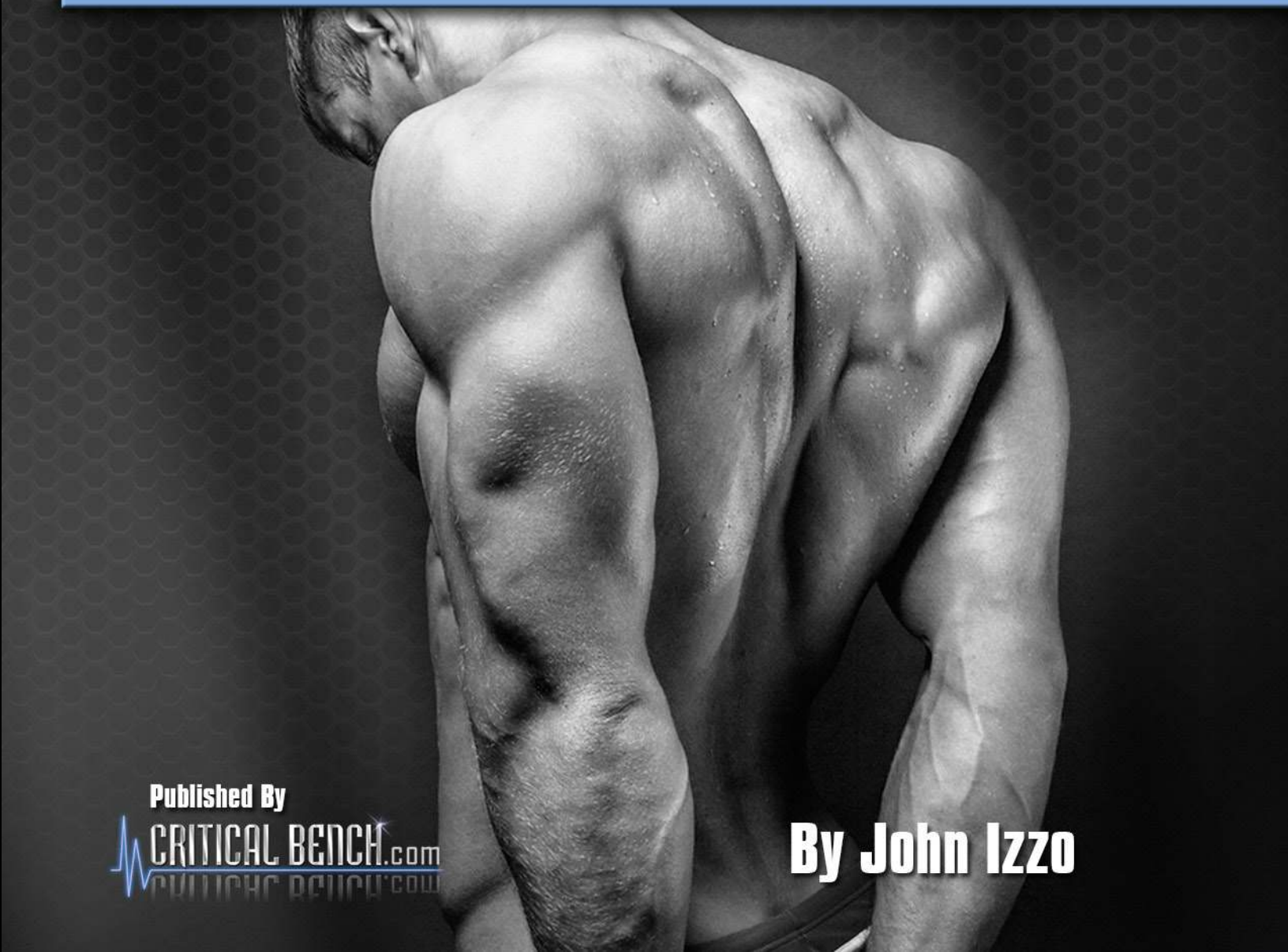
8 WEEKS TO AN

INDESTRUCTIBLE

BACK



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By John Izzo

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Use of the information provided is at the sole choice and risk of the reader. You must get your physician's approval before beginning this or any other exercise program.

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Author Biography:

John Izzo is an accomplished fitness professional with over a decade of experience working with people to achieve things they never thought possible. He is a commensurate professional and coach, that supports others achieve great levels of fat loss, sports performance, and optimal health. He is a listener and an opportunist that believes in working hard by meeting challenges with passion and tenacity. John is certified through the National Academy of Sports Medicine (NASM); is an avid writer for his popular blog (www.TrainerAdvice.com), and is an avid weight-lifter. He trains clients at his facility IZZO Strength & Performance, located outside of Hartford, CT.

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8 Weeks to Building an Indestructible Back

By John Izzo, NASM-CPT, PES

Right off the bat, taking eight weeks to build an indestructible back sounds far-fetched. But honestly, with a healthy dose of patience and adherence; following a program that includes self-massage, physical awareness, flexibility, isometrics, strength training and power—should make for a fail-proof path to a back that cannot be unraveled or undone.

In 2007, about 27 million US adults aged 18 or older (11% of the total adult population) reported having back pain, according to the Agency for Healthcare Research and Quality. About 70% of these people -- 19.1 million -- sought treatment by a doctor [(1)]. There are countless studies performed over the last few decades that illustrate the negative effects that back pain can have on people that suffer from this debilitating condition. You've heard it before…80% of the US population suffers from some type of back pain.

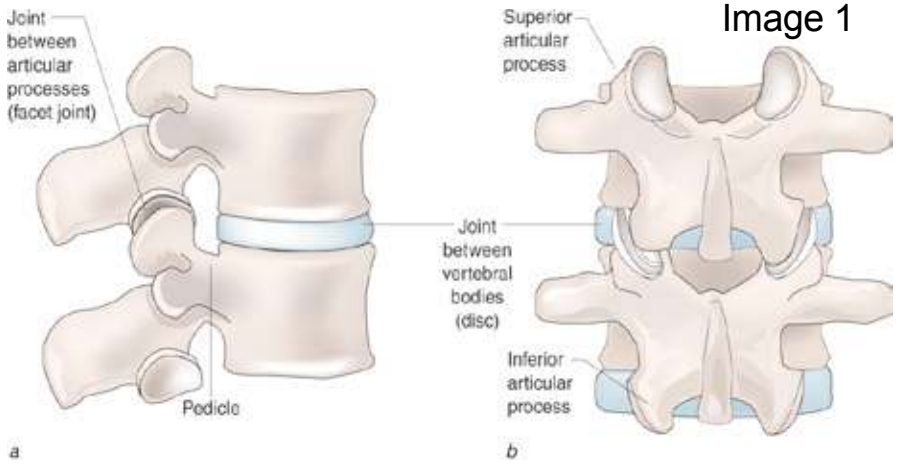
This means that out of 10 people, 8 of them have or currently suffer some degree of back pain. This astonishing finding has many facets—including what type of back condition (disc), degenerative, age-related, sport-related or functional misuse—people are enduring when it comes to back pain. The common thread among these facets is anyone that has suffered from back pain did not have a strong back to begin with. That is why this program will assist you in building a back that cannot be cracked, bent or broken. If followed thoroughly with level-headedness…your back will be as strong as a flagpole in the middle of a torrential hurricane.

