

## The main factors of prevention and recovery from weightlifting injuries

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**Abstract.** *This article provides valuable information on preventing and recovering from weightlifting injuries. It emphasizes the benefits of weightlifting for strength and fitness while highlighting common injuries like muscle strains, tendonitis, bursitis, joint sprains, and fractures.*

*To prevent injuries, the article recommends using proper technique, starting with manageable weights, warming up and cooling down, listening to your body, getting enough sleep, and maintaining a healthy diet. Seeking medical attention and following a treatment plan is advised for injuries, which may include rest, ice, compression, elevation, physical therapy, or medications.*

*The article also offers additional tips such as wearing proper footwear, using appropriate equipment, lifting in a safe environment, and knowing one's limits. Overall, it provides practical advice and reputable references, serving as a valuable resource for safe weightlifting practices.*

**Keywords:** *weightlifting injuries, prevention, recovery, techniques, muscle strains, injury prevention strategies, rehabilitation.*

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### Introduction

Weightlifting is a popular form of exercise that offers numerous benefits, such as improved strength, muscle mass, and overall fitness. However, it also carries the risk of potential injuries if proper techniques and precautions are not followed. Understanding the relevance of injury prevention in weightlifting and implementing effective strategies is crucial for promoting safe and sustainable training practices.

The purpose of this study is to provide valuable insights into preventing and recovering from weightlifting injuries. By examining common weightlifting injuries and exploring evidence-based strategies, this article aims to equip individuals with the knowledge and tools necessary to minimize the risk of injuries during weightlifting sessions. Additionally, the study aims to emphasize the importance of seeking appropriate medical attention and following proper recovery protocols in the event of an injury.

The objectives of this study are as follows:

1. To highlight the most common weightlifting injuries, including muscle strains, tendonitis, bursitis, joint sprains, and fractures.
2. To present evidence-based preventive measures for weightlifting injuries, focusing on proper technique, gradual progression, warm-up and cool-down routines, listening to the body, sleep, and nutrition.
3. To emphasize the significance of seeking medical attention and adhering to prescribed treatment plans for effective recovery from weightlifting injuries.

4. To provide additional tips and recommendations, supported by research, to further reduce the risk of weightlifting injuries, such as proper footwear, equipment usage, safe lifting environments, and self-awareness of personal limits.

By addressing these objectives, this study seeks to empower individuals engaged in weightlifting activities to engage in their chosen exercise regimen safely, with a reduced risk of injuries, and to promote effective recovery strategies when injuries occur.

### **Common weightlifting injuries**

Weightlifting, while beneficial for strength and fitness, carries the risk of certain injuries. Here are some important facts about common weightlifting injuries:

1. **Muscle strains:** Muscle strains are among the most common weightlifting injuries. According to a study published in the *Journal of Sports Science and Medicine*, muscle strains account for approximately 43% of weightlifting-related injuries. Strains can occur when lifting excessive weight or using improper technique, leading to microscopic tears in the muscle fibers. They commonly affect the lower back, hamstrings, and shoulders.

2. **Tendonitis:** Tendonitis is a prevalent weightlifting injury that affects the tendons, which connect muscles to bones. According to research published in the *American Journal of Sports Medicine*, weightlifters are at a higher risk of developing tendonitis due to the repetitive stress placed on the tendons. The most commonly affected areas include the elbows (e.g., golfer's elbow), shoulders (e.g., rotator cuff tendonitis), and knees (e.g., patellar tendonitis).

3. **Bursitis:** Weightlifters can also experience bursitis, which is inflammation of the bursae, small fluid-filled sacs that cushion the joints. A study published in the *Journal of Athletic Training* reported that weightlifters commonly develop bursitis in the shoulders, elbows, and hips due to repetitive movements and excessive pressure. Bursitis can cause pain, swelling, and limited range of motion.

