

# Candidate

## Fitness Preparation Guide





# Candidate Fitness Preparation Guide



Candidates who attend the Recruit Academy must possess a high fitness level prior to and at the beginning of the Academy in order to complete the drills and fitness training required. Passing the C-PAT Test does not guarantee that the candidate possesses the fitness level required to complete the Recruit Academy or to perform emergency and routine operations associated with fire fighting and emergency medical services.

The fitness programs and training scenarios presented in the Recruit Academy will improve your fitness level regardless of your current ability, but you must possess the strength, endurance, stamina and aerobic fitness levels at the start of the Recruit Academy to ensure you can be successful throughout training as well as your career. Successful firefighters commit to a lifelong habit of maintaining a comprehensive fitness level and living a healthy lifestyle. The job of a firefighter requires a higher than average physical fitness level. In order to become the best firefighter and team member you can be, you need to be dedicated to getting into and staying in optimal physical condition.

Fire ground operations involve a sequence of movements and activities of various ranges of intensity. A first-in engine company may expect to perform a list of tasks in succession—for example, carrying and operating tools and equipment, placing and climbing ladders, pulling and advancing hose, climbing stairs, operating a hose stream, pushing and pulling ceilings and walls. In some situations, an engine company may be called on to accomplish all these tasks in a short time period. This scenario is similar to an exhausting full-body workout requiring muscle strength, muscular endurance, and pressure and flow stress on the cardio respiratory system.

Emergency medical services (EMS) and rescue tasks are often not as physically exhausting as the high-paced, high-intensity fire ground operations. However, lifting and assisting patients, extricating victims, and moving and operating equipment in a trench or at a collapse scene may require the rescuer to function in awkward and vulnerable positions and postures. Crawling or reaching into a vehicle to maneuver a patient onto a backboard requires core strength to protect from back injury. Rescuers can be in uncomfortable positions for extended periods of time, requiring stamina and mobility. Core and joint stability is especially important when training for Fire, EMS and rescue tasks.

Successful  
firefighters  
commit to a  
lifelong habit of  
maintaining a  
comprehensive  
fitness level and  
living a healthy  
lifestyle.





## Based on Fitness assessment result, place yourself in one of the three categories

Beginner, Intermediate or Advanced. Have a goal of reaching a minimum of intermediate before the start of the Fire academy while striving for Advanced. Being able to perform at the intermediate level will improve your chances of successfully completing the fire academy and reduce the risk of injury.

## SAMPLE WORK-OUT

**Week 1** through 3 perform this workout 3 days a week.

**Week 4** through 8 perform this workout 4 days a week.

**Week 9** through 12 perform this workout 5 days a week.

## WARM UP

Dynamic Warm up for at least ten minutes. Most people grew up thinking five to ten minutes of stretching before any type of physical activity was good for their bodies. The reason for stretching was twofold; to make sure your body was ready to play sports, and also to prevent injuries. Studies have now shown that this type of stretching, like touching your toes for 20 seconds, is no longer beneficial before a workout. The proper warm up technique that has been adopted by many is a dynamic warm-up. This is exactly what it sounds like: a warm up that increases muscle temperature and prepares the body to work.

### 1. Jog

Start jogging at 25 percent of your maximum speed and slowly increase to around 60 percent. Mark out around a 40 foot space and proceed to jog back and forth, starting slow and ending at an up-tempo jog. Make sure to pump your arms at the same rate as your legs.

### 2. Ankle Roll

The strengthening and warming of ankles are often forgotten, but they're an important part of every physical activity and they require some maintenance. Start with one foot and begin to move your foot clockwise in circles, and then reverse the motion to counter-clockwise. After one ankle is warm move to the next foot.

### 3. Butt Kickers

In a 40 foot space, start jogging and proceed to kick your feet back towards the rear. Technically, the heel of your foot should be touching your rear while jogging forward. This warm up focuses on the quadriceps.

### 4. Lateral Shuffle

Start with your feet facing forward and both feet parallel with one another. Begin to shuffle, keeping both feet forward and avoid pointing feet in the direction that you're going. This shuffle should be done at a quick pace. Once you've completed one set of lateral shuffles, begin to shuffle facing the opposite direction.

### 5. Neck Roll

One of the worst feelings during a workout is when your neck begins to tighten up. To avoid that, try to warm the neck by rolling it. Begin by rolling your neck slowly clockwise and then switch to counter-clockwise. This exercise should help neck mobility during your workout.

### 6. Side Twist

This exercise ensures that there will be little tightening in the mid-section of your body. Start facing forward and begin to twist your core, while keeping your hips facing forward. Start slow and speed up until your core feels warm.

### 7. Arm Hugs

The simplest way to explain this exercise is that it's the same, famous arm swing that Michael Phelps did before every race in the Olympics. Start with arms extended laterally and then proceed to make a motion of hugging yourself. When your arms are hugging your body, extend them back out. Begin this motion at a slow pace and then increase the speed. Continue this exercise until your arms and shoulders feel warm.

### 8. Windmills

Begin with both arms at your side, and then start to make circles simultaneously with both arms. The range of motion should start small and slow, but then slowly increase to big and fast. This exercise should be performed until shoulders feel warm and energetic.

### 9. Knee Highs

Face forward and proceed to start jogging while kicking your knee towards your chest. Make sure you focus on correct form. If it helps, you can extend your hands out at chest height and have your knees touch your hands.

### 10. Back Pedaling

Start with your back facing the targeted position and begin to back pedal. The key to this is that you stay on the balls of your feet the entire time, otherwise back pedaling on your heels will lead to balance loss and a possible fall. Start slowly and then speed up until you feel warm. These ten dynamic warm up routines should help firefighters feel warm and ready to go before their work out.

# Pre-Academy Physical Fitness



To ensure optimal performance during the academy, we strongly encourage you to begin working out on your own to develop the mobility, strength, endurance, and metabolic fitness levels that will help you be successful as an Aurora Fire Department recruit and firefighter.

These eight areas are provided to guide you in your preparation for the Recruit Academy. They will also assist you during your career, providing exceptional service and a long healthy career. Each component is equally important and should be performed during your preparation and career.

## **Fitness Assessment**

A fitness assessment provides a firefighter with a starting point. This will give you a base line and allow you to progress at a consistent rate.

## **Movement preparation**

Movement prep helps you prepare yourself both physically and mentally for your workout. It increases your heart rate, core temperature and blood flow to working muscles. Movement prep warms up the body.

## **Prehabilitation**

Prehab is a series of strengthening and stabilization exercises designed to target areas prone to injury: the hips, back/core and shoulders. Prehab should be done along with movement prep and in conjunction with a resistance training program.

## **Resistance training**

Resistance training provides increased muscle strength, power and endurance. Resistance training will provide firefighters the ability to perform at a high level. Utilizing free weights and kettlebells are two examples of resistance training.

## **Mobility and Flexibility**

Mobility and flexibility decreases the risk of injury through increased range of motion and increased joint mobility. Mobility and flexibility facilitates a high level of physical fitness.

## **Cardio Respiratory Training**

Cardio respiratory fitness is an important component of firefighting. It includes both base training and interval training (metabolic systems training). Base training consists of bouts that

last 20 to 30 minutes and should be performed 3-4 days per week. Interval training consists of high speed, high intensity work followed by a recovery period of rest or low activity.

## **Regeneration and recovery**

Regeneration facilitates an active recovery that allows the body to improve and adapt to stress. It provides increased circulation increases nutrients into the muscles and speeds recovery.

## **Nutrition**

Nutrition is a key component for providing your body with the proper fuel for firefighting. Proper nutrition is essential for maintaining health and career longevity.

Aurora Fire Department does not endorse any one specific nutrition plan. However, these 5 nutritional guidelines have demonstrated successful results.

**Following these guidelines will help prepare you for the demands of the recruit academy and further more the demands of the job.**

To ensure optimal performance during the academy, we strongly encourage you to begin working out on your own to develop the mobility, strength, endurance, and metabolic fitness levels that will help you be successful as an Aurora Fire Department recruit and firefighter.

**The Preparation Guide is divided into eight categories:**

- (1) Fitness Assessment
- (2) Movement Preparation
- (3) Prehabilitation
- (4) Resistance Training
- (5) Mobility and Flexibility
- (6) Cardio Respiratory Training
- (7) Regeneration and Recovery
- (8) Nutrition. Each component is equally important and should be included in your comprehensive fitness program.

Before participating in any exercise program of moderate to high intensity, the American Council of Exercise (ACE) and the Aurora Fire Department recommend everyone have a medical evaluation.

**Fitness Guidelines**

- Warm up for at least five minutes before each workout. This allows the body to prepare for the demands of the exercise session. You should not stretch until you are properly warmed up.
- Pay particular attention to how you feel during the exercise session. If you become lightheaded, dizzy, nauseous, experience chest pain or severe joint pain, you should immediately stop exercising.
- Set realistic goals. Increase your intensity or duration by no more than 10% each week.

- Be sure to cool down after every exercise bout. The cool-down period provides many benefits. It provides muscular relaxation and allows for the removal of metabolic waste. Cool down is a group of exercises, such as low-intensity aerobic activities, regeneration and recovery that will allow the body to relax and return to a pre-exercise state. Stretching is highly recommended as part of the cool down.



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## PRE-ACADEMY PHYSICAL FITNESS

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- 1. Fitness Assessment:** A fitness assessment provides a firefighter with a starting point. This will give you a base line and allow you to progress at a consistent rate.
- 2. Movement preparation:** Movement prep helps you prepare yourself both physically and mentally for your workout. It increases your heart rate, core temperature and blood flow to working muscles. Movement prep warms up the body.
- 3. Prehabilitation:** Prehab is a series of strengthening and stabilization exercises designed to target areas prone to injury: the hips, back/core and shoulders. Prehab should be done along with movement prep and in conjunction with a resistance training program.
- 4. Resistance training:** Resistance training provides increased muscle strength, power and endurance. Resistance training will provide firefighters the ability to perform at a high level. Utilizing free weights and kettlebells are two examples of resistance training.
- 5. Mobility and Flexibility:** Mobility and flexibility decreases the risk of injury through increased range of motion and increased joint mobility. Mobility and flexibility facilitates a high level of physical fitness.
- 6. Cardio Respiratory Training:** Cardio respiratory fitness is an important component of firefighting. It includes both base training and interval training (metabolic systems training). Base training consists of bouts that last 20 to 30 minutes and should be performed 3-4 days per week. Interval training consists of high speed, high intensity work followed by a recovery period of rest or low activity.
- 7. Regeneration and recovery:** Regeneration facilitates an active recovery that allows the body to improve and adapt to stress. It provides increased circulation increases nutrients into the muscles and speeds recovery.
- 8. Nutrition:** Nutrition is a key component for providing your body with the proper fuel for firefighting. Proper nutrition is essential for maintaining health and career longevity.

Aurora Fire Department does not endorse any one specific nutrition plan. However, these 5 nutritional guidelines have demonstrated successful results. Following these guidelines will help prepare you for the demands of the recruit academy and further more the demands of the job.





# Fitness Assessment



Perform this Fitness assessment to determine what level you should start at Beginner, Intermediate or Advanced.

As you progress through the 12 week program reassess yourself every 3 weeks to determine if you should proceed to the next level.

## Exercise demo link:

<http://www.crossfit.com/cf-info/exercise.html>

### Beginner

35 Push-Ups in 1 Minute

35 Air-Squats in 1 Minute

12 Burpee's in Minute

1.5 Mile Run in under 15 Minutes

2000 meter Row under 9:30 Minute

### Intermediate

45 Push-Ups in 1 Minute

45 Air-Squats in 1 Minute

15 Burpee's in Minute

1.5 Mile Run in under 13:30 Minutes

2000 meter Row under 9:00 Minute

### Advanced

55 Push-Ups in 1 Minute

55 Air-Squats

18 Burpee's in 1 Minutes

1.5 Mile Run under 12 Minutes

2000 meter Row under 8:30





# Movement Preparation



## I. Definition of Movement Prep

- Movement Prep is a series of dynamic warm-up exercise.
- Each movement is performed for five to ten repetitions
- Movement Prep exercises are dynamic mobility exercises that actively extend and contract the muscles and increase range of motion in the joints
- Movement Prep helps to stabilize the joints, improve posture and performance and decrease the risk of injury by preparing the body for random, chaotic movement

## II. Goals of Movement Prep

- a. Prepare the body for movement
- b. Boost heart rate
- c. Increase blood flow to muscles
- d. Raise core temperature
- e. Stimulate the nervous system
- f. Increase range of motion

## III. Benefits of Movement Prep

- a. Improved mobility
- b. Increased flexibility
- c. Increased stability
- d. Increased speed and power output
- e. Improved balance
- f. Increased proprioception



## Mini-Band External Rotation

### Start Position

Stand with mini-band around knees, feet hip-width apart.

### Procedure

Step out to side, feet wider than hip-width apart. Sit back into a quarter-squat position (also known as an athletic stance). While keeping your left leg stationary, rotate your right knee in-and-out for the prescribed number of reps. Switch legs and repeat.

### Coaching Keys

Keep both feet flat on the ground and your pelvis stable. Don't let the knee of your stationary leg drop in.

**You should feel it in your glutes.**

## Mini-Band Linear Walk

### Start Position

Stand in a quarter-squat position, with feet shoulder-width apart and mini-band above knees.

### Procedure

Push off with the right leg and step forward with the left. Step right foot forward, even with left foot. Push off with left leg and step forward with the right. Continue for the prescribed number of repetitions, continuing to move forward.

### Coaching Keys

Keep chest up and spine neutral. Keep knees pushed apart and over toes at all times. Keep tension on the mini-band at all times. Do not let feet come together.

**You should feel it working your glutes.**

## Mini-Band Straight Leg Walk

### Start Position

Stand with feet shoulder-width apart, legs straight and mini-band above knees.

### Procedure

Push off with the right leg and step forward with the left. Step right foot forward, even with left foot. Push off with left leg and step forward with the right. Continue for the prescribed number of repetitions, continuing to move forward.

### Coaching Keys

Keep chest up, spine neutral and legs straight. Keep knees pushed apart and over toes at all times. Keep tension on the mini-band at all times. Do not let feet come together.

**You should feel it working your glutes.**

## Mini-Band Lateral Walk

### Start Position

Stand in a quarter-squat position, feet shoulder-width apart and mini-band above knees.

### Procedure

Move to the left, pushing off with the right leg and stepping **laterally** with the left leg. Bring the right foot back to the starting position. Continue for the prescribed number of repetitions, continually moving to the left. Repeat moving laterally to the right.

### Coaching Keys

Keep chest up and spine neutral. Keep knees apart and over toes at all times. Keep tension on the mini-band at all times. Do not let feet come together.

**You should feel it working your glutes.**

## Hip Crossover: Level 1

### Start Position

Lie face up, arms extended out to the sides, knees bent and together and heels together on the floor. Keep toes pulled toward shins.

### Procedure

In a controlled manner let knees fall to the right as far as you can keeping shoulders in contact with the ground, while turning your head to the left. Bring knees back to center and repeat to the left side. Continue for the prescribed number of repetitions.

### Coaching Tips

Keep feet, hips, spine and shoulders in contact with the ground throughout the entire movement. Keep the knees together and keep the abdominals tight.

**You should feel core activation and a stretch in the back, hips and glutes.**

## Hip Crossover: Level 2

### Start Position

Lie face up, arms extended out to sides, legs raised with knees bent at a 90° angle and directly over hips. Keep toes pulled toward shins.

### Procedure

In a controlled manner let knees fall to the right as far as you can keeping shoulders in contact with the ground, while turning your head to the left. Bring knees back to the center and repeat to the left side. Continue for prescribed number of repetitions.

### Coaching Tips

Keep spine, hips and shoulders in contact with the ground throughout the entire movement. Keep knees together and core engaged.

**You should feel core activation and a stretch in the back, hips and glutes.**



## **Calf Stretch**

### **Start Position**

From a pike position, place your right foot over your left heel with your weight on the ball of your left foot.

### **Procedure**

Press left heel into ground, pulling toes of your left foot up toward shin and using your right foot to apply pressure on your left heel. Release the stretch by rising up onto your toes. Repeat for prescribed number of repetitions. Repeat on the right.

### **Coaching Tips**

Pull toes forward the shin when pushing the heel down.

**You should feel a stretch in your calf, ankle and achilles tendon.**

## **Lunge With a Twist: Level 1**

### **Start Position**

Standing with feet hip-width apart.

### **Procedure**

Step forward with left foot and lower into a lunge position with knee directly over ankle. Rotate torso toward the left leg. Rotate back to lunge position and return to standing position by pushing off left foot and pulling right leg forward with right hip flexors. Immediately step forward into a lunge with the right leg and repeat sequence to the right. Continue for prescribed number of repetitions, alternating legs.

### **Coaching Tips**

Maintain upright posture and a neutral spine throughout the movement. Maintain a 90° angle in the front leg and do not let the front knee slide past the front foot.

## **Lunge With a Twist: Level 2**

### **Start Position**

Standing with feet hip-width apart.

### **Procedure**

Step forward with the right foot into a lunge position. Rotate torso toward right leg while reaching back with the right arm and reaching up with the left arm. Rotate back to lunge position and return to standing position by driving off right foot and pulling through with left hip flexors. Immediately step into a lunge with the right leg.

### **Coaching Tips**

Maintain upright posture and neutral spine throughout the movement. Maintain a 90° angle in the front leg and do not let the front knee slide past the front foot.

**You should feel a stretch in the hip flexors of the back leg, glutes of the front leg and torso.**

## **Forward Lunge Elbow to Instep**

### **Start Position**

Standing with feet hip-width apart.

### **Procedure**

Pull right knee to chest and step forward into a lunge with the left foot. Place left hand on ground next to left foot and press left elbow into left knee, hold stretch for two seconds. Place left hand outside the left foot and push hips toward the sky, straightening left leg. Drop hips back into lunge position and step into next repetition with the right leg. Continue for prescribed number of repetitions, alternating legs.

### **Coaching Tips**

Keep the back knee off ground.

**You should feel a stretch in the back leg hip flexors, front leg glutes and hamstrings.**





# Prehabilitation



## Definition of Prehab

Prehab is a series of strengthening and stabilization exercises designed to target areas prone to injury: the hips, back/core, and shoulders.

