You're running down the beach feeling great. Your washboard abdomen expresses the discipline and dedication to life and exercise that is such an integral part of your being. To the people lying on the beach you are a testament to fitness, and example of what one can look like with commitment to regular exercise (Figure 1). To the skilled Corrective High-performance Exercise Kinesiologist a devotion to exercise is evident by the low body fat content and muscul arity, yet with only a passing glance the trained eye sees the following:

1. Overindulgence in high repetition abdominal exercises performed on the floor and/or benches have shortened the rectus abdominus, resulting in forward head posture and rounded shoulders (Figure 2-A).

2. The thoracic spine has an increased, rigid kyphosis (curvature) as a result of these shortened upper abdominals (Figure 2-B). Coupled with tight hip flexors, this often results in excessive rotation at the junction of the middle/low back and a lack of natural, symmetrical spinal motion as you run.

3. The pelvis is tipped forward as evidenced by slight distention and protrusion of the abdominal wall below the umbilicus (Figure 2-C). Each time your foot hits the ground the lack of stability in the lumbar spine is obvious by the striation in the erector spinae as your multifidus muscles are disproportionately recruited in attempt to stabilize against excessive forward slippage of your lower lumbar vertebra.

4. As you pass through the mid-stance phase of your running gait and accept your body weight, there is excessive medial rotation of the knee (see Fig. 1-A) coupled with over-pronation of the foot and ankle (see Figure 1-B). I know just by watching you run you have most likely suffered from shin splints or Achilles tendonitis, and that standing still or sitting for more than a few minutes causes back pain.
In just a few seconds I process this information and come to some very reliable conclusions about your exercise program. In fact, I can probably tell you which exercises you like and don't like:

- You love sit-ups and have done 50-100 every day since High School
- Hanging leg raises are an exercise that few of your friends could ever come close to beating you at.
- You can comfortably do 10-15 reps of the bench press and lat pull down with your body weight in resistance.
- Back extensions make your back sore and you hate the Bent Over Row because you feel weak when doing it.
- You hate squats and dead lifts because they make you tired when you run, and after all, some of the trainers say that squats are a risky exercise! Instead, you do machine knee extensions, hamstring curls, and calf raises.

There is no question in my mind - you have several muscle imbalances, you’re devoting little attention to correct stretching and your lumbar spine will show signs of osteoarthritic change on X-ray. YOUR CORE CONDITIONING PROGRAM IS IN NEED OF AN OVERHAUL OR YOU WILL CONTRIBUTE TO AN ORTHOPEDIC SURGEON'S BMW FUND IN THE NEXT TWO YEARS!

*Just What Exactly is the Core?*

The core consists of your body, minus the arms and legs. You may say, "hey, there's nothing left to exercise but the abs then", but this is an all too common illusion we should look carefully at.

The terms "core" and "trunk" are often used interchangeably. The anatomical term "trunk" defines the pelvis, spine, and rib cage, or those structures used to support the arms, legs, head, and protect the spinal cord (1). When speaking of the "core" in the context of strength training terminology we are usually referring to the muscles that support and move the structures of the trunk. The core muscles you are most likely to train directly in the gym are the abdominals (rectus abdominus, tranverse abdominus, internal & external obliques), erector spinae, transverso-spinal (deep back muscles) and

The Essentials of Core Conditioning
quadratus lumborum (the deepest muscles in the low back). Core muscles that you train indirectly (but don't often think about) are those making up the pelvic floor, the diaphragm, and the small muscles moving the rib cage during respiration.

COMMON PROBLEMS FOUND IN TYPICAL CORE TRAINING PROGRAMS

- Today, machine training is rampant, and therefore a dominance of front to back or sagittal plane movements exists. Over-training in the sagittal plane means there are significantly fewer exercises being performed that strengthen the body in rotation and side bending movements. This sets the body up for injury and is a quick way to create core imbalances.
- Exercises performed with a small range of motion, particularly in front of the mid-frontal plane (Figure 3.). When performing core exercises from the floor, machines, or benches, you can't train the spine through full ranges of motion. The result is very often adaptation in the length of muscles and poor posture over time.
- Lack of understanding among bodybuilders and conditioning coaches regarding how to both isolate and integrate lower abdominal function, resulting in poor selection of exercises and incorrect execution.
- Too many flexion exercises which are not counter-balanced by sufficient extension exercises.

