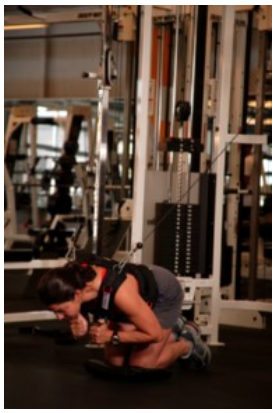
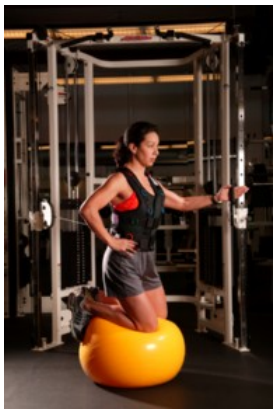
Kinetic Fitness Systems™

"Product 1VEST

# User Manual


## Usage Guidelines

## Sample Drills

## Proprioception and the 1Vest™



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# Usage Guidelines

## Disclaimer

Always consult your physician before participating in any physical activity.

Read all instructions carefully before using.

Inspect the fabric and attachments for tears and other damage prior to each use.

DO NOT USE IF DAMAGED- REPLACE IMMEDIATELY.

Manufacturer nor distributor assumes any liability for accidents or damage that may occur with the use of this product.

## Product Care and Warnings

This product can be dangerous if used incorrectly.

Use product under the direction of a responsible adult.

Do not keep elastic band stretched for long periods of time. It will lose some of its elasticity.

Do not use the 1vest™ to totally un-weight the user or suspend them off the ground.

Insure tension is applied to individual rings in directions as illustrated.

Purple rings are for vertical (downward) tension only.

Cords can be stretched to no greater than twice their original length.

The flotation insert aids in buoyancy but is not a Coast Guard approved life preserver.

To clean the 1vest™ hand wash or machine wash on gentle cycle and air dry only.

Do not leave 1vest™ or cords exposed to direct sunlight for long periods of time.

## Sample Drills

Sample Drills are suggestions only.

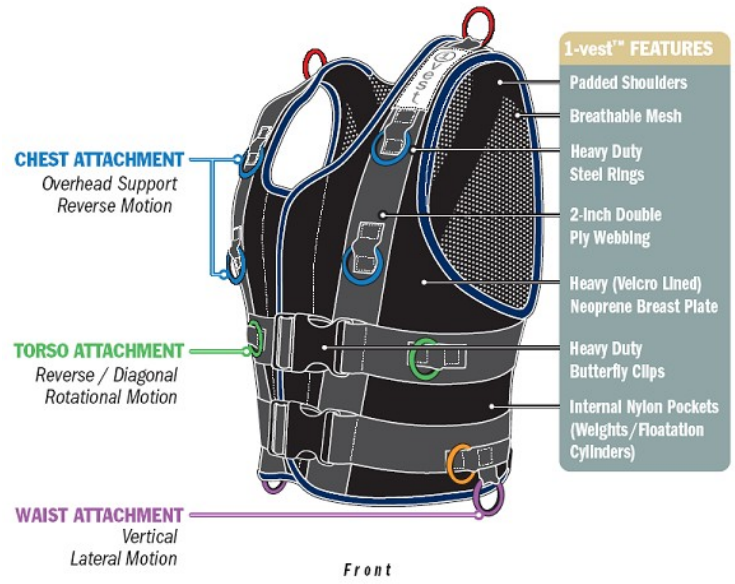
Always consult a certified Personal Trainer when exercising.

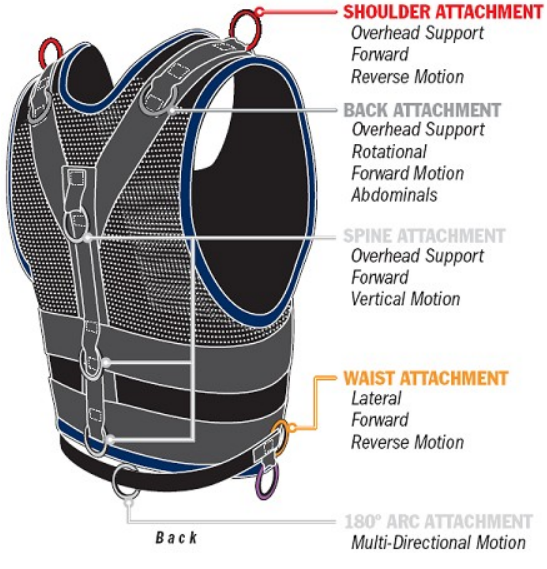
Resistance amount should only be applied as appropriate to the individual user.