Back pain nails you in the back and nails you in the wallet. Back pain is one of the most expensive health problems, although sources vary as to where it ranks in relation to other common conditions such as heart disease, stroke, cancer, diabetes and arthritis. According to the AHRQ, in 2007 a total of $30.3 billion was paid to providers, such as doctors, physical therapists and others, as well as to pharmacies. The Journal of the American Medical Association reports that spine care costs reached $85.9 billion in 2005.(2)

Intensity levels of back pain may range from simple muscle and posture-related pain to life-altering and potentially fatal injuries affecting the spinal cord. The good news is that most of the time; back pain can be successfully addressed with exercise, conservative treatment, and alternative therapies.(3)

Where Does Back Pain Come From?

Image 1



The spinal column is made up of motion segments consisting of two vertebrae and their intervening disc. Each vertebrae combination conjoins to create a facet joint. These facet joints help to supports loads and control the direction of movement [at the spine]. In between each vertebra is a disc. The discs are built for shock absorption. They assist in making sure the facet joints including the inferior and superior aspects of the vertebrae do not come into contact with one another.

The most common load the discs absorb is the un-sensationalized load of gravity. Along with gravity's involvement in other locomotive actions, the discs also absorb shock during actions like walking, jogging, running, stepping, and jumping. In function and sport, the discs allow shock absorption during weight-lifting, cardio-respiratory work, and activities of daily living (ADLS).

Back pain can be broken down into two generalized categories: mechanical and structural. Structural pain is referred pain from a problem within the "structure" of the spine. The most common cause of structural pain is caused by a change in the structure of the discs. We will get into mechanical back pain a little later in this explanation.

Abnormal, blunt forces such as a tackle or fall can cause changes in a disc's structure. These injuries can also be a result of degenerative changes in the disc due to age; and the culmination of improper movements using the back muscles. Over time, the discs begin to lose fluid and "thin out". As the discs lose shock absorption and thickness, the vertebrae processes become inflamed and absorb most of the force put on them. The facet joints are not designed to absorb load and therefore, pain and further damage is created. See the following image for the different structural changes that the discs may undergo through a lifetime.

Image 2

Understanding the Curves of the Spine

A healthy spine has three pronounced curves. Aside from thinking it is a simple stack of vertebrae, it is a bit crooked…and for good reason. The curvatures in the spine allow you to advantageously center gravity when upright. The force of gravity is dispersed through the column when we stand, walk or run.

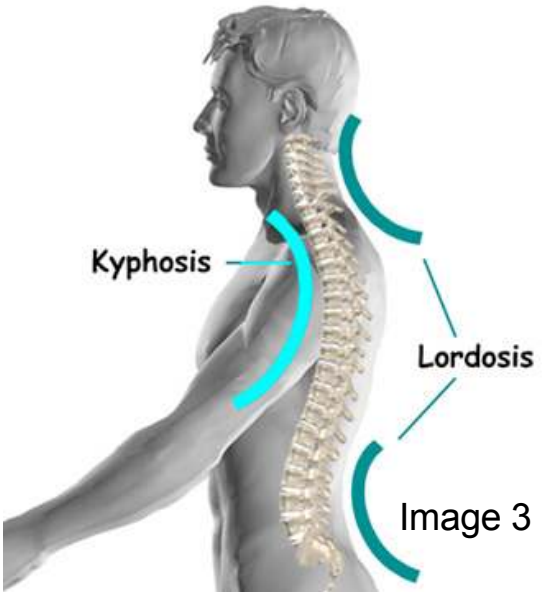


Image 3

The lordodic curves of the spine are located at the neck (cervical) and the lower back (lumbar). At the lumbar area, the vertebral facet joints are at their largest. At the upper end (cervical spine), the facet joints are at their smallest. The cervical lordosis supports the neck and accommodates gravitational force at the head. The lordosis at the base of the spine supports the gravitational force that disperses “through” the spine. Once in neutral, the lumbar curve creates a “springboard” for the lower back.

The kyphotic curve is located at the upper rib cage (thorasic) and curves in the opposite direction [than the lordotic curves]. Kyphosis is a flexed posture--that if exaggerated--can alter standing posture, breathing patterns, elicit upper body pain and compress internal organs. This structural deviation cannot be remedied as it is developed over a period of time. See the image that follows.

During a period of time, changes in the structure of the spine begin to occur at the aforementioned curves. These pronounced curves become exaggerated. Exaggerated in the sense that they alter the way the spine handles the gravitational

load and the body's center of gravity. The alteration in the facet joints creates pain with movement or static posture over a lengthy period of time. Pain or discomfort can be experienced with simply tasks like bending over to pick up a pencil, playing a sport, sitting or standing for long periods. The curvatures of the spine change due to different muscular involvement during static posture. These changes in the spine structure are **mechanically based.**

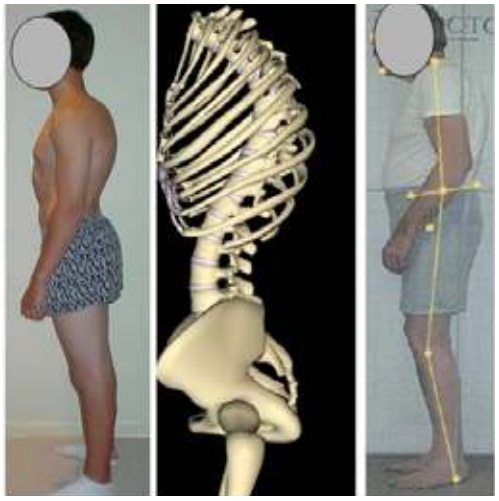


Image 4

Mechanical back pain is related to the muscular system. The postural muscles of the body, such as the erector spinea, quadratus lumboroum, hamstrings, piriformis and many more, tend to alter in length due to poor posture. Poor static posture promotes tightness or shortness in the tonic muscles (flexor muscles)—located mainly in the front of the body. Conversely, the phasic muscles (extensor muscles)—located mainly in the posterior aspect of the body become weak.[4]

This version of back pain can be remedied with a properly designed exercise approach. In simplistic terms, muscles that are tight can become lengthened. Muscles that are weak can become strengthened. The key is to properly assess movement and functionality, and contrast those findings to a medical history evaluation.

Movement Mechanics of the Back

The spine is not a structure that should stay 'still'. Functional anatomy speaking, the spine has the capability to perform several movements.

