Facemask, Headgear, and Helmet Removal:

Guidelines for the Medical Professional

Updated April 2023

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Acknowledgments

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Introduction

It is important to have a clear and practiced plan for the management and removal of protective equipment. **This document was created to contain guidelines on helmet, headgear, and facemask removal procedures, for licensed medical professionals, during medical emergencies**. The words and other content provided in these guidelines, in any linked materials or referenced resources ("referenced materials") are not intended and should not be construed as medical advice. It is not the purpose of this document to direct a licensed medical professional when a decision to remove the helmet, headgear, and facemask should be initiated.

We believe that the Healthcare providers who are responsible for caring for the lacrosse athletes should be familiar with the emergency action plan (EAP) of the host site and work with the local EMS to provide care for the potentially spine and/or head injured athlete. This document focuses on referenced materials to safely remove lacrosse facemasks, headgear, and helmets. These are guidelines only and are not intended as a standard of care and should not be interpreted as such. Individual treatment will depend on the specific facts and circumstances presented to the healthcare provider(s) managing care.

Never disregard professional medical advice or delay in seeking it because of something you have read in these guidelines or referenced materials. **In the event of a medical emergency and a licensed medical professional is not available, call 911 immediately. Use of these guidelines by non-medical individuals should be avoided since improper removal of equipment may make the situation worse.**

These guidelines are based on current research and clinical best practice and will be updated as new evidence emerges. These guidelines are only for the specific models listed; and does not represent an all-inclusive list as lacrosse equipment is constantly evolving. Medical providers should be familiar with the particular models that they encounter within their work setting.

The views expressed within these guidelines or referenced materials have no relation to those of any academic institution with which the authors are affiliated.

SECTION 1.

Emergency Care Procedures

Emergency Care Procedures

Facemask Removal

Tools needed: Cordless Screwdriver, Pruning Shears, and Paramedic Shears

Steps in Removing Facemask:

1. Rescuer 1 maintains in-line stabilization superior to the patient's head, making sure to allow for access to the lateral screws.
2. Rescuer 2, using a cordless screwdriver, removes top screw first, and then proceeds to remove screws from each side.
    a. Alternate technique* Rescuer 2 controls cervical stabilization through the collar or bilateral mastoid technique while the Rescuer 1 removes the screws
    b. If the top screw cannot be removed, helmet removal will need to be completed in most cases.
3. In situations where the chin guard needs to be cut to remove the facemask (e.g., Cascade R and Pro7) it should be performed at this point. *see description under special considerations
4. Rescuer 1 lifts the facemask away from the patient

Helmet Removal

Steps in removing helmet:

Helmet removal may follow facemask removal unless primary assessment dictates that emergency care be administered prior to facemask removal. The patient must be in a supine position with C-spine in neutral alignment. The shoulder pads should be prepped for access to the chest before removing the helmet; however, shoulder pad removal may not be necessary in all cases, as some situations may not warrant chest exposure for chest compressions and AED application.

1. Rescuer 1 maintains in-line stabilization superior to the patient's head
2. Rescuer 2, using Paramedic shears, cuts the jersey from neck to waist and sleeve to sleeve
3. Rescuer 2, using Paramedic shears, cuts the side straps of the shoulder pads
4. Rescuer 2, using Paramedic shears, cuts the mid-line of the shoulder pads
5. Rescuer 2, using Paramedic shears, cuts the four-point chin strap

6. Rescuer 2 takes control of in-line stabilization from the front, either through a collar method or bilateral mastoid cupping while kneeling next to the patient, or squatting over the patient
7. Rescuer 1 releases in-line stabilization
8. Rescuer 1 reaches behind the helmet to release the fitting mechanism at the base of the occiput (if needed in the Cascade helmet)
9. Rescuer 1 removes the helmet with slight forward tilt/rotation
10. Rescuer 1 resumes in-line stabilization superior to the patient's head, maintaining neutral spinal alignment
11. A Spinal Motion Restriction device (i.e., cervical collar) is applied
12. A towel may be placed under the posterior head to promote neutral cervical alignment stabilization

Considerations: In an ideal situation, the helmet will be fit properly, and all hardware will be easily removed. This may not be the case and the fit of the helmet must be considered in either the primary assessment or once the athlete is in the supine position where fit can be better visualized. One technique to assess fit is to see if the rescuer's hands can easily fit inside the helmet past the ears with no restriction. In this scenario, consideration may be made to remove the helmet without facemask removal.

