



## Facemask and Helmet Removal: A Guide for the Medical Professional

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It is important to have a clear and practiced plan for the management and removal of protective equipment. **This document was created to be a guide on helmet and facemask removal procedures, for licensed medical professionals, during medical emergencies.** It is not the purpose of this document to direct when a decision to remove the helmet or facemask should be initiated. Healthcare providers 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 will provide the necessary background to safely remove lacrosse facemask and helmets when necessary. These are only guidelines 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.

### 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
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.

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 standing 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

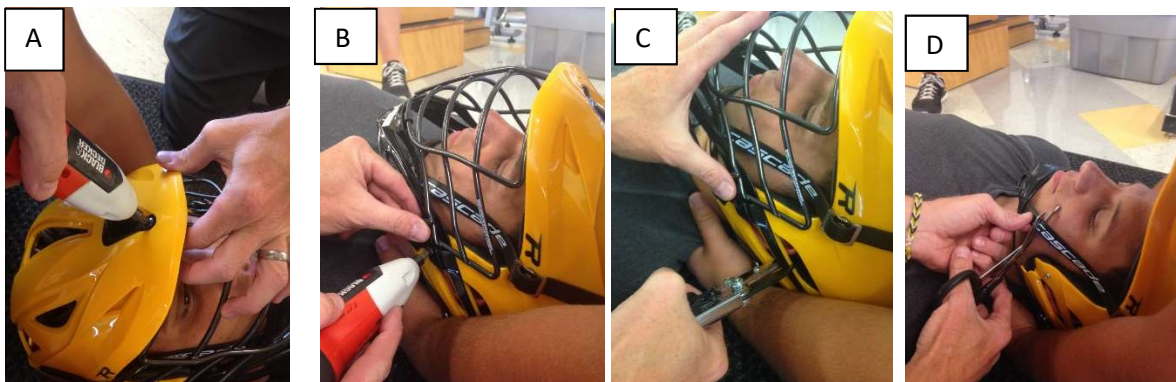
**Considerations:** In an ideal situation, the helmet will be fit properly and all hardware will be easily removed. This may not be the case and the fit of the helmet must be considered in either the primary assessment or once the athlete is in the supine position where fit can be better visualized. 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.

The chinstrap should remain in place unless the helmet needs to be removed or ventilation with a face shield or pocket mask needs to occur. The chinstrap adds stability to the helmet during transport and must remain in place if the helmet stays on. If a face shield or pocket mask is used to provide ventilations, the chinstrap may interfere with the ability to create a seal around the patient's face affecting ventilation volume.

### Unique Helmet Specific Considerations

#### Cascade R:

This helmet has 3 screws that need to be removed, a top screw (A) and 1 on each side (B). 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 (C). This will release the mask from the shell in most cases. The chin straps are cut, if helmet is being removed (D). If the sizing/locking mechanism on the posterior (occiput region) of the helmet is accessible, releasing it may allow for easier helmet removal.



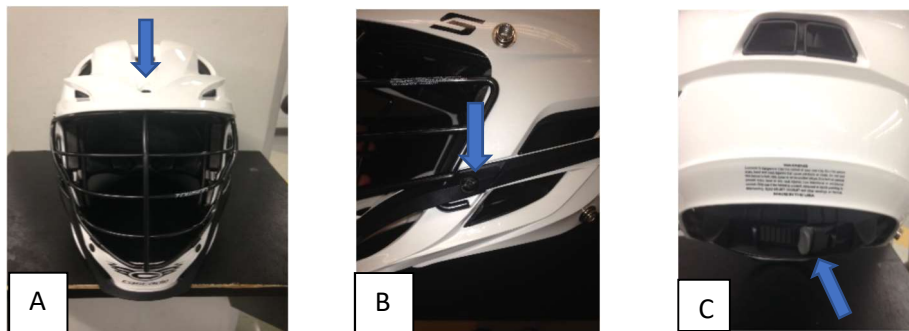
### Cascade CPX R

This helmet contains the same posterior mechanism as the Cascade R, but does not have side projections that require cutting to allow facemask removal. Please note the chinstrap will only be cut if the helmet is being fully removed and should remain in place if only facemask removal is being performed.