Why is Core Conditioning Important to the Body Builder?
Bodybuilding by its very nature is an activity synonymous with improved health, better function, and higher levels of vitality. For the bodybuilder, a well-built core has tremendous aesthetic power, increasing both sexuality and presence of strength. To really and truly represent what bodybuilding is about, you must have a strong well functioning core, as the core is the center of action and is intimately related to the health and well being of the total body.
Just as a crane cannot function without a stable base, the core serves as the foundation from which the arms and legs operate. A strong, well balanced, coordinated core is essential for preventing injury and developing strength and muscle mass in the arms and legs. For those who doubt, here are some examples:

**The Upper Abdominal-Shoulder-Arm Connection**

The shortened upper and lengthened lower abdominal musculature common to bodybuilders who misuse the crunch and hanging leg raise exercises are examples of how imbalances in core development can precipitate injury in either the arms or legs (Figure 2. A-C Lower/Upper Cross Syndrome). As the upper abdominals shorten from repetitive contraction over a small range of motion, the chest is drawn downward. Because the chest is mechanically linked to the ribs, as it is drawn downward the angle of the ribs increases, bringing the shoulders and head forward (Figure 2-A). This forward migration of the shoulders is technically called protraction, which is mechanically coupled with medial rotation (pronation) of the arms and hands. Anytime the body builder attempts to do overhead pressing and pulling activities with his/her arms operating from a position of shoulder protraction, the risk of injury to the rotator cuff increases.

**The Lower Abdominal-Pelvis-Leg Connection**

It is still common to find articles written by so-called experts claiming that there is no difference between upper and lower abdominal musculature. I find this quite humorous, considering functional and neurological distinctions between upper and lower abdominal musculature were clearly outlined by orthopedic surgeon Joel. E. Goldthwait (2) as far back as 1934! Unfortunately there are literally thousands upon thousands of

**The Arm Raise Test**

This test makes it very clear that there is increased pressure and joint restriction in the shoulder when performing exercises from the aberrant forward head posture with shoulder protraction, which is a byproduct of core imbalance.

**Photo here**

**ARM RAISE WITH POOR POSTURE**

**Photo here**

**ARM RAISE WITH OPTIMAL POSTURE**

The Essentials of Core Conditioning
bodybuilders suffering from chronic low back and leg injury secondary to dysfunctional training tactics for the lower abdominals. The science of corrective exercise is only now beginning to infiltrate the gym.

The lower abdominals must work in what is termed "a force-couple relationship" with the hamstring muscles to stabilize and control the pelvis against the forces created by the rectus femoris, lumbar erectors, and hip flexors (3). No, a force couple relationship is not an East Indian marriage! The lower abdominals and hamstrings cause posterior rotation of the pelvis, with their antagonists creating anterior rotation. (Figure 2.).

A classic example of incomplete knowledge in lower abdominal training is the Hanging Leg Raise (Figure 4 A-C). This is often performed incorrectly, allowing the lower abdominals to become weak and overpowered by their postural antagonists (hip flexors, rectus femoris, and lumbar erectors) (5). As the lower abdominal muscles become weak, the pelvis tends to tip forward (anteriorly), creating the classic "Donald Duck" posture (Lower Cross Syndrome (3)) seen in so many power lifters and bodybuilders (Figure 2.). This is an important muscle imbalance to identify, as it is often a major contributor to many common leg injuries: as the pelvis tilts forward into the Donald Duck posture, there is a mechanically coupled motion of internal (medial) rotation of the hip, knee, ankle and foot. This internal rotation of the leg is referred to as pronation. If allowed to occur excessively, the structures responsible for controlling pronation are overloaded, increasing the injury to these muscles and connective tissue. Eg. In running during the stance phase of gait (see Figure 1-A.). Common over-pronation injuries are Achilles tendentious, posterior shin splints, diffuse medial knee pain, and hip pain. All this potentially arising from poor lower abdominal conditioning!

Therefore, if we truly want to prevent, or treat upper and lower extremity injuries, we must first look to properly balance and condition the core!
Lower Abdominals as Back Stabilizers
Not only are the lower abdominals essential for stability in the pelvis and legs, but they also play a crucial role as a primary stabilizer of the back (3). The transverse abdominus muscle fibers are oriented in the horizontal plane (Figure 5-A), making them ideally suited for maintaining the always-wanted flat stomach, stabilizing the internal organs, and activating the connective tissue guy wire system of the spine called "Thoraco-Lumbar Fascia" (Figure 5-B). The transverse abdominus and internal oblique muscles (Figure 5A & C) must activate this broad connective tissue guy wire system. If you lose the ability to properly recruit the transverse abdominus, you will be unable to activate the most important stabilizing structure of the spinal column. The inevitable result is a protruding lower abdominal wall and back pain!

