

STRENGTH AND CONDITIONING SEMESTER 1, GRADING PERIOD 3 STUDY GUIDE

BIGGER, FASTER, STRONGER PROGRAM BENEFITS

CORE LIFTS

1. BENCH PRESS

Develops overall strength in the upper body (chest, shoulders, and triceps). This is especially true for female athletes because they carry proportionately less muscle mass in the upper body than males do. Standards are easily recognizable: males = 200, 300, 400 lbs. females = 100, 150, 200 lbs.

2. TOWEL BENCH

As a second primary upper body workout the towel bench helps prevent pain or injury to the shoulder joint (bench press shoulder/rotator cuff tendonitis). Also, an athlete will become accustomed to a heavier weight and will build confidence to attain new levels on the regular bench.

3. PARALLEL SQUAT

The lower body muscles become stronger and bigger, especially the quadriceps and hamstrings. The tendons become thicker and stronger. The knee ligaments become thicker and stronger. The entire articular capsule of the knee becomes thicker. The bones of the legs become stronger and slightly bigger because of increased capillarization. The cartilage of the knee becomes more resistant to injury. There are fewer knee injuries for those who squat parallel than those who don't squat at all. It is the foundation for speed.

4. BOX SQUAT

Helps overcome plateaus. Helps build hip strength and hip tendon strength. Improves lower body explosiveness. Develops confidence to handle heavier weights. Allows athletes to recover quickly from the exercise because of the reduced range of motion.

5. POWER CLEAN

Develops jumping ability, explosiveness, aggressiveness, and overall athleticism by having athletes use their major muscle groups in a coordinated fashion. During the middle phase the prestretching of the muscles creates a plyometric effect that enables the body to use stored energy to move faster. Improves muscle mass by developing two fast twitch muscle fibers (type IIa and IIb) and by having many muscle groups working simultaneously (trapezoids, lower back, hamstrings, hips, and calves).

6. HEX BAR

Strengthens lower back, hamstrings, thighs, torso, and trapezoids. Allows the weight on the bar to be in perfect alignment with the power line (imaginary line that runs up through the lifter's center mass) at all times. The shorter length of the bar gives the lifter more control and balance for a more efficient, intense workout. The bar lends itself to perform shrugs because it does not contact the thighs.

AUXILIARY LIFTS

7. **GLUTE HAM RAISE**
Only exercise that develops both the hip extension and knee flexion functions of the hamstrings. Helps prevent hamstring pulls.
8. **STRAIGHT-LEG DEADLIFT (SLDL)**
Increases flexibility in the hamstrings and strengthens the lower back.
9. **LEG CURL**
Isolates the knee flexion function of the hamstring.
10. **LEG EXTENSION**
Develops the quadriceps and often used in knee rehabilitation.
11. **LUNGE**
Develops the quadriceps and hamstrings.
12. **BACK ROWS**
Develops the latissimus dorsi, trapezius, rhomboids (mid back), and the biceps.
13. **PULLUPS**
Develops the latissimus dorsi and the biceps.
14. **LAT PULLDOWNS**
Develops the major muscles of the upper back, especially the latissimus dorsi and the biceps.
15. **DIPS**
Develops shoulders, pectorals, and the triceps.
16. **SHOULDER PRESS**
Develops shoulders and triceps.
17. **INCLINE BENCH PRESS**
Places more emphasis on the shoulders and less on the pectorals.

FLEXIBILITY

Good for injury prevention, rehabilitation, speed and jumping power.

18. **HAMSTRING STRETCH**
Increases flexibility in the hamstrings.
19. **LATISSIMUS STRETCH**
Increases flexibility in the latissimus dorsi.
20. **PECTORAL STRETCH**
Increases flexibility in the pectoralis major and minor.

21. BACK LEG STRETCH

Increases flexibility in the gastrocnemius (one of the calf muscles).

22. ACHILLES STRETCH

Increases flexibility in the soleus (a calf muscle), which attaches to the achilles tendon.

23. QUADRICEPS STRETCH

Increases flexibility in the quadriceps.

24. ABDOMINAL STRETCH

Increases flexibility in the abdominals.

25. ADDUCTOR STRETCH

Increases flexibility in the adductors.

26. GLUTEUS MAXIMUS STRETCH

Increases flexibility in the gluteus maximus.

27. GROIN STRETCH

Increases flexibility in the groin.

28. HIP FLEXOR STRETCH

Increases flexibility in the hip flexors.

PLYOMETRICS

29. VERTICAL JUMP, STANDING LONG JUMP, BOX JUMPS, AND BOUNDING DRILLS

It is one of the best ways to improve speed and power. It teaches an athlete how to use his/her strength (explosiveness).

AGILITY

30. DOT DRILL

Provides a good warm-up (increase body temperature, breathing rate, and heart rate). Improves coordination, foot speed, and agility. Strengthens the ankles.

SPEED TRAINING

31. TECHNIQUE AND SPRINTS

Develops short-term endurance speed. Helps improve explosiveness.

Pectoralis Major
 Deltoid
 Biceps
 Palmaris Longus
 Flexor Carpi Radialis
 Brachioradialis
 Flexor Digitorum Superficialis
 Lubrical
 Gluteus Medius
 Tensor Faciae Latae
 Rectus Femoris
 Pectineus
 Sartorius
 Gracilis
 Adductor Longus
 Tibialis Anterior
 Gastrocnemius
 Soleus

Sternocleidomastoid
 Trapezius
 Rectus Abdominus
 External Oblique
 Serratus Anterior

Thoraco-lumbar Fascia
 Trapezius
 Deltoid
 Rhomboid
 Teres Major
 Triceps
 Latissimus Dorsi
 Extensor Carpi Radialis
 Extensor Digitorum
 Extensor Carpi Ulnaris
 Extensor Digiti Minimi
 Gluteus Maximus
 Vastus Lateralis
 Gracilis
 Semimembranosus
 Semitendinosus
 Biceps Femoris
 Soleus
 Gastrocnemius

Vastus Lateralis
 Peroneus Longus
 Vastus Medialis
 Extensor Digitorum Brevis

Extensor Hallucis Brevis

Anterior

Posterior

