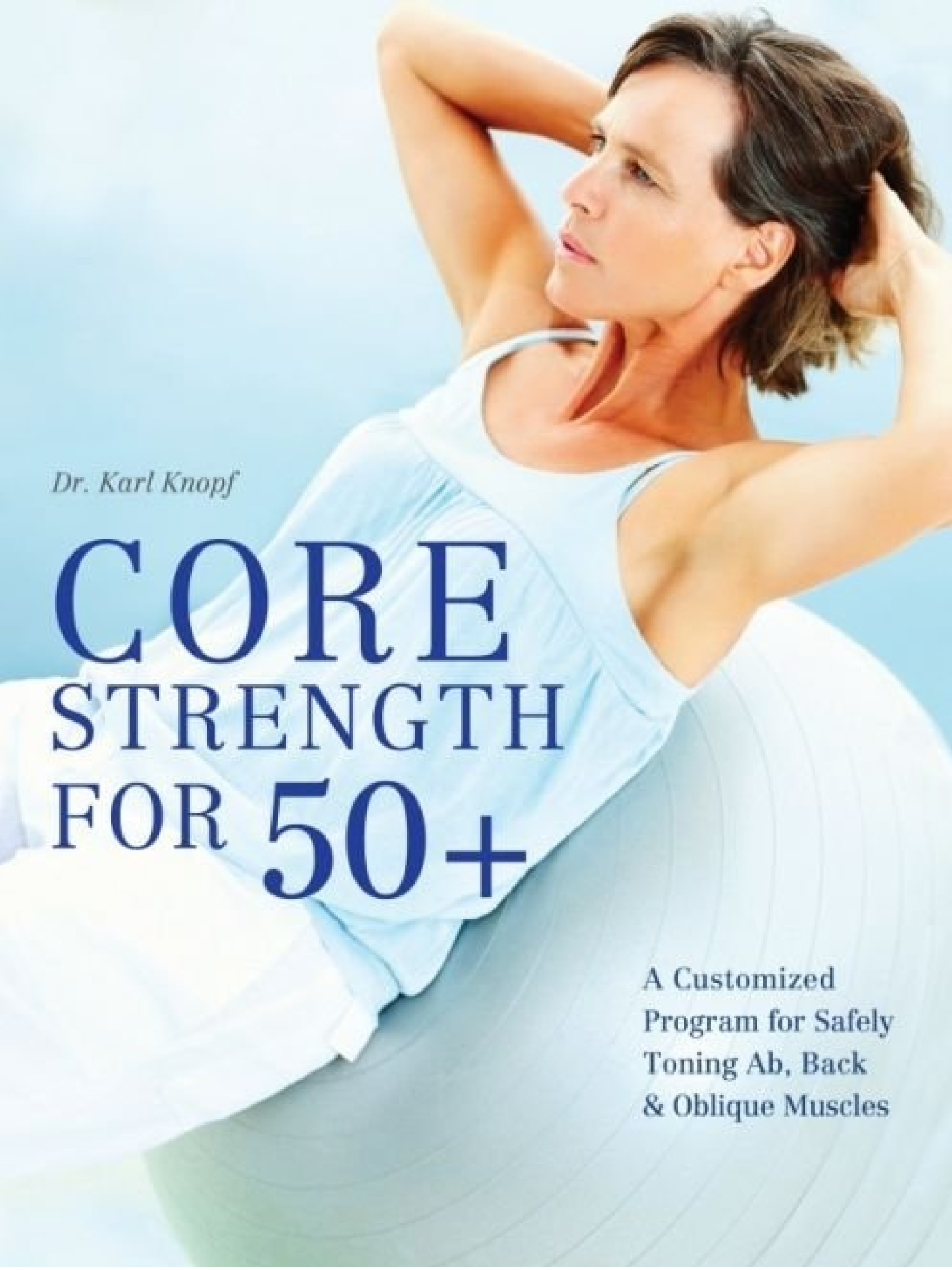
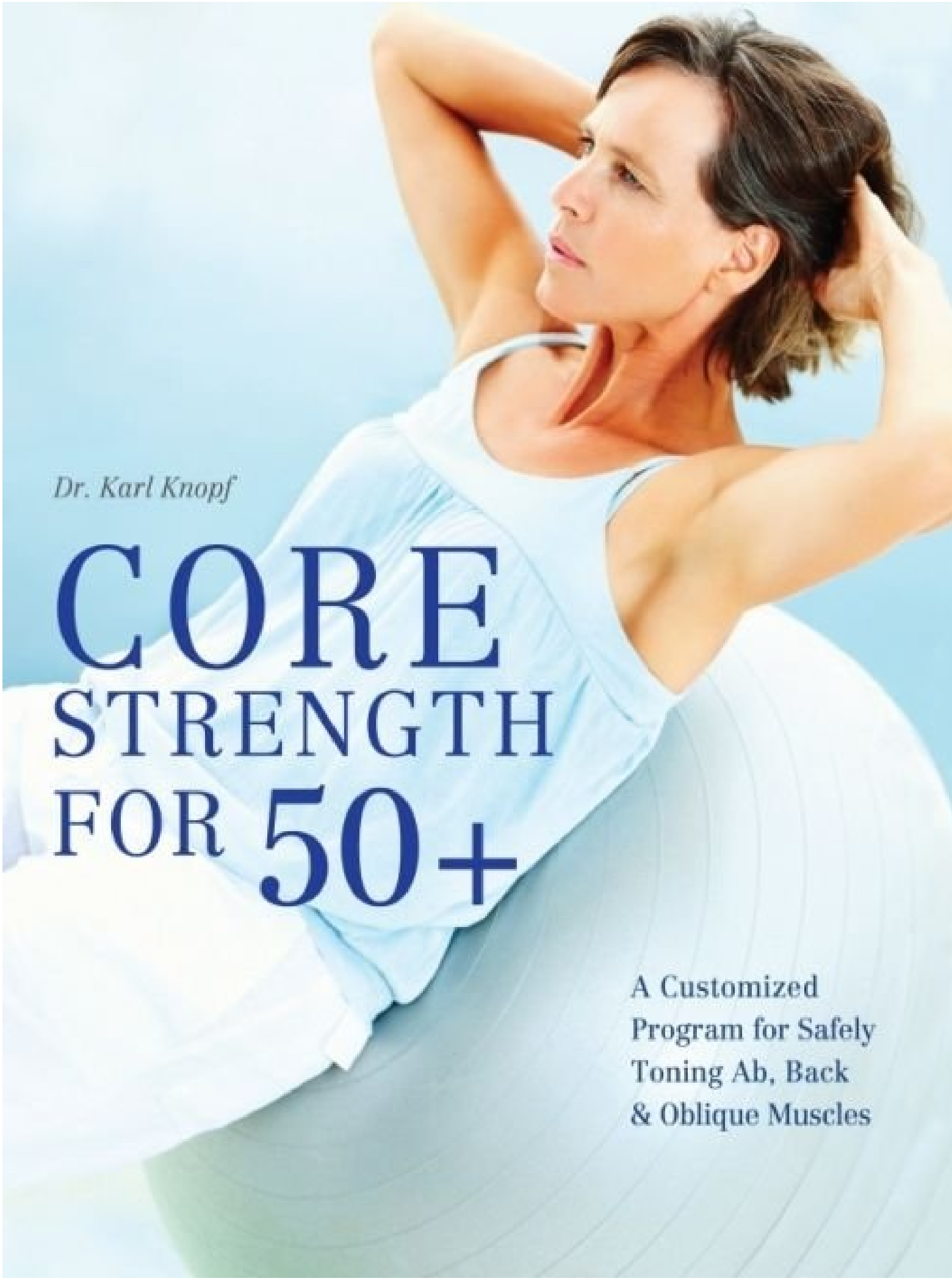