For females, this area is a major concern, particularly after having children. The more children a woman has, the worse the lower abdominal wall tends to function. Weight belts and corsets are also prime culprits for reducing the ability to activate the transverse abdominus. Many corporations now make it mandatory to wear weight belts and the sheer fact that weight belts are still popular in the gym and in the warehouse/industrial setting is a testament to a lack of understanding regarding abdominal wall function. Instead of wearing a girdle, these people need to build one!

MODERN, SCIENTIFIC CORE EXERCISES
Ignorance is no longer bliss! Now, more than ever before you can find the information needed to develop highly effective exercise programs that improve function for the bodybuilder.

Lower Abdominal Training
The lower abdominal region is such an important region functionally and aesthetically. This is an area that most people can really benefit from correct training.
Testing and Training Your Transverse Abdominus

The easiest way to identify transverse abdominus weakness is by the visual appearance of the abdominal wall. If someone looks like he has a Budweiser Tumor hanging around his waist, or is she looks as if she needs a girdle, then their tranverse abdominus is asleep. Your transverse abdominus function can easily be tested objectively with the method demonstrated in Figure 6. If you are unable to decompress the blood pressure cuff by at least 10mmHg, you have transverse abdominus weakness. If you were below 10mmHg, but could get the needle to drop > 5mmHg, you can use the test as an exercise as indicated in Table 1.

If you could not reduce the pressure in the blood pressure cuff at all, you are unable to activate the muscle, indicating that you need to start conditioning the muscle with the Four Point Transverse Abdominus Exercise (Figure 7A-B). These two exercises will begin to reestablish normal function to the lower and deep abdominal wall, significantly improving back stability.

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<th>TABLE 1. TRANSVERSE ABDOMINUS CONDITIONING</th>
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During week one, perform the Four Point Transverse Abdominus Trainer every other day. In weeks 2-4, perform the Blood Pressure Cuff exercise every third training day. In week four, each repetition is held for as long as possible or at least 100 seconds at the prescribed intensity. After week four, perform the exercise as maintenance every four to five days.

Hip Flexor – Lower Abdominal Interaction

To develop an optimal conditioning program for the lower abdominal region, the functional interaction between the psoas (dominant hip flexor) and the lower abdominals must be assessed. It is also necessary to test the strength...
of the lower abdominal muscles relative to normal. Due to the complexity of these tests, I refer the interested reader to my correspondence course titled Scientific Core Conditioning (to order call 1-800-552-8789).

A safe way to condition the lower abdominal stabilizing mechanism is to start with the Lower Abdominal Activation with Leg Action exercise demonstrated in Figure 8A-B. This exercise allows a safe starting point in your quest toward coordinated, strong lower abdominals.

The Swiss Ball Way to Improved Spinal Range of Motion, Abdominal Coordination and Strength

Ten years ago, I began using the Swiss Ball to condition athletes and non-athletes for preventative conditioning once they had completed their rehabilitation programs. At the time, it was virtually unheard of to use a Swiss Ball for non-rehab strength and conditioning, although they had been used for several decades in the fields of neurological and orthopedic rehabilitation due to its applicability to improving balance, coordination and strength. I implemented the Swiss Ball into conditioning programs for the purpose of preventing future occurrences of the very joint and muscle imbalances disorders that I had used the ball to correct.

As many of you are aware, the Swiss Ball is now becoming much more mainstream. Unlike the gimmicks seen on TV, the Swiss Ball really works to improve human function, not just aesthetics. As you can see in Figure 9 A-C, the Swiss Ball allows your spine to be fully extended with each repetition performed, which is essential to maintenance of the ability to extend the spine.