Repetitions should only be applied as appropriate to the individual user.

# Usage Guidelines

Use Rings for stated use only. Improper use of rings may cause injuries to user and/or damage to the 1vest™.



# Sample Drills

## BALANCE DISCS

**Begin:** Select desired resistance cord and connect to Silver Ring 270° Arc of **1vest™**; partner holds the other end of cord connected to a handle. Place two Dyno-discs on floor shoulder-width apart.

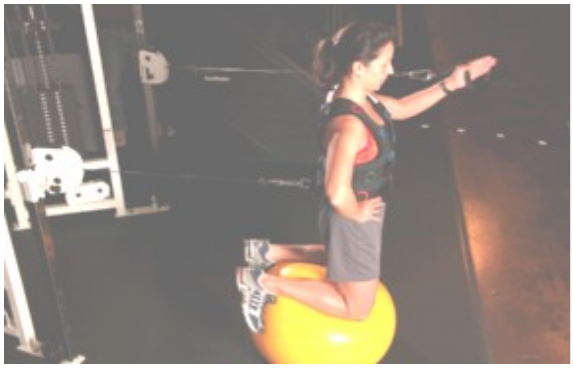
**Instruction / Form:** Step onto disc and stand with slightly bent knee position. The user's goal is to maintain this initial position while a partner moves around them, applying varying degrees / angles of pulling motion with attached tubing or cord, forcing them to simultaneously engage a multitude of stabilizer muscular groups.

## BOSU BALL

**Begin:** Select desired resistance cord and connect to the Silver Ring 270° Arc of **1vest™**; partner holds the other end of cord connected to a handle.

**Instruction / Form:** User steps onto BOSU ball placed on floor and stands with feet apart and slightly bent knee position. User's goal is to perform squats while maintaining a stable position. A partner moves around them while pulling attached cord with varying degrees and angles of force -- engaging multiple stabilizer and core muscle groups as user moves vertically.

## PHYSIO-BALL CABLE FLIES



**Begin:** Select desired resistance cord and adjust to desired height in reference to correct body position during exercise. Connect cable to the lower Silver Ring of spine of **1vest™**.

**Instruction / Form:** Secure adjacent cable to be placed at shoulder level in opposite hand. With free hand, secure Physio-Ball in-between hands and knees. Roll forward onto ball, stabilize and perform slow-tempo cable flies for desired number of repetitions.

## ABDOMINAL CRUNCHES

**Begin:** Select desired weight.

**Instruction / Form:** Connect weight machine's nylon cable extension to resistance cord looped through Charcoal Rings on the **1vest™** located at back of the shoulders. From head to waistline user keeps back straight and maintains a linear position throughout the full range of motion as shown in the photograph.

## LATERAL BEAR CRAWLS

**Begin:** Select desired weight / cable of stationary machine or resistance cord. Connect cable or resistance cord to a floor-level anchor point and into the left or right Green Ring on side of the **1vest™**. Assume position in photo.

**Instruction / Form:** Once in proper position move on all fours to your left or right with efficient, evenly spaced steps with hands and feet facing away from cable or resistance cord. Return to initial position; repeat for desired number of repetitions.

## SCALES

**Begin:** Select desired weight / cable of stationary machine or resistance cord. Connect one end of cable or resistance cord into desired anchor point perpendicularly to the body and clip other end into Green Ring of the **1vest™**.

**Instruction / Form:** Assume a traditional push-up position. Move on all fours to your left or right with efficient, evenly spaced steps with hands and feet facing away from cable or resistance cord. Return to initial position and repeat for desired number of repetitions.

**CRAB CRAWLS**

**Begin:** Select desired weight / cable of stationary machine or resistance cord. Connect cable or resistance cord to the Mid-Silver Ring on spine. Assume position in photo.

