<p><b><u>Monitoring Parameters</u></b></p> <ul style="list-style-type: none"> <li>Bradycardia (HR &lt; 60)</li> <li>Hypotension (MAP &lt; 80)</li> </ul> <p><b><u>Hypotension</u></b></p> <ul style="list-style-type: none"> <li>NS 2L IV – only for trauma bay resuscitation</li> <li>Norepinephrine 0.05mcg/kg/min – titrate to keep MAP &gt;80</li> <li>Maintenance of MAP &gt;80 x7 days following acute SCI may be recommended by neurosurgery to improve cord perfusion</li> <li>Midodrine 5 mg PO TID</li> <li>Apply Ted hose and ACE wraps to BLE prior to assisting OOB to chair – remove when back to bed</li> <li>SCDs while in bed</li> </ul> <p><b><u>Bradycardia</u></b></p> <ul style="list-style-type: none"> <li>Assess for presence of mucous plugs</li> <li>Ambu-bag with FiO<sub>2</sub> 1.0</li> <li>Atropine 0.5mg IV PRN HR &lt; 40</li> <li>Norepinephrine 0.05mcg/kg/min – titrate to keep MAP&gt;70</li> <li><i>If develops symptoms of bradycardia, consider starting:</i></li> <li>Robinul 0.1-0.2mg IV Q8H to Q12H (or Robinul 1-2mg PO/PT Q8H to Q12H)</li> <li>Caffeine 200mg PO/PT Q12h</li> <li>OR External pacing or temporary pacemaker for persistent symptomatic bradycardia</li> </ul>	<p><b><u>Monitoring Parameters</u></b></p> <ul style="list-style-type: none"> <li>Same as Phase 1</li> <li>Assess for signs and symptoms of Autonomic Dysreflexia (wrinkled linen, constipation, and full bladder)</li> </ul> <p><b><u>Hypotension</u></b></p> <ul style="list-style-type: none"> <li>Norepinephrine must be off prior to transfer from ICU</li> <li>Midodrine 5mg po TID (0800/1200/1600)</li> <li>Apply Ted Hose and ACE wraps to BLE prior to assisting OOB to chair – remove when back in bed</li> <li>SCDs while in bed</li> </ul> <p><b><u>Bradycardia</u></b></p> <ul style="list-style-type: none"> <li>Continue aggressive pulmonary toilet</li> <li>Robinul 0.1-0.2mg IV Q8H to Q12H (or Robinul 1-2mg PO/PT Q8H to Q12H)</li> <li><i>If not responding to Robinul or an adverse event to Robinul, may consider:</i></li> <li>Caffeine 200mg PO/PT Q12H</li> <li>Consider permanent pacemaker for persistent bradycardia or frequent asystole</li> </ul>
	<b>Phase 1 Critical Care Unit</b>	<b>Phase 2 Step Down or Med/Surg</b>