Today, loss of spinal extension is a very common problem, which stems from a combination of spending too much time seated at work and in the home, as well as over-utilization of exercises and exercise machines that discourage proper joint mechanics. Because the Swiss Ball is very unstable, using it requires that the body activate hundreds of muscles in a stabilizing role while you perform an exercise. This allows you to get the benefits of increased strength, coordination and balance all from any one exercise, which simply can't happen with most gym based machines used today.
Chopping will do You Good!
The wood chop pattern has been used to rehabilitate people from numerous sorts of injuries for an unknown number of years. Performed correctly, the Wood Chop (Figure 10 A-B) and the Reverse Wood Chop (Figure 11 A-B) are excellent exercises for integrating core and extremity strength (5). The wood chop patterns of movement are very important additions to the bodybuilder's conditioning program because they exercise the trunk and extremities in all three planes of motion: sagittal or front to back, frontal or side to side, transverse or rotation). This counterbalances single plane predominately sagittal plane exercises like the crunch, good morning, back extension, low row, etc.

Modern Back Extension Technology
Today, more than ever, the Back Extension exercise can be very beneficial to spinal health. Because the exercise heavily recruits the lumbar erectors, it is an exercise I prescribe to help restore normal curvature to those having lost their curve secondary to disk injury or over-exposure to the chair.

The traditional back extension (Figure 12) results in maximal loading of the muscle only when the trunk is horizontal. This is because the trunk, which weights approximately 60% of your body weight maximally loads the erector spinae muscles when the center of mass under the greatest influence by gravity.

To alter the point at which the body is maximally loaded, or to increase the percentage of maximum load at any other point in the range of motion can only serve to improve overall strength. For this reason, I developed a load shifting technique based on concepts learned from Jerry Telle, developer of the "TelleKinetics" video and system of bodybuilding.

The weight shifting technique requires that the bodybuilder hold a weight plate in their hands during the exercise. At the top of the movement, the plate is held as close as possible to the axis of rotation (hip joint) as seen in Figure 13-A. As the body builder eccentrically lowers into flexion, the resistance from gravity is reduced, therefore to counterbalance the loss of optimal loading, the bodybuilder synchronously reaches forward with the weight plate. The
forward travel of the weight plate reaches maximum at the lowest point in the range of motion (Figure 13-B), or at any point in the range of motion you wish to specifically load with greater intensity.

The Reverse Hyperextension is an exercise that has been used in orthopedic rehabilitation for many years, but is more popular today due to being a favorite of Louie Simmons (Figure 14 A-B). The exercise is very useful to those who have back pain, or who do not have the strength to perform the traditional back extension.

Because the legs weigh approximately 40% of your total body weight, performing the reverse hyperextension is easier on the back than a traditional back extension. Another very important aspect of the reverse hyperextension is that movement is initiated from the bottom of the spine upward, which is opposite most back extension exercises. This proves useful to the bodybuilder with low back pain because the altered recruitment pathway, inverted biomechanics, and reduced resistance encountered provide a strengthening pathway where many other exercises fail.

Row Your Way to a Balanced Core
All rowing exercises are excellent for counterbalancing abdominal, or flexion exercises. In fact, all pulling exercises performed with perfect form serve to develop and maintain good posture and muscle balance.

To get more than just a counterbalance for flexion exercises out of your rowing workout, I recommend single arm rowing (Figure 15 A-B). Single arm rowing helps to maintain the rotational mobility of the thoracic spine. Keeping these joints mobile and healthy is very important as you progress beyond age 40 because the spine tends to become fairly rigid from both abuse and lack of correct use at about that age. To assist in maintaining optimal balance in the core, prone grip single arm rowing is very effective for recruiting the upper back muscles. This helps maintain good posture of the shoulder girdle, arms, and the head-neck-jaw complex.
7 TIPS FOR BUILDING A BALANCED CORE

The following seven tips are all very beneficial for maintenance of optimal core balance, function, and prevention of spinal and extremity injury:

1. **Maintain Perfect Postural Alignment During Exercises**
   Your brain records the exact position of every joint when you perform an exercise. This information serves to develop an engram, or recorded sequence that the brain refers to when performing that exercise or any movement, which approximates the movement pattern. This simply means that if you develop motor engrams with poor postural alignment and faulty joint position, your brain will continually recruit the muscles and move the joints in this faulty manner, leading to injury in the future (5)!

2. **Balance repetition and intensity**
   When training my interns, I recommend designing exercise programs with 10% or less difference between flexion and exercises for both repetitions performed and intensity of exercise.

3. **Train in multiple planes of motion**
   Use as many frontal and transverse plane exercises as sagittal plane exercises. Multi-plane conditioning is particularly important when training the core for increased work or sports performance (6).