These exercises should be done along with Movement Prep and in conjunction with a Resistance Training program.

Each exercise should be done for 8-10 repetitions.

## Goals of Prehab

Optimize mobility, balance, stability, and joint function.

Decrease potential for injury.

Improve performance.

Correct muscle asymmetries and dysfunctional movement patterns.

## Benefits of Prehab

Improve posture and structural alignment of the spine and joints.

More efficient joint movement.

Strengthen injury-prone areas.



# Front Pillar Bridge

## Start Position

Lie face down with elbows bent and positioned directly under shoulders.

## Procedure

Flex ankles so toes are on the floor (pic 1). Maintaining a neutral spine, contract abdominals, glutes, and thighs and slowly lift your body off the ground as one unit so only the toes, forearms, and hands are in contact with the floor. Keep head in a neutral position by tucking chin slightly and looking at your hands.

Hold position longer for increased difficulty.

## Coaching Tips

Keep the hips down and body in a straight line. Pull the belly button toward the spine and keep the glutes, thighs and core muscles contracted. Breathe into your diaphragm slowly and evenly.

**You should feel tension throughout the core, glutes, and legs.**



# Side Pillar Bridge

## Start Position

Lie on side with forearm in contact with floor and elbow directly under shoulder.

## Procedure

Stack right leg on top of left leg and slowly lift hips off floor so that only the elbow, forearm, and edge of bottom foot are in contact with the ground, creating a straight line from ankle to shoulder. Keep upper body straight, do not let the top shoulder roll forward or hips sag.

Hold position longer for increased difficulty. Repeat on the other side.

## Coaching Tips

Keep the hips up and body in a straight line. Pull the belly button toward the spine and keep glute and leg muscles contracted. Keep breathing slow and even.

**You should feel tension in the obliques, core, and glutes.**







**Pic 3**



**Pic 4**

## Glute Bridge

### Start Position

Lie face up on the ground with arms extended out to sides, knees bent with heels on the ground (pic 3).

### Procedure

Contract the glutes and push through feet to lift the hips off the ground. Knees, hips, and shoulders should be in straight line (pic 4).

Hold the position for several seconds and return to start position. Repeat entire sequence.

### Coaching Tips

Keep knees together and do not arch back.

**You should feel tension in the glutes, hamstrings, and core.**



**Pic 5**



**Pic 6**

## Glute Bridge with Adduction

### Start Position

Lie face up on the ground with arms extended out to side and knees bent with heels on the ground (pic 3).

### Procedure

Place a pad, rolled towel, or ball between the knees (pic 5) and squeeze the object as the hips are lifted (pic 6).

To lift hips follow the same sequence as in the basic Glute Bridge exercise.

### Coaching Tips

Keep the knees together and do not arch the back.

**You should feel tension in the glutes, hamstrings, and core.**

## Side-lying Hip Abduction

### Start Position

Lie on side with head resting on bottom arm, legs straight and stacked (pic 7)

### Procedure

Contract the glutes and lift top leg toward the sky (pic 8) keeping the toes pulled toward your shin.

Return to start position and repeat. Switch legs.

### Coaching Tips

Keep the belly button drawn in. Keep toes parallel to the ground.

**You should feel tension in the glutes of the top leg.**



**Pic 7**



**Pic 8**

## Side-lying Hip Adduction

### Start Position

Lie on side with head resting on bottom arm, bottom leg straight, and top leg bent with the foot on the ground in front of the bottom knee (pic 9).

### Procedure

Contract the adductors to lift the bottom leg toward the sky (pic 10), keeping the toes pulled toward the shin.

Return to start position and repeat. Switch legs.

### Coaching Tips

Keep belly button drawn in. Keep toes parallel to the ground.

**You should feel tension in the inner thigh of bottom leg.**



**Pic 9**



**Pic 10**



**Pic 11**



**Pic 12**



**Pic 13**

## Quadruped Circles

### Start Position

In a quadrupedal position (hands and knees, pic 11) with belly button drawn in and shoulder blades squeezed together.

### Procedure

Tuck the right knee into the chest, lift the leg out to the side with the toes pulled toward shin (pic 12), rotate the leg back, driving heel up toward ceiling (pic 13), and complete the leg rotation by tucking the leg back into the chest.

Reverse the rotation. Repeat on other leg.

### Coaching Tips

Keep belly button drawn in and hips square to the floor throughout the movement. Keep the back straight and the head in line with the spine (look at your hands).

**You should feel tension in the glutes, hips, and core.**

**NOTE: The next few exercise are called the “Y, T, W” and “L” series.**

**This series of exercises can be done in the standing position.**



**Pic 14**



**Pic 15**



**Pic 16**

## Physioball “Y”

### Start Position

Lie face down with stomach on a stability ball, keep back straight and chest lifted off ball (pic 14 ⇒ pic 15).

### Procedure

Glide shoulder blades back and down (pic 15 ⇒ pic 16) and raise the arms overhead to form a “Y” (pic 16).

Reverse direction to return to start position. Repeat.

### Coaching Tips

Initiate movement by squeezing the shoulder blades together. Keep the thumbs pointing up throughout the entire movement.

**You should feel tension in shoulders and upper back.**

## Physioball “T”

### Start Position

Lie face down with stomach on a stability ball, back straight and chest lifted off the ball (pic 17).

### Procedure

Glide shoulder blades back and down and raise the arms out to the side to form a “T” (pic 18).

Reverse direction and return to start position. Repeat.

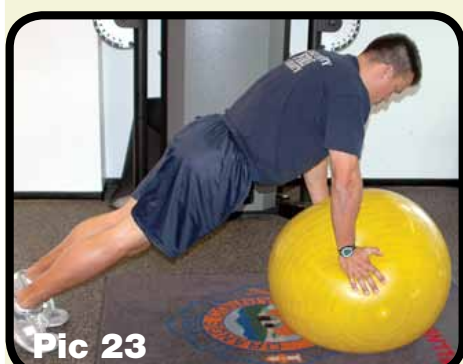
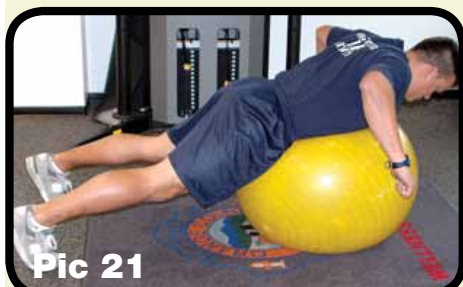
### Coaching Tips

Initiate movement by squeezing the shoulder blades together. Keep the thumbs pointing up throughout the entire movement.

**You should feel tension in the shoulders and upper back.**







## Physioball “L”

### Start Position

Lie face down with stomach on a stability ball, keep back straight and chest lifted off the ball (pic 17).

### Procedure

Bend elbows to 90° angles (pic 19). Glide shoulder blades back and down, then push elbows toward the ceiling (pic 21). To complete movement rotate arms, pushing the back of the hands toward the ceiling (pic 22).

Reverse direction to return to start position. Repeat.

### Coaching Tips

Initiate movement by squeezing the shoulder blades together. Keep the thumbs pointing up throughout the entire movement.

**You should feel tension in the shoulders and upper back.**

## Physioball Push-Up

### Start Position

Push-up position with hands on a stability ball and toes on the floor (pic 23).

### Procedure

Keeping back straight and belly button drawn in, lower the chest toward the ball, stopping when the elbows are at a 90° angle (pic 24).

Slowly push the body back up to start position.

### Coaching Tips

Maintain core engagement throughout the entire movement. Keep back straight and head in line with the spine (look at floor in front of ball). Keep fingers pointed down the sides of the ball.

**You should feel tension in the core, glutes, shoulders, chest and arms.**



# Core Training



## I. Benefits of Physioball Training

- a. Challenges the neuromuscular system to balance and stabilize the core
- b. Challenges proprioception, forcing the recruitment of more muscles
- c. Challenges normal range of motion
- d. Requires correct posture be maintained
- e. Requires use of the muscles as an integrated system
- f. Movements are functional and translate to real-life movements
- g. Can be used for strength or flexibility training and for a wide variety of people
- h. Can incorporate a variety of exercises to improve strength, flexibility, and balance
- i. Light and easy to store or transport

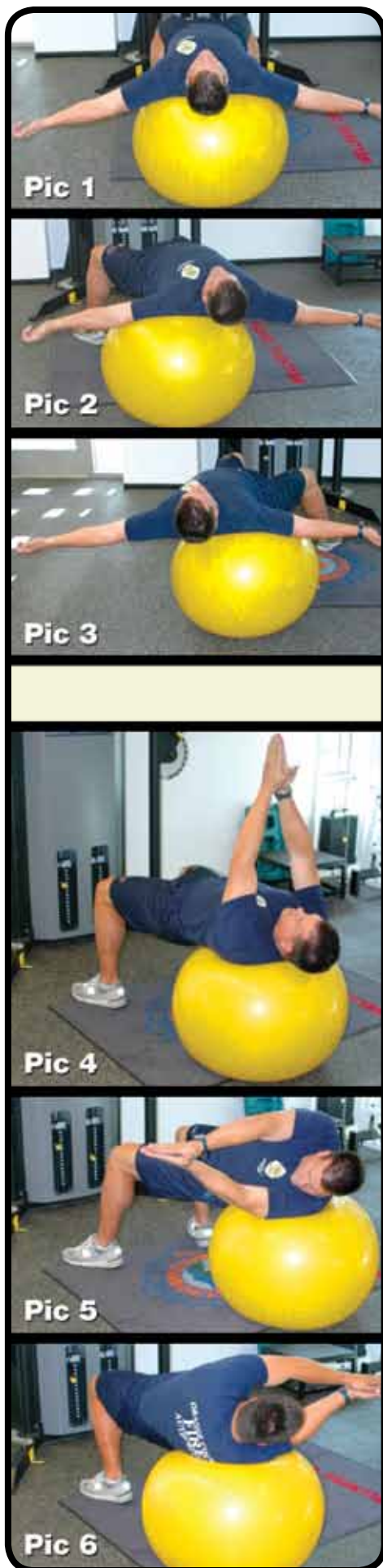
## II. Choosing the Right Size Physioball

- a. If you are sitting on the ball with your feet flat, your hips and knees should form a 90° angle with each other
- b. Inflating the ball: inflate the ball to its height (a 65cm ball should measure the height of a straight line from the floor to the top of the ball)

## III. Physioball Safety

- a. Always warm up before starting a workout
- b. Only one person per ball when performing exercises
- c. Inspect the ball for gouges, cuts or other deformations prior to each workout
- d. Do not use the ball on slippery surfaces





## Lateral Physioball Roll

### Start Position

Lie on a physioball with upper back and shoulder blades on the ball and hips pushed up so thighs are parallel to the floor and body is in a straight line from head to knees (pic 1). Arms should be out at the sides raised to shoulder level (pic 2) with thumbs pointing back (toward the head) and down (toward the floor).

### Procedure

Keeping hips still and thighs parallel to the floor, roll the ball toward the left arm as far as you can remain controlled (pic 3).

Return to the start position and repeat to the other side.

### Coaching Tips

Keep the hips up throughout the entire movement. Engage the core and glutes.

**You should feel tension in the core, back, hips, and shoulders.**

## Physioball Russian Twist

### Start Position

Lie on a physioball with upper back and shoulder blades on the ball and hips pushed up so thighs are parallel to the floor and body is a straight line from the head to the knees (pic 1). Extend arms straight out and up toward the ceiling, palms together (pic 4).

### Procedure:

Keep hips still and thighs parallel to the floor, rotate arms to the left as far as control can be maintained (pic 5).

Return to the start position and repeat to the other side (pic 6).

### Coaching Tips

Keep hips up and thighs parallel to floor throughout the entire movement. Engage the core and glutes.

**You should feel tension in the core, back, hips, and shoulders.**



# Physioball Crunch

## Start Position

Lie on a physioball with back arched over the ball. Extend arms straight up toward the ceiling with palms open (pic 7). An optional method is to hold a weight in your hands.

## Procedure

Keeping the hips still, contract the abdominals to bring the torso up and push your hands (or the weight) toward the ceiling.

Return to the start position and repeat.

## Coaching Tips

Relax the neck and shoulders.

**You should feel tension in the core, back, and arms.**

# Physioball Knee Tuck

## Start Position

In a prone position with hands placed directly under the shoulders and shins and feet on a physioball (pic 9).

## Procedure

Keeping the hips up, contract the abdominals to lift hips toward the ceiling, rolling the ball toward the hands with the feet (pic 10).

Slowly roll the ball back to return to the start position and repeat.

## Coaching Tips

Contract the core and glutes throughout the entire movement. Keep breathing slow and controlled.

**You should feel tension in the core, back and arms.**

# Physioball Reverse Hyperextension

## Start Position

In a prone position with hands placed directly under the shoulders and stomach and hips on a physioball (pic 11).

## Procedure

Keeping upper body still and legs straight, contract glutes and raise legs toward ceiling.

Slowly lower legs to return to the start position and repeat.

## Coaching Tips

Keep head in a neutral position with eyes on the floor. Relax neck and shoulders.

**You should feel tension in the back and glutes.**





**Pic 13**



**Pic 14**



**Pic 15**



**Pic 16**



**Pic 17**



**Pic 18**

## Physioball Superman

### Start Position

In a prone position with hands placed directly under the shoulders and stomach and hips on a physioball, toes on floor (pic 13).

### Procedure

Keeping torso still, contract glutes and raise left leg straight up toward the ceiling while simultaneously extending the right arm and raising it to shoulder level (pic 14).

Slowly lower to the start position and repeat with the opposite leg and opposite arm.

### Coaching Tips

Keep head in a neutral position. Keep the working arm and leg straight when extending. Do not lift the arm higher than shoulder level and do not lift the leg higher than hip level.

**You should feel tension in the back, glutes, and shoulders.**

## Physioball Reverse Crunch

### Start Position

In a supine position with hands palms down on the floor and a physioball between the legs (pic 15).

### Procedure

Keeping torso, head, shoulders, and back on the floor—engage core and squeeze physioball with legs while slowly lifting the ball toward the chest (pic 16).

Slowly lower to the start position and repeat.

### Coaching Tips

Keep the abdominals contracted and only lift ball as far as you can maintain your pelvis in contact with the floor. Keep breathing slow and controlled.

**You should feel tension in the core.**

## Physioball Bridge

### Start Position

In a supine position with arms out to sides and hands palms up and legs extended with feet on a physioball (pic 17).

### Procedure

Squeeze glutes and contract core to lift hips and back off floor so that only head, shoulders, and arms remain in contact with the floor (pic 18).

Body should be a straight line from shoulders to ankles.

### Coaching Tips

Keep the core engaged and only lift the hips as far as comfortably possible.

**You should feel tension in the core and glutes.**

# Resistance-Training Principles



## DEFINITIONS

- **Intensity and Volume:** “intensity” is the amount of weight lifted; “volume” is calculated from the amount of weight lifted and how many times that weight is lifted.
- **Muscular Endurance:** generally reflects how long a muscle can work before becoming fatigued.
- **Muscular Strength:** determined by the maximum amount of weight that can be lifted once. The 1-RM value is a measurement of muscular strength.
- **“1-RM”:** stands for “1 repetition maximum.” The most weight you can lift one-time-only is your “1-RM” for that exercise. So, if you can only bench-press 120 lbs once, then your 1-RM for that exercise is 120 lbs. If you can bench-press a particular weight 8 times in a row (but no more than that), then that weight is known as your “8-RM.” Thus, as you progress from 8-RM to 6-RM to 4-RM, the amount of weight increases.

## TYPES OF SETS

A “set” is one series of repetitions. If you bench-press a certain weight 12 times, rest 5 minutes, and then bench-press it again 12 more times, you have done 2 sets of 12 reps. Here are some terms for other types of sets:

- **Straight Sets:** the “standard” weight-lifting workout: a number of reps followed by a rest period, then one or more sets of that same exercise.
- **Super Sets:** a set of each of two different exercises performed back-to-back without resting between each one.
- **Tri-Sets:** Three different exercises performed one after another, without any rest in between.
- **Drop Sets (aka, descending sets):** Three or four sets of one exercise performed without rest, using a lighter weight with each successive set.
- **Circuit Sets:** a series of exercises (usually 6) that are completed in succession, without rest. (Work – Capacity)

Next, let’s discuss the concept of adaptation.

## STRESS LEADS TO ADAPTATION

The concept of a “general adaptation” response as it pertains to human physiology was first proposed by Hans Selye, MD, PhD. During his second year of medical school (1926), he began developing his now-famous theory of the influence of physiologic stress on the body’s ability to cope with and adapt to the pressures of injury and disease. He discovered that patients with a variety of ailments manifested many similar symptoms, which he ultimately attributed to their bodies’ efforts to respond to the stresses of being ill. He called this collection of symptoms “stress syndrome,” or the general adaptation syndrome (GAS).

Today, we know that the human body has an amazing capacity to adapt. And this can be demonstrated in terms of fitness, too. For example, when subjected repeatedly to strenuous aerobic



exertion, a myriad of changes begin to occur in the cardiovascular system. Stroke volume increases tremendously and capillary growth is stimulated to help deliver more oxygen to muscles. These 2 factors in turn lead to a decrease in resting heart rate since the efficiency of oxygen uptake by skeletal muscle is improved.

Metabolic adaptations occur, too. The body gets more efficient at utilizing not only oxygen, but also, carbohydrates and fats for energy. The sweating reflex becomes more efficient if you train in hot/humid conditions. Training at an elevated altitude stimulates red blood cell production to compensate for the lower amount of oxygen in the air.

Each of the above examples qualifies as “physiologic stress.” These changes take several weeks to months to develop. It is important to think of stress in this case as neither positive nor negative, but, rather, as simply a “challenge” to the status quo of a particular system in the body.

## **RESISTANCE-TRAINING VARIABLES: SPECIFICITY AND INTENSITY**

The “general adaptation response” also applies to resistance training. It seems like such a simple concept: Muscles get stronger as a result of being forced to contract against higher amounts of resistance.

However, when weights are used to produce increases in strength, variables such as how much weight you lift and how many repetitions you do can yield vastly different results.

### **Consider the following theoretical example:**

A 17-year-old, 180-lb high-school football player can bench-press more than a 44-year-old 200-lb full-time carpenter. How is it possible that a teenager is actually stronger than a grown man who swings a hammer all week long?