<p><b><u>Gastrointestinal</u></b> <b><u>Goals:</u></b></p> <ul style="list-style-type: none"> <li>Normal gastric emptying</li> <li>Tolerate diet</li> <li>Scheduled BM</li> <li>Minimal diarrhea / constipation</li> </ul>	<p><b><u>Monitoring Parameters:</u></b></p> <ul style="list-style-type: none"> <li>If NG/PEG: check residuals Q4H – Goal &lt; 250mL</li> <li>Monitor for s/sx N/V</li> <li>Goal 1 BM daily – document on nursing flowsheet</li> <li>Assess abdomen for s/s of ileus</li> </ul>	<p><b><u>Monitoring Parameters:</u></b></p> <ul style="list-style-type: none"> <li>Same as Phase 1</li> </ul>

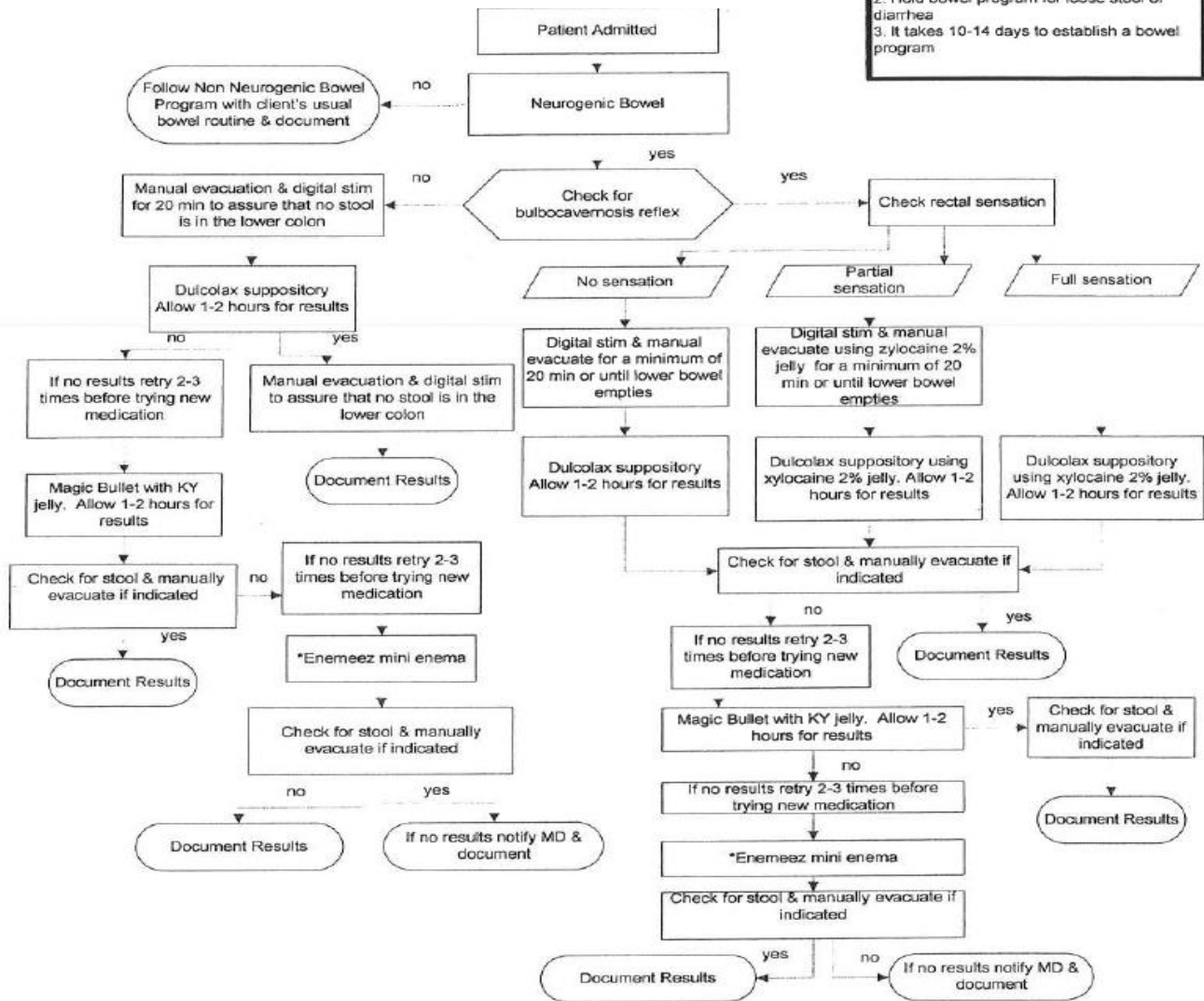
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Review OH Bowel Training Flow Chart (next page)	<p><b><u>Stress Ulcer Prophylaxis:</u></b></p> <ul style="list-style-type: none"> <li>• Pepcid 20mg IV/PT/PO Q12H</li> </ul>	<p><b><u>Stress Ulcer Prophylaxis:</u></b></p> <ul style="list-style-type: none"> <li>• Continue as long as the patient remains on the ventilator</li> <li>• Discontinue when the patient is off the ventilator and tolerating tube feeds at goal or regular diet x 48 hours</li> </ul>
	<p><b><u>Gastric Emptying / Tube Feeding Intolerance (residuals &gt;250mL/4h):</u></b></p> <ul style="list-style-type: none"> <li>• If PEG/NG feeding – change to post-pyloric DHT (placed into the duodenum)</li> <li>• If persistent high residuals, add a prokinetic agent (e.g. metoclopramide, erythromycin, etc)</li> </ul>	<p><b><u>Gastric Emptying / Tube Feeding Intolerance (residuals &gt;250mL/4h):</u></b></p> <ul style="list-style-type: none"> <li>• Continue to monitor residuals</li> <li>• Discontinue prokinetic agent when the patient is at goal tube feed rate x 48 hours with residuals &lt; 250 mL/4h</li> </ul>
	<p><b><u>Bowel Regimen – Prevent/Treat Constipation:</u></b></p> <ul style="list-style-type: none"> <li>• Per Tube: Senna 10mL PT Q12H Docusate Sodium (Colace) 100mg PT Q12H</li> <li>• PO: Senna-S 2 Tabs PO Q12H</li> <li>• Bisacodyl 10mg PR Daily (2000) with digital stimulation – only discontinue if excessive diarrhea</li> </ul> <p><i>If No BM by 72 hours after admission:</i></p> <ul