**Instruction / Form:** Move forward on all fours for desired number of steps away from cable or resistance cord with efficient, evenly spaced steps, using hands and feet. Return to start position; repeat desired number of repetitions.

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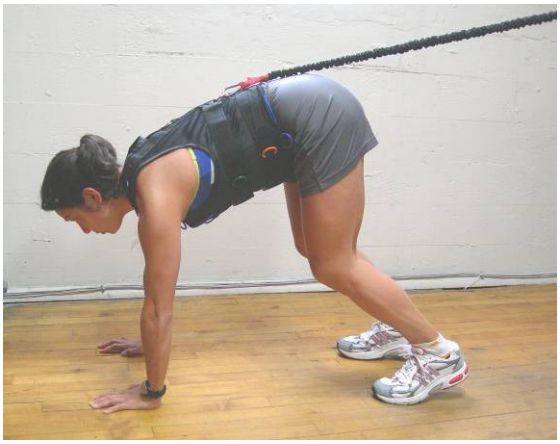
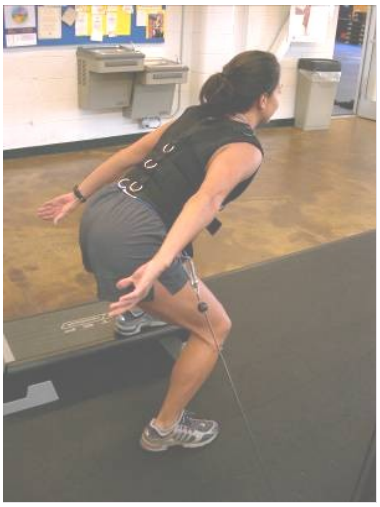
**PUSH-UP DOWNWARD DOG(S)**



**Begin:** Select desired weight / cable of stationary machine or resistance cord. Adjust cable or resistance cord to height of user's body position at start of exercise, connect cable or resistance cord into desired anchor point and the other to Top Silver Ring of spine of **1vest™**.

**Instruction / Form:** Assume a push-up position; walk your hands toward your feet while bending slightly at the knees and at the waist. This is the Downward Dog Yoga position; return to initial position and repeat for desired number of repetitions.

**BLAST-OFFS**



**Begin:** Select desired weight / cable of stationary machine (10% to 15% of body weight max). Connect other end into Purple ring of the **1vest™**. Place one foot firmly on bench as shown in photo, assuming a power position.

**Instruction / Form:** Once in the power position, push mostly from heel of foot in an upward direction with maximal but controlled force predominantly from the leg to be placed on bench. Return to bench, allowing the hips to drop below parallel and repeat again as quickly and with as much controlled force as possible. Repeat for desired number of repetitions with each leg.

**BLAST-UPS**

**Begin:** Select desired weight / cable of stationary machine or resistance cord. Run cable or resistance cord over an overhead anchor point and then connect to the Mid-Silver Ring on spine of the **1vest™**.

**Instruction / Form:** Assume a traditional push-up position. In an explosive fashion, quickly try to push your body as far away from the floor as possible for maximum height. Once contact is made with floor, immediately repeat for desired number of repetitions.

**ONE ARM PUSH-UP**

**Begin:** Select desired weight / cable of stationary machine or resistance cord depending upon the amount of assistance needed. Run cable or resistance cord over an overhead anchor. Adjust cable or resistance cord to height of user's body position at start of exercise, connect cable or resistance cord into desired anchor point and the other to Top / Mid Silver ring of spine of **1vest™**.

**Instruction / Form:** Assume a traditional push-up position. Move hand out from the body slightly behind bottom of shoulder. Take opposite leg of hand performing the movement and anchor it past shoulder as seen in photo. Place free arm behind back, immediately repeat for desired number of repetitions.

**STEP-UPS**

**Begin:** Select desired weight / cable of stationary machine or resistance cord. Connect to the left / right Purple rings of the **1vest™**.

**Instruction / Form:** Place one foot on top of specifically designed stacked benches to desired height. Step up fully onto the top of the bench surface and step back down with same foot, then alternate until designated number of reps is completed.

## ONE LEG SQUAT

**Begin:** Select desired weight / cable of stationary machine as a counter-balance. Connect to Orange Rings on both sides of **1vest™** with resistance cord / strap extension, then onto cable of weight stack.