The answer lies in 2 explanations: (a) specificity and (b) the amount of weight each person “works out” with.

Even though both men are doing exercises that challenge their triceps muscle, and, even though the carpenter may swing that hammer 1000 times per week, the hammer weighs less than 2 pounds. The high-school football player, however, regularly performs bench press exercise with 150 lbs on the barbell. So, in this case, the “intensity” of exercise for the carpenter is extremely low.

Second, muscles respond in a very specific way. The motion of swinging a hammer is much different than the motion of the bench press. Yes, both “exercises” require contraction of the triceps muscle, but that’s where the similarity ends. Pounding nails with a hammer involves movement more like a triceps extension, whereas the bench press requires substantial contribution from the deltoids and pectorals as well as the triceps. Thus, if we put both men on the bench-press and assessed their 1-RM, the high school football player would likely record a higher value (assuming the high-schooler had been practicing the bench press for at least several weeks prior to the test).

If, however, we measured forearm (grip) strength, we might find that this muscle group is much stronger in the carpenter than the same

muscle group for the high-school football player. Here again, the explanation is specificity of exercise. Swinging a hammer requires a tremendous amount of forearm strength (and muscle endurance). The bench press does not really challenge the forearm muscles in the same manner.

## **INCREASING MUSCULAR STRENGTH: THE OVERLOAD PRINCIPLE**

So, specificity of exercise is important for building muscle strength. This brings us back to Hans Selye’s concept of overload. Regardless of whether we are talking about males vs. females, old subjects vs. young, endogenous testosterone levels, or grams of protein in the daily diet, the #1 most important factor in developing muscular strength is the amount of resistance (i.e., the amount of weight lifted). When a muscle is repeatedly forced to contract against resistance, it responds by getting stronger.

An almost unbelievable example of the capacity of the muscular system to adapt is represented by Gene Rychlak: In November 2003, at the International Power lifting Assoc. championships in Harrisburg, PA, 35-year-old Rychlak bench-pressed...900 pounds!

So, somewhere between a 2-lb hammer, and a 900-lb barbell, is the “magic” weight that stimulates muscle strength to increase.

According to William Kraemer, PhD, that magic weight lies between 50% and 100% of the 1-RM for a given muscle group (Kraemer WJ. 2003).

CALCULATING YOUR 1-RM

So, how are 1-RM values determined? One method that is NOT endorsed is to load up a barbell with the most weight you have ever lifted and see if you can lift that weight once. Not only do some health clubs prohibit this, but you can get injured.

Instead, use a weight that you know you can lift 4-10 times in a row. (Collegiate and NFL football players are typically tested using a standard 225-lb bench press test.) Do as many reps with that weight as you can. Then, plug the weight and the number of reps into this equation:

Weight / [1.0278 - (0.0278 x no. of reps)] = 1-RM

For example, if you can bench-press 120 lbs five times in a row, then your 1-RM for the bench-press is 135 pounds.

This formula is known as the Brzycki equation (Brzycki M. 1993). At least 11 different equations have been derived to calculate 1-RM, but the Brzycki equation is regarded as very accurate (Mayhew JL, et al. 1995). Other equations are also good, however the validity of all of these equations (for predicting 1-RM) is best when the number of repetitions is kept low (Mayhew JL, et al. 1995) (Whisenant MJ, et al. 2003).

While your personal 1-RM values might be worth bragging rights, the real purpose for knowing these limits for each exercise is to have a basis for designing your training regimen (see chart). There is more to lifting weights than simply picking up a barbell and trying to lift it as

many times as you can. Serious body-builders and weight-lifters often have elaborate regimens that they follow.

Now we can discuss how the 1-RM value is used to design a specific resistance-training program....

USING THE 1-RM VALUE TO DESIGN RESISTANCE-TRAINING REGIMENS

The 2 main points required to design a resistance-training regimen are:

- a) Know your 1-RM value for each exercise.
- b) Decide whether you want to build maximum strength and power, strength and size, or muscular endurance.

To maximize increases in strength, use higher weights (eg. 8-RM to 4-RM) and perform fewer repetitions. To increase muscular endurance, generally you would do the opposite.

Here is an example of how different weight-repetition combinations can achieve different results:

- Resistance exercise for the back: Stuart McGill, PhD, a professor at University of Waterloo in Ontario, and a leading authority on back pain and rehabilitation, points out

that, to rehab the back muscles, the best strategy is to use a low amount of weight and a relatively high number of repetitions. For example, in a Norwegian study, the exercise program had subjects perform 2-3 sets of 20-30 reps for each back exercise (Torstensen TA, 1998).

- Resistance exercise for cycling: Conversely, in a recent study of resistance-training to improve performance in cyclists (Loveless DJ, et al. 2005); the following formula was used to build leg strength:
  - squats performed at 85% of 1-RM
  - 5 reps per set
  - 4 sets on each exercise day
  - 3 days per week for 8 weeks

In the back exercise study, subjects performed as many as 90 reps per exercise. But, in the cycling study, subjects performed no more than 20 reps per exercise. This illustrates how resistance-training programs can be designed to develop muscle endurance (eg., low weight with high number of reps) or muscle strength and power (eg., heavy amounts of weight with a low number of reps).

"F.I.T.T."	TO DEVELOP MUSCULAR STRENGTH	TO DEVELOP MUSCULAR ENDURANCE
F (frequency)	2-3 days/week (rest each muscle group for 48 hrs after training)	2-3 days/week (rest each muscle group for 48 hrs after training)
I (intensity)	Use a weight that causes muscle "failure" after 8-12 reps	Use a weight that causes muscle "failure" after 20-30 reps
T (time)	Perform 1-3 sets of each exercise	Perform 1-3 sets of each exercise
T (type)	<ul style="list-style-type: none"><li>• free weights</li><li>• weight machines</li><li>• resistance bands</li><li>• push-ups</li><li>• pull-ups</li><li>• dips</li><li>• crunches, etc.</li></ul>	<ul style="list-style-type: none"><li>• free weights</li><li>• weight machines</li><li>• resistance bands</li></ul>



## RESISTANCE-TRAINING GUIDELINES FOR BEGINNERS

- Never attempt to lift heavy weights over your head, or bench-press without a spotter.
- A good starting weight is one that allows you to do 12-20 repetitions. You can then build up from there. With each exercise, you should attain momentary muscle failure after about 30-90 seconds.
- Emphasize slow speed (about 4-5 seconds per repetition) and proper form over trying to lift higher amounts of weight.
- Work the larger muscle groups (back, chest, thighs) first, and then progress outward to smaller muscle groups (biceps, forearms, calves).
- Alternate “pushing” exercises with “pulling” exercises in each session. For example, combine hamstring curls with squats; combine barbell rows with the bench press.
- Weight-training for strength: Increase the weight of each lift and decrease number of repetitions. Begin with a weight that brings you to momentary muscle failure after 8-12 repetitions.

- Weight-training for muscle endurance: Decrease the weight and perform a higher number of repetitions (i.e., 12-20 reps).
- Protect your knees: Do not do squats or leg-press exercises where you allow the knee joint to go past 90-degrees. When doing lunges, do not let your knee extend forward farther than the foot (on the same leg).
- Protect your shoulders: Do not do fly exercises where you let your elbows drop below the level of your chest.
- Protect your back at all times: Refrain from lifting any amount of weight by bending at the waist and lifting with your back muscles. When doing bent-over rows use a dumbbell instead of a barbell and exercise one side at a time. For example, if you are lifting with your right arm, support your spine by placing your left hand and left knee on a bench.

## SUMMARY

Everyone, including the elderly, should incorporate some type of resistance exercise into their weekly fitness plan. Resistance exercise is beneficial for conditions such as:

- improving bone density
- improving cardiovascular health
- improving balance and stability
- reducing low back pain

While some beginners may find the formulas discussed above to be far too complex for their exercise and/or training plan, the concepts are really quite simple:

- If you want to build strength, first determine your 1-RM and calculate a training regimen from that value. Reassess your 1-RM periodically and adjust your training regimen accordingly.
- If you want to improve your muscular endurance (cyclists, rowers, tennis players, etc.), then use less weight and more repetitions.
- Use good form, protect your back and your knees, use a spotter when necessary, and don't ignore rest periods.



# Sample Workout

## CARDIO

Choose one of the following cardio exercises for each day of the week. Try to alternate for example, Monday Run, Wednesday Row and Friday Climb Stairs.

### Running 2 Miles

B = 10 min mile

I = 9 min Mile

A = Sub 8 min mile

### Rowing 2000 meters

B = Sub 9:30

I = Sub 9:00

A = Sub 8:30 minutes

### Climbing Stairs

B = 20 minutes

I = 30 Minutes

A = 40 minutes

Once you have completed your cardio you should walk for 10 to 15 minutes,

Drink some water, and then move on to the Circuit.



## CIRCUIT

This circuit is designed to provide a full body work-out with minimal equipment

### Circuit

Perform all exercises as follows, Beginners rest 30 seconds between each exercise. Intermediates rest 15 seconds between each exercise. Advanced candidates do all 10 exercises in a row. Beginners will complete one 10 exercise round. Intermediate will complete two 10 exercise rounds REST 2 minutes between each round. Advanced will complete three 10 exercise rounds REST 2 minutes between each round

### Exercise demo link

<http://www.crossfit.com/cf-info/exercise.html>

#### 1) Push Ups

B = 20

I = 25

A = 30 Reps

#### 2) Mountain Climbers

Left/Right = 1 Rep

B = 20 I = 25

A = 30 Reps

#### 3) Inverted Row (TRX or Straight Bar)

B = 10 I = 15

A = 20 Reps

#### 4) Air-Squat

B = 15 I = 25

A = 35 Reps

#### 5) Burpee

B = 8 I = 12

A = 16 + Reps

#### 6) Dips

B = 10 I = 15

A = 20 Reps

#### 7) Prone Plank

B = 20 seconds

I = 40 seconds

A = 60 seconds

#### 8) Walking Lunges

B = 20

I = 30

A = 40

#### 9) Bear Crawl

B = 20 seconds

I = 40 seconds

A = 60 seconds

#### 10) Curl-Press

B = 15lbs 10 reps

I = 20lbs 10 reps

A = 25lbs

## COOL DOWN

Cooling down, also called warming down is the term used to describe an easy exercise that will allow the body to gradually transition from an exertional state to a resting or near-resting state. Depending on the intensity of the exercise, cooling down can involve a slow jog or walk, or with lower intensities, stretching can be used. Cooling down helps remove lactic acid which can cause cramps and stiffness and allows the heart rate to return to its resting rate.



# Mobility and Flexibility



## I. Benefits of Mobility and Flexibility

- a. Increased range of motion
- b. Increased joint mobility
- c. Increased physical fitness
- d. Increased balance and coordination
- e. Increased ability to perform certain movements
- f. Decreased risk of injury
- g. Reduced muscular tension and soreness
- h. Enhanced development of body awareness

## II. Types of Stretching

### a. Active Stretching

- i. Holding an assumed position with no assistance, other than the strength of your agonist (opposing) muscles
- ii. Stretch is held for no longer than 15 seconds

### b. Passive Stretching

- i. Hold an assumed position with the assistance of a partner or some other apparatus
- ii. Stretch is held for 20 seconds or longer

## III. When to Stretch

### a. Early Morning

Warm-up first; you cannot stretch a cold muscle

### b. Before Exercise

- i. Raise core temperature first (warm-up, walk, jog, bike, etc.)
- ii. Stretch specific muscles related to exercise
- iii. Dynamic or activity/sport-specific stretching

### c. Immediately After Exercise

- i. Stretch muscles used in activity
- ii. Static/passive stretching

## **Calf Rope Stretch**

### **Start Position**

Lie flat on back with right leg extended on the ground AND left leg extended and held in the air with a rope wrapped around the left foot.

### **Procedure**

Using both hands, pull the rope so that the toes point down (toward the shin). Keep the knee straight and hold stretch for two seconds.

Relax and repeat. Switch legs.

### **Coaching Tips**

Keep opposite leg on the ground by pushing heel as far away from head as possible. Keep breathing slow and controlled.

**You should feel a stretch in the achilles, hamstrings and calf.**

## **Straight Leg Hamstring Rope Stretch**

### **Start Position**

Lie flat on back with right leg extended on the ground and left leg extended and held in the air with a rope wrapped around the left foot.

### **Procedure**

Using both hands pull the rope so that the leg is straight up in the air. Keep the knee straight and hold stretch for two seconds.

Relax and repeat. Switch legs.

### **Coaching Tips**

Keep opposite leg on the ground by pushing heel as far away from head as possible. Keep breathing slow and controlled.

**You should feel a stretch in the hamstrings and calf.**

## **IT Band Rope Stretch**

### **Start Position**

Lie flat on back with both legs extended and a rope wrapped around the left foot.

### **Procedure**

Holding on to the rope with the right hand, pull the rope toward the right shoulder to lift the left leg across the body as far as possible.

Relax and repeat. Switch legs.

### **Coaching Tips**

Keep opposite leg on the ground by pushing heel as far away from head as possible. Point toes up (toward the ceiling). Keep breathing slow and controlled.

**You should feel a stretch on the outside of thigh and in the glutes.**

## **Adductors Rope Stretch**

### **Start Position**

Lie flat on back with both legs extended and a rope wrapped around the left foot.

### **Procedure**

Holding on to the rope with the left hand, pull the rope toward the left shoulder to lift the leg out to the side of the body as far as possible. Keep both shoulders in contact with the ground throughout the entire movement. Hold for two seconds.

Relax and repeat. Switch legs.

### **Coaching Tips**

Keep opposite leg on the ground by pushing heel as far away from head as possible. Point toes up (toward ceiling.) Keep breathing slow and controlled.

**You should feel a stretch in the inner thigh.**

## **Quadriceps Rope Stretch**

### **Start Position**

Lie flat with chest to ground, right leg extended and the left leg bent to a 90° angle. Wrap rope around the left foot.

### **Procedure**

Holding on to the rope with both hands, pull rope to bring the left heel toward the buttocks. Contract the left glutes and lift the left thigh off the ground. Hold for two seconds and return to start position.

Repeat. Switch legs.

### **Coaching Tips**

Do not hyperextend back as thigh lifts off the ground. Keep head and chin down. Keep breathing slow and controlled.

**You should feel a stretch in the front of the thigh and the hip flexors.**

## **Triceps Rope Stretch**

### **Start position**

Kneeling or standing, hold rope with the left and and pull over the shoulder. Then, pull right hand around to the low back.

### **Procedure**

Pull the rope with the right hand to ease the left arm down as far as possible. Hold two seconds and return to start position.

Repeat. Switch arms.

### **Coaching Tips**

Keep back straight and abdominals contracted throughout the stretch. Keep breathing slow and controlled.

**You should feel a stretch in the triceps and the shoulder.**



## **Lateral Trunk Flexors (sides of the waist)**

### **Start Position**

Stand with feet shoulder-width apart and knees slightly bent.

### **Procedure**

Reach up with the left arm and lean over to the right side. Support body weight with the right arm by placing right hand on the outside of the right thigh or on the right hip. Hold the stretch for 10 seconds.

Repeat on the other side.

### **Coaching Tips**

Support the body weight and keep abdominals contracted.

**You should feel a stretch in the side of the waist.**

## **Rhomboids (middle back)**

### **Start Position**

Stand with feet shoulder-width apart and knees slightly bent.

### **Procedures**

Clasp hands together at chest level. Drop chin toward your chest and squeeze chest muscles, rounding the upper back. Hold the stretch for 15 seconds.

Release and repeat.

### **Coaching Tips**

Keep abdominals contracted.

**You should feel a stretch between the shoulder blades.**

## **Trapezius (neck/shoulder)**

### **Start Position**

Stand with feet shoulder-width apart and knees slightly bent.

### **Procedures**

Drop left ear towards your left shoulder. Place hands behind back and pull down on the right wrist with the left hand. Stand tall and look straight ahead. Hold the stretch for 10 seconds.

Repeat on the other side.

### **Coaching Tips**

Keep abdominals contracted and shoulder relaxed.

**You should feel a stretch on the side of the neck and top of the shoulders.**

## **Anterior Deltoid (front of the shoulder)**

### **Start Position**

Clasp hands together in the small of the back, then lift arms upward (toward the ceiling). Keep the stretch for 10 seconds.

### **Coaching Tips**

Stand tall and do not round the spine.

**You should feel a stretch in the back of the neck and front of the shoulders.**

## **Rear Deltoid (back of the shoulder)**

### **Start Position**

Stand with feet shoulder-width apart and knees slightly bent.

### **Procedure**

Bring left arm across the chest and hold it in place with the right arm. Keep left shoulder down and neck relaxed. Hold the stretch for 15 seconds.

Repeat on the other arm.

### **Coaching Tips**

Do not round the spine.

**You should feel a stretch in the back of the shoulder.**

## **Triceps (back of the arm)**

### **Start Position**

Stand with feet shoulder-width apart and knees slightly bent.

### **Procedure**

Lift the left arm over head. Bend left elbow placing the left hand between the shoulder blades as far down as comfortably possible. Use the right hand to gently push the left arm down. Hold the stretch for 15 seconds.

Repeat on the other arm.

### **Coaching Tip**

Keep chin up and look straight ahead. Do not round the spine.

**You should feel a stretch in the back of the arm.**

## **Pectoralis (chest)**

### **Start Position**

Stand with feet should-width apart and knees slightly bent.

### **Procedure**

Bring the elbows up to shoulder height and place hands behind the head. Squeeze the shoulder blades together and pull elbows back.

### **Coaching Tips**

Keep chin up and look straight ahead. Do not arch your low back.

**You should feel a stretch in the chest.**

## **Quadriceps (front of the thigh)**

### **Start Position**

Standing with feet apart and knees slightly bent.

### **Procedure**

Shift weight to right leg, grab left ankle with the right hand, bending the left knee so that the foot is touching the buttocks. Keeping the knees close together push forward from left hip. Hold the stretch for 20 seconds.

Repeat on the other leg.

### **Coaching Tips**

Stand tall; do not lean forward. Keep chin up and look straight ahead.

**You should feel a stretch in the front of the thigh.**

## **Gastrocnemius (calf)**

### **Start Position**

Stand with feet facing forward, keeping the right foot back.