### Cascade S

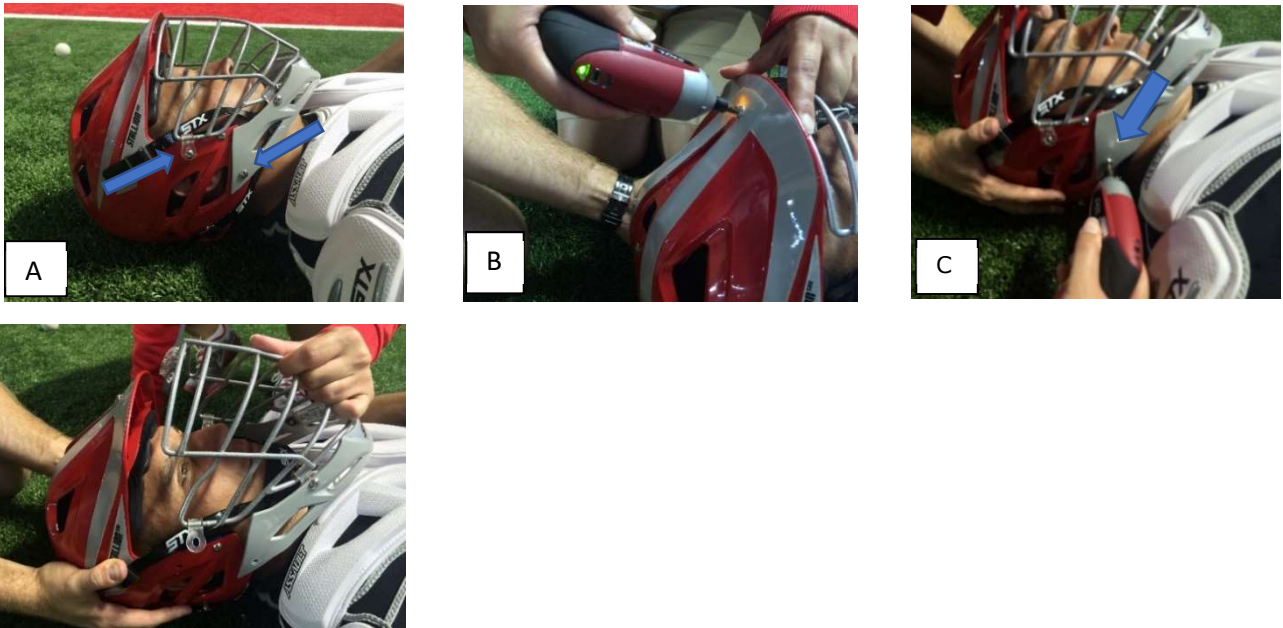
This helmet is made with similar design features to the Cascade CPX R. Clinician simply needs to remove the top screw and 2 side screws for facemask removal. Locking Mechanism (C).



### STX Stallion

This helmet has 5 screws that need to be removed, 2 on each side (A,B) and a top screw [C]. 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.



