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## **Injury Prevention in Weight Training Focus on the Shoulder**

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Chiropractors and chiropractic patients are suffering from an increasing number of shoulder injuries. Most of these are preventable. To find the cause of these injuries, all we have to do is look in the mirror. We are responsible for our own shoulder pain, either through training error or a lack of training experience.

Below, I have listed some simple rules to follow when weight training. These rules apply to you and your patients with shoulder pain. Remember, you can make all of the changes in the world, but if you continue to lift beyond your capacity or lift incorrectly, it won't be a matter of if you get hurt, but when. As in chiropractic, technique is everything. Do it right or don't do it. Last but not least, always weigh risk versus benefit. If the risk of injury for a given exercise outweighs the anticipated benefit, an injury is just waiting to happen.

### **The Don'ts of Weight Training: Protect the Shoulder**

1. No bench pressing with a straight bar
2. No lat pulls behind the neck
3. No overhead pressing
4. No upright rows
5. No "empty can" exercises

#### **1. No Straight Bar**

- Use dumbbells to replace straight bar on flat and incline bench.
- Dumbbells strengthen the "weak link", rotator cuff, stress proprioception.
- Straight bar weakens and damages the shoulder.

## **2. No Lat Pulls Behind the Neck**

- Replace with front pull (bring chest to the bar) or reverse grips.
- Lat pulls behind the neck cause shoulder instability neck pain.

## **3. No Upright Rows**

- Cause shoulder impingement;
- Abduction/internal rotation mechanism;
- Normal shoulder motion is to externally rotate and abduct.

## **4. No Overhead Presses**

- At-risk position;
- Anterior shoulder instability;
- Shoulder impingement, especially internal impingement.

## **5. No Empty-Can Exercises**

- IR with abduction causes impingement.
- Replace with "full-can" exercises.
- Also side-lying abduction; side-lying lateral raise; full can.

## **Other Errors**

- One-arm rows: Letting the weight traction the shoulder during this exercise.
- Knee extensions: Open-chain exercise causes shear in the tibia.

- Squats: Squat using body weight only first for conditioning.
- Back extensions: Don't swing; elevate segmentally.
- Seated rows: Don't flex the back; be sure to retract scapulas first, then pull with shoulders and elbows. Use ropes or chains when possible; this allows the shoulder blades to fully retract around the thorax.

### **Increasing Weight**

- Pick a weight you can perform for 12 reps.
- Give three to four weeks for accommodation.
- After four weeks, add five pounds to dumbbell exercises and 10 pounds to two-arm exercises.
- Increase weight on one exercise per workout.
- When weight is increased, decrease reps to six.
- Every two weeks, increase by two repetitions until you reach 12 reps.
- Stay at 12 reps for two weeks, then increase weight and decrease reps as previously detailed.

### **Pyramid Workouts**

- Decrease boredom and increase strength gains.
- Example: Flat dumbbell bench press

Set #1	50lbs	12 reps
Set #2	55lbs	10 reps
Set #3	60lbs	8 reps
Set #4	65lbs	6 reps

### **Changing Weight in the Pyramid**

- Perform the pyramid one to two times per week. The other workouts for example, would be performed using 55 lbs, for two to four sets. When 12 reps can be performed with this weight for two weeks, the pyramid shifts so that 55 lbs is the new starting weight.

Set #1	55lbs	12 reps
Set #2	60lbs	10 reps
Set #3	65lbs	8 reps
Set #4	70lbs	6 reps

## Flexibility

- Posterior capsule stretch (behind the back; cross-body adduction with distractio);
- Triceps stretch;
- Behind-the-back stretch;
- These exercises can be performed using a towel, bat, stick or golf club.

## Summary

- Avoiding the "at-risk position" will reduce shoulder-related injuries.
- Train the weak link.
- Realistic goals and expectations will reduce injuries.
- Adopt the "condition to train" philosophy.
- Safe training keeps you off the DL.
- If you have pain, it "won't just go away" - see a health care specialist!

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