Keeping the right heel on the ground, bend the left knee and place hands on left thigh. Lean forward slightly. Hold the stretch for 15 seconds.

Repeat on the other leg.

### **Coaching Tips**

Do not arch the back. Keep chin up and look straight ahead.

**You should feel a stretch in the calf.**

## **Thoracic-Lumbar (low back)**

### **Start Position**

Sit comfortably with knees bent and heels flat on the ground.

### **Procedure**

Place left hand on the ground behind the body and TWIST THE UPPER BODY TOWARD THE LEFT SIDE. Place the right hand on the outside of the left thigh and pull slightly with the right arm. Hold the stretch for 15 seconds.

Repeat on the other side.

### **Coaching Tip**

Keep back straight and keep breathing slow and controlled.

**You should feel a stretch in the lower back.**

## **Hamstrings (back of the thighs)**

### **Start Position**

Sit comfortably with legs extended and feet flexed (toes pointing up).

### **Procedure**

Keeping back straight and chest and head lifted, extend both arms toward feet and slowly lean forward. Reach the hands as close to the toes as possible and hold the stretch 30 seconds.

DO NOT BOUNCE. Release and repeat.

### **Coaching Tips**

Keep back straight; do not round the shoulders forward.

**You should feel a stretch in the back of the legs.**

## **Adductors (inner thighs)**

### **Start Position**

Sitting comfortably with soles of the feet together and knees out to the sides.

### **Procedures**

Place forearms or elbows on the inner thighs and bring chest slightly forward, toward your legs. Pivot from the hips and push the knees toward the floor. Hold the stretch for 20 seconds.

Release and repeat.

**You should feel a stretch in the inner thighs.**

## **Adductors (inner thighs)**

### **Start Position**

Sit comfortably with legs extended out to the sides in a “V” position.

### **Procedures**

Place hands on the ground between legs. Contract the glutes and lean forward slightly, keeping the back straight. Slide hands along the floor as far as possible and hold the stretch for 20 seconds.

DO NOT BOUNCE. Release and repeat.

### **Coaching Tips**

Keep back straight; DO NOT ROUND SHOULDERS FORWARD.

**You should feel a stretch in the inner thighs.**

## **Abdominals (stomach)**

### **Start Position**

Lie flat on the ground with chest down on floor and toes pointed.

### **Procedure**

Place hands underneath the shoulders. Lift chest and ribs off the floor as far as comfortably possible by pushing with the hands. Hold the stretch for 10 seconds.

Release and repeat.

### **Coaching Tips**

Relax the shoulders. Do not lean head back.

**You should feel a stretch down the front of the body**

## **Foam Rolling**

### **Hamstring Foam Roll**

#### **Start Position**

Sitting with the foam roll under the back of the thighs and hands on the ground behind the body for support.

#### **Procedure**

Using the hands for support roll the lower body over the foam, moving it up and down the length of the back of the thighs.

#### **Coaching Tips**

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the back of thighs.**

### **IT Band Foam Roll**

#### **Start Position**

Lie on side with foam roll under outside of bottom thigh.

#### **Procedure**

Using the forearm and hand for support, roll the lower body over the foam on the outside of the bottom thigh from the hip to just above the knee.

#### **Coaching Tips**

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the side of the thigh.**

## **Foam Roll - Quadriceps Hip Flexor**

### **Start Position**

Face down with foam roll under the front of the thighs.

### **Procedure**

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the front of the thigh.**

### **Gluteus Maximus Foam Roll**

#### **Start Position**

Sitting on the foam roll with hands on the ground for support.

#### **Procedure**

Using the hands for support, roll the lower body over the foam from the top of the back of thigh to the low back.

#### **Coaching Tips**

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the back of the thigh, the glutes and low back.**

### **Lat Foam Roll**

#### **Start Position**

Lie on side with foam roll under the bottom armpit.

#### **Procedure**

Using the bottom arm for support, roll the upper body over the foam moving it up and down the side from the armpit to the waist line.

#### **Coaching Tips**

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the side of the upper body.**



# Cardio Respiratory Training



Firefighting duties and tasks require good cardio respiratory fitness. A higher level of cardio respiratory fitness will result in an increased work threshold, more efficient oxygen consumption and a quicker recovery after strenuous bouts of activity. Being aerobically and anaerobically fit will allow firefighter trainees to increase their fitness and to consistently perform at the highest level throughout the academy.

An effective cardio respiratory exercise program will include both “base” and “interval” training. Base training is made up of a high volume of moderate intensity cardio respiratory activity. Base cardio bouts should last 20-30 minutes and be performed 3-4 days per week. If you are unable to complete this, start with 10-15 minutes and slowly increase the time to the recommended regimen.

Interval training consists of high-speed, high-intensity work followed by a recovery period of rest or low activity. The goal of interval training is to develop the metabolic systems, raise your anaerobic threshold and increase your aerobic capacity. Interval training can be done in a multitude of ways, such as, running, rowing, biking or swimming.

An example of a running interval is as follows: start with one minute at recovery pace (5 mph), followed by one minute at exercise pace (7 mph), and continue alternating between recovery and exercise pace for the remainder of the workout (15-20 minutes). Exercise and recovery pace will vary depending on individual fitness level. Interval training increases threshold levels, allowing the body to perform at a higher intensity for a longer period of time. This type of training closely simulates the physiological demands of firefighting. Interval training should be performed 2-3 days per week.

## **Base and interval training bouts should include the following components:**

- Warm-up. A proper warm-up is 5-10 minutes of light to moderate exercise.
- A method of measuring workout intensity: This can be done by using a heart rate monitor to measure heart rate in beats per minute.
- Cool-down. An additional 3-5 minutes at a light intensity.





Alternating  
back and  
forth between  
different intensity  
levels pushes  
your  
cardiorespiratory  
system to work  
harder in order  
to replenish  
what was  
used during  
the intense  
work. This type  
of training is  
recommended  
because it  
closely mimics  
firefighting  
energy output.

## Sample Interval Training Programs

The following intervals are designed for you to run a few minutes at 70% of your maximum heart rate (MHR) and then run a minute above 95% of your MHR. Your estimated maximum heart rate is calculated by subtracting your age from 220.

Alternating back and forth between different intensity levels pushes your cardiorespiratory system to work harder in order to replenish what was used during the intense work. This type of training is recommended because it closely mimics firefighting energy output.

### Beginner-1 to 1 Rest/Work ratio

3 minutes warm up, 2 minutes Zone 1 (60-70% MHR), 2 minutes Zone 2 (80-90% MHR), 2 minutes Zone 1, 2 minutes Zone 2, 2 minutes Zone 1, 2 minutes Zone 2, 3 minutes cool down = 18 minutes total

### Intermediate-2 to 1 Rest/Work ratio

3 minutes warm up, 1 minute Zone 3 (85-95% MHR), 2 minutes Zone 1 (60-70% MHR), 1 minute Zone 3, 2 minutes Zone 1, 1 minute Zone 3, 2 minutes Zone 1, 2 minutes Zone 1, 1 minute Zone 3 3 minutes cool down = 18 minutes total

### Advanced-2 to 1 Rest/Work ratio

3 minutes warm up, 1 minute Zone 2 (70-85% MHR), 30 seconds Zone 3 (85-95% MHR), 1 minute Zone 1, 30 seconds Zone 3, 1 minute Zone 1, 30 seconds Zone 3, 1 minute Zone 1

30 seconds Zone 3, 1 minute Zone 1, 1 minute Zone 1, 30 seconds Zone 3, 1 minute Zone 1, 30 seconds Zone 3, 3 minutes cool down=19 minutes

Zone 1 (60-70% MHR)

Zone 2 (80-90% MHR) 3 minutes cool down

Zone 3 (85-95% MHR)

# Energy Systems Development (ESD)



## Research by Evan Gray Interval Training

Firefighting duties and tasks require excellent cardiorespiratory fitness. A higher level of cardiorespiratory fitness will result in an increased work threshold, more efficient oxygen consumption, and a quicker recovery after strenuous bouts of activity. Being aerobically and anaerobically fit will allow firefighter trainees to increase their physical fitness and perform at their highest level, on a consistent basis, throughout the academy.

Interval training consists of high-speed, high-intensity work followed by a recovery period of rest or low-intensity activity. The goal of interval training is to develop the metabolic systems, raise the anaerobic threshold, and increase aerobic capacity. Interval training can be performed with any high-intensity activity, including sprinting, rowing, biking, or swimming.

## An example of a running interval is as follows:

1 minute at a recovery pace (5 mph; approx. 60-70% of your maximum heart rate)

30 seconds at sprint pace (10 mph; approximately 90% of your maximum heart rate)

Continue alternating between recovery and sprint pace for the duration of the workout (5-20 minutes).

Sprint and recovery pace will vary depending on individual fitness levels. This type of training closely simulates the physiological demands of firefighting and should be performed 2 times per week in conjunction with a strength and conditioning program that includes movement preparation and pre-habilitation as well as at least one recovery day per week.

Interval training sessions should include the following components:

- Movement preparation 5-10 minutes
- A method of measuring workout intensity: Rate of perceived exertion, heart rate monitor, or measuring your pulse in beats per minute.
- Cool down – 5-10 minutes of low intensity activity and stretching

Sprint and recovery pace will vary depending on individual fitness levels. This type of training closely simulates the physiological demands of firefighting



## How It Works

Forget everything you currently believe about cardio work. Forget keeping your heart rate in some “fat-burning” zone. Forget plodding along with the vague goal of increasing the distance you can plod. Instead of training like a plow horse, start training like a thoroughbred.

You’ll only work at the same effort level for an extended period of time, as you would with traditional cardio exercise on regeneration or recovery days. But you’re going to take the time you typically spend on cardio and develop the ability to perform at a more intense level. You’ll improve your energy levels, gaining physical strength and stamina without investing additional time.

You don’t have to head to the track and train like a middle-distance runner, although it’s not a bad place to do your ESD work. For convenience, you’ll probably want to work on a stationary bike, stair-climber, or treadmill at the gym. Even better is to find a hill or stairwell somewhere nearby. If you’re city bound, parking garages are perfect for uphill running. Spring up the ramps and walk down.

The bottom line: Instead of slow, plodding workouts, ESD will have your muscles, nervous system, and hormones acting together into efficient movement patterns that help your body work as efficiently as possible.

## Building Your Energy Systems

There are three different energy systems that are important for you to build:

1. Lactate threshold - This is your capacity to do high-intensity work for up to 3 minutes. The ESD unit of your training program is a form of interval training in which you will alternate between periods of intense exercise with less strenuous periods.
2. Lactate power - This is your body’s ability to do high-level work for periods of up to 12 seconds.
3. Aerobic system - The ability to work beyond 3 minutes and help you recover from your bouts with the lactate threshold. For instance, if you’re sprinting up hills and walking down, you’re using the lactate system on the way up and the aerobic system on the way down. In this case, the aerobic system enhances your recovery from these intense bursts of energy.

## The 3 Heart Rate Zones

You’ll work within three heart-rate “zones.” To calculate your maximum heart rate, begin by subtracting your age from 220. For example, if you are 40 years old, your maximum heart rate is 180. (It may actually be higher than that, but this is a close enough estimate to allow for productive workouts.) Multiply that rate by 60 and 70 percent for zone 1. Multiply it by 71 and 80 percent to determine zone 2, and multiply by 81 and 90 percent to determine zone 3.

Zone 1 Lower Limit =  $(220 - \text{Your Age}) \times 60\%$

Zone 1 Upper Limit =  $(220 - \text{Your Age}) \times 70\%$

Zone 2 Lower Limit =  $(220 - \text{Your Age}) \times 71\%$

Zone 2 Upper Limit =  $(220 - \text{Your Age}) \times 80\%$

Zone 3 Lower Limit =  $(220 - \text{Your Age}) \times 81\%$

Zone 3 Upper Limit =  $(220 - \text{Your Age}) \times 90\%$

These are general guidelines. You may need to raise or lower the numbers by 10 beats across the board. If nothing else, you will need to raise them as your ESD improves.

## Heart Rate Zone Quick Reference Chart

Age	Zone 1	Zone 2	Zone 3
20	120 to 140	142 to 160	162 to 180
25	117 to 137	138 to 156	158 to 176
30	114 to 133	135 to 152	154 to 171
35	111 to 129	131 to 148	149 to 167
40	108 to 126	127 to 144	145 to 162
45	105 to 122	124 to 140	141 to 158
50	102 to 119	121 to 136	138 to 153
55	99 to 116	117 to 132	134 to 150
60	96 to 112	114 to 128	130 to 146

## ESD Workout Phases

### Level 1

Level 1 focuses on steady-state aerobic work. Aerobic simply means that your body will use oxygen to provide a steady and consistent, low level of energy for a long time, without building up any waste products in the body that hinder performance.

Think of it as a low-horsepower, highly fuel-efficient, four-cylinder engine that can run all day but does not generate a whole lot of power. A good rule of thumb for level 1 is that you should be able to carry on a conversation when you are in the aerobic zone. Some of the best activities for level 1 are:

- Outdoors: Brisk walking, walking up hills, biking, swimming, rowing
- Indoors: Biking, treadmill climbing/walking, elliptical trainer, Airdyne

Using the aerobic zone during Level 1 will improve your cardiovascular system and prepare your muscles for the greater speeds of level 2 through 4. This lower-level work will let your movement patterns, muscles and joints adapt and prepare for the more intense training coming in these next phases.

When you get into Levels 2, 3, and 4, you'll perform interval training, where there will be bouts of harder effort mixed with easier-effort periods to give your body time to recover. You'll use the lower-intensity Level 1 aerobic work in Levels 2 and 4—the more advanced zones of the program—as a recovery tool.

Interval training increases your body's release of positive hormones, which builds lean body mass and signals your body to dump fat. At the same time, it keeps your heart rate from dropping out of the aerobic zone.

### Level 2

Level 2 will introduce interval training by mixing moderate intensity (heart rate zone # 1) with bouts of Level 1 easy-intensity aerobic work to allow you to catch your breath and recover from the slightly more intense intervals.

You will notice that these exercises include some work and some rest; we call this the work-to-rest ratio. The greater the rest, the higher quality the work should be. The lower the ratio—for instance, 1 second of rest per 1 second of work (1:1)—the bigger the challenge, since the body has less time to recover. That increases your capacity to do work.

You'll know you've reached Level 2 moderate intensity if you would find it difficult to carry on a conversation. You could, but you wouldn't be able to say much more than a couple of words at a time. Some of the best activities for Level 2 are:

- Outdoors: Running-to-jogging/walking, jogging-to-walking
- Indoors: Bike, elliptical trainer, treadmill, stair climbers, Airdyne

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When you get into Levels 2, 3, and 4, you'll perform interval training, where there will be bouts of harder effort mixed with easier-effort periods to give your body time to recover.

### Level 3

In Level 3 you will work harder, performing intervals that include time spent in heart rate zone # 2. The times and rest intervals both decrease. Don't be intimidated by more intense work; you'll be ready for it. In fact, you will be looking for a greater challenge. Some of the best activities for Level 3 are:

- Outdoors: Running-to-jogging/walking, jogging-to-walking
- Indoors: Bike, elliptical trainer, treadmill, stair climbers, Airdyne

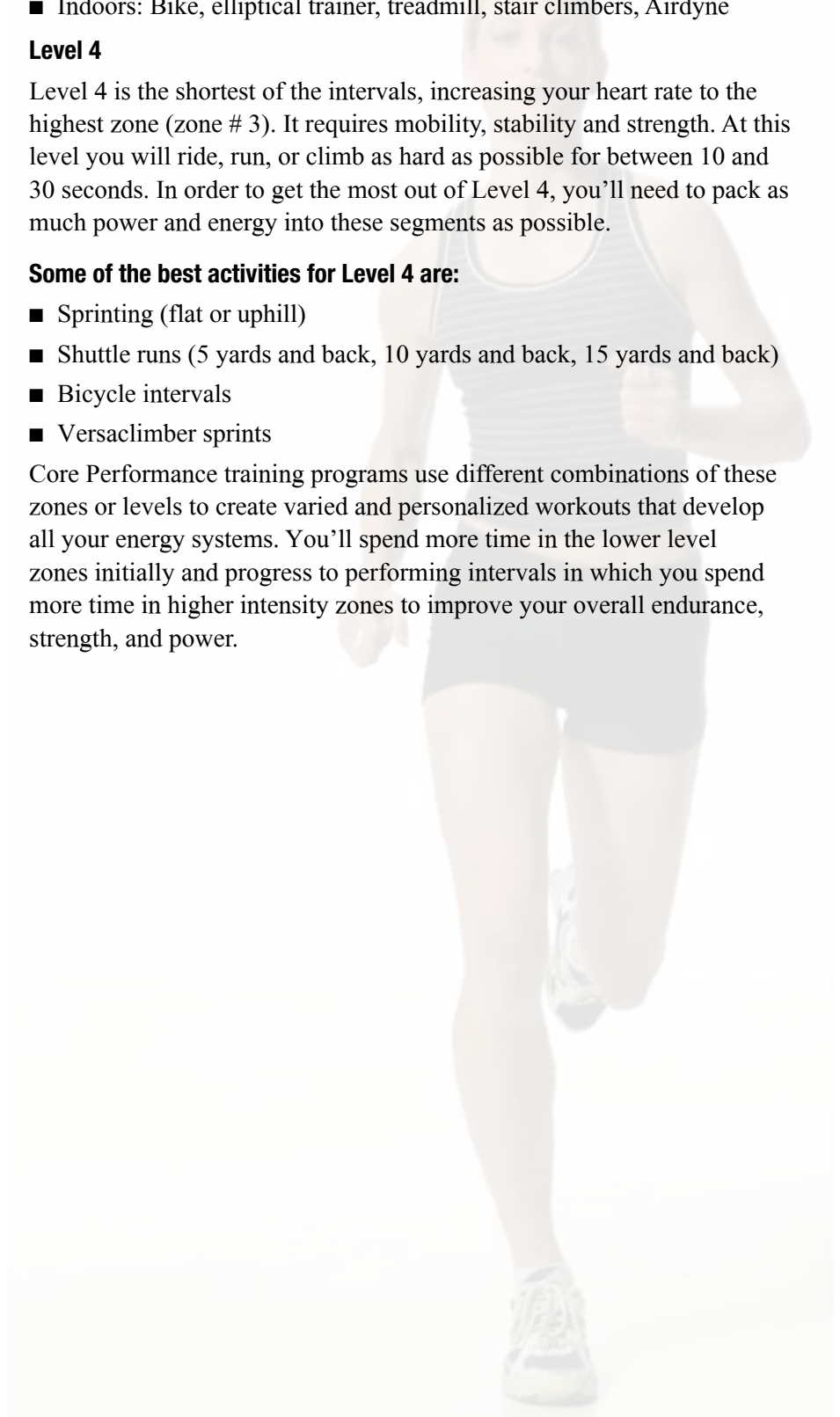
### Level 4

Level 4 is the shortest of the intervals, increasing your heart rate to the highest zone (zone # 3). It requires mobility, stability and strength. At this level you will ride, run, or climb as hard as possible for between 10 and 30 seconds. In order to get the most out of Level 4, you'll need to pack as much power and energy into these segments as possible.