**Instruction / Form:** Step back, creating resistance (feet parallel/shoulder-width apart). Distribute your weight to the leg performing the work and lift other leg from the floor. Perform a chair-like squat, using a 90° angle in the working leg.

## PULL-UPS

**Begin:** Select the desired weight / cable of stationary machine and connect to Purple Rings on both sides of **1vest™**.

**Instruction / Form:** Reach overhead to pull-up bars, pull body up until head clears bar, and return to fully extended arm position; repeat for desired number of repetitions.

## LATERAL SQUATS

**Begin:** Select the desired weight / cable of stationary machine and connect to one of the Orange Rings on the **1vest™**. Step out laterally from the cable attachment. Assume an isometric squat position.

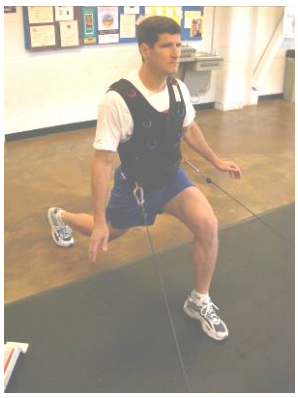
**Instruction / Form:** Step out but maintain squat position for desired number of steps. Return to initial start position; repeat for desired number of repetitions.

## CABLE SQUATS

**Begin:** Select desired weight / cable of stationary machine and connect cable to Purple Rings of **1vest™**. Stand vertically with hands extended away from the body at shoulder level.

**Instruction / Form:** Lower body as though sitting in a chair until 90° angle is reached between upper thighs and lower legs; repeat for desired number of repetitions.

## REVERSE LUNGES



**Begin:** Select desired weight / cable of stationary machine and connect cable to Orange Rings of **1vest™**. Stand vertically with feet shoulder-width apart and hands to the sides of the body.

**Instruction / Form:** Take a step backward until front leg between thigh and lower leg reaches 90° angles, and return to initial position. Alternate legs or exercise one leg at a time. Repeat until desired number of reps is completed.

## ASSISTED PUSH-UPS

**Begin:** Select the proper resistance cord(s) depending on the desired amount of assistance needed. Run resistance cord(s) over an overhead anchor point. Connect one end of tubing into Top / Mid Silver Rings of spine of **1vest™**. Ensure the breastplates are properly aligned and buckles are connected and adjusted for comfort.

**Instruction / Form:** Assume a traditional push-up position and complete desired number of repetitions.

## BACK-PEDALS

**Begin:** Select Spider Web and Yellow Power Cord. Connect Spider Web cords to both pairs of Red and Orange Rings, plus one Blue Ring of **1vest™**. These cords vary in length. User must make sure tension is distributed evenly among each resistance cord relative to body position.

**Instruction / Form:** Assume power position. Pedal backward, keeping shoulders, knees, and feet forward while shuffling in small, efficient steps for desired number of steps and sets.

## STARTS

**Begin:** Select Yellow Power Cord and connect to Top / Mid-Silver Ring of spine of the **1vest™**. Assume a 2, 3 or 4-point starting stance (as appropriate for football or track).

**Instruction / Form:** Explode from a your start position to a designated point and return in back-pedaling manner while maintaining a low center of gravity in user's initial three-point stance. Repeat for desired number of repetitions.

## POWER PULLS

**Begin:** Select desired resistance cords or Yellow Power cord. Connect cord(s) to Charcoal Rings and Lower Silver Rings on spine of user's **1vest™**; partner holds the other end of cord(s) connected to a handle.

**Instruction / Form:** Run away from your partner who functions as a mobile anchor point. Partner functions as resistance to the user.

## MULTI-DIRECTIONAL SHUFFLES

**Begin:** Anchor (see below) the Yellow Power Cord and attach to the Silver Ring sliding on the $270^0$ Arc webbing at waist level of **1vest™**. Step laterally from anchor until the cord is taut and take one more step to create minimal tension. Assume the Power Position and turn sideways so the ring and cord are at hip level.