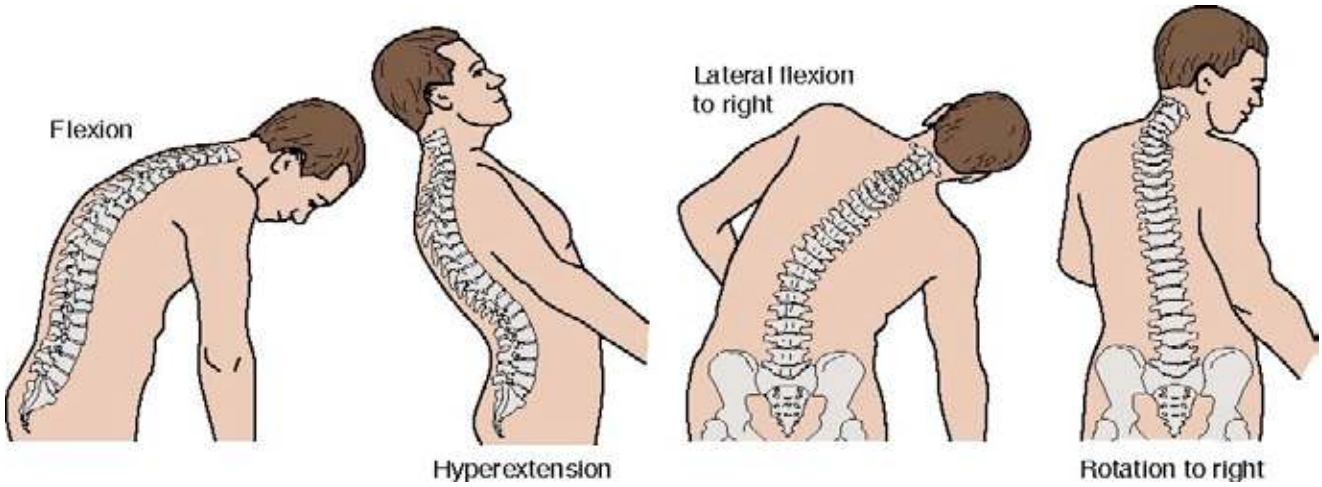


Image 5

The first movement is extension—which is basically the spine, erected in a natural standing position. Extension is important because it is a function that is lost as we age. With more and more hours placed behind a computer or TV or desk, the spine is not extended and therefore, pressed into a forward flexed position. Poor posture and lack of exercise compromise spinal extension and promote injury and pain. Simple exercise and strengthening of certain back extensors can aid this.

Flexion is a movement that we perform daily numerous times. The natural kyphotic posture of the upper back allows for this to be performed safely. However, over time the lordotic curve of the lower lumbar becomes kyphotic during certain movements (like picking up a child off the floor), and injuries can occur.

Lateral flexion and rotation is a movement that is useful in sport, as well as daily

life. For those with healthy backs, these movements may pose no harm. However, for those with recurring back pain, these movements combined can cause injury to the spine. Strong obliques and optimal synergy among the pelvic muscles are important in allowing the spine to rotate and laterally flex without injury.

The pelvis serves as the foundation for the spine. The ability of the trunk muscles to control pelvic position is essential to a healthy, neutral spine. When looking at spinal health or back health, other areas of the body must be observed. Everything affects everything. For example, overly tight hip flexors and/or hamstrings can negatively influence pelvic positioning and spinal alignment. This can create a weak foundation for the spinal column and other muscular structures of the body. See image 6.

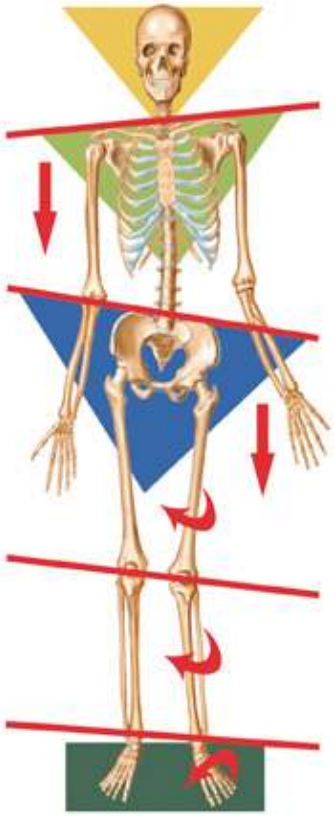


Image 6

Summing It Up

Whether structural or mechanical, back pain is associated with a group of commonalities.

1.) In adults, low back pain is most often caused by a series of inappropriate movements and de-conditioning over time.

In the weight-lifting genre of the population, many young, ego-driven exercisers will overly load exercises and use incorrect lifting form. This poor form usually is comprised of a kyphotic lower back (rounding out the natural lordotic curve) and using the back muscles to lift the load.

Mechanically speaking, the pull of the posterior muscles is altered. Muscles that are designed to initially stabilize now become prime or associated movers. Muscles that are designed to lengthen during certain lifting movements now contract against a limited range of motion that may promote injury. Performed repetitively, the central nervous system is “programmed” to memorize this movement pattern and translate it to everyday functionality. See image 7.

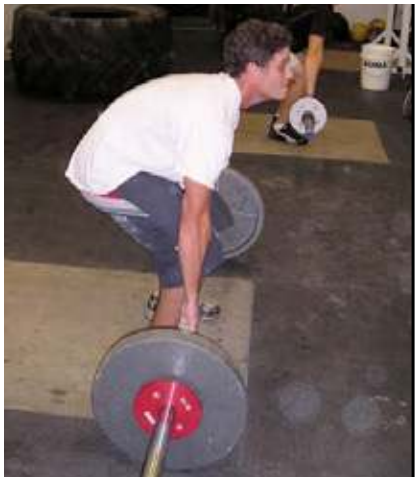


Image 7

Image 8

This pattern of dysfunction leads to structural damage through a mechanical pathway. Meaning…it can be corrected with proper instruction of lifting technique and muscle usage. Re-learning proper movement patterns through exercise is the most effective remedy for this—but it takes a lengthy amount of time depending on the frequency of exercise.

For youths or athletes, a stress fracture in the actual vertebrae may be the culprit to back pain. Abrupt falls, blunt force, or violent hits may cause a sudden altercation between disc and vertebrae, which may lead to disc herniation or tears. Facet joints can also fracture leaving bony fragments within the vertebral space affecting nerve function and spinal health.

Another dysfunction that impedes back health is limited range of motion (ROM) at the hip joint. Restricted hips are due to overly tight tonic muscles, inactive hip extensors, and overly used back muscles. The hip hinging exercise is one of the first movement pattern corrections that are in place for this.

2.) Core strengthening and stability greatly influence spinal health.