#### Some of the best activities for Level 4 are:

- Sprinting (flat or uphill)
- Shuttle runs (5 yards and back, 10 yards and back, 15 yards and back)
- Bicycle intervals
- Versaclimber sprints

Core Performance training programs use different combinations of these zones or levels to create varied and personalized workouts that develop all your energy systems. You'll spend more time in the lower level zones initially and progress to performing intervals in which you spend more time in higher intensity zones to improve your overall endurance, strength, and power.





# Regeneration and Recovery



## Definition of Regeneration

- a) Series of “foam-roll” exercises and active-isolated stretches done as a break from regular exercise or training.
- b) Regeneration is designed to give muscles and connective tissues a much needed rest from the demands of training.
- c) Done as a recovery workout two-to-three times a week and as needed on workout days

## Regeneration Equipment

- a) Foam roll
- b) 8-foot length rope or webbing

## Description of What Foam Rolling Does

- a) Deep compression to “roll-out” muscle spasms that develop over time
- b) Causes the nerves to relax and loosens muscles
- c) Gets blood flowing and helps body recover
- d) Rotate the foam roll exercises so that roll hamstrings, quadriceps, back, laterals, and hips

## Description of Active-Isolated Stretches

- a) Use rope or webbing to gently assist in pulling the muscle further than usual
- b) Stimulates muscles to relax and contract
- c) Stretches are not static (not held)

## Goals of Regeneration

- a) Active recovery allows the body to improve and adapt to stress
- b) Increased circulation increases nutrients into muscles = accelerated recovery process
- c) Activate the nervous system
- d) Elongate muscles

## Theory Behind Regeneration

- a) Better and rapid recovery = quicker adaptation by the body = less time before able to do another high-intensity session/activity
- b) Better physical fitness gains and faster improvements

# FOAM ROLLING

## Hamstring Foam Roll

### Start position

Sitting with the foam roll under the back of the thighs and hands on the ground behind the body for support.

### Procedure

Using the hands for support, roll the lower body over the foam, moving it up and down the length of the back of the thighs.

### Coaching tips

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the back of thighs.**



## IT Band Foam Roll

### Start position

Lie on side with foam roll under outside of bottom thigh.

### Procedure

Using the forearm and hand for support, roll the lower body over the foam on the outside of the bottom thigh from the hip to just above the knee.

### Coaching Tips

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the side of the thigh.**



# Foam Roll

## Quadriceps Hip Flexor

### Start Position

Face down, with foam roll under the front of the thighs.

### Procedure

Using the forearms for support, roll the lower body over the foam from the hip to just above the knee.

### Coaching Tips

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the front of the thigh.**



## Gluteus Maximus Foam Roll

### Start Position

Sitting on the foam roll with hands on the ground for support.

### Procedure

Using the hands for support, roll the lower body over the foam from the top of the back of thigh to the low back.

### Coaching Tips

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the back of the thigh, the glutes, and the low back.**



## Lat Foam Roll

### Start Position

Lie on side, with foam roll under the bottom armpit.

### Procedure

Using the bottom arm for support, roll the upper body over the foam, moving it up and down the side from the armpit to the waist line.

### Coaching Tips

Hold on sensitive areas for an extended time. Keep breathing slow and controlled.

**You should feel sensitive on the side of the upper body.**



# Nutrition Recommendations for Fat Loss



## Alwyn Cosgrove/ Results Fitness

Based on the Alwyn Cosgrove presentation, there are 11 key steps to optimal fat loss. Include as many of them in your day to help meet your fat loss goals.

### The steps for fat loss:

1. Increased meal frequency
2. Consistent meal frequency
3. Big breakfast every day
4. A reduced carbohydrate diet, (low insulin?)
5. Possibly increased Water intake
6. Increasing Protein intake
7. Nutrient Timing around workouts
8. Increasing “raw” food in the diet
9. Interval training / metabolic conditioning
10. Resistance training
11. And possibly some supplementation (fish oil, Green tea, CLA)... allows for the greatest amount of fat loss in the shortest period of time.

## Hierarchy of Fat Loss:

1. Correct Nutrition
2. See Number 1
3. Activities that burn calories, maintain/promote muscle mass, and elevate metabolism
4. Activities that burn calories and elevate metabolism
5. Activities that burn calories but don't necessarily maintain muscle or elevate metabolism

We have been around the gamete of nutrition programs at Results Fitness. As we all know as trainers, if our clients don't figure out their nutrition it is nearly impossible to guarantee results with your programming. When you get an effective program designed and implemented with your clients along with a nutrition plan the results can be magical. It is up to you to check with the laws in your state but at this point most states allow trainers to give nutrition recommendations as long as you don't “prescribe”, “diagnose”

or “treat.” If a client has a disease or other health problem refer out to an RD.

### The “gamete” of recommendations we have been around over the 11 plus years we have been in business:

1. When we first opened we used a pretty strict, fairly low carb what we called “green faces” which works well for a very short period of time and was an easy way to quickly get junk food out of a client's diet. You can only eat it if it had a face or was going to have a face (eggs) or grows green. Problem- clients can't follow it for more than a week, maybe two and many times they simply don't eat much because nothing that is on their plan sounds appetizing. It works and gets people to drop fat and especially bloat fast and every once in awhile we'll resOli to it if someone is in a hUrry. But overall we came to the conclusion that it was too strict and we needed to “meet



our clients where they are at.” You’ll hear that phrase again - “meet your client’s where they are at.” It is important. We did end up continue to use the Nutrition Rules we had designed along with this “green faces” diet which included eating every few hours, having breakfast, drinking water, limiting alcohol, increasing the amount of green things they are eating. Along the same lines we have also used Dax Moy’s Elimination Diet, which we still recommend depending on the client, but again for the majority of our client’s it was more restrictive than they needed or wanted to go. (Including for ourselves).

2. Calorie counting including the Apex Nutrition System and using the Body Bugg. Counting calories can be necessary but what we found was that for most of our clients counting calories got obsessive and really wasn’t necessary if they were still eating junk. We moved away from this and back toward recommending quality nutritious foods, eating every few hours and thinking of fueling your body.
3. We have done rotation diets, food allergy assessments and all kinds of in depth questionnaires and menu planning and realized that the more complicated it got the less compliance we had.

**CONCLUSION:** To save you from going around this same cycle the bottom line we realized was to keep it simple and stick to the basics. We continued to use the nutrition principles we had originally come up with during the green faces diet and give them a grocery list of healthy foods to include in their groceries. After reading, studying and working with people like John Berardi and Mike Roussell we adopted some of their strategies and went to a principle based approach helping people to learn how to change their nutrition habits for the long term.

Below is an outline of these principles. We strongly recommend you look into John Berardi’s Precision Nutrition Certification and use his system, which is the nutrition program we currently offer to our clients.

### **The EXACT Results Fitness Nutrition Recommendations**

Below is the basic nutrition guidelines we include in the journal we hand a new member when they join Results. These guidelines have lead to amazing results with our clients keeping it simple, yet structured. They get a journal to fill out for the first 8 weeks of their membership and they can always get another one if they need one. At the end of the journal there is a splurge grid which is where they tally up how they did for the week.

### **Results Fitness Nutrition Rules**

1. Eliminate the junk and stock up on healthy fuel! You cannot have a house full of forbidden foods and expect success. First you need to eliminate anything that is likely to trigger you to slip up. Everyone has trigger foods and the last place they should be is in your house. That’s right - throw out the bag of chips you have been working on! And that carton of ice cream that has been calling your name! Get it out! Don’t test your willpower, it’s not that strong. Then you’ll need to stock your house with everything you need to be successful and get in the habit of being prepared! The key to success is to prepare ahead of time. Do not leave your nutrition to chance. There is no excuse not to pack an ice chest and bring all of the healthy food you need with you everywhere you go! This is about building habits.

**The following things need to be removed from your cupboards, fridge and freezer:**

#### **All processed junk food**

Pretty much anything with more than a couple of ingredients, in a package or anything you cannot pronounce is processed and is not part of the plan. This includes wheat products such as cereals, bread, bagels and crackers.

#### **All calorie containing beverages**

No more sodas, throw them out and no more juice. I would rather you eat the fruit than drink the fruit.

## Sugar

Including sucrose, glucose and fructose. Anything ending in “-ose” is a sugar. Check your ingredients. Also High Fructose Com Syrup is a sugar too.

## Alcohol

Yes, the bottle of red wine too that you were “only” drinking because of the antioxidants!

Alcohol can increase your risk of metabolic syndrome, which means it increases your likelihood of gaining unsightly belly fat! Alcohol is a splurge and can be enjoyed during your 10% that you are allowed to splurge each week.

Next you’ll need to make a grocery trip and stock up on everything that you’ll need to get the body of your dreams so that you’re not caught short and end up cheating in a weak moment when nothing else is available. Go through the following grocery list and highlight the stuff you like. Then hit the grocery store and fill that cart with food to fuel your body!

2. Eat breakfast within 15 minutes of waking up followed by a meal every 3-4 hours. You must keep fuel coming in all day to keep your blood sugar stable, starting first thing in the morning. Your body is in a fasted state when you wake up because you have not eaten for 8-12 hours. Being in a fasted state is not good because it means your metabolism is in the gutter and you are not burning fat. Also, skipping meals increases your likelihood of metabolic syndrome which includes decreasing your good cholesterol, increasing your

## Your recommended grocery list:

**Proteins • You must have one at every meal. Try to buy organic when possible, especially red meat.**

Chicken Breasts	Beef - Organic is preferable	High Quality Whey Protein
Turkey Breasts	Eggs/Egg Whites	Pork - Lean
Shellfish - Crab, Lobster	Fish/Cod, Flounder, Halibut,	Milk*
Shrimp (Try canned crab instead of tuna)	Herring, Orange Roughy, Salmon, Tilapia, Tuna	
String Cheese*	Cottage Cheese* Ham	
Natural Yogurt	Wild Game - Buffalo, Venison	Veal
Ricotta Cheese	Ostrich	

**\*Pay attention to how you feel when you eat dairy. It can be an excellent protein source, but many people have an intolerance to it. If you bloated, lethargic, heavy, gassy, or have a stuffy or runny nose after you eat it you should consider eliminating dairy from your diet.**

**Fruits & Vegetables • You must have one at every meal.**

Eggplant	Squash	Broccoli
Asparagus	Spinach	Collard Greens
Lettuce	Zucchini	Brussel Sprouts
Cabbage	Cucumber	Celery
Leafy Greens	Green and Red Bell Peppers	Green Beans
Peas	Tomato	Green Beet
Cauliflower	Mushroom	Onions - Green & White
Artichoke	Apples	Avocado
Lemon	Lime	Orange
Grapefruit	Banana P	ineapple
Blueberries	Raspberries	Carrots
Strawberries	Edamame	Snap Peas
Water Chestnuts	Scallions	Sauerkraut
Rhubarb	Radishes	Jicama
Radicchio	Leeks	Kale
Chives	Chicory	Chard
Fennel	Escarole	Endive
Bok Choy	Beet Greens	Bamboo Shoots
Arugula	Pumpkin	Alfalfa Sprouts
Coconut	Cantaloupe	Peach

## Starches

Wheat Free Breads - Rye, Millet, Spelt, Ezekiel, Rice Bread	Sweet Potatoes	Oatmeal
Tortillas - Com, Rice or Spelt	Lentils	Cream of Rice
Quinoa	Grits	Rice Cakes - Non Flavored
Wheat Bran	Beans (Black, Red, Brown)	Oats
Potatoes	Rice - Brown or Wild	

**Fats • Don't worry about limiting fat on this plan. Enjoy with any meal!**

Olive Oil/Olives	Raw Almonds/Almond Butter	Natural Peanut Butter
Coconut Oil/Coconut	Avocado	Macadamia Nuts
Raw Cashews	Pecans	Sunflower Seeds
Pumpkin seeds	Flax Oil/Flax Seeds	
Butter (NOT MARGARINE!)	Raw Walnuts	

blood pressure and worst of all increasing your belly fat. Why is this? Fasting decreases insulin sensitivity which means your body becomes insulin resistant, or it has trouble removing glucose from the blood, leading to metabolic syndrome. Do not skip meals!

**Do NOT go to the gym when you are running on empty**

Have a small snack before you hit the weights. You cannot expect your body to perform when you have not given it some fuel. If you are training first thing in the morning, make yourself a shake and drink half before you start and finish it when you are done. There is no point in doing a workout on an empty stomach, you will not be able to push yourself to get the results you want if you don't start with some fuel in your tank.

3. Have a protein source at every meal. Protein contains amino acids which is what your body needs to build it buff bod. Never eat carbohydrates alone. Carbohydrates raise your blood sugar, some faster than others, telling your body to go into storage mode. Protein blunts this increase in your blood sugar keeping you in a stable fat burning mode. At every meal have a source of protein with a carbohydrate. It is important you eat a protein with each meal to keep you in a fat burning state all day long.

For your breakfast, lunch and dinner shoot for 4-6 ounces of protein which looks like the size of the palm of your hand. You do not need to get your scale out, just eye ball it but make sure you are getting enough. In a later phase we will talk about getting a scale out but for now just get the junk out and get the good stuff in.

4. Eliminate all processed carbohydrates. Like I said, some carbohydrates will raise your blood sugar faster than others. You want to completely avoid the carbohydrates that will shoot your blood sugar straight into fat storing mode which includes processed foods such as breads, pasta, pastries, cereal and sugar. All of your carbohydrate sources should be from fruits, vegetables or whole grains.
5. Eat healthy fats throughout the day. Don't be afraid of fats! You need fat - No more fat free creamer, fat free peanut butter, etc. Most fat free products replace the fat with sugar. Again read your labels.
6. No more caloric beverages. Drink mostly water. Drink  $\frac{1}{2}$  your bodyweight in ounces of water everyday. Being dehydrated is a big "no-no" when it comes to achieving a fit body. Being dehydrated takes away from your exercise performance, leading to decreased results, causes fatigue and increases your cortisol levels, your stress

hormone that breaks down muscle tissue (BAD!). Your pee should be clear. If your pee is not clear you are not drinking enough water. If you have a diet coke habit, it is time to cut it out. Diet coke does nothing for your health. Stick with water. You can have tea and coffee in moderation.

7. Eat whole foods instead of supplements whenever possible except for post workout. Post workout you should have a protein shake. Otherwise, you can have a shake as a snack blended with some fruit if whole food is not available. Limit your consumption of over processed, high sugar, low nutrient foods.
8. Take a Multi Vitamin and Omega 3 Fish Oils daily to supplement your diet.
9. Always drink a workout shake either during your workout or within 10 minutes of finishing your workout. Use a high quality whey protein shake (with 20-30 grams of protein) mixed with fruit or other carbohydrate. You will not get everything out of your workout if you skip this step. You must replenish your body immediately after your workout with quick releasing carbs and fats (a shake is best) to ensure optimal recovery. Try our shakes at the Results Fitness Shake Cafe. They are ABSOLUTELY THE BEST ingredients you can put in your body post workout and they taste great too!

10. Keep a journal of what you are eating. Keeping a journal will keep you accountable and keep you on track. To become fit you must keep track of what you are doing so you can look back and make changes if you need to.

The above rules are your nutrition mles for life. Really get them down. Understand how your body feels when you are following them and start to watch your body transform. Follow the above 10 rules as close as possible. Remember your food will fuel your workouts. Push yourself in the gym and then refuel yourself and repeat.

### 90% Rule

Be honest with yourself, are you following the Nutrition Rules 90% of the time? Using a journal, give yourself a “✓“ if you followed the mles, or an “X “ if you missed a meal or did not follow the mles. YOU MUST HAVE 90% CHECKS TO SEE RESULTS. Following these rules 90% of the time will put you well on your way to getting the body you desire! This allows you 10% of the time to splurge. Enjoy your splurges! Do not feel bad about them just get back on track your next meal! Live life to the fullest, when you decide to go out and have a good time, relax and enjoy it! You’ll find that because you have been eating healthy, you feel better and won’t have the cravings. It won’t be hard to keep your splurges to a minimum but give yourself the freedom to indulge if you want to. Having a splurge is a great way to trick your body and your metabolism to keep you burning fat!

**Note: These recommendations are meant to improve your nutrition and lifestyle. They are not intended as treatment or prescription for any disease, or as a substitute for regular medical care. It is advised that you consult with your doctor prior to following the advice laid out in this report**

*www.precisionnutrition.com*  
*by John Berardi*

We also offer John Berardi’s Nutrition Course as a separate offer at our gym for those who do want more specific recommendations. We have been through his certification and highly recommend you do the same as a fitness professional. Go to [www.precisionnutrition.com](http://www.precisionnutrition.com) for more infomiation.







# An Overview about the Zone Diet



The key factor in Zone Diet is the hormonal balance you achieve while eating each skillfully prepared meal. With a food plan comprising an accurate balanced ratio of carbohydrates (40%), fat (30%) and proteins (30%); you actually get to eat foods, which control your body's insulin production. This means that no meal or snack is forbidden in the Zone Diet and yet you can lose weight or fat while Zone dieting.

For those emphasizing weight loss, or for the matter, for those who want to steer clear of cardiovascular sickness, diabetes and other chronic ailments, eating food that follow recommended recipes and staying in the Zone is a must.

Zone Dieting means following recipes with a low carbohydrate diet plan, where proteins do not dominate the carbohydrates. This allows dieters to get more energy from carbohydrates than proteins or fats. The Zone Diet, unlike other diets, insists dieters to

keep a close watch on the calorie consumption while eating, a meal not exceeding 500 calories and a snack not exceeding 100 calories is ideal for staying in the Zone.