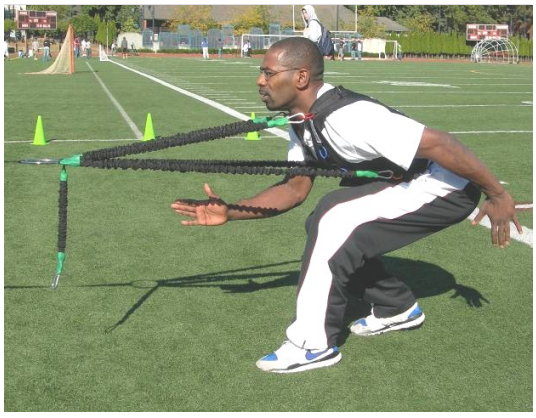
**Instruction / Form:** User explodes laterally / sideways 5 steps with feet not crossing over. After taking 5 steps, jump and turn $180^0$ and then take 5 side-shuffle steps back to original position. Proper form is with hands up, knees bent, back straight and moving on the balls of the feet.

## FORWARD SPIDER

**Begin:** Attach Spider cord to Charcoal and Orange rings. Partner holds Spider handles and moves away to generate desired and uniform levels of tension on the cords.

**Instruction / Form:** Coach commands athlete to step forward with exaggerated high knee + hand movement. Proper form is with short steps, tilting body forward at a straight line from ankle, through hips and to shoulder. Partner moves with athlete, keeps even tension on cord; then resists lower as pull gets stronger. Move forward 10 yards for one repetition.

## BACKWARD SPIDER



**Begin**: Attach Spider cord to Red, Orange and one Blue ring. Partner holds Spider handles and moves away to generate desired and uniform levels of tension on the cords.

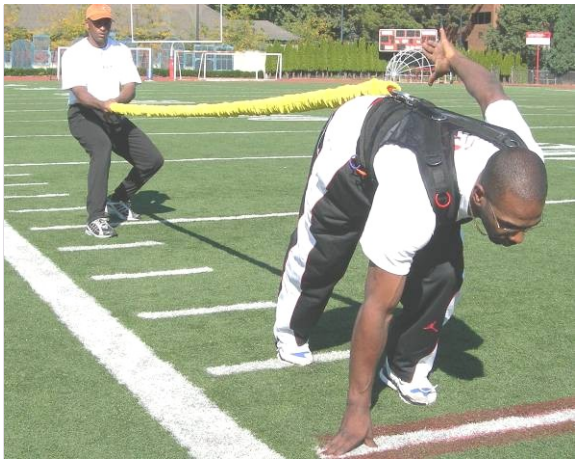
**Instruction / Form:** Coach commands athlete to step backward with high knee + hand movement. Partner moves with athlete and maintains even tension on Spider cords. Continue backward for 10 yards for one repetition.

## 40 YARD SPIDER

**Begin:** Attach Spider cord to Charcoal and Orange rings. Partner holds Spider handles and moves away to generate desired and uniform levels of tension on the cords.

**Instruction / Form:** Coach commands athlete to step forward with exaggerated high knee + hand movement. Partner moves with athlete, keeps even tension cord; and then resists lower as pull gets stronger. Move forward 40 yards for one repetition.

## POWER STARTS



**Begin**: Anchor the Yellow Power Cord and attach to the Silver Middle & Lower Spine Rings. Move away from anchor until the cord is taut and take one more step to create minimal tension. Assume a 2, 3 or 4-point stance as appropriate for your position.

**Instruction:** Coach commands athlete to explode forward 5-10 steps and return comfortably to starting position. Repeat 5 times.

## OUT & BACK

**Begin:** Anchor the Yellow Power Cord and attach to the Silver Middle & Lower Spine Rings. Move away from anchor point until cord is taut and take one more step to create tension. Assume the 2, 3 or 4-point stance as appropriate for your position.

**Instruction / Form:** Explode forward for 5 steps, then back-pedal 5 steps and immediately explode forward again. The athlete should take short steps, leaning their body forward at a 10 degree angle, keeping a straight line from the ankle, through hips and to the shoulder. Five Out-and-Backs counts as one repetition.

## LATERAL OUT & BACK

**Begin**: Anchor the Yellow Power Cord and attach to the Silver Ring sliding on the $270^0$ Arc webbing at waist level. Step laterally from anchor until the cord is taut and take one more step to create minimal tension. Assume the Power Position and turn laterally / sideways so the ring and cord are at hip level.