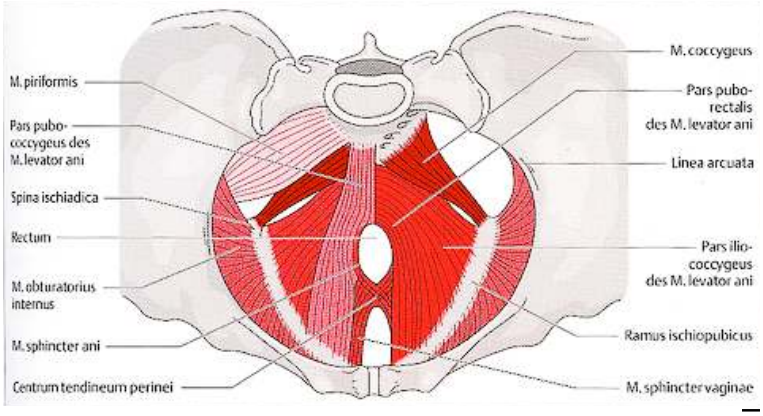


Image 9

What you have been hearing for over a decade is true. Most of the literature from today's leading back experts including Shirley Sahrmann and Stuart McGill confirm that core stability is important when it comes to back health. Muscles of the pelvic floor help stabilize the spine and promote healthy posture. Learning proper breathing techniques and core stabilization exercises creates "stiffness" within the pelvic floor muscles which improves pelvic alignment.

How to Properly and Optimally Make This Program Work for You

In this program, you will be given exercises in phases. Each phase constitutes a period that can last 1 week or 2 weeks. Progression of the program depends on where you are at in your training experience and fitness level. The worse your back discomfort or pain is, the longer you will stay in the beginner phases…or sometimes repeat them. It's that simple.

Most of the exercises in this program are designed with the weight-lifter in mind. Although some may be familiar, they are effective as long as they are performed consistently in a program. The beginner phases are rehabilitative in nature; so they mean seem meaningless, but they serve a purpose in getting people with serious back pain into the gym and working on a solution. A big part of the Beginner phase is to improve body awareness and muscle coordination.

Each phase in the program constitutes a week. It is assumed that you will perform the exercises religiously, to progress through each phase. However, if you need 2 weeks at a particular phase, I recommend that they you do that. Only you can gauge your tolerance levels and progression levels. Therefore, the program can stretch from a 6-week program to an 8-week program or even a 10-week program. For consistency reasons, we will default to an 8-week program for this manual.

Where This Program Fits with Your Current Program

Some of the exercises can be placed in various places within your current program. They can be performed on strength training days or even off/rest days. I like to add

them in during warm-up periods before certain lifts and also during recovery sets. A recovery set is a set of exercises or drills that are less intense and target a specific weakness that can be performed after a set is completed of a major exercise. Normally used as a “rest” period, this is the time to use performing drills that aid our muscles. . Instead of sitting down on a bench playing with your iPod, a recovery set can be performed to save you time and keep your head in the action.

For instance, if you were to perform a set of bench presses; after your set of 10 repetitions, you can use an elastic band to perform a quick set of lateral band walks, and then return to the bench for your second set. With all that being said, these phases must be completed the way they are designed in order to build a stronger back. If they seem boring or miniscule to you, remember that it is better than sitting on your bed complaining about back pain and not being able to enjoy activities.

Cues: Building the foundation begins with focus on the pelvis region with stabilization drills. The point of stabilization work is to develop good technique in regards to “setting the pelvis” and “strengthening core stability”. Isometric work is great for building core strength and endurance; as well as improving muscular coordination. Cues like “tightening the buttocks” usually mean contracting the gluteals. “Tightening” or “bracing” means creating stiffness throughout the targeted region, or the mid-section. If the glutes are squeezed or contracted, there is a “stiffness” created in the posterior chain, which allows muscles to stabilize while other muscles produce force. “Retracting” or “packing the neck” means inwardly pulling your chin INTO your jaws--not looking down. Often mistaken for “looking down”, a chin that is tucked into the mandibles allows for a safe lordotic curve of the cervical spine.

Isometrics: The purpose of isometric work throughout the program is to enhance the endurance of skeletal muscle--both intrinsic and extrinsic. Most breakdowns in exercise form are related to poor endurance levels of core intrinsic muscles. When

the lifter focuses too much on the actual “load” and “execution” of a particular exercise; but fails to keep certain regions stiff or set, the core breaks down. It is at this time when power is leaked and the risk for injury increases. The object is to increase endurance by training it for in specific regions (core, hips, etc.); thus, developing an autonomous response under stress (load).

Feedback: Initially, it is advised to perform these drills with a workout partner or in front of mirror. Receiving feedback is important, as we want to engrain the proper technique within the nervous system. A friend or a workout partner that is rehearsed in this program or strength training would be a perfect fit for coaching feedback. If neither is available, try setting up a video camera and watching yourself perform the drills from all phases of the program. A camera can be set in the beginning of the week, and then later, follow-up filming conducted later. It is actually pretty cool to watch your form improve over an 8-week period.

How to Use this Information?

This manual contains photos of the exercises. I am never a big fan of learning from photographs. They are limited in that they only show the action two-dimensional. Unfortunately, it is a highly used vehicle for learning visual actions. More importantly, is the introduction of video nowadays. With that being said, each phase will have a list of the exercises and/or drills with images of the start and end [of each]. On some of the exercises listed throughout this program, I’ve accompanied a video link to check out the exercise being executed on video.

I encourage you to check out the link to the video to gain the full learning effect. Simply highlight the link with your cursor, and then select “copy”. Next open your Internet browser and right-click on the address window. Select “paste” and you will click “run “left click on the video link and highlight it. Next, right click it and select “copy”. Move the mouse cursor to your browser’s address bar and “paste” the

URL there. Depending on your settings and computer wizardry, it should take you directly to my video.

Please Read This Before

Make sure you read each phase description—don't run directly to the exercise photos. Each phase title will have sub-titles underneath will that instruct you on each component needed.

- **Training Modality –** what the objective of a particular phase is
- **Training For –** what the goal is for each phase after completion of all the exercises herein
- **Tools Needed –** any particular pieces of equipment needed to perform the exercises.
- **Areas of Focus –** particular areas of the body we are using and targeting.
- **Frequency/Length –** this describes how long the phase is (usually 1-2 weeks); and how often you will perform the exercises per day.
- **Rationale –** and most importantly, the "why" of a particular phase.
- **How to Perform –** instructions on how to set-up and perform the drill or exercise. It's important to read this section and check out the accompanying photos for visualization.
- Time – this is the repetition count and the amount of sets to be performed.
- **Coaching Cues –** this is a section dedicated to giving you tidbits on specific coaching cues for each exercise—including factors to focus on and things to be aware of.

Nevertheless, if you have questions pertaining to anything in this program or the video links, feel free to email me a message at john@izzostrengthtraining.com

On to the actual program.

Phase 1: Beginner - A

- **Training Modality:** Kyphotic Curve Maintenance
- **Training For:** Thorasic Spine Extension and Mobility
- **Tools Needed:** Foam Roller and Stability Ball
- **Areas of Focus:** Thorasic Spine T1-T12
- **Frequency/Length:** 5 days per week; 2 times daily/1 week

Rationale: The tonic muscles or “flexors” are typically short in people that exhibit low back pain. The phasic muscles or “extensors” work eccentrically against the force of gravity and therefore, become weak. One of the aspects of achieving a neutral spine is to maintain the natural kyphotic curve of the thorasic spine. With typical desk sitters and people with back pain, deliberate techniques to maintain this natural curve is important. Addressing this maintenance calls for performing ‘purposeful’ extension through deep breathing, manipulation and stretching.

