

## True AP Homework Exercise Manual

## **Included** in This Manual

- Introduction to Core Training
- Benefits of Core Training
- Homework Program Design
- 11 Homework Exercises with Detailed Pictures and Descriptions
- Intended for Beginner to Intermediate Athletes

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### Introduction

In recent years, the value of "core" training has risen in the world of sports performance. This is understandable, as a strong core can help you perform better, no matter what sport you play. Whether you want to jump higher, accelerate faster, drive the ball farther or hit harder, it all begins with training the core muscles. However, core training does not just mean 6-pack abs and doing a thousand sit-ups. In fact, your core is made up of all muscle groups that aid in stabilizing your spine and pelvis. These groups include your abdominal, back, hip and hip flexor muscles.

The muscles of the abdominals include:

Transverse Abdominis:

Known as the major muscle in the "core", the Transverse Abdominis is the deepest of the abdominal muscles, and runs transverse (horizontal) from the sides (lateral) to the front (medial), wrapping around the trunk. The main functions of this muscle group include supporting organs, aiding in exhalation, and stabilizing the trunk. *Exercises – Russian Twist, Alternating Pike, Bicycle Crunch* 

External Obligues:

The External Obliques are the largest and outermost of the abdominal muscles. They are vital in helping the body flex the trunk, exhale properly during respiration, and laterally (to the side) flex the spine. *Exercises – Side Crunch* 

Internal Obliques:

The Internal Obliques are a deep abdominal muscle running from hips to the lower ribs and Rectus Abdominis. These muscles play a large role in breathing, and also help rotate and flex the spine. *Exercises – Russian Twist, Side Crunch, Bicycle Crunch* 

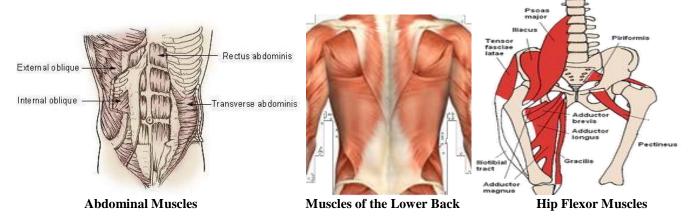
Rectus Abdominis:

The Rectus Abdominis is the most well-known muscle in the abdomen, as it is visible in the form and a "six-pack". This muscle starts at the pelvis and connects to the lower rib cage. It's main functions include aiding the spine in flexion to bend the lower back and tilting the pelvis to lift the hips. *Exercises – Abdominal Bridge, Sit Up, Leg Raise, Reverse Crunch, Crunch* 

The main component involved with the lower back is the <u>Erector Spinae</u>. The Erector Spinae is a bundle of muscles and tendons originating in the thoracic vertebrae of the vertebral column in the lower back. These muscles run all the way to the neck, and aid in stabilizing the trunk as well as aiding in good posture.

Exercises – Superman, Abdominal Bridge

The Hip Flexors play an important role in movement and stabilization of the hip. During exercises such as Sit Ups, Bicycle Crunches, and Leg Raises, your Hip Flexors work with your abdominal muscles. It is important to include this bundle of muscles, as they are vital not only to core strength, but to overall athletic ability as well because of the fact that they are involved in so many movements.



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## How Will a Strong Core Improve Performance?

In sports, very few movements involve isolating a single muscle group. Instead, your muscles work together for maximum performance. A strong core provides a solid base for all movements. It is only after your nervous system anticipates movement and stabilizes the spine that your arms and legs can produce force. In short, a strong core will allow you to harness more power. The result is more efficient movement, improved balance and more explosiveness. Also, your core muscles aid in shock absorption and reducing the risk of injuries, especially to the lower back.

### **Other benefits of core training include:**

- Improved Balance/ Stability
- Improved Posture
- Improved Muscular Power
- Improved Strength
- Decreased Injury Potential
- Increased Efficiency
- Correction of Imbalances/Weaknesses
- Better Sleep
- Increased Energy Levels
- SIX PACK!



EXERCISES	Program 1 (weeks 1-8)							
	Set 1		Set 2		Se	t 3	Set 4	
Upper/Lower Body						I		
Squats	20	20						
Push Ups	20	20						
Lunges	10ea.	10ea.						
Chair Dips	20	20						
Calf Raises	20	20						
CORE								
Crunches	30	30			30			
Reverse Crunches	30	30			30			
Leg Raises	30	30			30			
Straight Leg Sit Ups	30	30			30			
Aerobic Activity	Distance	Distance			Time			
Jogging	Set a 10 mir * 6 mph on tre	Set a 10 min. mile pace or faster * 6 mph on treadmill			20 minutes			
Anaerobic Activity	Time	Time			Sets		st	
Linear "Quick Step"	15 seconds	15 seconds			2		econds	
Lateral "Quick Step"	15 seconds	15 seconds			2		econds	



## Squat

#### **Description:**

- 1. Begin standing with feet shoulder-width apart and hands behind head.
- 2. Keeping your head and chest up, bend knees and sit hips back into a squat position.
- 3. Do not let knees come past toes and keep weight on the heels.
- 4. Once at lowest point of squat, return to starting position.