Weight loss is not the only reason to be in the Zone. There are numerous additional benefits linked with the the Zone Diet, such as enhanced health, improved energy, improved mental clarity. The number of Americans with Type II diabetes is increasing at an alarming rate. The Zone diet is perfect for someone with Type II diabetes. Being a high protein, low carbohydrate diet program the Zone Diet was implemented to reduce both hunger and compulsion to eat. Most Zone Diet meal procedures are customized to each individual, based on sex, activity level and proportion of body fat. Every meal or snack is calculated around the 40-30-30 ratio so that the body can give optimal performance.

The Zone Diet encourages foods such as fresh vegetables, fruits and nuts, leafy green vegetables, sufficient protein consumption, and eight glasses of water everyday. However, Zone Diet prefers mono-unsaturated fats for saturated fats, says a big no to both processed foods and meals that contain too much salt.

## **How Zone Diet makes weight loss possible:**

Consuming too many carbohydrates produces too much insulin, a hormone that tells the body to pile up nutrients. The overload of insulin prompts the body to convert those carbohydrates into fat and store them in your gut, thighs, buttocks or other areas. But protein which has the contradictory effect stirs up the hormone glucagon, which tells the body to let go carbohydrates that are stocked up in the liver. When those carbohydrates are freed, the brain tells the body that its energy supplies are fulfilled and you ought to stop eating.

Consequently, limiting the type of carbohydrates you eat and balancing them with 3-4 ounces of low-fat protein at every meal will keep insulin and glucagon balanced, controlling your hunger with smaller number of calories. End result: You'll experience fat loss and lose weight. This is how the Zone Diet functions.

The objective of this informational resource is to provide visitors with tips on Zone Dieting, weight loss and guide those who seek advice on eating the right food with proper facts and reviews. Please use the menu on the left to select links which will help you seek the appropriate information.

## **Frequently Asked Questions - The Zone Diet**

### **What if I don't need to lose weight?**

Weight loss is only one of many reasons to eat in the Zone. There are countless other benefits associated with the Zone, such as improved health, greater energy, and better mental clarity.

### **What is the average weight loss?**

The average dieter may lose approximately 8 to 10 pounds per month.

### **How long before I can expect results?**

Many Zone dieters report higher levels of energy and a significant decrease in hunger and fatigue within the first five days. In the first week, you may lose up to 4 lbs. of water weight and body fat. Although everyone is different, most people lose approximately 1½ to 2 lbs. of body fat each week thereafter. It is important to remember that "weight loss"

should not be your primary objective; rather loss of body fat should become your goal. You can tell you are accomplishing fat loss by the second week when your clothes should start to fit more loosely.

### **What if I have high cholesterol?**

High cholesterol, in contrast to popular belief, is not a result of eating foods high in cholesterol. This soft waxy substance is essential to brain chemistry, memory, and necessary to form cell membranes, hormones and other tissues of the body. Cholesterol has gotten a bad rap through the years. But it is only harmful when it becomes plaque; a thick, hard coating that builds up in the arterial walls. The cause of the build up is not dietary cholesterol, rather the intake of unfavorable carbohydrates that initiate insulin, a pro-inflammatory hormone that causes a cascade of reactions eventually leading to arterial damage.

### **What if I have diabetes?**

The Zone Diet is actually a wellness as well as a weight loss program. It was originally developed to help people with diabetes and heart disease. The Zone is the perfect diet for someone with Type II diabetes. The number of Americans with Type II diabetes is increasing at an alarming rate. Accompanying this issue is low HDL's, hypertension, and high triglycerides, all risk factors to heart disease. Zone Diet addresses all of these and is the answer to better health because it corrects elevated insulin levels. Type I diabetes sufferers will

also benefit from Zone Diet, however as with all diet programs, you are requested to see your physician regularly and adjust all medications accordingly.

### **What if I'm pregnant or nursing?**

Most doctors recommend that pregnant women and nursing mothers eat a well balanced diet, increasing their food intake by about 25-30%, which would translate to consuming an "extra" block of protein carbohydrate and fat at each meal. It is recommended that you eliminate difficult to digest and gassy foods during pregnancy.

### **What if I'm on medication?**

We encourage you to see your physician before making any dietary changes. You may, in fact, need to lower the dosage of certain drugs as you reach your wellness and weight loss goals. Certain medications actually increase insulin levels, "sabotaging" your weight loss efforts. Talk to your doctor about drugs that may have less deleterious effects on insulin. Never make any changes without consulting your physician for advice.

### **Should I eat three meals and two snacks even if I am not hungry?**

Absolutely YES! The Zone is all about the hormonal responses to food. Think of food as a drug. Your body needs to process this "drug" in a particular way in order for you to attain your weight loss goals. Not being hungry is a great indicator that you are losing body fat and getting into "the Zone". Another important rule is to always eat breakfast within an hour of waking.

### **What if I'm not hungry?**

Keep an appointment with food; it's all in the planning! Since a Zone meal II regulates" your body's response to insulin, you must eat on a regular basis. Although everyone is different, a Zone meal should stave off hunger for approximately 4-5 hours, a snack, approximately 2 hours. Remember to eat your 3 meals and 2 snacks no matter what. Not being hungry indicates that you are accomplishing your goals and losing body fat.

### **Should I take supplements?**

Yes! In order to survive and maintain health, we all need to consume foods abundant in essential nutrients. We need to eat foods rich in vitamins, antioxidants, photochemical and minerals. Unfortunately, the modern food supply is often devoid of these sources of life due to processing, poor farming practices, the use of pesticides and other damaging chemicals, polluted air and water. There is no doubt that there is a direct relationship between the composition of the food we consume and the composition of our body. Because it is basically impossible to get what we need to be healthy from today's food supply, we all need to increase our nutrient intake through vitamins and other supplements.

### **Should I eat before working out in the gym?**

Definitely! Eating a Zone snack 30 minutes before working out assures that you will access the hormonal benefits of being in the Zone, which means that you will burn body fat, which is essential to weight loss. Aerobic exercise

reduces insulin levels, the key to getting trimmer. Anaerobic exercise builds strong muscles. Muscles are a more metabolically active tissue than fat. Even if the scale doesn't move, your clothes will fit better and you will look and feel better. Exercise is an important component to helping you achieve your goals and we highly encourage it. Just remember to start: off slowly and build from there to avoid injury.

### **Is it ok to eat rice, bagels or pasta ever again?**

Of course! What makes the Zone Diet so wonderful is that no foods are excluded. However, when consuming carbohydrates, the best choice is always vegetables and fruits, which are loaded with vitamins and nutrients. All carbohydrates are composed of sugar. Rice, bagels, pasta and sweets have lots more sugar (called the glycemic index) than the more beneficial carbohydrates found in vegetables and fruits. Another point worth making is that many people do not digest grain based foods well and often find that the results of eating these foods are bloating and other digestive disorders. When choosing the grains and other starchy foods, consume very small amounts.

### **Isn't having 30%fat in my diet too much?**

One of the greatest medical myths of the past half-century, especially the last 20 years, is that fats are evil. Fats (more properly referred to as lipids) are essential to good health. Now, some fats are better than others, and no

one is encouraging you to eat saturated or hydrogenated fats. However, never make the mistake of lumping all fats together into one negative grouping. Good fats, especially monounsaturated fats, actually have significant health benefits. Contrary to present thinking, it takes dietary fat to burn body fat. Fat actually slows the entry of carbohydrates into the blood stream and are responsible for initiating certain hormones that give you a sense of satisfaction and signal you to stop eating. Some of the fattest people on earth are the ones who try to eat "fat free!"

### **Should I be concerned about calories?**

The Zone is not about calories. It is about the hormonal response to food. Being in "the Zone" means you're not hungry and not craving, even though it may appear at first to be a low-calorie diet. Women who diet in the Zone should consume 1100-1200 calories daily while men should consume 1400-1600 calories per day. But because blood sugar levels are balanced, if you are like most people, you will be enjoying greater energy levels, less fatigue, the ability to think more clearly, and fewer cravings while attaining your weight loss goals.

### **Will I gain weight back once I complete the program?**

A diet is something you can go off and on. We prefer to think of the Zone Diet as a lifestyle, which teaches you new habits and a new way of looking at (eating!) food. We encourage people to maintain the diet on their own by using what we call the eyeball method.

### **Can I drink milk if I'm concerned about calcium?**

Another unfortunate food myth is that milk is the perfect food. Well, it might just be if you're a 300 lb. calf! In reality, the majority of the world's population finds it quit difficult to digest milk. Most of us do not have the enzymes necessary to "break down" milk. We often refer to this as "lactose intolerance." Calcium is important in the formation of strong bones and teeth, in the maintenance of a regular heartbeat, and in the transmission of nerve impulses. It has even proven to be important in preventing colon cancer. This much-needed mineral can be found in lots of the good foods, especially green leafy vegetables. For added insurance, it is always best to include a calcium supplement in your vitamin regimen.

### **When do I eat?**

It has often been said that timing is everything! If you think of food as a drug, you'll begin to understand how important it is to regulate your body's use of macronutrients proteins, carbohydrates and fats throughout the day. A Zone Diet meal should keep your blood sugar regulated for approximately 4 to 5 hours, a snack about 2 hours. By eating on a "regular" basis; 3 meals and 2 snacks each day, you will control insulin and lose body fat Always eat your Zone breakfast within an hour of rising and schedule your remaining meals accordingly. Also, remember to eat before you become hungry.

### **What can I drink?**

Water should always be your beverage of choice. Burning fat is a very dehydrating process, which is why constipation is often a complaint when starting the program. Drinking lots of water is important. Juices are loaded with sugar and should be avoided. By adding a bit of sparkling water you can learn to wean yourself off juice by slowly changing the ratio to more water than juice and retraining your taste buds until you've readjusted to drinking only water.

### **Can I drink alcohol?**

Alcoholic drinks are derived from grains or fruits. They are high glycemic, high sugared carbohydrates. Alcohol increases insulin levels, which sabotages your weight loss efforts. Think of a 4 oz glass of wine, a bottle of beer or 1½ oz of liquor as one block. That means that if you're a male, consuming 4 blocks of carbohydrates (36-40grams) at a meal you would need to eat one block less of carbohydrates in order to have that drink at that meal. There are many inconsistent reports coming out of the scientific community regarding alcohol consumption. Some studies show that alcohol is toxic to the cells, accelerates the aging process and has been linked to breast cancer. Other data show alcohol to be heart friendly (in small amounts). If you don't drink, don't start now. If you do, always drink in moderation.

### **Can I drink coffee?**

Coffee contains caffeine and caffeine is a stimulant, which causes insulin resistance. If you must drink coffee, it is best to drink water-processed decaffeinated coffee. And remember, if you add milk or half-and-half to your coffee, you are adding a few extra carbohydrates to your daily intake.

### **What about artificial sweeteners and diet soda?**

Although artificial sweeteners advertise that they have only one calorie, they stimulate carbohydrate cravings, which sabotage your program. Remember, the Zone is not about calories; it's about the hormonal response to food. Aspartame has been linked to headaches, dizziness, anxiety and depression. Diet soda contains artificial sweeteners along with high levels of phosphorous, which interferes with calcium absorption. Calcium depletion has been associated with osteoporosis (bone loss). It is best to cut out the soda.

### **Zone Diet Menus**

Take a look at the sample menus and get convinced that no food is missed in the Zone. Any combination, for example, from the list of breakfast, lunch, dinner and snack is highly recommended for staying in the Zone.



## Breakfast Menu

- Buckwheat Blini With Ricotta & Apples
- Cranberry Orange Muffin - 4 Oz
- Cream Cheese & Jelly French Toast With Eggs
- Eggs Benedct With Canadian Style Bacon
- Farina With Maple Syrup & Sausage
- Florentine Omelette With Potatoes
- Maple Nut Steel Oatmeal With Scrambled Egg
- Pesto Egg Pie With Prosciutto Ham
- Potato Cheddar Frittata
- Shirred Egg With Cheese Sauce & Asparagus
- Sweet Potato Pancakes With Turkey Bacon & Egg Substitute
- Tomato Basil Omelette With Sliced Potatoes
- Soldier Salad With Turkey

## Lunch Menu

- Portabella Napoleon
- Grilled Chicken Bit Club Salad
- Grilled Chicken Caesar Salad
- Chef's Salad With Fresh Apple On The Side
- Chicken Satay Salad
- Cobb Salad With Swiss Cheese
- Balanced Delight Salad With Smoked Turkey
- Beef Negimaki Salad
- Blackened Chicken With Creole Salad
- Baked Cod With Dijon & Lentils

## Dinner Menu

- Breast Of Chicken Verdure
- Almond Crusted White Fish
- Chicken Cacciatore With Red Pepper Polenta
- Chicken Parmesan With Artichokes
- Grilled Pork Loin With Barley Pilaf & Green Beans
- Grilled Scallops With Swiss Chard & Escalloped Potatoes
- Pork Loin With Kraut
- Sloppy Joe Hoagie
- Stuffed Peppers With Chick Peas
- Spanakopita

## Snack Menu

- Stuffed Artichoke Hearts With Fresh Mozzarella
- Raspberry Swirl Cheesecake
- Seafood Stuffed Mushroom
- Pork Cutlet Minanese With Broccoli
- Lobster Ravioli
- Low Carb Pretzels
- Macaroni & Cheese
- Orange & String Cheese
- Orange Cranberry Cheesecake
- Orange Cranberry Mini Muffin
- Peach Cobbler
- Fruit Crudite With Dipping Sauce
- Fruited Gelatin
- Granola With Honey & Yogurt
- Greek Salad
- Double Chocolate Chip Cookies
- Eggplant Rollitini
- Cheese Bake
- Cool Ranch Soy Crisp With Dip
- Crab Cake
- Chili Tostada With Beef
- Chocolate Cheesecake
- Apple & String Cheese
- Baked Apple With Ricotta
- Banana Mini Muffin
- BBQ Soy Chips With Dipping Sauce
- Blueberry Mini Muffin

## Do's and Don'ts Tips while Zone Dieting:

### PROTEIN

Tip: To determine the amount of protein in your meal, look at your hand. The amount of protein you should consume at each meal should be equal to the size and thickness of your palm. This category includes chicken, fish, beef, turkey, egg whites, low-fat cheeses, tofu, veal or low-fat pork.

### CARBOHYDRATES

Tip: When choosing more favorable carbohydrates, such as fruits or vegetables, your portion size can be determined by curling your hands into 2 loose fists. When choosing less favorable carbohydrates, such as those with higher levels of sugar or starch, allow yourself only one fistful.

### FATS

Tip: Give fats a "thumbs up!" Additional fat added to your meal equals the size of the tip of your thumb. This category includes butter and olive oil.

### FOODS THAT GET THE THUMBS DOWN

Tip: Sugar in all forms, Breads, Pastas, Potatoes, Rice, Bagels, Cereals, Juices, Sodas, Alcohol and Foods or Beverages containing caffeine. Although these foods get the thumbs down Remember you can have them in moderation from time to time.

### FRUITS THAT GET THE THUMBS DOWN

Tip: Although no foods are forbidden in the Zone, some fruits that are high in sugar and should be consumed only in limited quantity are: Bananas, Figs, Prunes, Raisins and Grapes.



## VEGETABLES THAT GET THE THUMBS DOWN

Tip: Some vegetables should be eaten in moderation for they contain higher sugar content than most other veggies. These vegetables are: Potatoes, Peas, Carrots and Corn.

## TYPICAL LUNCH TIPS

Turkey, Fish, Beef, Chicken or Tofu over a bed of lettuce with mixed vegetables and salad dressing (oil & vinegar). Side of fresh fruit. Use the eyeball method.

## GOING OUT TO DINNER

Tip: Eat as much salad as you would like with a moderate amount of dressing. Next, always choose your protein (chicken, fish, beef, veal, lamb or low fat tofu). If you are offered a breadbasket, you can always politely decline. Steamed vegetables are best. Order fresh fruit for dessert.

## ALCOHOL

Tip: If you choose to drink alcohol, it is best to have some food in your stomach before you drink because the food will slow down the absorption rate of the sugar into your bloodstream and will help to keep your insulin levels in check. Remember that you will need to eat fewer carbohydrates at that meal if you choose to drink alcohol.

## Athletes' Performance Instructions

1. First familiarize yourself with your calorie goal. This number is located in the upper right hand corner of your Meal Builder. This has been calculated to meet your training demands as well as to meet your weight/body composition goals.
2. Next, review your post-training nutrition recommendations. These "Performance Nutrition" recommendations are designed to maximize your performance and recovery.
  - a. This is not in addition to your 3 meals and 3 snacks, when you have your recovery snack it should replace one of your other snacks.
3. Below your recovery recommendations is a macronutrient breakdown. This section details the percentage of total calories from carbohydrate, protein and fat as well as the total number of grams of each macronutrient recommended. On days you train, replace a snack with the recovery nutrition. If you do not train, just eat the suggested snack.
4. The next section details a practical template to implement these recommendations. For instructional purposes we will refer to this as the template.
5. "Fueling" times are represented by the six columns across the top of the template. While, food groups and supplements are represented by rows of the template. The numbers located within the body of the template are the recommended number of servings from each food/supplement group at each "fueling" time. Located at the bottom of the template is a detailed breakdown of the number of calories, grams carbohydrate, grams protein, and grams fat provided at each "fueling" time.
6. Underneath the template is a detailed list of "best bet" foods and supplements from each row of the template.
  - a. The number to the left of each food item signifies one serving. For example, 1 slice of whole wheat bread equals 1 grain serving.
  - b. Each serving may be used interchangeably. Therefore, if you tire of whole wheat toast at breakfast you can replace it with any of the foods listed in the grain column.
  - c. You are only limited by your creativity
7. In each section/food group you will find your recommended total daily servings. This is the number of servings to aim for over the course of the day. The template is just a guide for meal times. At the end of the day you want to get close to your recommended daily servings.
8. You can eat as many veggies as you want. The more the better.
9. Which gives you the starting point recommendation
10. You are now prepared to build customized meals that will provide sustainable fuel throughout the day as well as power you through your training session.