This phase is not the most comforting and takes some practice. It will take building some body-awareness and confidence; and tolerance for the discomforting feelings when working with thorasic mobility. If you remember earlier in this manual, I talked about how an exaggerated kyphotic posture can actually compress the internal organs. This compression actually impedes breathing and blood circulation. Creating awareness to deep diaphragmic breathing is crucial and the first step to building a stronger back.

1.) Thorasic Mobility Drill with Foam Roller

How to Perform	Time	Coaching Cues
Using a round foam roller or something similar. Lay your upper back across the roller (on the floor) and position your feet together on floor. Keep your knees bent and place hands behind your head. Slowly, and somewhat aggressively, draw your head and shoulders down towards the floor over the roller.	Perform 6-10 reps depending on tolerance levels. 1-2 sets depending on tolerance levels.	Keep your chin tucked and core braced. As your draw your shoulders back against the roller, visualize your rib cage rolling up. Tightness and discomfort will be felt, so perform what you are willing to tolerate.

Placed in Program: Perform intermittently throughout day

See exercise video by clicking the link: **http://vimeo.com/67473354**

2.) Deep Rib Breaths

How to Perform	Time	Coaching Cues
Using a stability ball or bench, place your elbows atop of the object. Kneel down behind the ball or bench and bend your torso forward under your arms. Looking down to floor, take a deep, abdominal breath (through your nose) and forcefully, blow it out. Repeat.	Perform 6-10 times. 1-2 sets depending on tolerance levels.	Keep your shoulder/ elbows in place as your blow. Use force when you blow your breath into the ground. Feel the abdominals fill with air and feel the diaphramic muscles expend the air. You should dip your sternum as your exhale.

Placed in Program: Perform intermittently throughout day or in between sets.

See exercise video by clicking the link: **http://vimeo.com/67473355**

3.) Stability Ball Ab Stretch

How to Perform	Time	Coaching Cues
Begin by sitting on a stability ball. Use care as you slowly lie back onto the ball. Move the arms back towards the sides of your head and allow them to fall behind. If pain is present in the shoulders, bring the arms in to the sides of the torso. As comfort level increases, position your feet further back. Keep your abs centered on the ball.	Hold this stretch for 10-15 seconds. Perform 1-2 times.	Use your comfort level as a guide for this stretch as it may cause dizziness or loss of balance. Stretch back slowly and try to relax the body. Allow the force of gravity to stretch the entire front of the body.

Placed in Program: Perform intermittently throughout day or in between sets.

See exercise video by clicking the link: **http://vimeo.com/67653826**

Phase 2: Beginner - B

- **Training Modality:** Hip Extension Maintenance
- **Training For:** Hip Extension and Integrated Stretching
- **Tools Needed:** Chair, Stretch Strap or Rope
- **Areas of Focus:** Hips
- **Frequency/Length:** 3-4 days per week; 2 times daily/2 weeks

Rationale: After addressing the thorasic spine and subsequently, the kyphotic curve, we turn our attention to the lumbar spine. The lower back takes on a brute of the force couple of movements due to poor mobility in the hips. In this phase, we try to re-teach the hips to smoothly flex and extend the trunk with minimal (or none) flexion of the lumbar spine.

As a person sits for long periods, the lower back succumbs to gravity and eventually, the natural curve of the lumbar spine begins to strain and lose rigidity. This is due to some weakness; but a big part of it is due to poor repetitive neural adaptation. The same poor movements repeated continuously over time allow the nervous system to influence muscular system in a negative way. Protecting the lordotic curve in the lumbar spine is essential and will involve flexibility of the hamstrings, as well as movement-awareness drills including hip hinges and static posture break-up drills such as the sit to stand.

1.) Supine Hamstring Stretch w/ Band

How to Perform	Time	Coaching Cues
Lying on your back, place a band, rope or strap around your foot. Raise your leg up and keep a “soft” knee. Press your hips into the floor. As you use some exertion to stretch your leg up towards your torso, feel the “pull” of the band and relax the muscle. Then, contract the hamstring and drive the leg down. Allow the band to pull the leg back up each round. You can also angle your leg to target the groin and inner thigh.	Perform reps of 6-8 per leg. Repeat 2x	Keep your chin tucked and core braced. As your draw your shoulders back against the roller, visualize your rib cage rolling up. Tightness and discomfort will be felt, so perform what you are willing to tolerate.

Placed in Program: After a warm-up or at completion of workout.

See exercise video by clicking the link: **http://youtu.be/84utVczxRHk**

See images of this exercise on the next page:

You can also anchor the band to an object near your head as in photo. Make sure you keep your pelvis and opposite knee down as your leg is raised.

The stretch should be uncomfortable, not painful. Hold each stretch for 4-6 seconds and perform 6-8 repetitions.

Turn your leg out to target the inner thighs muscles.

2.) Hip Hinge Drill

How to Perform	Time	Coaching Cues
The easiest way to perform this and keep the integrity of the lordotic lumbar curve is to hold on to an object. While holding on to an object at chest height, slowly bend your torso forward and take a deep breathe and blow out. Slowly allow the breath out as you descend further. Feel the hips move back and keep your buttocks pressed back—facing, not tucking toward the floor.	Perform reps of 6-12 until form is optimal. Repeat 2-4x daily.	You will experience tightness in the back with this drill—especially with your arms locked into a position as they grip an object. It is best to perform this movement in front of a mirror and only go back as far before the buttocks "tuck" or "round down". If your lower back rounds, you have gone too far.

Placed in Program: After a warm-up, between rest periods, completion of workout and/or daily.

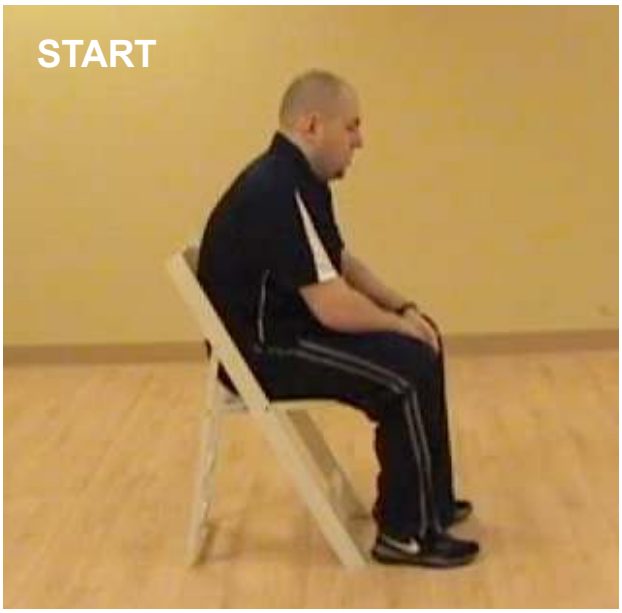
See exercise video by clicking the link: **http://vimeo.com/67640036**

3.) Sit To Stand Drill

How to Perform	Time	Coaching Cues
While sitting slumped in a chair after a few hours, remind yourself to "break the posture". Erect the chest and press the shoulder blades back as far as possible while in seat. Interlock the fingers as your stand and raise your arms as high as possible. Take a deep breath and release.	Perform reps of 6-12 until form is optimal. Repeat 2-4x daily.	The slump is purposeful to "feel" an exaggerated kyphotic posture. Take a deep breath and simultaneously release it as your stand. Stretch the arms as high and firmly press your feet into the floor as you do so.