#### **Recommended Sets and Reps:**

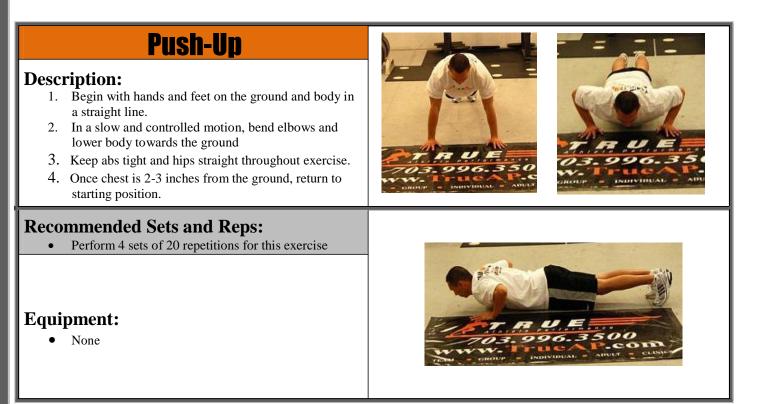
• Perform 4 sets of 20 repetitions for this exercise





### **Equipment:**

None





## Lunge

#### **Description:**

- 1. Begin standing in a lunge/ staggered stance with hands behind head.
- 2. Lunge down and bend back knee so that it is almost touching the ground.
- 3. Keep head and chest up and do not let front knee past your toe.
- 4. After 10 repetitions, repeat with other leg.

#### **Recommended Sets and Reps:**

• Perform 4 sets of 10 reps (each leg) for this exercise



### **Equipment:**

• None

Chair Dip	
<ul> <li><b>Description:</b> <ol> <li>Begin with hands on the bench/chair and legs out straight.</li> <li>Keeping good posture, bend elbows and lower hips toward the ground.</li> </ol> </li> <li>Once arms reach 90 degrees, squeeze triceps and return to starting position with arms straight.</li> </ul>	
Recommended Sets and Reps:         • Perform 4 sets of 20 repetitions for this exercise         Equipment:         • None	



## **Calf Raise**

#### **Description:**

- 1. Begin standing on step with the balls of your feet on the edge holding a pole or leaning hand against a wall.
- 2. Contract calf muscles to lift body in the air and hold at the top of the squeeze.
- 3. Slowly return to starting position before repeating.

#### **Recommended Sets and Reps:**

• Perform 4 sets of 20 repetitions for this exercise

### **Equipment:**

• None



## **Crunch**

#### **Description:**

- 1. Use abs to lift shoulders off ground, and then return to starting position.
- 2. Bring chin toward ceiling, not toward knees.
- 3. Feet remain on floor at all times.

### **Recommended Sets and Reps:**

• Perform 1 set of 30 repetitions for this exercise

#### **Equipment:**

• None







## **Reverse Crunch**

#### **Description:**

- 1. Lay on back and keep legs bent with heels close to butt.
- 2. Place hands next to hips with palms facing the ground.
- 3. Keeping the heels close to butt, bring knees into chest.
- 4. Squeeze at the top of the exercise and then slowly lower legs back to starting position.

#### **Recommended Sets and Reps:**

• Perform 1 set of 30 repetitions for this exercise

#### **Equipment:**

• None





## Leg Raise

#### **Description:**

- 1. Position hands under hips, with legs straight and on the ground.
- 2. Raise legs off ground and slowly lower.



#### **Recommended Sets and Reps:**

• Perform 1 set of 30 repetitions for this exercise

#### **Equipment:**

• None





## **Straight Leg Sit-Up**

#### **Description:**

- 1. Start with hands behind your ear, NOT NECK!
- 2. Use abdominal muscles to lift shoulders and back completely off the ground.
- 3. Legs remain flat on the ground throughout the exercise.

#### **Recommended Sets and Reps:**

• Perform 1 set of 30 repetitions for this exercise

#### **Equipment:**

None



## **Linear "Quick Step"**

### **Description:**

- 1. Begin standing on both feet, facing the step.
- 2. One foot at a time, step both feet onto the step as quickly as possible, and then quickly step off leading with the same leg.
- 3. Repeat and quickly as possible, staying on the balls of your feet.

### **Recommended Sets and Reps:**

• Perform 2 sets of 15 seconds for this exercise

### **Equipment:**

• Step











## Lateral "Quick Step"

#### **Description:**

- 1. Begin standing on both feet, facing parallel to the step.
- 2. One foot at a time, step both feet onto the step as quickly as possible, and then quickly step off leading with the same leg.
- 3. Repeat and quickly as possible, staying on the balls of your feet.

#### **Recommended Sets and Reps:**

• Perform 2 sets of 15 seconds for this exercise

### **Equipment:**

• Step