style="list-style-type: none"> <li>• Sorbitol 30mL PO/PT Q12H until 1st BM</li> <li>• Increase Bisacodyl (Dulcolax) to Q12H</li> <li>• Miralax 17g PO/PT daily</li> </ul>	<p><b><u>Bowel Regimen – Prevent/Treat Constipation:</u></b></p> <ul style="list-style-type: none"> <li>• If no diarrhea and having daily BM, continue current regimen</li> <li>• Switch to PO regimen if patient transitions from tube feeds to oral diet</li> <li>• Follow Phase 1 recommendations for constipation</li> </ul>
	<p><b><u>Diarrhea (liquid &gt;500mL q8h and/or &gt;3 stools/day for 2 days):</u></b></p> <ul style="list-style-type: none"> <li>• Hold bowel regimen</li> <li>• Metamucil 1pkt PO/PT Q12H</li> </ul>	<p><b><u>Diarrhea (liquid &gt;500mL q8h and/or &gt;3 stools/day for 2 days):</u></b></p> <ul style="list-style-type: none"> <li>• Same as Phase 1</li> <li>• Resume Docusate Sodium (Colace) &amp; Bisacodyl (Dulcolax) 1st – then add Senna if constipation becoming an issue</li> </ul>

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## Nursing Bowel Training Flow Chart

**Note:**  
 1. Pt. should be on oral stool softners to allow for formed stool .  
 2. Hold bowel program for loose stool or diarrhea  
 3. It takes 10-14 days to establish a bowel program



- Note: digital stimulation is performed by inserting index finger to the first bend in client's rectum and rotating finger in clockwise motion
- Manual evacuation = using index finger, remove stool from the lower bowel
- Document the stool amount, the consistency and odor and the amount of assistance given by the patient
- No patient especially spinal cord patients should be allowed to have unsuccessful bowel programs for more than 48-72 hours. If they do not have autonomic dysreflexia, which is very likely to occur, use 3 Dulcolax tablets or magnesium citrate to clean them out immediately
- All documentation should be in sunrise on the bowel program and assessment flow sheet or on the bowel program training form and daily flow sheet
- If a patient is having accidents, the bowel program is not effective. Discuss with MD.
- After an accident have patient return to room to stimulate and empty bowel.