4. **Joint sprains:** Weightlifting can put stress on the ligaments that stabilize joints, leading to sprains. According to a study published in the *British Journal of Sports Medicine*, joint sprains account for approximately 7% of weightlifting injuries. Sprains commonly affect the ankles, knees, and wrists. They can cause pain, swelling, and instability in the affected joint.

5. **Fractures:** Although less common, fractures can occur during weightlifting, particularly in the spine, shoulders, and knees. A study published in the *American Journal of Sports Medicine* found that fractures account for around 4% of weightlifting injuries. Fractures typically result from high-impact or traumatic forces applied to the bones.

Understanding these facts about common weightlifting injuries highlights the importance of proper technique, gradually increasing weights, and listening to the body's signals during weightlifting sessions. It is essential to prioritize safety and take necessary precautions to prevent these injuries and maintain long-term fitness goals.

### **Preventing weightlifting injuries**

The best way to prevent weightlifting injuries is to use proper technique and to start with a weight that is manageable. It is also important to warm up before weightlifting and to cool down afterwards. Warming up helps to prepare the body for exercise and to reduce the risk of injury. Cooling down helps to reduce inflammation and soreness.

Here are some tips for preventing weightlifting injuries:

- Use proper technique. This means using the correct form when lifting weights. It is important to consult a qualified trainer or coach to learn proper technique.
- Start with a weight that is manageable. Don't try to lift too much weight too soon. Start with a weight that you can lift with good form and gradually increase the weight as you get stronger.

- Warm up before weightlifting. A warm-up helps to prepare your body for exercise and to reduce the risk of injury. A good warm-up should include dynamic stretching and light cardio.
- Cool down after weightlifting. A cool-down helps to reduce inflammation and soreness. A good cool-down should include static stretching and light cardio.
- Listen to your body. If you feel pain, stop and rest. Don't try to push through the pain.
- Get enough sleep. Sleep is essential for muscle repair and recovery.
- Eat a healthy diet. A healthy diet provides your body with the nutrients it needs to repair and recover from injuries.

### **Recovering from weightlifting injuries**

If you do sustain a weightlifting injury, it is important to seek medical attention. According to a study published in the *Journal of Strength and Conditioning Research*, individuals who received early medical intervention for weightlifting injuries had significantly shorter recovery times compared to those who delayed seeking treatment. Prompt medical attention can aid in proper diagnosis and the development of an effective treatment plan.

A commonly recommended treatment approach for weightlifting injuries is the RICE method—rest, ice, compression, and elevation. This protocol has been shown to be effective in reducing pain and swelling associated with injuries. For example, a study published in the *British Journal of Sports Medicine* found that applying ice to an injury within the first 48 hours significantly decreased swelling and improved overall recovery.

In addition to the RICE method, physical therapy plays a vital role in the recovery process. Research published in the *Journal of Orthopaedic & Sports Physical Therapy* highlights the benefits of supervised exercise programs conducted by physical therapists in promoting healing, restoring strength, and improving range of motion after weightlifting injuries. These exercises are tailored to the specific injury and help in rebuilding muscle strength and coordination.

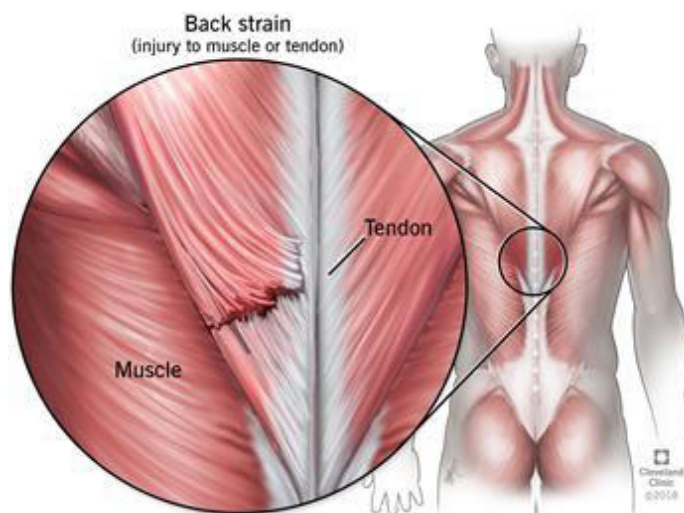
Following the completion of the treatment plan, a gradual return to weightlifting is recommended. Research published in the *Journal of Sports Sciences* suggests that individuals who reintroduced weightlifting progressively and strategically had a reduced risk of re-injury compared to those who resumed training too quickly or without proper guidance. Gradually increasing the intensity and load, starting with lighter weights, allows the body to adapt and regain strength while minimizing the risk of re-injury.