4. **Train behind the mid-frontal plane**
   I've said it before, and I'll say it again, "FLAT SURFACE TRAINING IS DEAD!" Exercising on a curved surface such as a Swiss Ball allows the spine to move through full ranges of motion, from extension to flexion.

5. **Use proper respiratory mechanics**
   Respiration can facilitate the mobilization of joints that are not moving well. This is because the mechanics of respiration dictate specific joint actions. For example: in the thoracic spine (middle back) inhalation is coupled with extension. Because elevation of the arms is also coupled with extension, you can improve performance in most exercises requiring elevation of the arms (upright rows, military press, shoulder abduction, etc.) by coupling them with inhalation. Don't worry, if the intensity gets high enough, your
brain will just lock the diaphragm and respiration will naturally stop. Just don't breathe out as the arms are being lifted or you will lose the respiratory effect.

Exhalation facilitates flexion of the trunk. Therefore, when performing abdominal crunch exercises you may improve performance by exhaling as you flex. Once again, if the intensity is high enough to destabilize the joints under load, the brain will reflexively dictate that respiration be stopped to stabilize the body more effectively. If you know you are about to perform a high intensity trunk flexion exercise, such as Swiss Ball Crunch with a heavy dumbbell (=/>80% 1RM), it is best to preface the movement with inspiration and release the air through pursed lips as you pass through the sticking point. This will assist performance by improving the overall stability of your body.

6. Keep the tongue in the correct position
Sounds crazy I know. The truth is, it is important to maintain proper tongue position when performing abdominal exercises, or any exercise requiring that the weight of the head be supported by the neck when lying on your back in the supine position. The muscles in front of your neck, the supra-hyoid and infra-hyoid muscles, act as antagonists to the muscles that cause poor forward head posture. When the tongue is on the roof of the mouth, just behind the front teeth, the flexor chain of the neck is closed, improving stability in the head neck region (4).

7. Activate the Transverse Abdominus
When performing any lift that loads the spine, it is very important to activate the transverse abdominus (Figure 5A-C). This muscle is a key player in activating all the major stabilizing mechanisms of the low back, as well as having a powerful influence on your ability to transmit strength and power from the upper extremities to the lower extremities (and vice versa) through the core.

REFERENCES

1. Weineck, J., Functional Anatomy In Sports
2. Goldthwait, J. E., Body Mechanics In Health and Disease, 1934
5. Chek, P., Whole In One - Specificity In Golf Conditioning, In Press
FIGURE CAPTIONS

FIGURE 1.
A. Muscle imbalance in the core often results in excessive medial rotation and medial translation of the knee joint as the body accepts weight in a running gait.
B. Over pronation of the foot-ankle complex is a biomechanically linked to excessive medial rotation of the knee.

FIGURE 2. UPPER AND LOWER CROSS SYNDROME
Shortening and tightening of the muscles in red, coupled with lengthening and weakening of the postural muscles in green results in the appearance of a cross between the short/tight and long/weak muscle groups. The terms "short/tight" and long/weak are proposed as a reference to "optimal function and length tension relationships."
A. Forward head posture is a byproduct of muscle imbalance in the core.
B. Shortened upper abdominals, hip flexors, and low back extensors coupled with weak lower abdominals and lengthened hamstrings and gluteus maximus often leads to increased thoracic kyphosis.
C. Lengthening of the muscles in green and shortening of the muscles in red frequently results in forward tipping of the pelvis, which accelerates degenerative wear on the lumbar spine and induces biomechanical faults throughout the entire kinetic chain (musculoskeletal system).

FIGURE 3.
All exercises are performed in one, or in a combination of planes of movement.

FIGURE 4. HANGING LEG RAISE
A. Start Position
B. When the bodybuilder with faulty abdominal wall recruitment approaches the sticking point, the hip flexors override the lower abdominals. This
results in excessive forward sheer force on the lower back, which is easily identified as increased lumbar curvature.
C. With proper recruitment of the lower abdominals, there is symmetrical and progressive flexion of the lumbar spine, up to and through the sticking point. This is very important to lumbar stability and maintenance of optimal recruitment patterns.