**STX Rival**

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



**Warrior Regulator**

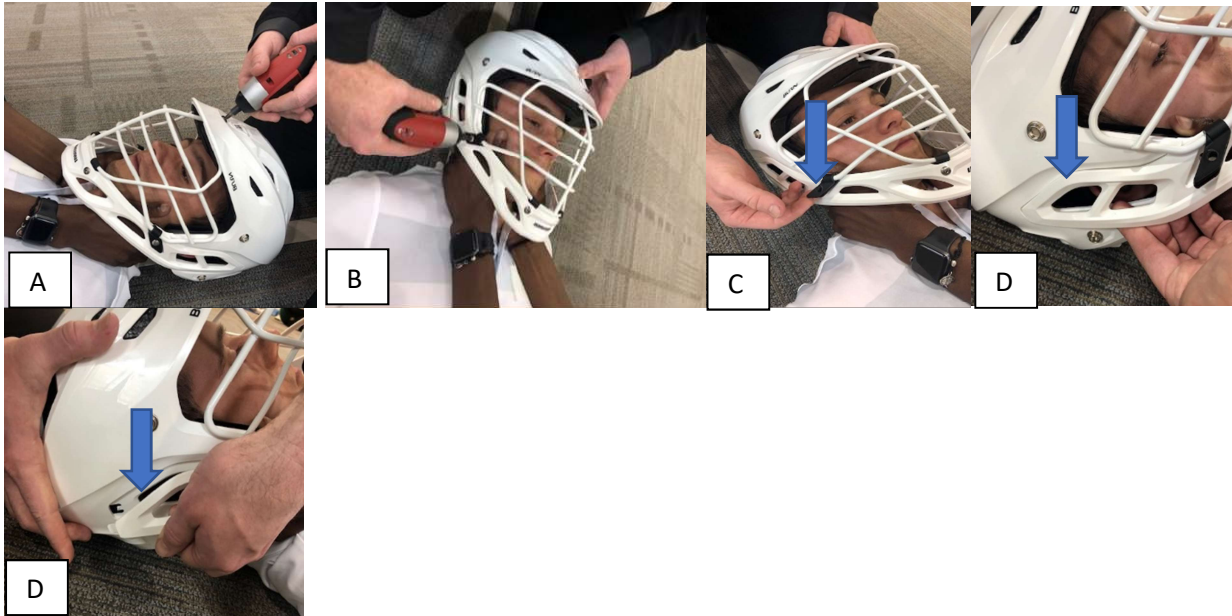
This helmet has 3 screws to remove (A, B). There are T-nut walls on the inside of the side screws to reduce the incidence of t-nut spinning during screw removal. Cheek pads are attached via Velcro and are able to be

removed if necessary (D). The sizing/locking mechanism on the posterior of the helmet is not accessible (C) therefore the rescuer needs to be aware this may cause the helmet to be tighter on the occiput region.



### Warrior Burn Helmet

The Burn helmet has 3 screws. Removal should begin with the top screw (A). After unscrewing the side screws (B), lift the plastic fastener (C), 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 (D). There should be a little bend in the proximal jaw attachment to help disengage it. Some counterforce with the helmet may be necessary to stabilize and decrease motion.



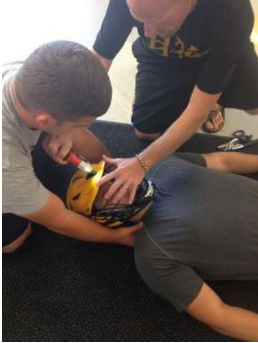
### Cascade LX Women's Lacrosse Helmet

This helmet is easily 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 the helmet is being moved you can spread the ponytail space to accommodate and decrease any extra motion.



## Techniques for Spinal Movement 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.

## Techniques for Spinal Movement Restriction with Helmet and Facemask 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

The above guidelines are based on the most current research and clinical expertise available at the time of the guideline production. However, as new research and information becomes available, these guidelines may change based upon emerging research and equipment design. The above guidelines are for helmets and models listed above, this is not an all-inclusive list as helmets are constantly evolving. It is imperative that the medical provider is familiar with all models that they will be encountering, and are encouraged to discuss this with providing manufacture for the most current information.

### Video Library:

Videos included are only one version of that helmet company's facemask or helmet removal. There are many other ways to remove the helmet. As more videos become available, they will be shared to this library.

[https://drive.google.com/drive/folders/1C7qs1wm9H8k\\_0RgAFrAPGjSZDRKT3VPv?usp=sharing](https://drive.google.com/drive/folders/1C7qs1wm9H8k_0RgAFrAPGjSZDRKT3VPv?usp=sharing)

## Resources

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