Placed in Program: After a warm-up, between rest periods, completion of workout and/or daily.

See exercise video by clicking the link: **http://vimeo.com/67640035**



Phase 3: Intermediate - A

- **Training Modality:** Strength
- **Training For:** Core and Low Back Strength
- **Tools Needed:** Dumbbells, Bands, Mat, Cable Tower
- **Areas of Focus:** Torso Strengthening/Pelvic Locality
- **Frequency/Length:** 3 days per week; 1 time daily/1 week

Rationale: There are many exercises that have the ability strengthen the core and back. However, it is not which exercises are best—but how better coached a person is in them. One can choose the best exercise, but if the form is not coached effectively…the best exercise becomes mediocre or useless.

In this phase, we will concentrate on old-fashioned strength training principles to improve strength levels. In phase A, most of these exercises seem easy and can be used for recovery sets, warm-up movement prep or de-loading. Do not let first impressions fool you. We are not training to elicit mechanical failure (muscular)… we are training to withstand, tolerate, and prolong the onset of mechanical failure. By now, your endurance levels should be improved and fatigue should develop at a much later timing in sets [than in previous training sessions.]

1.) Overhead Squat with Band

How to Perform	Time	Coaching Cues
Begin by holding a band in the hands and underneath the feet. The band should be anchored well under your feet as your stretch the arms high above your head. Keep the elbows locked and position the arms directly above the head so you cannot see them (if you look up). With tension mounting from the band, slowly descend into a squat maintaining your center of gravity and body weight transition. Keep the core braced tight.	Perform 3 sets. Perform 10 reps.	Keep your torso tight. Breathe slowly and with shallow breaths. Keep your torso straight and do not allow the arms to move forward or the elbows to bend. Arms can be held in a "Y" pattern, but not excessively. Maintain this form throughout the set.

Placed in Program: Perform within your current exercise program; or as a movement prep.

See exercise video by clicking the link: **http://vimeo.com/67655084**

2.) Dead-Bugs w/ Band

How to Perform	Time	Coaching Cues
Lie on a mat holding a band or tubing. Place tubing around feet or ankles. Hold handles of band/ tubing with your hands and lie back. While holding your body down on mat, hold arms overhead and hips flexed. This is a “deadbug” position. With tension mounting in band, slowly draw 1 arm back and 1 leg down to create an “X” pattern. Try to prevent any hyperextension in the lumbar spine.	Perform 3 sets. Perform 10 reps. Repeat on both sides.	Keep your torso tight. Breathe slowly and with shallow breaths. Keep your core braced throughout exercise. Hold elbows tight and extend the arms back as far as possible against the tension. At the bottom position, this is the bands strongest tension. Repeat on both sides.

Placed in Program: Perform within your current exercise program; or as a movement prep.

See exercise video by clicking the link: **http://vimeo.com/67654575**

See images of this exercise on the next page:


START

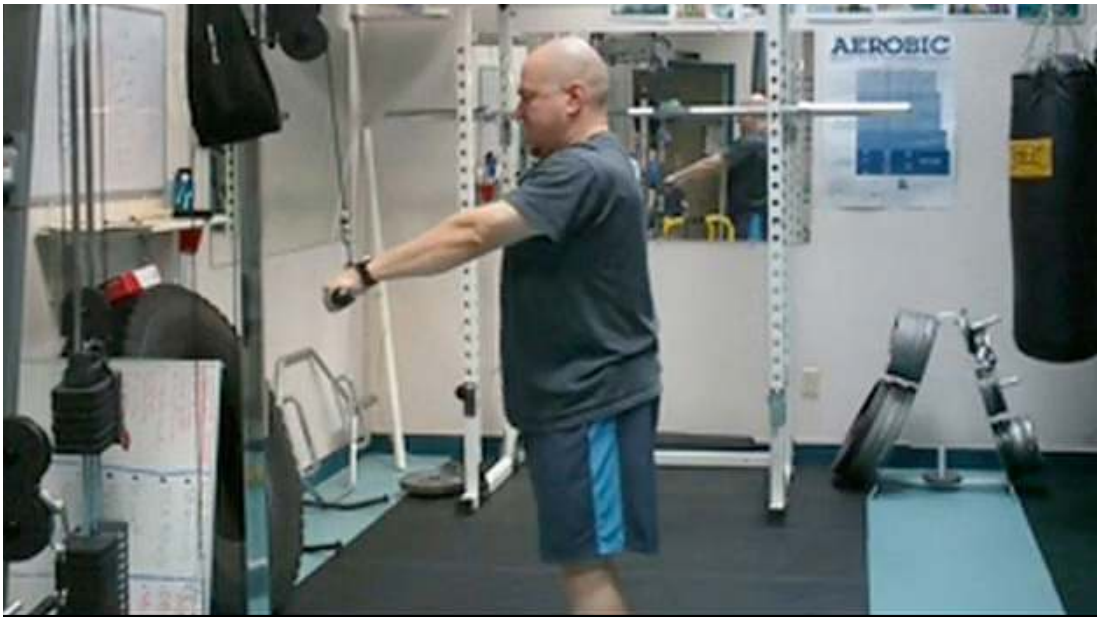

FINISH

3.) Vertical Plank (ISO Bar Pull Holds)

How to Perform	Time	Coaching Cues
Stand in front of a cable tower with a straight bar attached. Use a considerable amount of weight that you can comfortable handle. Begin exercise with pulling the bar down towards floor with elbows locked and arms straight. Hold the bar mid-way near sternum height. Keep arms as straight as possible and breathe normally.	Hold for 10-20 seconds. Repeat 2 times.	Keep your torso tight. Breathe slowly with shallow breaths. Keep your core braced throughout exercise. Hold elbows tight and extend the arms in front of you. Do not lean forward. Keep your torso erect.

Placed in Program: Perform within your current exercise program.

See exercise video by clicking the link: **http://vimeo.com/67473358**



Phase 4: Intermediate - B

- **Training Modality:** Isometric Core Strengthening
- **Training For:** Core Stability
- **Tools Needed:** Mat
- **Areas of Focus:** Core/Breathing
- **Frequency/Length:** 5 days per week; 1 time daily/1 week

Rationale: Core stability is best understood when it is trained isometrically. Typically, exercisers experience their body shaking, quivering, and rapid breathing during isometric exercises such as planks. This is normal and is desired. Intrinsically, the core musculature is under-trained and under-utilized by the sedentary population; most back pain is associated with poorly developed muscles of the core that become dysfunctional. This dysfunction is caused by lack of muscular coordination (control), contraction, and muscle firing timing, and poor endurance.