Unique Helmet Specific Considerations

Cascade Xrs

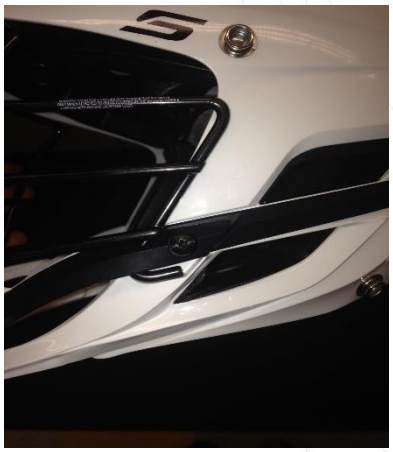
This helmet has 3 screws that need to be removed, a top screw and 1 on each side. The side projections off the chin guard, along with the area where the chin guard interlocks with the shell, is the same as the Cascade R and require practice with facemask removal and helmet removal to ensure that optimal spinal motion restriction is maintained. If the sizing/locking mechanism on the posterior (occiput region) of the helmet is accessible, releasing it may allow for easier helmet removal.

(View images from left to right)

Cascade S

This helmet is made with similar design features to the Cascade CPX R. Clinicians need to remove the top screw and 2 side screws for facemask removal.

(View images from left to right)

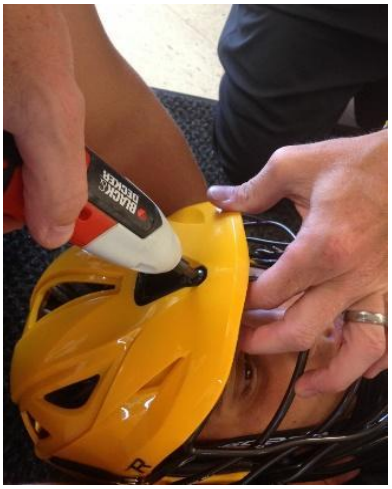



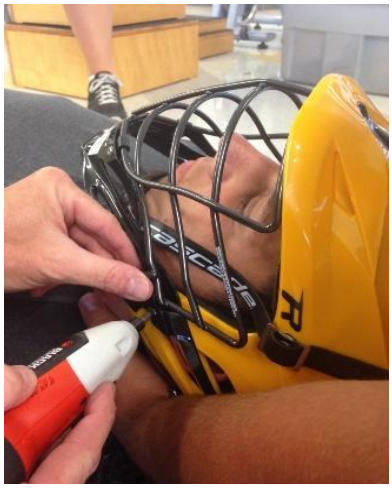


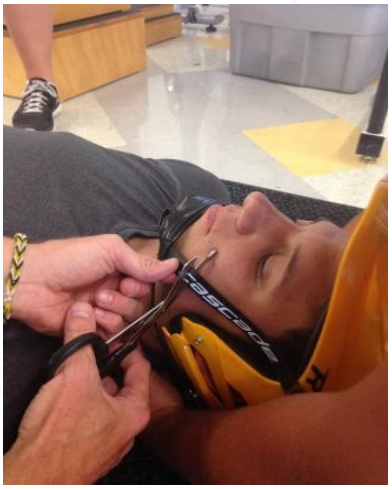

Cascade R

This helmet has 3 screws that need to be removed, a top screw and 1 on each side. The side projections off the chin guard, along with the area where the chin guard interlocks with the shell, are unique to this model and require practice with facemask removal and helmet removal to ensure that optimal spinal motion restriction is maintained. Facemask and helmet removal may be facilitated by cutting through the side projections running from the chin guard back to the side of the helmet with pruning shears. This will release the mask from the shell in most cases. If the sizing/locking mechanism on the posterior (occiput region) of the helmet is accessible, releasing it may allow for easier helmet removal.

(View images from left to right)







Cascade CPX R

This helmet contains the same posterior mechanism as the Cascade R, but does not have side projections that require cutting to allow facemask removal.