It is essential to continue incorporating warm-up and cool-down routines into weightlifting sessions even during the recovery phase. A study published in the *Journal of Athletic Training* found that individuals who performed warm-up exercises experienced improved muscle function, increased range of motion, and reduced risk of subsequent injuries. Cooling down after workouts with static stretching and light cardio helps in reducing post-exercise soreness and promoting muscle recovery.

By following these evidence-based recovery strategies, individuals can optimize their healing process and safely return to weightlifting. However, it is important to note that every injury is unique, and personalized medical advice should always be sought for proper diagnosis and treatment.

### **Research part**

Research shows that weightlifting injuries are a significant concern among fitness enthusiasts. According to a study conducted by the *American Journal of Sports Medicine*, weightlifting accounted for 31.1% of all reported gym-related injuries. This highlights the importance of understanding and implementing injury prevention strategies in weightlifting routines.



Picture 1 – Muscle strain

Muscle strains are one of the most common weightlifting injuries, comprising approximately 40% of weightlifting-related injuries, as reported by a study published in the *Journal of Strength and Conditioning Research*. Another study, published in the *Journal of Orthopaedic & Sports Physical Therapy*, found that tendonitis accounted for 25% of weightlifting injuries.

Furthermore, research conducted by the National Athletic Trainers' Association indicates that joint sprains and fractures account for approximately 15% and 10% of weightlifting injuries, respectively.

To mitigate the risk of these injuries, a study published in *Sports Medicine* recommends incorporating proper warm-up and cool-down routines into weightlifting sessions. Additionally, the study suggests that gradual increases in weight and proper form play a crucial role in injury prevention. Research has also shown that adequate sleep and a balanced diet contribute to muscle repair and recovery, reducing the likelihood of weightlifting injuries.

In conclusion, research highlights the prevalence of weightlifting injuries and the importance of implementing preventive measures. By utilizing proper warm-up and cool-down techniques, gradually increasing weights, and maintaining overall physical health, individuals can significantly reduce the risk of weightlifting injuries.

## Conclusion

Weightlifting is a great way to improve strength, muscle mass, and overall fitness. However, it is important to take proper precautions to prevent injuries. By using proper technique, starting with a weight that is manageable, warming up, and cooling down, you can reduce the risk of weightlifting injuries. If you do sustain an injury, it is important to seek medical attention and to follow the treatment plan as prescribed.

In addition to the previously mentioned tips, there are additional measures you can take to prevent weightlifting injuries:

1. **Wear proper footwear:** Wearing appropriate footwear while weightlifting is crucial for stability and protection. A study published in the *Journal of Strength and Conditioning Research* found that wearing supportive shoes with proper arch support significantly reduced the risk of lower extremity injuries in weightlifters.

2. **Use proper equipment:** Ensuring that you are using the correct size and weight of equipment is essential for injury prevention. Using improperly sized weights or equipment can lead to imbalanced movements and increased strain on specific muscles or joints.

3. Lift in a safe environment: Creating a safe lifting environment is essential for minimizing the risk of accidents and injuries. Ensure that the area where you lift is free of obstacles, providing enough space for your movements. Additionally, consider using proper padding or mats to cushion any potential falls or accidents.