- Try all suppositories for 2-3 programs before changing to another
- \*If patient experiencing pain and/or dysreflexia with bowel program, use Enemeez Plus mini enema which includes an analgesic

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	Phase 1 Critical Care Unit	Phase 2 Step Down or Med/Surg
<p><b><u>Nutrition</u></b> <i>Goal:</i></p> <ul style="list-style-type: none"> <li>• Maintain or improve nutritional status</li> <li>• Minimize weight loss</li> </ul>	<ul style="list-style-type: none"> <li>• Consult Speech Therapy for swallow evaluation prior to initiating any oral intake in any SCI patient with cervical spinal cord injury, prolonged intubation, tracheostomy, halo fixation, or after any cervical spine surgery.</li> <li>• Obtain feeding access and initiate enteral support within 48 hours</li> <li>• Dietitian consult for intervention to assess for calorie and protein needs</li> <li>• Consider metabolic cart and 24 hour urine studies</li> <li>• Prealbumin qSunday until therapeutic/stable</li> <li>• Maintain normoglycemia (Blood Glucose &lt; 180)                             <ul style="list-style-type: none"> <li>○ Bedside glucose Q6H on enteral nutrition</li> <li>○ Bedside glucose AC/HS on oral diet</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Continue current diet orders</li> <li>• Dietitian to continue to monitor/intervene as per consult</li> <li>• Transition to oral diet with oral supplements when passes swallow study for tracheostomy patients</li> <li>• Discontinue sliding scale insulin &amp; bedside glucose measurements if all &lt; 180 x 24hours on full enteral or oral diet</li> </ul>
<p><b><u>Bladder</u></b> <b><u>Goals:</u></b></p> <ul style="list-style-type: none"> <li>• No CAUTI</li> <li>• Prevent autonomic dysreflexia</li> </ul>	<ul style="list-style-type: none"> <li>• Insert Foley catheter due to neurogenic bladder</li> <li>• Daily Foley cath care with soap and water or packaged washcloth per unit standards</li> <li>• Assess Foley catheter Q1H – ensure urine draining freely and tubing free of kinks</li> <li>• Consider removing foley catheter when no longer on IVF, total intake is no more than 2L/24 hours, and no diuresis is present</li> <li>• Begin routine straight catheterization Q4-6 hours</li> <li>• Goal is to obtain no more than 400ml per straight cath</li> <li>• Condom cath is not recommended initially</li> <li>• Bladder scanning only recommended for any spontaneous voids in between straight cath regimen</li> </ul>	<ul style="list-style-type: none"> <li>• Discontinue Foley catheter if no longer requiring IVF</li> <li>• Do not use condom cath</li> <li>• Sterile Straight cath every 4-6 hours</li> <li>• Goal is to obtain 400 ml per straight cath</li> <li>• If &gt; 400 increase to every 4 hours</li> <li>• If &lt; 400 cath in 6 hours</li> <li>• Bladder scan for any spontaneous voids in between routine straight catheterization and straight cath if residual urine volume &gt;250 ml</li> <li>• Assess patient readiness to learn self-straight catheterization daily</li> </ul>
<p><b><u>Skin Care/Prevention</u></b> <i>Goals:</i></p> <ul style="list-style-type: none"> <li>• Place appropriate cervical collar</li> <li>• Prevent pressure ulcers</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Cervical Collar                             <ul style="list-style-type: none"> <li>○ Remove EMS collar</li> <li>○ Place Aspen Vista cervical collar or as ordered per neurosurgery</li> <li>○ Cervical collar care per Orlando Health standard</li> </ul> </li> <li>• Consult Wound Management</li> <li>• Initiate the Pressure Ulcer Prevention Order Set                             <ul style="list-style-type: none"> <li>○ Minimal sheets under patient</li> <li>○ Moisturize dry skin q12h</li> <li>○ Moisture barrier q12h</li> <li>○ Turn q2h while in bed using foam wedge for lateral positioning</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Continue current skin care measures</li> <li>• Cervical collar care per Orlando Health standard</li> <li>• Low air loss/pressure redistribution mattress or as determined by the interdisciplinary team for function and prevention</li> </ul>