FIGURE 5. THE ABDOMINAL STABILIZING MECHANISM
A. Transverse Abdominus
B. Thoraco-Lumbar Fascia
C. Internal Oblique

FIGURE 6. TRANSVERSE ABDOMINUS STRENGTH TEST
Place a blood pressure cuff under the umbilicus and pump it up until it reads 40 mm Hg on exhalation. With your body completely relaxed, pull your belly button upward, off the blood pressure cuff without activating the hip flexors or tipping the pelvis. If you have normal transverse abdominus function, there will be at least a 10 mm Hg reduction in pressure. If you decompressed the BP cuff less than 10 mm Hg, you should include this test as an exercise (see Table 1).

FIGURE 7A-B. FOUR POINT TRANSVERSE ABDOMINUS TRAINER
A. From a kneeling position, inhale deeply while allowing the belly to drop into a spotter’s hand.
B. As you exhale draw the belly button away from your spotter’s hand. Hold the transverse abdominus activation for ten seconds. After a ten second rest, repeat the exercise. Ten repetitions of ten second holds should be performed. Progression is to ten repetitions with five seconds rest. Once you have mastered this, return back to the blood pressure cuff exercise and follow Table 1.

FIGURE 8A-B. LOWER ABDOMINAL ACTIVATION
A. Place the blood pressure cuff under the spine directly below the umbilicus. Draw the umbilicus toward the spine, pulling it away from a spotters finger as you slightly tilt the pelvis backward increasing the pressure in the BP cuff from 40 mm Hg to 70 mm Hg. 
C. Hold the needle within the range of 65-75 mm Hg as you raise the leg until the shin is vertical, then lower it back to the ground. Alternate legs and perform sets of 20 repetitions total. Use a slow to moderate tempo and perform the exercise every 2-3 days at the end of a workout. As your strength and coordination improve the needle will have less movement and you can progress by slowly straightening the legs.

FIGURE 9A-C SWISS BALL CRUNCH
A. With anchor weights of equal or greater total weight on each foot than the working weight, roll forward and place pelvis against bench. Keeping an arch in your back, pick the weight up (or roll it if you must) to your chest and assume the start position (B).
B. Push yourself back until your torso is over the ball and the thighs are parallel to the floor. With heavy crunches it is best to preface the movement with deep inhalation followed by drawing the navel inward. Don't let the air out until you pass the sticking point and keep lips pursed as you slowly release. The crunch motion should be completed over three seconds.
C. The crunch is completed when the rectus abdominus is fully contracted. Inhale as you return to the start in preparation for the next rep. The eccentric phase should be three seconds.

NOTE: The photos from the most recent Swiss Ball Weight Training Article should serve as guidelines for the photo shoot here.

FIGURE 10A-B WOOD CHOP
A. With a stable stance, grab the handle with the arm of the side you're pulling toward and then place the other hand on top of or beside it. Your weight should be initially be distributed about 70% on the leg closest to the handle and 30% on your outside leg. Prior to initiating the Wood Chop, draw your belly button toward your spine.
B. Think of rotating from the trunk, letting your arms move as a result of trunk rotation instead of trying to pull the cable with your arms. As you perform the Wood Chop, your body weight should shift so that 70% of your weight is on the outside foot. The motion is complete when the handle is above the outside foot. Care should be taken not to over-flex the trunk.

FIGURE 11A-B REVERSE WOOD CHOP
A. From a stable stance and 70% of your weight on the leg closest to the cable handle, place the hand of the side you're rotating toward on the cable handle first. Place the second hand on top of or beside the first hand.
B. Prior to initiating the movement, draw the umbilicus inward toward the spine. Extend and rotate the trunk as though you were throwing a bucket of water over your shoulder. For best results, think of rotating the trunk and let the arms move as a result of the trunk motion. Do not try to pull the load with your hands.

FIGURE 12. TRADITIONAL BACK EXTENSION
As traditionally performed, the back extension exercise provides maximum loading of the back extensors only when the trunk is parallel to the floor and under maximum influence by gravity. As the athlete’s arms move toward their head, the load is increased.

FIGURE 13A-B BACK EXTENSION WITH LOAD SHIFTING
A. Start Position
B. End Position

FIGURE 14A-B REVERSE HYPEREXTENSION
A. Start Position
B. End Position

FIGURE 15A-B STANDING SINGLE ARM CABLE ROW
A. Using a split stance, grab the cable with the arm opposite the forward leg. Prior to initiating the pull, draw the belly button inward toward the spine.
B. As the pull is initiated from the trunk, the opposite arm reaches in alignment with the cable. The forearm of the pulling arm should always maintain alignment with the cable as well. Failure to maintain perfect form can result in unwanted stress to the shoulder.