**Instruction / Form:** Explode laterally 5 shuffle-steps. Do not cross feet over. After taking 5 steps, jump and turn $180^0$ and return laterally to original position. Five Lateral Out-and-Backs is one repetition.

## POWER CORD ANCHOR

**Begin: A stationary anchor point is preferable.** Attach Anchor Belt to waist with Silver Attachment Ring in front and center of belt. Clip end of Power Cord to the Silver Attachment Ring.

**Instruction / Form:** Partner or coach places one foot in front of body with knee flexed. Keep back straight and vertical while keeping body's center-of-gravity low to the ground. There should be an even degree of tension on the Anchor Belt during all stages of the drill. If partner is assisting, have them center their weight lower to the ground in proportion to increased tension on the Power Cord.

## LATERAL CROSSOVER

**Begin**: Connect desired resistance cord to either Orange Ring of the **1vest™** and anchor at ground level or have the partner hold the other end connected to a cord handle. Move away from the anchor so cord is taut.

**Instruction / Form:** User steps laterally from anchor point until minimal tension is reached. User raises knee closest to anchor point to waist level in an exaggerated, up-tempo motion and keep shoulders squarely forward. The other leg supports the drill. Repeat for desired number of reps and switch high-knee legs as desired.

## SINGLE LEG SQUATS

**Begin**: Connect desired resistance cord to each Lower Blue or Orange Ring. Athletes stand on one leg with other leg extended forward, with knee bent and foot 6-12 inches above the ground.

**Instruction / Form:** Both athletes squat so that knee of leg does not extend over toe. Athletes hold onto cords for balance, and as they improve their balance, hands should be on hips. Return upright and repeat 10 times. Switch legs and perform drill again.

## BALANCED STANCE

**Begin**: Connect resistance cord to Silver Ring 270 degree Arc. Athlete assumes 2, 3 or 4 -point position as appropriate for their position.

**Instruction:** Partner pulls athlete from various angles, always keeping tension on the cord. Primary athlete tries to maintain their stance while correcting balance and compensating for resistance from different angles. The primary athlete aims to stabilize their stance and maintain a centered balance stance despite being pulled in various directions. Maintain drill for 30 seconds for one repetition.

# Proprioception and the 1vest™

How does the body learn new skills? How are neuromuscular connections made? The answer is proprioception. This kinetic sixth sense is the process by which the body can vary muscle contraction in immediate response to incoming information. The sensations of motion and acceleration are the sensory feedback mechanisms for motor control and posture.

The brain has a matrix that responds to proprioceptive stimuli. This matrix can be altered by experience. The matrix is able to adjust to new data and generate learning, even after the stimuli has stopped. It has the ability to record patterns of actions among muscles and store this new information while consciously working the muscles through new, unfamiliar patterns of movement. Then a new, learned pattern emerges, initiating smooth movement without conscious engagement.

Conscious awareness of an action requires time and slows the response time. Learning new patterns of movement by repetition and controlling the movement by concentration is the most time-consuming component of physical learning. The brain must consciously and continuously tell the muscles how to move while developing the new patterns of movement. The conscious movement is not instinctive, unconscious, efficient or smooth. Once new neuromuscular patterns have been developed the body and brain synchronize them to increase efficiency and quickness.

How does the 1vest™ facilitate this process? Pressure and stretch receptors are found in the skin and joints and provide feedback to the brain about where the body is in space. This is also called kinetic awareness. Professional personal trainers know that hands-on training, holding down the shoulders, guiding knees or elbows in the correct tracking position(s) increases the speed and accuracy of the kinetic learning process.

The receptors in the skin and joints respond much more readily to external stimuli than mere mental visualization and focus. If someone wanted to learn how to wiggle their toe without moving the others, they might be able to do so with a lot of mental focus or they might never be able to learn in this way. However, if a trainer increases the proprioceptive response by using their hands or a band to provide resistance in the forward or backward movement, learning time can be cut in half.