## Helpful Hints

- Plan your meals around protein.
- Include a variety of colors within each meal/snack. Strive for at least 3 at every meal.
- Try adding fats like nuts & seeds to grains or vegetables to add some crunch.
- If you have a favorite dish, breakdown the ingredients and see which food group they fall.
- Write out your meal plan for an entire week, transfer this plan to a grocery list, and then implement the plan!
- This is just a general guide of where to start. Remember that overall good habits are the key to great nutrition and recovery.

## Rules To Live By

1. Eat BREAKFAST everyday!
2. Eat smaller portions more often, spread evenly across the day. No excuses, you should be eating 5-8 meals per day.
3. COME BACK TO EARTH! Try to choose the least processed forms of food. Fruits, veggies and whole grains.
4. Include a LEAN protein source with each meal.
5. Choose foods, especially carbs rich in fiber (25-35g/day)
6. Drink a pre-workout shooter or a post-workout recovery shake.
7. Add a multi-vitamin with anti-oxidant complex and an omega 3, omega 6 blend into your daily routine.
8. Stay hydrated (.6x body weight=ounces of water per day) by drinking only non-caloric beverages (water/green tea)
9. Eat a rainbow often and the less legs the better.
10. Last but not least, get some rest.

## Athletes' Performance Nutrition Grocery List

### This is a good place to start

The biggest barriers to proper nutrition are poor implementation. To help nurture your healthy habits, create an environment for success! Stock your house, your office, your car, anywhere you are with healthy choices.

Become a savvy shopper and stick to the perimeter of the grocery store! When you venture into the middle aisles, proceed with caution and make sure to check the labels for fiber and avoid partially hydrogenated oils.

#### Grains/Carbohydrates/Beans

- ☐ Whole Wheat
- ☐ Pumpernickel Bread
- ☐ Sourdough Bread
- ☐ Bran Cereal
- ☐ Kashi Cereal
- ☐ Black Beans
- ☐ Kidney Beans
- ☐ Pinto Beans
- ☐ Navy Beans
- ☐ Brown Rice
- ☐ Whole Wheat Pasta
- ☐ Whole Wheat Cous Cous

#### Meats/Proteins

- ☐ Beans (same as above)
- ☐ Chicken (skinless)
- ☐ Fish (salmon)
- ☐ Flank/Sirloin Steak
- ☐ Cottage Cheese 2%, 1%
- ☐ Peanut Butter
- ☐ Tofu
- ☐ Edamame
- ☐ Rotisserie Chicken (skinless)
- ☐ Turkey
- ☐ Boar's Lean Head Deli Meats
- ☐ Lean Ground Turkey
- ☐ 96% Lean Ground Beef
- ☐ Tuna

#### Dairy

- ☐ 1% or Fat-free Milk
- ☐ Low-fat Cheese
- ☐ String Cheese
- ☐ 2%/1% Cottage Cheese
- ☐ Yogurt Low Sugar
- ☐ Low-fat Ice Cream
- ☐ Soy yogurt or ice cream

#### Nuts/Seeds/Healthy Fats

- ☐ Natural Peanut Butter
- ☐ Walnuts
- ☐ Pecans
- ☐ Avocado
- ☐ Almonds
- ☐ Sunflower Seeds
- ☐ Canola Oil
- ☐ Olive Oil
- ☐ Low-fat Salad Dressing
- ☐ Vinegar (balsamic or red wine for making dressing)

#### Other items to pick up

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#### Vitamins

- ☐ Fish Oil
- ☐ Multi-Vitamin
- ☐ Anti-oxidant Calcium
- ☐ Calcium

#### Fruits/Vegetables

- Stock it up
- TIP: Pre-cut and package fruits and and veggies
- ☐ Frozen Berries
  - ☐ Red Grapes
  - ☐ Oranges
  - ☐ Bananas
  - ☐ Strawberries
  - ☐ Apples
  - ☐ Kiwi
  - ☐ Pears
  - ☐ Romaine Lettuce
  - ☐ Spinach
  - ☐ Carrots
  - ☐ Broccoli
  - ☐ Cucumber
  - ☐ Cauliflower
  - ☐ Tomatoes
  - ☐ Apricots
  - ☐ All fruits and vegetables

# Male Meal Builder

## ZONE 1

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	1-2	--	1-2	1-2	1-2	--
Protein/Dairy	1	--	1-2	--	1-2	1
Fruits	1-2	1	1	--	--	1
Veggies	--	--	3	--	3	--
Fats	1-2	1	2	1-2	1-2	--
or ⇒ Meal Replacement	--	1	--	1	--	1
<b>Total Calories</b>	<b>360-460</b>	<b>180-230</b>	<b>450-575</b>	<b>180-230</b>	<b>450-575</b>	<b>180-230</b>

### ZONE 1

Weight • 140-160

Goal • weight loss

## ZONE 2

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	2	--	2-3	1	2-3	--
Protein/Dairy	1-2	--	2	--	2	1
Fruits	1-2	1-2	1	--	--	1-2
Veggies	--	--	3	--	3	--
Fats	1-2	1	1-2	1	2	--
or ⇒ Meal Replacement	--	1 + fruit	--	1 + fruit	--	1 + fruit
<b>Total Calories</b>	<b>460-520</b>	<b>230-260</b>	<b>575-650</b>	<b>230-260</b>	<b>575-650</b>	<b>230-260</b>

### ZONE 2

Weight • 140-160

Goal • weight main

Weight • 161-190

Goal • weight loss

## ZONE 3

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	2-3	1	2-3	1	2-3	--
Protein/Dairy	2	--	2	1	2	1
Fruits	2-3	1	2	--	--	1
Veggies	--	--	3	--	3	--
Fats	2	1	2	1	2	--
or ⇒ Meal Replacement	--	1 + fruit	--	1 + fruit	--	1 + fruit
<b>Total Calories</b>	<b>520-600</b>	<b>260-300</b>	<b>650-750</b>	<b>260-300</b>	<b>650-750</b>	<b>260-300</b>

### ZONE 3

Weight • 161-190

Goal • weight gain

Weight • 191-220

Goal • weight main

## ZONE 4

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	3-4	1	3-4	2	3-4	2
Protein/Dairy	2	--	2	--	2	1
Fruits	3	1	1	--	2	1
Veggies	--	--	3	--	3	--
Fats	2	2	1-2	1	2	1-2
or ⇒ Meal Replacement	--	1 + 2 fruit + fat	--	1 + 2 fruit + fat	--	1 + 2 fruit + fat
<b>Total Calories</b>	<b>600-680</b>	<b>300-340</b>	<b>780-850</b>	<b>300-340</b>	<b>750-850</b>	<b>300-340</b>

### ZONE 4

Weight • 140-190

Goal • weight loss

Weight • 140-160

Goal • weight loss

## ZONE 5

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	4-5	1-2	4-5	1	4-5	2-3
Protein/Dairy	2	--	2	--	2	1
Fruits	3-4	1-2	1-3	--	2	1
Veggies	--	--	3	--	3	--
Fats	2-2	2-3	2-3	2	2	2-3
or ⇒ Meal Replacement Bar/Shake	--	1	--	1	--	1
<b>Total Calories</b>	<b>680-800</b>	<b>340-400</b>	<b>850-1000</b>	<b>340-400</b>	<b>850-1000</b>	<b>340-400</b>

### ZONE 5

Weight • 191-220

Goal • weight gain

# Female Meal Builder

## ZONE 1

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	1	--	1-2	1	1-2	--
Protein/Dairy	1	--	1	--	1	1
Fruits	1-2	1	1-2	--	--	1
Veggies	--	--	3	--	3	--
Fats	1	1	1	1	1	--
or ⇒ Meal Replacement	--	1	--	1	--	1
<b>Total Calories</b>	<b>280-340</b>	<b>140-170</b>	<b>350-425</b>	<b>140-170</b>	<b>350-425</b>	<b>140-170</b>

### ZONE 1

Weight • 140-160

Goal • weight loss

## ZONE 2

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	1-2	--	2-3	1	2-3	--
Protein/Dairy	1	--	1	--	1	1
Fruits	1-2	1-2	--	1	--	1
Veggies	--	--	3	--	3	--
Fats	1-2	1	1-2	1	1-2	1
or ⇒ Meal Replacement	--	1	--	1	--	1
<b>Total Calories</b>	<b>340-400</b>	<b>170-200</b>	<b>425-500</b>	<b>170-200</b>	<b>425-500</b>	<b>170-200</b>

### ZONE 2

Weight • 140-160

Goal • weight main

Weight • 161-190

Goal • weight loss

## ZONE 3

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	2 **	1	2-3	1	2-3	--
Protein/Dairy	1	1	1	--	1	1
Fruits	1-2	1-2	--	1	--	1
Veggies	--	--	3	--	3	--
Fats	1-2	1-2	2-3	1-2	2-3	1-2
or ⇒ Meal Replacement	--	1+fruit	--	1+fruit	--	1+fruit
<b>Total Calories</b>	<b>400-460</b>	<b>200-230</b>	<b>500-575</b>	<b>200-230</b>	<b>500-575</b>	<b>200-230</b>

### ZONE 3

Weight • 161-190

Goal • weight gain

Weight • 191-220

Goal • weight main

## ZONE 4

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	2-3	1	2-3	1	2-3	1
Protein/Dairy	1-2	1	1.5	--	1.5	1
Fruits	2	2	--	1	--	1
Veggies	--	--	3	--	3	--
Fats	2-3	2-3	2-3	2	2-3	2
or ⇒ Meal Replacement	--	1 + 2 fruit	--	1 + 2 fruit	--	1 + 2 fruit
<b>Total Calories</b>	<b>460-520</b>	<b>230-260</b>	<b>575-650</b>	<b>230-260</b>	<b>575-650</b>	<b>230-260</b>

### ZONE 4

Weight • 140-190

Goal • weight loss

Weight • 140-160

Goal • weight loss

## ZONE 5

### FUELING TIMES

	BREAKFAST	SNACK	LUNCH	SNACK	DINNER	SNACK
Grains	2-3	1-2	2-3	1-2	3-2	1-2
Protein/Dairy	1-2	1	1.5	--	1.5	1
Fruits	2-3	2	--	1	--	1-2
Veggies	--	--	3	--	3	--
Fats	2-3	2-3	2-3	2	2-3	2
or ⇒ Meal Replacement Bar/Shake	--	1 + 2 fruit + 1 fat	--	1 + 2 fruit + 1 fat	--	1 + 2 fruit + 1 fat
<b>Total Calories</b>	<b>520-600</b>	<b>260-300</b>	<b>650-750</b>	<b>260-300</b>	<b>650-750</b>	<b>260-300</b>

### ZONE 5

Weight • 191-220

Goal • weight gain

<div> <div>Nutrition Blueprint:</div> <div>Calorie Goal:</div> </div>	Grains	Proteins	Dairy	Fruits	Vegetables	Fats	Food Calories	Hydration Calories	TOTAL CALORIES

Pastal/Rice

- 1/2 c Risorto. Quinoa (cooked)
  - 1/3 c Brown Rice, cooked
  - 1/3 c Whole Wheat CousCous (cooked)
  - 1/2 c Whole Wheat Pasta (cooked)
- Breads/Tortillas/Rolls**
- 1 slice Rye Bread
  - 1 slice Pumppernickel Bread
  - 1/2 Pita Bread (6")
  - 1/4 Whole Wheat Bagel
  - 1/2 English Muffin
  - 1/2 Whole Wheat Hamburger/ Hot Dog Bun
  - 1 slice Sour Dough Bread
  - 1/2 Sub Bread (6" each)
  - 1 Whole Wheat or Corn Tortillas (6")
  - 2 Corn Tortillas (4")
  - 1 slice Whole Wheat Bread
  - 1 sm. Whole Wheat Roll (1 oz ea)

Cold Cereals

- 1/2 c All Bran Cereal
- 3/4 c Cheerios Cereal
- 3/4 c Cheerios MultiGrain Cereal
- 1/2 c Cracklin Oat Bran Cereal
- 1/2 c Frosted Mini Wheats Cereal
- 1/2 c Grape Nuts Cereal
- 1/2 c Kashi Go Lean Cereal
- 1/2 c Kashi Go Lean Crunch Cereal
- 1/2 c Kashi Go Lean Honey Almond Flax
- 1/2 c Mueslix Cereal
- 1/2 c Raisin Bran Cereal
- 3/4 c Smart Start Cereal
- 3/4 c Special K Cereal
- 1/2 c Whole Wheat Total Cereal

Hot Cereals

- 1/2 c Cream of Wheat (cooked)
- 1 Instant Grits
- 1/2 Packet Kashi Instant Oatmeal
- 1/2 Packet Quaker Instant Oatmeal
- 1/2 c Slow Cooked Oatmeal (cooked)

Veggies • Beans • Potatoes

- 1/2 c Soya Beans (cooked)
- 1/2 c Split Peas (cooked)
- 1 c Squash (winter, acorn, butternut)
- 1/2 c Peas (cooked)
- 1/2 c Pinto Beans (cooked/ canned)
- 1/2 sm. Baked Potato
- 1/2 c Beans Black, Kidney (cooked/canned)

- 1/2 c Black Eyed Peas (cooked/ canned)
  - 1/2 c Corn (cooked)
  - 1 ear Medium ear of Corn
  - 1/2 c Sweet Potato (cooked)
  - 1/2 c Yam (cooked)
  - 1/2 c Lentils (cooked)
  - 1/2 c Lima Beans (cooked/ canned)
  - 1/2 c Mashed Potatoes
- Snacks/Crackers/Granola Bars**
- 1 Kashi Granola Bar
  - 2 Graham Crackers
  - 5 Whole Wheat Crackers (baked)
  - 4 Whole Wheat Melha Toast
  - 1 bar Nature Valley Granola Bar
  - 8 Animal Crackers
  - 3 c Light Popcorn (popped)
  - 3/4 c Pretzels
  - 2 Rice Cakes (4")
  - 4 Reduced Fat Triscuits
  - 1 Whole Wheat Fig Newton

Fish/Seafood

- 3 oz Clams
- 3 oz Cod
- 3 oz Crab
- 3 oz Flounder
- 3 oz Haddock
- 3 oz Halibur
- 3 oz Lobster
- 3 oz Salmon
- 3 oz Scallops
- 3 oz Shrimp
- 3 oz Trout
- 3 oz Tuna
- 3 oz Tuna (canned in water)

Poultry

- 3 oz Chicken (lunch meat)
- 3 oz Chicken Breast
- 3 oz Ground Turkey (cooked)
- 3 oz Turkey (lunch meat)
- 3 oz Turkey Breast

Beef/Pork

- 3 oz Beef (96% lean ground chuck)
- 1.5 oz Beef Jerky
- 3 oz Beef Tenderloin
- 3 oz London Broil
- 3 oz Pork (grilled)
- 3 oz Roast Beef (lunch meat)

Dairy

- 8 oz 1% Chocolate Milk
- 8 oz 1% Milk
- 1 2% String Cheese
- 1/2 c Non-fat Cottagc Cheese
- 1/2 c Non-fat Frozen Yogurt
- 8 oz Non-fat Milk
- 1 c Non- fat Yogurt

Eggs

- 1/4 c Egg Substitute
- 4 Egg Whites
- 2 Eggs
- 2 Omega-3 Eggs

Legumes

- 1/2 c Black Beans (cooked/ canned)
- 1/2 c BlackEyed Peas (cooked/ canned)
- 8 oz Calcium-fortified Lighr Soymlk
- 1/2 c Kidney Beans (cooked/ canned)
- 1/2 c Lentils (cooked)
- 1/2 c Lima Beans (cooked/ canned)
- 1/2 c Pinro Beans (cooked/ cannod)
- 1/2 c Soy Milk
- 1/2 c Soya Beans (cooked)
- 1/2 c Split Peas (cooked)
- 1 T Almond butter
- 1 T Peanut Butter (naruml)
- 1/2 oz Raw Nuts

Supplements

- 1 EAS Myoplex Original Packet
- 1 EAS Myoplex Original RTD
- 1 EAS Myoplcx Light Bar
- 1 EAS Myoplex Light Packet
- 1 EAS Myoplex Light RTD
- 1 Prescribed Myoplex

Sports Drinks

- 8 oz Gatorade
- 8 oz G2

Vegetables

Green

- 1 c Arugula
- 1/2 c Asparagus (cooked)
- 1 c Asparagus (raw)
- 1/2 c Broccoli (cooked)
- 1 c Broccoli (raw)
- 1 c Brussel Sprouts
- 1/2 c Celery (cooked)
- 1 c Celery (raw)
- 1 c Collards (cooked)
- 1 c Cucumber (raw)
- 1/2 c Green Beans (cooked)
- 1 c Green Beans (raw)
- 1 c Green veggie Salad
- 1 c Kale (raw)
- 1/2 c Lettuce (all)
- 1 c Spinach (raw)

White

- 1/2 c Cabbage (cooked)
- 1 c Cabbage (raw)
- 1/2 c Cauliflower (cookcd)
- 1 c Cauliflower (raw)
- 1/2 c Onions (cooked)
- 1 c Onions (raw)
- 1/2 c Water Chestnuts (cooked)
- 1 c Water Chestnuts (raw)

Red

- 1/2 c Tomato. beels
- 1/2 c Salsa, Tomato Sauce

Orange

- 1/2 c Carrots (cooked)
- 1 c Carrots (raw)

Mixed

- 1 1/2 c Peppers (cooked)
- 1 c Peppers (raw)
- 1/2 c Stir Fry VegelJ.blcs (cooked)
- 1 c Stir Fry Vegetables (raw/ frozen)
- 6 oz Vegetable Juice
- 1/2 c Zucchini (cooked)
- 1 c Zucchini (raw)

Fruits

Red

- 1 Apple (sm)
- 1/2 c Applesauce (unsweetened)
- 12 Cherries
- 1 c Raspberries
- 1 1/4 c Strawberries (whole)
- 1/4 c WatenneJon (cubed)
- 1/2 c Grapefruit (med)

Orange

- 1 c Cantaloupe (cubed)
- 1 Orange,Nectarine or Peach (med)
- 1 Tangerine (lge)

Yellow

- 1/2 c large Banuna(s)
- 3/4 c Pineapple chunks (in own juice)

Blue/Purple

- 1 c Blackberries or Boysenberries
- 3/4 c Blueberries
- 14 Grapes
- 2 Plums (sm)
- 3 Prunes (dried plums)
- 2 T Raisins

Green

- 1 c Honeydew Melon (cubed)
- 1 Kiwi Fruit (sm)
- 1 Pear (sm)

Mixed Colors

- 2 T Dried Fruit
- 1/2 c Fresh Fruit Salad
- 1/2 c Fruit Cocktail (own juice)
- 6 oz Fruit Juice (100% juice)
- 1 c Mixed Berries (fresh/frozen)

Fats: Choose Often

- 1 T Almond BURer
- 11 Almonds
- 4 Avocado (med)
- 10 Black Olives (lge)
- 1/2 t Canola Oil
- 2 T Flax. Seeds
- 1/2 t Flaxseed Oil
- 15 Green Olives (lge)
- 1/2 t Olive Oil
- 1 T Peanut Butter
- 8 Pecan Halves
- 2 T Pumpkin Seeds
- 2 T Sesame Seeds
- 2 T Sunflower Seeds
- 1/2 t Com Oil
- 2 t Margarine
- 3 T Reduced Fat Mayonnaise
- 2 T Reduced Fat Salad Dressing
- 1/2 t Safflower Oil
- 1/2 t Soy Bean Oil
- 1/2 t Sunflower Oil
- 7 Walnut Halves
- 3 T Guacamole

Fats: Choose Less Often

- 2 t Butter (stick)
- 1 T Butter (whipped)
- 1 oz Cheese
- 1 Cheese Slice
- 1/2 t Coconut Oil
- 1 T Cream Cheese
- 4 T Half & Half
- 2 t Mayonnaise
- 2 slices Reduced Fat Cheese
- 1 1/2 T Reduced-far Butter
- 1 t Reduced-far Cream Cheesc
- 4 T Reduced-fat Sour Cream
- 3 T Sour Cream
- 2 Turkey Bacon Slice
- 2 Turkey Sausage Link

Dairy

- 1/2 c Non-fat Cottage Cheesc
- 8 oz Non-fat Milk
- 8 oz 1% Milk
- 8 oz Calcium fort., Light Soymilk
- 8 oz Reduced-fat Soymilk
- 1 c Non-fat Yogurt
- 1/2 c Non-fat Frozen Yogult
- 1 2% String Cheese
- 8 oz 1% Chocolate Milk



# Primal Blueprint • Overview



## **What to Eat and What to Avoid for Lifelong Health**

You're on board with avoiding grains, sugar, and vegetable oils, yes? You get that, owing to their recent introduction into the human diet, people aren't adapted to eating these foods. You see that contrary to being health-giving, grains, vegetable oils, and sugar are actually destroying our health and making us fat and sick.

