

# Manipulative Training Standards

## Instructor and Operator Manipulative Skills Evaluation Criteria

1. Follow the Operator or the Instructor Manipulative Skills Check List.
2. A minimum of 80% of the total possible score must be obtained in order to pass.
3. Timely application is required in order to demonstrate the student's proper skill level:

### **The following time limits must be used as a reference to evaluate the students:**

- a- XCollar application in Neutral Position with the patient seated. Max time: 1.0 min.
- b- XCollar application in Neutral Position with the patient supine. Max time: 1.5 min.
- c- XCollar application "In Position Found" with the patient supine. Max time: 2.0 min.
- d- XCollar application in Neutral Position supine with heavy clothing. Max time: 3.0 min.
- e- XCollar and Head Restraint System (HRS) application on Spinal Board. Max time: 4.0 min.
- f- Full spinal immobilization with XCollar, HRS and Spinal Board (Straps). Max time: 5.0 min.

### **Criteria for immediate corrective action:**

- a- Uneven bilateral adjustment: if side straps have been adjusted unevenly the student may correct by loosening one side and tightening the other to improve symmetry.
- b- Too much pressure or tension on the straps making the patient uncomfortable: loosening slightly on the straps as necessary would be appropriate.
- c- Chest Piece adjusted down too much: When the Chest Piece (CP) is adjusted downwards the padding must always protect the patient's skin. If the CP has been adjusted too far down the edges of the plastic may apply pressure on the Clavicles. The user may release the locks by holding them up and retracting the chest piece upwards.
- d- If the XCollar has been applied with not enough tension, the level of immobilization obtained is reduced. The user may retighten any of the straps to secure the splint firmly.

### **Criteria to determine if additional practice is needed prior to completion of final manipulative evaluation:**

- a- Chin has not been properly captured between padding and Chin Strap.
- b- Timely application is not achieved (more than 20% over referenced time limit).
- c- Excessive manipulation of the patient during application.
- d- Not being able to demonstrate airway management maneuvers.
- e- Failure to complete the final manipulative evaluation with a minimum score of 80%

## Teaching Tips for XCollar Plus Application XCollar Plus Trainer/ Evaluator Training

---

### Neutral Position:

1. Grip the anterior piece like a “baseball glove” and capture the chin, not too low or high.
2. Assure the occipital pad is placed behind the occipital ridge.
3. Adjust both Side Straps symmetrically using opposing forces (“push and pull”).
4. Slide chest piece making firm contact on upper chest. Ensure to avoid causing distraction to the spine (apply no traction or extension on the cervical spine).
5. Attach XStraps utilizing opposing forces (push and pull). It may be advantageous to reach across to deploy the XStraps to avoid your hands crossing at the end of the process.

### In Position:

1. Always follow local protocols when performing this type of application.
2. Grip the anterior piece like a “baseball glove” and capture the chin, not too low or high.
3. Assure the occipital pad is placed behind the occipital ridge.
4. Always tighten the “short side strap” first.
5. Slide chest piece asymmetrically making firm contact on upper chest. Ensure to avoid causing distraction to the spine (apply no traction or extension on the cervical spine).
6. Attach “Short Side” Xstrap first. Utilize opposing pressure (push and pull).

### Supine Position:

1. Grip the posterior piece while tucking the buckle tabs into the grooves. Hold it in place with one finger to avoid scratching the back of the patient’s head.
2. Insert the posterior piece at a 45° degree angle to midline using opposing forces. Grasp the clothing at the point of entry until the occipital padding is below the occipital ridge before rotating into position. The head should not move when rotating the XCollar into position!
3. If necessary use sawing motion to center Occipital pad under Occipital Ridge.
4. Continue to apply the XCollar using regular application process.

### Prone Position (Advanced Capability):

1. Always follow local protocols when performing this type of application.
2. Special care and attention must be utilized when performing this application. Slow down the application process to minimize movement and manipulation.
3. Apply the XCollar using the In Position application process.
4. After rolling patient to a supine position, reassess and readjust for proper application if needed.
5. If necessary, log roll patient to the supine position first, then apply the XCollar supine.

### Airway Management:

1. Loosen the chin strap to allow for correct seal of the BVM mask.
2. To perform endotracheal intubation, loosen Chin Strap, loosen XStraps, and loosen Side Strap to allow clearance to open airway using jaw thrust. Re-tighten following successful intubation.
3. Do not remove XCollar completely unless necessary.