Another proven example of the power of proprioception is ankle braces, knee braces, and weight belts. These devices do not improve structural integrity or provide actual support. What they do is alert the body that it has reached the furthest point it can go without injury. Since the 1vest™ enhances the receptors in the skin and joints by applying added pressure in the form of resistance and assistance to correct and facilitate movements the learning curve is dramatically shortened. The 1vest™ functions in the same way as a brace or weight belt. As the body senses and responds kinetically to the pressure of these external apparatuses it controls its motion and doesn't overextend.

The other important advantage of the 1vest™ is to teach the body a correct movement. Two types of muscles play a role in the effectiveness of the 1vest™. Muscles are not kinetically selective with regard to which possible movement is generated to complete a pre-determined motion. When a muscle contracts it attempts to cause all of the movements to for which it is designed to produce at that joint. If someone is asked to shoot a free throw, in the beginning the body will fire all the possible muscle actions in the arms, shoulders, back, and hips which may produce the desired result. It can take up to a thousand attempts to learn to fire the correct muscle combination at the correct force to learn and perform this skill effectively.

The two muscle groups are synergists and helping synergists. The prime movers are synergists. The helping synergists acting on the joint prohibit undesired movement. It takes neuromuscular training to activate the correct true synergist and correct the helping synergist. The body will attempt an action which limits the incorrect kinetic response. The 1vest™ limits the possibility of ineffective motion and immediately

reinforces correct movement by giving the body feedback through proprioceptors. It pushes the brain to learn which muscles should be used, which is most effective, rather than a random attempt at the desired movement.

The exteroceptors, or ruffine endings located near the body surfaces, and Parinian corpuscles located deep around joint tendons and muscle sheaths, are activated by pressure which distorts and compresses the capsules and detects rapid changes in pressure. They also monitor the appropriateness of the response in regard to degree, direction and rate of change in the body's movement. Since the 1vest™ enhances these receptors by applying added pressure the receptors react more accurately.

The boundary of the skin is an external boundary of tangible perception unless it is enhanced. The 1vest™ enhances that boundary in the most important area, the core of the body. The core is composed of layers of the abdominal wall, the large muscles of the back, the smaller muscles that support the spine, hip flexors, and the scapular girdle. Core strength is the catalyst of postural endurance, balance, and quickness. The ability to change your center of gravity over a stable base by using core muscles is the crucial element of agility and speed.

Habitually poor posture patterns can inhibit athletic performance and cause injury. The superficial and deep proprioception receptors are the key to the sending of kinetic messages for postural adjustments. Good postural alignment places less demand on the smaller muscles (i.e., intervertebral) that could result in injury. There is also a direct relationship between alignment of body segments and the integrity of joints. Postural strain often causes injury and can lead to arthritic changes in joints.

There is probably no more efficient and effective way to work the core than with the 1vest™. When someone is working with the 1vest™ in forward, lateral and backward motions, the core is more engaged than in any other activity. This is because the center of gravity is constantly being stressed to remain in balance over the base of support. For example, if a person is trying to balance a spinning plate on a stick the importance of support under the center of gravity is central to this action. The person will be constantly responding and moving to keep the stick under the plate. The 1vest™ works in the same way, forcing the base of support to continually adjust to maintain the balance and synergy of the upper and lower body. The attachment cords connected to any of the 18 strategically-located, color-coded stainless steel rings on the 1vest™ activate proprioceptors all along the torso. In rotational movements the 1vest™ prohibits, because of pressure warnings, over-extension while strengthening the muscles needed for myriad activities such as golf, baseball, football, basketball, swimming, and field sports.

The maintenance of upright posture in humans is a function of reflex action. As the center of gravity drifts toward any margin of the base of support the body segment closest to the center of the base of support becomes stretched. Action potentials are created in the stretched muscle spindles and travel to the central nervous system. A part of the kinetic action potential returns via other nerve pathways to the stretched muscles. The stretched muscles contract and pull the body mass back into the center of the support base. As stability is regained the body is prevented from falling off-balance. The 1vest™ puts increased stress on this kinetic system, thereby strengthening and enhancing it.

The 1vest™ combines the exteroceptive reflexes which are initiated by stimuli from the internal environment of the muscles and joints to create more informed movement. The brain-body connection is improved and the body becomes kinetically "smarter" more quickly.

## References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