You're interested in switching from the sugar-burning Carb Paradigm to the Fat Paradigm, and you understand that you should be eating more animals and fewer carbs to lose weight, right?

Awesome ... but what's next? I've given you a few basic tools to identify what foods might be preventing fat loss and promoting poor health, so you generally know what not to do, but now you want the details on what you should be doing. Specifically, what you should and should not be eating. Let's bring it all together and spell it out. And because when

we're talking about our health and happiness, we don't want to beat around the bush, or get things half-right. We want to be sure.

**Start by eliminating all the offensive processed food, grains, sugar and industrial oils.**

### **Ditch Grains**

Refined grains, whole grains, bread, pasta, muffins, biscuits, bagels, cereal, baked goods, pancakes. Anything made from flour, really.

### **Ditch Sugar**

White sugar, candy, cake, cookies, pastries, milk chocolate bars, high fructose corn syrup, soda, milkshakes masquerading as coffee drinks. If it's made in a bakery or a factory or a restaurant and it's sweet, just avoid it.

### **Ditch Vegetable Oils and Trans Fats**

Corn oil, soybean oil, canola, sunflower/safflower, margarine, shortening, anything with "partially hydrogenated" in the ingredients list.

## **Ditch All Other Junk Foods**

Most of which encompass the previous three "food" categories: potato chips, crackers, "crisps," Cheez-its.

### **Ditch Fast Food**

Taco Bell, McDonald's, Burger King, etc. don't eat McDonald's and think just because you removed the bun that it's all good. Just say no to fast food.

Don't eat that stuff. For one, it's junk food that simply doesn't taste very good when you get down to it.

Instead, it's food that's designed to target the reward centers in your brain and get you to stuff your face - and then go out and buy some more. "Betcha can't eat just one" isn't just an innocent slogan; it's the literal truth! It's high in calories but low in nutrition. You can eat that bag of Lay's and get hundreds of calories of carbs and rancid fats, but you'll still be deficient in vitamins and minerals, and you'll still be hungry!

I'll be honest - you could stop here and reap most of the benefits. Because the aforementioned "food" groups are so heavily overrepresented in the modern food supply, avoiding them and just eating everything left over will make you healthier and help you lose weight. But we can do better than that.

**Eat the animals, vegetables, fruits, nuts and seeds our bodies are adapted to thrive on.**

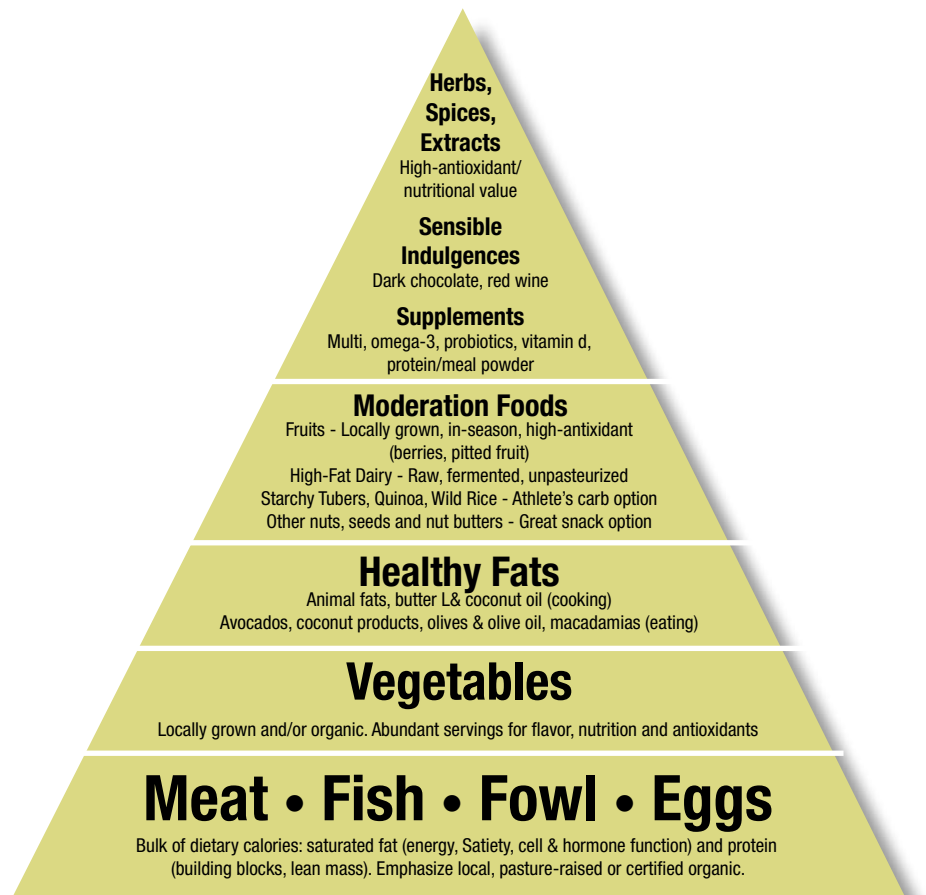
**Eat animals:** beef, lamb, bison, pork, poultry (and their eggs). Favor grass-fed and pastured animals, which have better fatty acids and contain more vitamins and minerals (and taste better!).

**Eat animals from the sea:** salmon, sardines, trout, mackerel, crab, shrimp, oysters, mussels, clams. Wild-caught fish are best, though farmed shellfish are usually raised exactly like wild shellfish and thus are fine.

**Eat unlimited produce:** leafy greens of all kinds, colorful plants, berries, cruciferous vegetables, assorted fruits, roots, and tubers.

**Eat some nuts and seeds:** macadamias, walnuts, cashews, almonds, pecans, brazil nuts, pistachios, hazelnuts; pumpkin, squash, and sunflower seeds.

All of this and then some is nicely summarized in The Primal Blueprint Food Pyramid.



**Use healthy cooking fats:** butter (especially grass-fed), coconut oil, olive oil, red palm and regular palm oil, ghee, and animal fats (lard, tallow, duck fat, etc.).

**Stock spices:** keep plenty of herbs and spices on hand. Cumin, coriander, thyme, rosemary, sage, chili powder, mint, turmeric, and cayenne are a few of my favorites, but you can use anything else

you like. Spices and herbs add flavor to dishes and prevent the breakdown of vital nutrients during cooking so that when you add spices or herbs, your food tastes better and is actually healthier for you.

Carbohydrate intake is often the decisive factor in weight loss success and prevention of widespread health problems like Metabolic Syndrome, obesity and type 2 diabetes. These average daily intake levels assume that you are also getting sufficient protein and healthy fats, and are doing some amount of Primal exercise. The ranges in each zone account for individual metabolic differences.

**0-50 grams per day:** Ketosis and I.F. (Intermittent Fasting) zone. Excellent catalyst for rapid fat loss through I.F. Not recommended for prolonged periods (except in medically supervised programs for obese or Type 2 diabetics) due to unnecessary deprivation of plant foods.

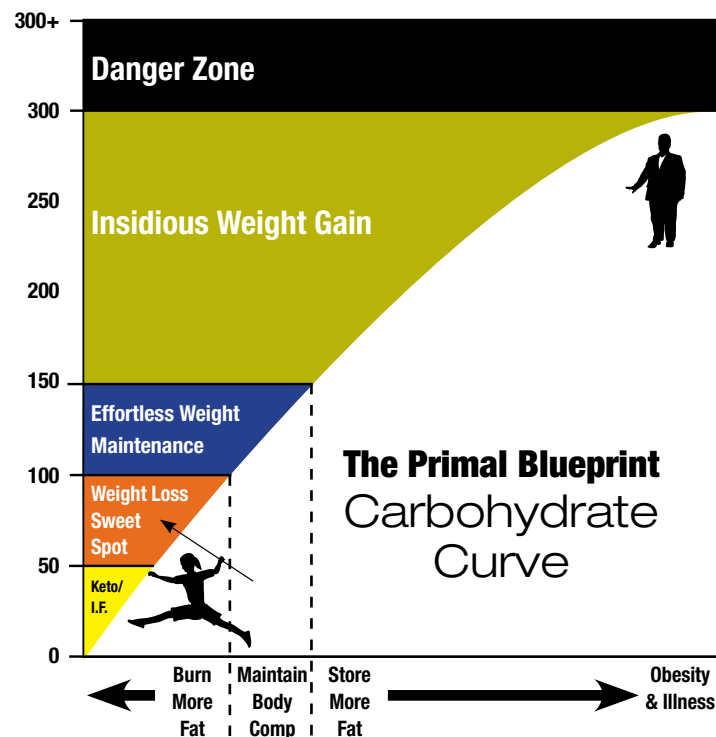
**50-100 grams per day:** Sweet Spot for Weight Loss. Steadily drop excess body fat by minimizing insulin production. Enables 1-2 pounds per week of fat loss with satisfying, minimally restrictive meals.

**100-150 grams per day:** Primal Maintenance zone. Once you've arrived at your goal or ideal body composition, you can maintain it quite easily here while enjoying abundant vegetables, fruits and other Primal foods.

**150-300 grams a day:** Insidious Weight Gain zone. Most health conscious eaters and unsuccessful dieters end up here, due to frequent intake of sugar and grain products (breads, pastas, cereals, rice, potatoes - even whole grains). Despite trying to "do the right thing" (minimize fat, cut calories), people can still gain an average of 1.5 pounds of fat every year for decades.

**300+ grams a day:** Danger Zone of average American diet. All but the most extreme exercisers will tend to produce excessive insulin and store excessive fat over the years at this intake level. Increases risk for obesity, Metabolic Syndrome and type 2 diabetes.

## The Primal Blueprint Carbohydrate Curve



### General Guidelines

80% of body composition success is determined by diet. Limit processed carb intake (hence, insulin production), and obtain sufficient protein and fat to fuel and rebuild.

- **Protein:** Average. 7 - 1 gram per pound of lean body mass/day - depending on activity levels (more at times is fine).
- **Carbs:** 50-100 grams/day (or less) = accelerated fat loss. 100-150 grams/day = effortless weight maintenance. Heavy exercisers can increase carb intake as needed to replace glycogen stores.
- **Fat:** Enjoy freely but sensibly for balance of caloric needs and high dietary satisfaction levels.
- **Avoid Poisonous Things:** Conventional Wisdom's dietary guidelines promote fat storage, type 2 diabetes, inflammation and obesity!

- **Eliminate:** Sugary foods and beverages, grains (wheat, corn, rice, pasta, breads, cereals, etc.), legumes (soy and other beans), trans and partially hydrogenated fats, high-risk conventional meat and produce, and excess PUFA's (instead, increase omega-3 oils).
- **Modern Adjustments:** Some modern foods that Grok didn't eat can still be included in a healthy diet
- **Moderation:** Certain high glycemic fruit, coffee, high-fat dairy products, starchy tuber vegetables, and wild rice.
- **Supplements:** Multivitamin/mineral formula, probiotics, omega-3 fish oil and protein powder.
- **Herbs, spices and extracts:** Offer many health benefits and enhance enjoyment of meals.



# Paleo Diet Summary Introduction



The optimum diet for the human animal based on the nutritional requirements established during its evolutionary path to its present form (the modern homo sapiens). The biologically appropriate diet.

## What Is The Paleo Diet?

Paleo is a simple dietary lifestyle that is based on foods being either in or out. In are the PALEOLITHIC ERA foods that we ate prior to agriculture and animal husbandry (meat, fish, shellfish, eggs, tree nuts, vegetables, roots, fruit, berries, mushrooms, etc.). Out are NEOLITHIC ERA foods that result from agriculture or animal husbandry (grains, dairy, beans/legumes, potatoes, sugar and fake foods).

## Optimal Foraging Theory

says our ancestors mostly ate foods that were easiest to hunt or gather at that specific locale. As nomads we would have adapted to various mixes of foods. Under the paleo concept the quantities consumed of each "in" food is up

to the individual. You can make it meat heavy if you want, or more fruit and veggies if you prefer, as long as the foods you eat are paleo. Fruits in the Paleolithic would have been tart and smaller, and you may want to limit modern fruit because of this.

Acceptable oils should be restricted to those from fruits (olive, oil palm, avocado) or tree nuts (coconut, walnut, almond, hazelnut, pecan, macadamia). No high-tech industrial seed oils could have existed back then. Wild game meat would be the ideal, but grass-fed meat is used as a practical substitute. The grass-fed is needed to get the proper balance of Omega 3 (from green plants) and Omega 6 (from seeds) fatty acids. Organ meats and bone marrow are very paleo. No processed meats. Consumption of fat from grass-fed animals need not be restricted. See Gary Taubes's Good Calories, Bad Calories [for Amazon.com click image along right]. Fish should be wild-caught.

For everything else organic is preferred, as this is the best we can do to get food free of modern pollutants and with the original micronutrients.

The effort to collect most seeds would not be as optimal as collecting other foods, unless collected as a condiment for the seed's taste. Some meaty seeds, like sunflower, may have been a food. To protect their reproductive cycle, plants put anti-nutrients in seed coverings to discourage animal consumption (phytic acid, lectins, and enzyme inhibitors). Fruit seeds are not supposed to be digested, but to pass through and still be viable. They would never have been a food.

Eat the greatest variety of foods possible. Bush hunters kill whatever they find moving.

Foragers note that there are more than 300 edible plants that our ancestors would have known about. Many are leafy greens. A wide range of herbs and spices is encouraged.



Salt should not be added to food. They did not have salt shakers. After removing added salt from your diet your taste buds will lose the tolerance they developed for salt. The same thing happens after sweetness is removed.

The only beverage that is truly paleo is water. You need to drink only when you are thirsty. The best is spring water that has been certified to be free of pharmaceuticals, with no chlorine or fluoride added. Buy in large PET bottles. See report on: Pharmaceuticals lurking in U.S. drinking water. If you want caffeine, organic organic green tea is the most paleo. It is the least processed. Coffee is a seed inside a fruit and is not edible raw. Fruit juice is concentrated fructose that would not have existed and would not be paleo. A very paleo and healthy beverage would be coconut water.

Agave “nectar” is just the euphemistic marketing name for High Fructose Agave Syrup. It is highly refined and it should be avoided. The only paleo sweetener is raw raw honey, and only in limited quantities. You could argue that very dilute maple syrup is paleo. If you must have sweetness, another possibility is coconut palm sugar. But best is to get all sweets out of your diet and get over it.

The inclusion of alcohol in the paleo diet is controversial. Our paleo ancestors would have come upon and eaten fermented fruit. Even spumed male butterflies get drunk on fermented fruit. Some have issues with the yeast.

In Wild Fermentation (p. 127 in Amazon.com’s Look Inside) [click image along right] there is a recipe for spontaneous hard cider that requires no added sugar or yeast. Now the resulting product (6% ABV) does not last long, but it would be paleo! No published paleo diet includes alcohol. But if you are going to drink it, pick one from fermented fruit and water it down to 6%. Another paleo high would have been eating cannabis leaves.

Paleo foods are nutrient dense. Supplementation would not be needed, and would not be paleo. There is one exception: Vitamin D. At least it should be supplemented for those of us that don’t live outside year round, and don’t eat liver regularly. See recommendations at the Vitamin D Council. If you don’t eat fish often, fish oil is another way to get Omega 3 fatty acids, though some prefer krill oil.

Food should be eaten when hungry - not at set times of the day. They hunted and gathered foods in anticipation of, or in response to, hunger pangs.

This is also called the Caveman Diet, though there is little evidence that many of our ancestors actually lived in caves. Caves with paintings were only visited once a year. The name “Caveman Diet” implies a brutish character that thrived on meat. Stone Age Diet, besides sounding a bit old fashioned, is not correct. The Stone Age also covers part of the Neolithic. Hunter-Gatherer Diet is descriptive, but cumbersome. And other names are primal diet, ancestral diet, and evolutionary diet.