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	<ul style="list-style-type: none"> <li>○ Weight shift/reposition q15-30min while up in chair</li> <li>○ Assess skin qshift and prn</li> <li>● Place on low air loss mattress/pressure redistribution after spine stabilization and neurosurgical clearance</li> <li>● Place Mepilex Sacral Silicon Dressing to coccyx/sacrum – reassess Q-shift and change Q-3-5 days and prn</li> </ul>	
	<b>Phase 1 Critical Care Unit</b>	<b>Phase 2 Step Down or Med Surg</b>
<p><b><u>PT/OT/ST Rehabilitation &amp; Mobility Plan</u></b>  <i>Goals:</i></p> <ul style="list-style-type: none"> <li>● Increase functional ability</li> <li>● Minimize contractures, etc.</li> </ul>	<ul style="list-style-type: none"> <li>● Consult PT/OT/ST</li> <li>● Obtain proper environmental controls.</li> <li>● Post Education sheets in room.</li> <li>● Apply Prevalon boots to bilateral lower extremities – remove Q-shift and moisturize skin</li> <li>● Out of bed to wheelchair (W/C)Q24H managing physicians &amp; neurosurgery approves as patient tolerates <ul style="list-style-type: none"> <li>○ Roho cushion at all times in chair when OOB</li> <li>○ Pressure relief protocol when pt in W/C (recline fully every 30 min for 60 sec and return to full upright).</li> </ul> </li> <li>● Passy Muir Valve (PMV) trials as soon as pt can tolerate even short periods of wear.</li> <li>● Participate in family meetings.</li> <li>● Chest PT when pt sitting on edge of bed.</li> </ul>	<ul style="list-style-type: none"> <li>● PT/OT to assess need for orthotics for UE/LE</li> <li>● Respiratory &amp; ST to assess need for in-line PMV</li> </ul>
<p><b><u>VTE Prevention</u></b>  <i>Goal:</i></p> <ul style="list-style-type: none"> <li>● Prevent VTE</li> </ul>	<ul style="list-style-type: none"> <li>● SCD's to bilateral lower extremities</li> <li>● Chemical DVT prophylaxis with Heparin or Lovenox unless contraindicated</li> <li>● Consider IVC filter placement for high risk patients that are unable to receive chemical prophylaxis– no quad coughing for 3 days after placement</li> </ul>	<ul style="list-style-type: none"> <li>● Continue SCDs while in bed</li> <li>● Continue chemical DVT prophylaxis</li> <li>●</li> </ul>
<p><b><u>Psychosocial</u></b>  <i>Goal(s):</i></p> <ul style="list-style-type: none"> <li>● Foster effective coping strategies</li> <li>● Provide SCI education to patient &amp; family</li> </ul>	<ul style="list-style-type: none"> <li>● Consult Clinical Psychosocial Counseling</li> <li>● Consult Chaplain</li> <li>● Provide patient &amp; family with a packet on SCI education, communication, and steps of grief</li> <li>● Ensure proper call bell is within reach at all times</li> </ul>	<ul style="list-style-type: none"> <li>● Complete a baseline assessment of coping skills/ adjustment to injuries</li> <li>● Show <i>Understanding Spinal Cord Injury</i> video</li> <li>● Child life for patient (if &lt;18) or family (if siblings)</li> <li>● Pet Therapy</li> <li>● Volunteer Services for distraction</li> <li>● Adaptive equipment</li> <li>● Promote rest between MN and 0600</li> </ul>



## Acute Spinal Cord Injury (Quadriplegia/Paraplegia) Therapy Guideline

	Phase 1 Critical Care Unit	Phase Step Down or Med/Surg
<p><b><u>Pain/Spasticity</u></b>  <b><u>Treatment</u></b>  <b><u>Goals:</u></b></p> <ul style="list-style-type: none"> <li>• Attain adequate pain control</li> <li>• Minimize side effects associated with analgesic agents</li> <li>• Decrease post-SCI spasticity</li> <li>• Improve participation with PT/OT/ST/ADL</li> </ul>	<p><b><u>Monitoring Parameters</u></b></p> <ul style="list-style-type: none"> <li>• Pain score via visual/analog scale</li> <li>• SAS score (goal 4)</li> <li>• Spasticity – compliance with PT/OT</li> </ul> <p><b><u>Pain</u></b>  <b><u>Neuropathic Pain</u></b></p> <ul style="list-style-type: none"> <li>• Gabapentin 100mg PO/PTq8 x 24h, then 200mg PO/PT q8 x 24h, then 300mg PO/PT q8; may increase to max 2400mg/d over 2-3 weeks</li> </ul> <p style="text-align: center;"><b><u>OR</u></b></p> <ul style="list-style-type: none"> <li>• Pregabalin 75mg po q12h, may increase to max 300mg po q12h over 1-2 weeks (adjust for renal dysfunction)</li> </ul> <p><i>Consider the following if also treating depression:</i></p> <ul style="list-style-type: none"> <li>• Amitriptyline 25mg po qhs, may increase to max 100mg over 1 week</li> </ul> <p><b><u>Generalized Pain</u></b>  <i>Mild pain:</i></p> <ul style="list-style-type: none"> <li>• Acetaminophen 650mg PO/PT/PR Q6H prn pain</li> </ul> <p><i>Moderate pain:</i></p> <ul style="list-style-type: none"> <li>• PO: Hydrocodone 5/325mg 1-2 PO Q4H prn pain</li> <li>• Enteral: Lortab elixir 10-15 ml PT Q4H prn pain</li> </ul> <p><i>Severe pain:</i></p> <ul style="list-style-type: none"> <li>• Enteral: Oxycodone 5-10mg PT Q4H prn pain</li> <li>• PO: Percocet 5/325mg 1-2 PO Q4H prn pain</li> </ul> <p><b><u>Spasticity</u></b></p> <ul style="list-style-type: none"> <li>• Baclofen 10mg PO TID (while awake) – max 120mg/day</li> </ul>	<p><b><u>Monitoring Parameters</u></b></p> <ul style="list-style-type: none"> <li>• Same as Phase 1</li> </ul> <p><b><u>Pain</u></b>  <b><u>Neuropathic Pain</u></b></p> <ul style="list-style-type: none"> <li>• Continue to titrate medication as needed to specified maximum doses; if symptoms improve, consider weaning</li> <li>• Both gabapentin or pregabalin should be weaned off over 1-2 weeks before discontinuing</li> </ul> <p><b><u>Generalized Pain</u></b></p> <ul style="list-style-type: none"> <li>• If severe, intractable pain, may increase opioid dose – the goal, however, is to achieve control with lowest possible dose</li> <li>• Continue current therapy with the goal to wean or discontinue opioids and/or benzodiazepines as quickly as possible to minimize respiratory &amp; GI side effects</li> <li>• De-escalate patients (EX: from Percocet → tramadol) as soon as possible</li> </ul> <p><b><u>Spasticity</u></b></p> <ul style="list-style-type: none"> <li>• Monitor response to therapy (flexibility, ability to participate in PT/OT)</li> <li>• Initiate or titrate therapy as appropriate per Phase 1 recommendations</li> </ul> <p><i>If no response to baclofen:</i></p> <ul style="list-style-type: none"> <li>• Dantrolene 25mg PO Q24H – may titrate every 7 days to a max of 400mg/day</li> </ul>

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	<p><b><u>Muscle Relaxants</u></b></p> <ul style="list-style-type: none"> <li>• Robaxin 1000 mg po every 6 hrs PRN muscle spasms</li> <li>• Valium 5 mg po every 8 hrs PRN muscle spasms</li> <li>• Cyclobenzaprine 10mg PO Q8H PRN muscle spasms</li> </ul>	<p><b><u>Muscle Relaxants</u></b></p> <ul style="list-style-type: none"> <li>• Continue current therapy</li> <li>• Monitor response to therapy</li> <li>• Titrate to lowest possible dose</li> </ul>
	<p><b>Phase 1 Critical Care Unit</b></p>	<p><b>Phase 2 Step Down or Med/Surg</b></p>
<p><b><u>D/C Planning/Consults</u></b></p> <p><i>Goals:</i></p> <ul style="list-style-type: none"> <li>• Decrease readmissions</li> <li>• Increase capture rate</li> <li>• Decrease length of stay</li> </ul>	<ul style="list-style-type: none"> <li>• Consult Care Coordinator on admission</li> <li>• Educate patient and family on goals/progress/plan</li> <li>• SCI team huddle weekly             <ul style="list-style-type: none"> <li>○ Address on-going patient, family, and interdisciplinary team issues to better facilitate SCI patient care</li> <li>○ Educate patient &amp; family on goals, progress, plan</li> <li>○ Prior to transfer from one level of care to another, incorporate team members from the next level</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Continue discharge planning</li> <li>• SCI team huddle weekly (CNS / CNL Trauma-Stepdown to coordinate)             <ul style="list-style-type: none"> <li>○ Address on-going patient, family, and interdisciplinary team issues to better facilitate SCI patient care</li> <li>○ Educate patient &amp; family on goals, progress, plan</li> <li>○ Prior to transfer from one level of care to another, incorporate team members from the next level</li> </ul> </li> </ul>

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