

**STEVEN CHUDIK MD**  

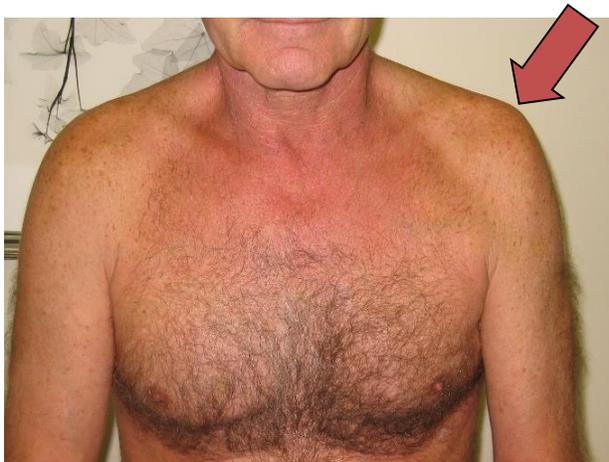
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**SHOULDER, KNEE & SPORTS MEDICINE**

## Axillary Nerve Palsy

Axillary nerve injury is an uncommon condition which results in weakness of the deltoid muscle and numbness on the side of the shoulder. Nerves carry signals from the brain to maintain and communicate with skeletal muscles, telling them to contract when necessary. When the nerve to a specific muscle is injured, the muscles innervated (controlled) by that nerve are affected, then weaken and atrophy (muscle wasting). Axillary nerve injury is typically caused by a direct impact to the shoulder or excessive stretching associated with a shoulder dislocation or fracture.



Atrophy of left deltoid muscle



The patient lacks deltoid muscle contraction when attempting to raise the arm

### Frequent Signs and Symptoms

- Numbness, tingling, or burning on the side of the shoulder
- Weakness of the shoulder
- Difficulty raising the arm
- Atrophy (wasting away) of the deltoid muscle

### Etiology (Causes)

- Stretching of the axillary nerve from a shoulder dislocation or fracture-dislocation
- Direct impact to the axillary nerve from a direct blow to the shoulder



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### Risk Factors

- Contact sports, such as football and rugby
- Poor physical conditioning (strength and flexibility)
- Complications during shoulder surgery

### Prevention

- Appropriately warm up and stretch before practice or competition
- Wear properly fitting shoulder pads when applicable
- Maintain appropriate conditioning, specifically shoulder flexibility, muscle strength, and endurance

### Outcomes

Axillary nerve injury associated with a shoulder dislocation usually resolves spontaneously. Nerve injury due to a direct blow to the shoulder is more likely to have a delayed or difficult recovery.

### Potential Complications

- Permanent weakness of the shoulder, particularly when lifting the arm
- Persistent pain and numbness in the shoulder
- Permanent atrophy (wasting away) of the deltoid muscle
- Stiffness of the shoulder
- Difficulty participating in some competitive sports

### Treatment Considerations

Initial treatment consists of refraining from the aggravating activity, including sports, while the nerve is healing to allow for complete recovery and prevent further nerve injury. Exercises to maintain shoulder range of motion while waiting for nerve recovery are also important to prevent shoulder stiffness. As the nerve and muscle function recover, referral to a physical therapist or athletic trainer to help restore the muscle function and strength is usually necessary. Recovery periods may range from months to a year. If the nerve does not recover in a timely fashion or if the nerve is completely severed, surgery to explore, release, repair, or graft the nerve may be indicated. However, outcomes are limited. While some athletes such as football linemen may be able to return to their activities, overhead or throwing athletes may have difficulties participating.



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### Possible Medications

- Pain relievers are usually not prescribed for this condition.

### Modalities

- **Cold** is used to relieve pain and reduce inflammation. Cold should be applied for 15 to 20 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- **Heat** may be used for five to 10 minutes before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak. Be careful not to apply heat for too long as it may burn the skin.

**Notify my office if symptoms persist.**



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