With this phase, we will introduce isometric exercises to strengthen core stability and dissuade fatigue. With each exercise, we will be attempting to improve “hold times” without a mechanical breakdown in exercise form. Exercises should be ceased when the form begins to “buckle” due to fatigue. With each following set, form should remain intact. Hold times will begin to decrease; however, this is acceptable.

1.) Standard Plank

How to Perform	Time	Coaching Cues
Begin with lying face down on a mat. Move your elbows in front of you and perch your feet onto the toes. With neck packed and head drawn in, press your forearms and toes into the floor and raise your body. Hold body in position for desired time. Do not allow body to “sink” downwards toward floor. Contract the entire musculature to maintain position.	Perform 2 sets. Hold for 60-90 seconds. Gradually move up to 2 min with good form.	Do not look up. Do not look out. Keep your chin tucked and head drawn in. Maintain your gaze at floor/mat. Once your form breaks, stop the exercise. This exercise teaches your body how to stabilize the core.

Placed in Program: After a warm-up, between rest periods, completion of workout and/or daily.

See exercise video by clicking the link: **http://vimeo.com/67655272**

2.) Standard Side Plank

How to Perform	Time	Coaching Cues
Begin with lying on your side on a mat. Your body should be resting on your elbow/forearm while tucked under your torso. Keep your feet stacked on each other or place them in a “scissored” position. When ready, lift your torso up and balance weight on resting forearm and feet.	Perform 2 sets. Hold for 30-60 seconds.	Do not look up. Do not look out. Keep your chin tucked and head drawn in. Maintain your gaze at floor/mat. Once your form breaks, stop the exercise. This exercise teaches your body how to stabilize the core.

Placed in Program: After a warm-up, between rest periods, completion of workout and/or daily.

See exercise video by clicking the link: **http://vimeo.com/67655272**

3.) ISO Side Hyper Hold

How to Perform	Time	Coaching Cues
If you gym is equipped with an angled low back extension bench, try this drill on it. Begin with lying on your side on the low back extension bench. Keep arms crossed in front of your chest. Keep your feet stacked on each other or place them in a “scissored” position. When ready, lift your torso up and maintain a straight (slant) line.	Perform 2 sets. Hold for 30-60 seconds.	Try to keep your body in a straight line. Muscles of the torso should be contracted fully—including glutes, and thighs. Make sure your feet stay “anchored” in the bench’s platform

Placed in Program: Perform within your current exercise program.

See exercise video by clicking the link: **http://vimeo.com/67655437**

Phase 5: Advanced - A

- **Training Modality:** Dynamic Core Stability/Strengthening
- **Training For:** Core Stability & Strength
- **Tools Needed:** Resistance Band, Dumbbell and Hyper Bench
- **Areas of Focus:** Core Stability with Loads
- **Frequency/Length:** 2 days per week; 1 time daily/2 weeks

Rationale: Core stability is best understood when it is trained isometrically. With an understanding of how the core should react when controlled, we look to introduce movements with load. Although, isometric contraction are still ideal in this phase, we look to observe the "reaction" of the core (and the degree of stability) while performing certain exercises that challenge said muscles.

The goal of this phase is to CONTROL the torso and avoid any mechanical breakdown in form—usually in the form of muscular compensations.

1.) ISO Hyper Hold w/ Arms Extended

How to Perform	Time	Coaching Cues
You will need a low back extension bench (aka: hyperextension bench). Adjust the height of the padding to snuggly fit under the pelvis in a comfortable position. This is an isometric exercise with upper body movement. Place feet into platform and keep flat. Adjust your body into bench and raise your torso up. Maintain your torso still and keep your arms close to your sides. Slowly raise your arms up above your head.	Perform 2 sets. Perform 10 reps slowly.	Try to keep your body in a straight line. Muscles of the torso should be contracted fully—including glutes, and thighs. Make sure your feet stay "anchored" in the bench's platform. Your arm movement should be slow and controlled. Do not lose the "tightness" in your torso as the arms are raised.

Placed in Program: Perform within your current exercise program as a set, or in rest periods.

See exercise video by clicking the link: **http://vimeo.com/67654322**

2.) Lateral Band Walking

How to Perform	Time	Coaching Cues
Place the band beginning with the foot. Each loop should come around the forefoot and stay on securely. With a tight core, and knees slightly turned out (externally); keep the hips squared and take a small step out to the side. You should try keep tension in the trailing leg at all times and keep the steps controlled (not dropping foot down).	Try 10 steps left and 10 steps right. If one side is stronger, keep the amount of the weaker side and build it up evenly.	If you lose tension in the band of the trailing leg, decrease your steps. If you begin to laterally shift your torso left and right (like a teapot), ease off on the steps and re-set your core

Placed in Program: Perform within your current exercise program as a set, or in rest periods.

See exercise video by clicking the link: **http://youtu.be/lPn_ledZp4c**

Band at foot point
(longest lever location)

Band at mid-calf point
(mid-lever location)

3.) Suitcase Carry w/ Dumbbell

How to Perform	Time	Coaching Cues
Hold one dumbbell in your right arm. Choose a weight that is considerable heavier than what you would use for a biceps curl—with 10 extra pounds. Hold it to your side and stand erect. With you're opposite arm; place your hand behind your head. Take a deep breath and relax your ribcage. Keep your shoulders down and core tight. Begin walking slowly for 10 steps.	Perform 3 sets. Perform 10 steps slowly. Repeat with DB in other hand.	Keep your torso tight. Breathe slowly and with shallow breaths. Keep your torso straight and do not allow any lateral bending. If there is slight lean in your torso, reset yourself by resting, switching hands, or starting over.

Placed in Program: Perform within your current exercise program as a set.

See exercise video by clicking the link: **http://vimeo.com/67473357**

Phase 6: Advanced - B

- **Training Modality:** Strength
- **Training For:** Lateral Low Back Strength, Core Stability
- **Tools Needed:** Cable or Band, Cook Stick, Bench, Medicine Ball
- **Areas of Focus:** Core Stability with Loads
- **Frequency/Length:** 2 days per week; 1 time daily/1 week

Rationale: Intrinsically, the muscles have developed a communication between breathing with external loading and bracing. When you pick up something heavy, the torso should "brace"—tightening up and creating rigidity for the extrinsic muscles to power the load. That feat will be put to the test and trained in this last phase. Again, a constant state of awareness is necessary to maintain optimal back health during exercises.

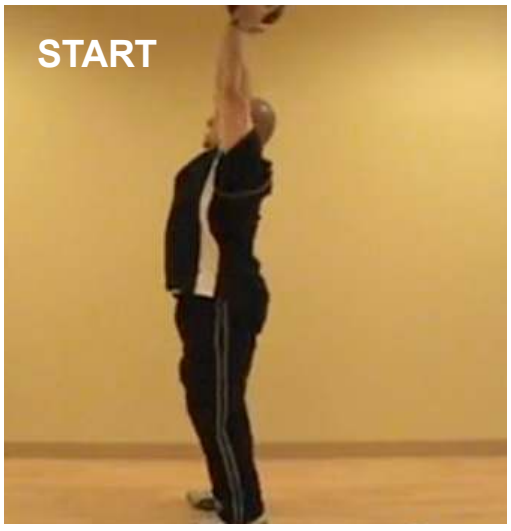
This phase will place your spine in extreme positions and movements. Try not to "lose yourself" in the lift and keep your "thinking cap" on during execution of these drills. If you remember the coaching cues, bear in mind that injury can always rear its ugly head--but by now, you shall be built for battle. The necessary bullet-points for this phase are keeping the torso tight, feet "glued" to the floor, and feeling each muscle performing its duty.

