Exercise Methods Notebook

When explaining the squat exercise, it is important to determine what is meant by a squat. The confusion surrounding this exercise lies in the depth of the squat. Most athletes do parallel squats, which place the thigh parallel to the floor. All squat records are based on this position and it is questionable if you obtain greater strength development by going lower. Based upon this observation, there is no reason to do deep squats which take the thigh far below the parallel position.

Muscles Strengthened: Quadriceps femoris, rectus femoris, vastus lateralis, vastus intermedius, vastus medialis. Also involved are the gluteal muscles of the buttocks and the supporting muscles of the abdomen.

Activities Muscles are Utilized for: These muscles are involved in any activity in which the leg is extended. This would include any running or jumping movement. Examples would be track, basketball, football, tennis, wrestling, etc.

Recommended Accessory Equipment: Especially when doing squats heavy, the lifter should use knee wraps and always use a lifting belt.

Starting Position: Stand with the feet parallel and about shoulder width apart. The toes are placed outward at an approximate 35 to 45 degree angle. The bar is placed across the shoulders and behind the neck. The hands grasp the bar during the exercise in order to balance and control the weight.

Action: Lower the buttocks until the thigh is parallel to the floor, pause, and return to the starting position. To maintain a proper position during the exercise, pick a spot to look at that will cause you to keep the head slightly up. This, in turn, will help to maintain the torso in a proper position.

Spotting: As shown in the photographs, there is a principal spotter who stands behind the lifter and two auxiliary spotters at the ends of the bar. The duty of the principal spotter is to watch the lifter through the range of motion and if he reaches a "sticking point" and needs assistance to keep the weight moving. The only time the auxiliary spotters touch the bar is when the principal spotter asks for help or if the lifter begins to collapse at the bottom position. Since hundreds of pounds are many times involved in this exercise, strict observance of spotting techniques are necessary in the squat.

Precautions: Do not bounce at the bottom of the squatting movement as this can place stress upon the ligaments of the knee and the lower back. Do not bend over at the waist during this exercise. Keep the bar in line with the feet which form the base of support. If the lifter has a problem keeping the heels on the floor during the movement, this can be prevented by placing a two-by-four board or barbell plate under the heels. Also the use of a good lifting shoe will provide good support. To reduce the pressure of the bar against the back muscles, the bar can be wrapped in a towel or some other soft material.

Breathing: Inhale before lowering to the bottom position and exhale upon recovery to the starting position. Always make sure you keep the mouth open to equalize pressure within the chest cavity.

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Squats

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Figure 1: Proper spotting involves three persons, one at each end of the bar and one behind the lifter.

Figure 2. Lower the buttocks until the thighs are parallel to the floor.

Figure 3. The head should be slightly up throughout the exercise.