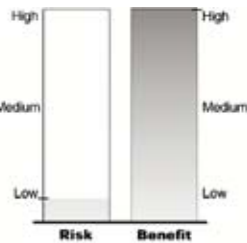


Risk–Benefit Ratio of Specific Weight-Training Exercise Techniques

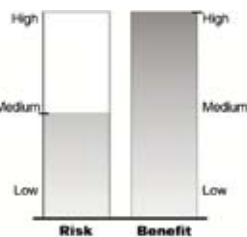
Each weight-training exercise can be performed in various ways. Some techniques are beneficial for the development of strength, while other techniques are more suited for muscular hypertrophy. The benefit and inherent risk of each exercise modification such as grip width, foot position, arm position, range of motion, head position, and trunk motion will alter dependent on the person's experience, body type, and outcomes desired. The exercise modifications should always be done to increase the stress on the muscles and not the joints, ligaments, or capsules. The following pages review variations in technique for each weight-training exercise to offer guidelines for the optimal implementation in an individual training program. Remember that high risk does not automatically mean that the person will be injured. It means that the potential for injury may be higher due to specific techniques needed for increased strength and development.

Barbell bench press *Medium-width hand grip*



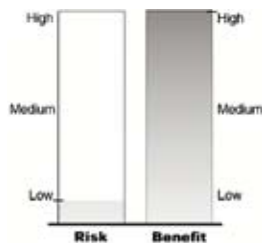
This technique keeps the forearm perpendicular to the floor at the bottom with minimal wrist stress.

Barbell bench press *Wide hand grip*



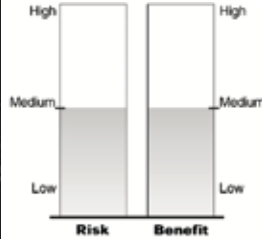
The wrist is under stress because of the angle of the forearm. The benefit is a shorter arm stroke for potentially lifting more weight.

Barbell bench press *Midchest contact point*



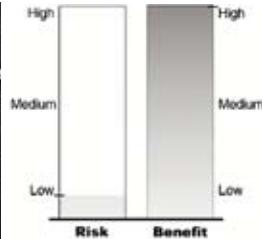
This is the most common and effective contact point of the bar on the chest.

Barbell bench press *High-chest contact point*



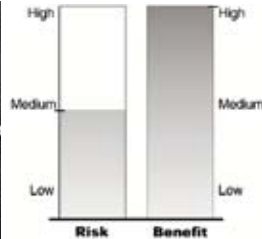
The risk is increased stress on the shoulder capsule and A/C joint. The benefit is a small increase in stress on the upper pectoral muscle.

Barbell bench press *Upper arm at 45 degrees to body (at 4:00 and 8:00)*



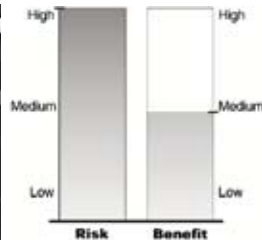
The benefit is increased power with decreased stress on the shoulder joint and capsule. This is commonly called the powerlifting style.

Barbell bench press *Upper arm at 90 degrees to body (at 3:00 and 9:00)*



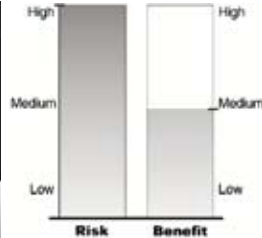
The risk is increased stress on the shoulder capsule. The benefit is increased stress on the pectoral muscles. This is commonly called the bodybuilding style.

Barbell bench press *Raising hips off the bench during ascent*



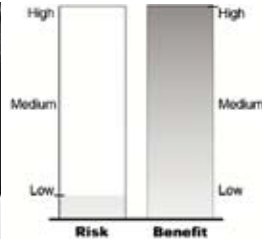
The risk is increased stress on the low-back joints. The benefit is recovering from a technique flaw when the person allows the bar to bounce and go over the abdomen instead of the chest during ascent. The person tries to recover by changing the bar ascent angle by pushing up the hips to assist in pushing the bar back toward the chest.

Barbell bench press *Wrists hyperextended when pressing*



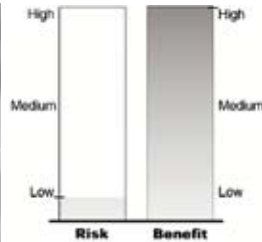
The risk is increased stress on the wrist joint, which can potentially injure the metacarpal bones in the wrist. Wrist hyperextension risk is diminished with individuals who have small hands and large wrists, which reduces the leverage and stress on the joints.

Barbell bench press *Wrists straight when pressing*



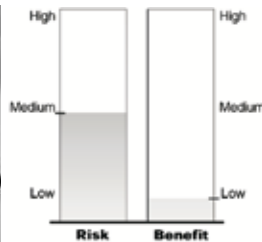
The benefits are decreased stress on the wrist joint and more control on the bar as it is being pushed up.

Flat dumbbell fly *Elbows unlocked and upper arm parallel to the floor*



The benefit is that the chest muscles are stressed adequately without overloading the shoulder joint and capsule.

Flat dumbbell fly *Elbows locked and upper arm parallel to the floor*



The risk is increased stress on the shoulder joint and capsule and elbow joint. There is minimal benefit.