1.) Med Ball Drop Drill

How to Perform	Time	Coaching Cues
Stand with a medicine ball in your hands. Raise the arms overhead. Take a deep breath and slowly lean backwards keeping the arms straight (not bent at elbow). Stretch back as much as possible with the ball behind you. Blow the air out—and you should be on your toes at the finish of the movement. Drop the ball behind your body when you have reached back as far as possible.	Perform 3 sets. Perform 10 reps. Med ball for men: 10-16 lbs. Med ball for women: 8-12 lbs.	Keep your mind in this exercise. If you feel pain in the lower back, stop the exercise or do not lean back as far. Drop the ball as you reach your stretch limit. Keep your head straight and do not turn your head during stretch. This drill can only be performed standing.

Placed in Program: After a warm up or between sets; or as a separate set.

See exercise video by clicking the link: **http://youtu.be/8d0qCeDS_u8**



2.) Plank with DB Row

How to Perform	Time	Coaching Cues
Perform a plank (push-up style) on a bench. Reach down with your right hand and grip a DB or kettlebell. Without rotating body, raise the DB upwards towards your chest. Keep your chin tucked, torso tight and feet firm on floor. Repeat on other side.	Perform 3 sets. Perform 10 reps. Repeat on both sides.	Keep your torso tight. Your head should not jut forward. Keep body in a straight line. Raise the DB slowly. Should the torso rotate, choose a lower weight.

Placed in Program: Perform within your current exercise program; or as a movement prep.

See exercise video by clicking the link: **http://vimeo.com/67473256**

3.) Lean Over w/ Cook Stick

How to Perform	Time	Coaching Cues
If you have a dowel with an eyehook, you can use it as a "Cook" stick (made famous by physical therapist Gray Cook). If not, you can use a triceps rope and use it at full length. Hold the dowel above with a shoulder-width grasp. Keep the arms straight and elbows locked. Standing with your side away from a cable column, lean over the opposite side without losing too much lateral flexion from the back.	Perform 3 sets. Perform 10 reps. Repeat on both sides.	Start with a lightweight to get a feel for the movement. You should press your feet into the floor and not allow your hip to hike up. Make this movement strictly a lateral movement from the back muscles…not the hips or legs. Keep the lower body stiff and core braced.

Placed in Program: Perform within your current exercise program.

See exercise video by clicking the link: **http://vimeo.com/67654851**

How Should You Progress Through This Program?

Progression is the key to any success in a program. However, there are many interpretations of how to progress through exercises. There are those that progress depending on how they "read" the program…and there are those that progress depending on how they "feel". As the author of this program, I really don't know how you feel as you perform these phases and I don't know what your current day looks like.

I don't know how much you sit during the day; bend over during the day; how much you slouch in a char; how much you exercise; how much weight you use…and so on and so forth. Therefore, it is your responsibility to progress through this program depending on how you feel. My instructions can only fill in the blanks. Read the table below and only progress to the next phase if you can accomplish the required outcomes. Again, by default this is an 8-week program, but it can turn into a 10, 12, 14, 16, etc. Go at your own pace and best of luck!!

Read the table on the next page from left to right.

Progress Through This Program

Phase 1	Goals
Thorasic Mobility Drill	• Be able to complete 6-10 reps (2 sets) without too much discomfort. • Feel more mobile in upper back.
Deep Rib Breaths	• Fill the belly with air fully. • Feel “looser” in rib cage
Stability Ball Ab Stretch	• Feel comfortable in the stretch. • Should not feel tightness in hip flexors.
Phase 2	**Goals**
Supine Hamstring Stretch	• Perform 6-8 reps (2x) without discomfort • Less discomfort behind knee
Hip Hinge Drill	• Properly hip hinge without rounding out back • Performed flawlessly 6-12 reps
Sit to Stand Drill	• Feel “lengthened” after performing 4x
Phase 3	**Goals**
Overhead Squat w/ Band	• Keep tension on the band in hands and squat to a comfortable depth for 10 reps (3 sets) • Lower back should not round • Elbows should not bend
Deadbugs w/ band	• Lumbar spine should not hyperextend • Core should be braced for all 10 reps (3 sets)
Vertical Plank (ISO Bar Pull Holds)	• Hold stiffness in core for 10-20 seconds without bending forward (2 sets)

Progress Through This Program

Phase 4	Goals
Standard Plank	• Hold plank position without “sag” in stomach or chin protruding towards floor. • Hold for 60-90 seconds until it becomes easy.
Standard Side Plank	• Hold side plank position without sag in obliques. • Hold for 30-60 seconds until it becomes easy.
ISO Side Hyper Hold	• Hold body in (slant) straight line for 30-60 seconds
Phase 5	**Goals**
ISO Hold w/ Arms Extended	• Able to perform 10 reps (2 sets) with arms extended fully and torso stiff.
Lateral Band Walking	• Able to lateral walk with full tension on band and no “tilting” from upper body for 10 sets
Suitcase Carry	• Able to walk with heavy dumbbell without leaning torso to opposite side.
Phase 6	**Goals**
Med Ball Drop Drill	• Able to drop heavy medicine ball from overhead position and stretch entire anterior chain without pain/discomfort • Perform 10 reps (3 sets)
Plank w/ DB Row	• Able to keep torso stiff and “row” dumbbell without rotation from the pelvis. • Good core control throughout 10 reps (3 sets)
Lean Over w/ Cook Stick	• Able to keep arms straight with dowel overhead • Able to lean over and complete 10 reps (3 sets) without hip hiking or lower-body involvement

Acknowledgements

FOOTNOTE 1: http://backandneck.about.com/od/medication/a/Back-Pain-Prevalence-And-Statistics.htm

FOOTNOTE 2: http://backandneck.about.com/od/medication/a/Back-Pain-Prevalence-And-Statistics.htm

FOOTNOTE 3: http://backandneck.about.com/od/medication/a/Back-Pain-Prevalence-And-Statistics.htm

FOOTNOTE 4: http://www.jandaapproach.com/the-janda-approach/philosophy/

IMAGE 7: http://fitnesswithnicholas.files.wordpress.com/2010/12/5078223487_e8794b62dc.jpg

IMAGE 8: http://0.tqn.com/d/backandneck/1/0/a/3/roundedback.jpg

IMAGES 1, 2, 3, 5, 6, 9: American College Of Sports Medicine Fitness Professional's Handbook, 5th Edition

All exercise photos contained in this manual feature the author.

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