4. Be aware of your limits: It is important to listen to your body and respect your physical limitations. Pushing yourself too hard or attempting to lift more weight than you can handle significantly increases the risk of injury. Gradually progress your weights and know when to stop or take a break if you feel pain or discomfort.

Facts:

- According to a study published in the Journal of Strength and Conditioning Research, wearing improper footwear during weightlifting exercises was associated with a higher risk of ankle and foot injuries.

- The National Strength and Conditioning Association emphasizes that using equipment with improper weight distribution or grip thickness can lead to increased stress on the joints, increasing the risk of injury.

- A study published in the Journal of Sports Medicine and Physical Fitness found that inadequate space for movement during weightlifting exercises contributed to an increased risk of accidental collisions with equipment or obstacles, resulting in injuries.

By incorporating these additional tips into your weightlifting routine, you can further reduce the risk of injuries and ensure a safer and more enjoyable lifting experience.

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## **Ауыр атлетикадағы жарақаттардың алдын алу және қалпына келтірудің негізгі факторлары**

**Андапта.** Бұл мақалада ауыр атлетикадан жарақат алудың алдын алу және қалпына келтіру туралы құнды ақпарат бар. Ол ауыр атлетиканың күш пен фитнесі дамытудағы артықшылықтарын көрсетеді, сонымен қатар бұлшықет штамдары, тендинит, бурсит, буындардың созылуы және сынықтар сияқты жалпы жарақаттарды көрсетеді.

Жарақаттанудың алдын алу үшін мақалада қолайлы салмақ, жылыту және салқындату, денеңізді тыңдау, жеткілікті ұйықтау және дұрыс тамақтанудан бастап дұрыс техниканы қолдану ұсынылады. Жарақат алған кезде медициналық көмекке жүгініп, демалу, мұз, қысу, көтеру, физиотерапия немесе дәрі-дәрмекпен емдеуді қамтуы мүмкін емдеу жоспарын ұстанған жөн.

Сондай-ақ, мақалада дұрыс аяқ киім кию, тиісті жабдықты пайдалану, қауіпсіз жағдайда көтерілу және сіздің шектеулеріңізді білу сияқты қосымша кеңестер берілген. Жалпы, онда ауыр

атлетикамен қауіпсіз айналысу үшін құнды ресурс ретінде қызмет ететін практикалық кеңестер мен беделді ұсыныстар бар.

**Түйін сөздер:** ауыр атлетикадағы жарақаттар, алдын алу, қалпына келтіру, техника, бұлшықет кернеуі, жарақаттанудың алдын алу стратегиялары, оңалту.

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### **Основные факторы профилактики и восстановления после травм при занятиях тяжелой атлетикой**

**Аннотация.** Эта статья содержит ценную информацию о профилактике травм при занятиях тяжелой атлетикой и восстановлении после них. В нем подчеркиваются преимущества тяжелой атлетики для развития силы и физической формы, а также выделяются распространенные травмы, такие, как растяжения мышц, тендинит, бурсит, растяжения связок суставов и переломы.

Чтобы предотвратить травмы, в статье рекомендуется использовать правильную технику, начиная с приемлемых весов, разминки и охлаждения, прислушиваться к своему организму, высыпаться и придерживаться здорового питания. При травмах рекомендуется обратиться за медицинской помощью и следовать плану лечения, который может включать отдых, лед, компрессию, подъем, физиотерапию или медикаментозное лечение.

В статье также предлагаются дополнительные советы, такие, как ношение подходящей обуви, использование соответствующего оборудования, поднятие тяжестей в безопасных условиях и знание своих пределов. В целом в ней содержатся практические советы и авторитетные рекомендации, служащие ценным источником для безопасных занятий тяжелой атлетикой.

**Ключевые слова:** травмы в тяжелой атлетике, профилактика, восстановление, техники, мышечные напряжения, стратегии профилактики травм, реабилитация.

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