

RAPP AUSTRALIA PTY LTD		
	<b>CERVICAL SPINE IMMOBILISATION APPLICATION OF NEANN IMMOBILISATION &amp; EXTRACTION JACKET (NIEJ)</b>	SKILL SHEET  NIEJ  Version 2.0  27 October 2010
<u>EQUIPMENT REQUIRED:</u>  3 x personnel (1 for head stabilisation, 2 to apply NIEJ); Cervical Collar; NIEJ (including jacket, 1 x yellow lumbar support, 2 x blue groin pads, 4 x red head pads, 1 x grey head pads, 1 x 25mm collar strap, 1 x 50mm forehead strap);		
Apply manual head stabilisation	1. Ensure manual head stabilisation is maintained during application of NIEJ, even once C-Collar is applied.	C-Collar only provides 50% C-spine.
Apply Cervical Collar	1. Refer to Current Service Protocols	
Prepare patient.	1. If appropriate, remove all bulky items from chest and pelvic pockets. 2. Inform and reassure patient of procedure.	Prevents discomfort of NIEJ.
Prepare NIEJ	1. Remove NIEJ from storage bag. 2. Open NIEJ flat ready for use. 3. Ensure all straps are tightly attached to NIEJ	Loose straps will come apart during insertion.
Insert NIEJ behind patient	1. Slightly rotate seat back or alternatively lean patient slightly forward of seat. 2. Insert NIEJ at a 45 degree angle behind patient. 3. Once in behind back, straighten up and ensure NIEJ is centered behind patient.	Essential for proper stability of NIEJ.
Insert lumbar padding	1. Roll up lumbar support pad to remove all air 2. Insert deflated lumbar support in curve of lumbar spine. 3. Lean patient back onto NIEJ.	Will assist to maintain natural curvature of lumbar spine, and help prevent lower back pain.
Position NIEJ	1. Ensure top of NIEJ is level with top of patients head and/or securely in armpits.	
Position groin straps	1. Release groin straps from back of NIEJ 2. Hold both groin straps together ensuring straps are not twisted. 3. Pull groin straps down together between the patient and the inside of chest flap. 4. Slide groin straps under one leg, zig zagging straps under leg until straps are in the gluteal fold. 5. Pull groin straps fully forward and leave.	Essential for proper stability of NIEJ and to prevent loosening of straps when leg position changes.

<p>Position chest flaps into place.</p>	<ol style="list-style-type: none"> <li>1. Raise arms to level with shoulders.</li> <li>2. Wrap chest flaps around chest.</li> </ol>	<p>To avoid upper spinal movement, do not raise arms above shoulder height.</p>
<p>Apply green shoulder straps:</p>		
<p>- Method 1: <i>Cross strapping (preferred method)</i></p>	<ol style="list-style-type: none"> <li>1. Bring left sided green strap over shoulder and connect to green strap buckle on right side of chest flap. Adjust to firm fit.</li> <li>2. Bring right sided green strap over shoulder and connect to green strap buckle on left side of chest flap. Adjust to firm fit.</li> </ol>	<p>Prevents NIEJ sliding down torso when groin straps are applied. If defibrillator pad needs to be applied, only one shoulder strap needs to be released thus maintaining best possible stability.</p>
<p>- Method 2 <i>Vertical strapping</i></p>	<ol style="list-style-type: none"> <li>1. Bring left sided green strap over shoulder and connect to green strap buckle on left side of chest flap. Adjust to firm fit.</li> <li>2. Bring right sided green strap over shoulder and connect to green strap buckle on right side of chest flap. Adjust to firm fit.</li> </ol>	<p>Method 2 is preferred if a shoulder injury exists.</p>
<p>Apply yellow chest strap.</p>	<ol style="list-style-type: none"> <li>1. Bring right sided yellow strap across chest and connect to yellow strap buckle.</li> <li>2. Place hand between strap and patients chest. Adjust yellow strap until a firm sensation is felt on hand.</li> </ol>	<p>Overtightening will cause respiratory compromise by up to 25%.</p>
<p>Apply red chest strap.</p>	<ol style="list-style-type: none"> <li>1. Bring right sided red strap across chest and connect to red strap buckle.</li> <li>2. Place hand between strap and patients chest. Adjust red strap until a firm sensation is felt on hand.</li> </ol>	<p>Overtightening may place unnecessary pressure on the abdominal organs.</p>
<p>Connect groin straps.</p>	<ol style="list-style-type: none"> <li>1. Slide a blue groin pad onto each black groin strap.</li> <li>2. Slide blue groin pads along black straps, ensuring blue groin pads contact sub-pubic area.</li> <li>3. Connect black groin straps to bottom black strap buckles on chest flap.</li> <li>4. Adjust black groin straps until firm.</li> </ol>	<p>Padding prevents groin strap discomfort that may occur during the extrication.</p>
<p>Recheck all torso straps.</p>	<ol style="list-style-type: none"> <li>1. Recheck green, yellow, red chest and black groin straps ensuring firm.</li> </ol>	

Apply head section.

- Ensure head is in the neutral in-line position:
1. Select correct number of red head pads and 1 x grey head pad to fill gap between NIEJ and occipital of skull.
  2. Ensure grey head pad is against patient's head.
  3. Slide head pads in between NIEJ and patients head. Bring head flaps forward and ensure velcroed into position.
  4. Apply 25mm Collar Strap by:
    - a) attach side hook velcro tabs to head flaps with sliders level with front of head flaps.
    - b) tighten strap by ensuring pad centred on collar (away from chin support), placing thumbs on centre of strap, and pulling both ends with equal pressure. Velcro into place.
 

*Or if no collar on patient*

 tighten strap by ensuring pad centered on maxilla just under nostrils, placing thumbs on center of strap, and pulling both ends with equal pressure. Velcro into place.
  5. Apply 50mm Forehead Head Strap by:
    - a) attach side hook velcro tabs to head flaps with sliders level with front of head flaps, ensuring forehead head strap bottom aligns with bottom of patients eyebrows.
    - b) tighten strap by ensuring pad centered on forehead, placing thumbs on center of forehead, and pulling both ends with equal pressure. Velcro into place.

Failure to maintain correct alignment may cause cervical spine hyperflexion or hyperextension injury.

Grey head pad is specially designed to improve head comfort

Pressure on the collar's chin support may clamp the mouth closed causing a potential airway compromise.

**PLEASE NOTE:**

**ONLY USE THE NIEJ LIFTING HANDLES IF ABSOLUTELY SURE THE GROIN STRAPS ARE PROPERLY SECURED.**

If head is immobilised, but the groin straps are not firm, using the lifting handles may cause a neck stretch with potential cervical spine injury.

If head is immobilised and groin straps are loose, lifting the NIEJ may result in neck stretching.