(View images from left to right)






STX Stallion

This helmet has 5 screws that need to be removed, 2 on each side and a top screw. Due to the tighter fit of the STX helmet, the facemask may need to be removed prior to helmet removal to limit movement of the head in an emergency situation. There is a posterior air bladder near the occiput, however in most cases this is difficult to access in supine patients and releasing air may not be necessary to remove the helmet.

(View images from left to right)

STX Rival

The Rival helmet has 3 screws. Removal should begin with the top screw. The side screws have a backing that needs to be moved out of the way before the facemask will disengage. This can be accomplished with a tongue depressor (slid down the check side of the helmet), or screwdriver (through the hole). If resistance if felt when trying to take off the facemask check to make sure the backing has not slid back into the hole.

(View images from left to right)

Warrior Regulation

This helmet has 3 screws to remove. There are T-nuts wall on the inside of the side screws to reduce the incidence of t-nut spinning during screw removal. Cheek pads are attached via Velcro and are able to be removed if necessary. The sizing/locking mechanism on the posterior of the helmet is not accessible therefore the rescuer needs to be aware this may cause the helmet to be tighter on the occiput region.

(View images from left to right)

Warrior Burn Helmet

The Burn helmet has 3 screws. Removal should begin with the top screw. After unscrewing the side screws lift the plastic fastener, slide fingers between the posterior aspect of the helmet and the jaw attachment to disengage a small notch at the end of the jaw projection. There should be a little bend in the proximal jaw attachment to help disengage it. Some counterforces with the helmet may be necessary to stabilize to decrease motion.

(View images from left to right)

Cascade LX Women's Lacrosse Headgear

The Cascade headgear can be removed by cutting or undoing the chinstrap, gently spreading the side of the facemask, and lifting over the head. There is a hole for ponytails, if there is a restriction from that as it is being moved you can spread the ponytail space to accommodate and decrease any extra motion.

(View images from left to right)

Hummingbird Women's Lacrosse Headgear

The Hummingbird headgear can be removed by cutting or undoing the chinstrap, gently spreading the sides of the headgear, and lifting over the head. There is a hole for ponytails; if there is a restriction from that as it is being moved you can unbutton the rear of the headgear to increase the ponytail space to accommodate and decrease any extra motion, but unbuttoning is difficult if the patient is supine (see first picture). Goggles are not integrated into this Hummingbird model and should be removed to allow adequate airway access if a pocket mask will be used.

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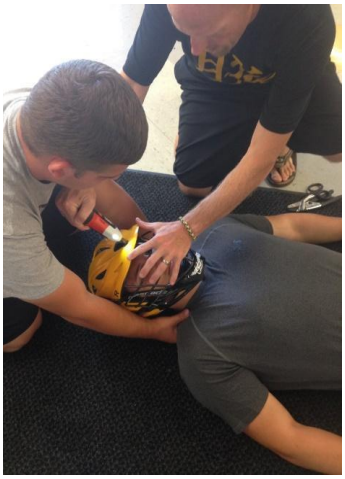
SECTION 2.

Techniques for Spinal Motion Restriction

Techniques for Spinal Motion Restriction

Trap Squeeze

Rescuer places hands on patient's upper trapezius muscles, while squeezing head between the forearms to help decrease head and spinal movement.



Helmet Stabilization

Rescuer places hand on the side of the helmet with caution not to impede access to the side screws.

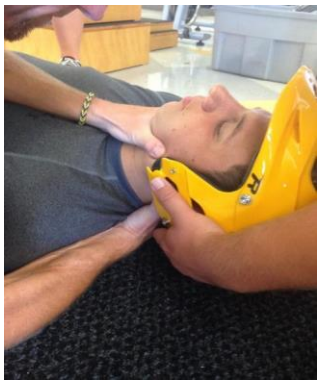
SECTION 3.

Techniques for Spinal Motion Restriction with Helmet Removal

Techniques for Spinal Motion Restriction with Helmet Removal

Collar Method

This technique has the 2nd rescuer place one hand around the occiput and the other under the jaw, while positioned to the side of the patient. The first rescuer slides the helmet off using slight forward tilt/rotation. Consideration should be made with rescuer hand size and strength.



Bilateral Mastoid Cupping

Rescuer 2 places a hand around each mastoid process. They can position themselves to the side of the patient using their forearms against the chest as a counterforce. Rescuer can also be in a straddle position over the patient. The first rescuer slides the helmet off using slight forward tilt/rotation.

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