Dr. Karl Knopf

CORE STRENGTH FOR 50+

A Customized Program for Safely Toning Ab, Back & Oblique Muscles



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Dr. Karl Knopf

Ulysses Press

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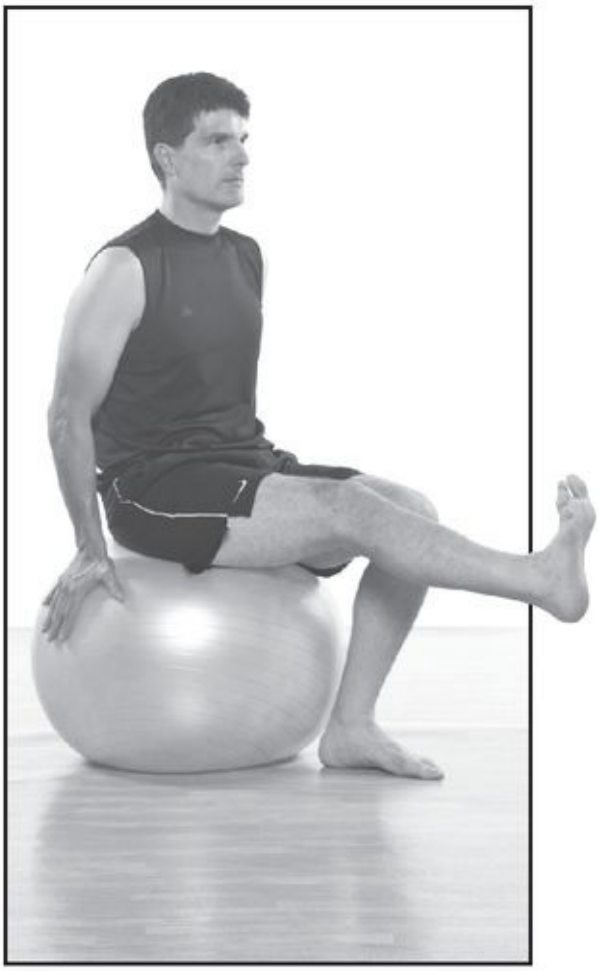
Introduction



The “core” is the powerhouse of the body. When the concept of “core strength
training was first introduced, the core was considered to be only the abdomin
region and the low back area. Nowadays, some experts consider the core to b
the region from the tops of the legs to the shoulder area. With its roots in bac
rehabilitation, core training was later thought to be useful in sports performanc
Today, core training needs to be a part of everyday exercise programs.

Having an aligned and strong yet flexible core can take the load off th
vertebral column and discs, which results in improved function and les
discomfort and pain. It’ll also assist you in activities of daily living, help improv
posture, and maybe even boost appearance and foster athletic performance.

Consider a tower of blocks: If the blocks aren’t lined up properly and a load
placed on top of it, the middle portion often buckles and collapses. This is als
what happens when we don’t have a solid core. Some experts maintain that tru
core strength is the interaction of the total body. It’s about improving functiona
fitness and reducing the strain on the spinal region. Core strengthening goes fa
beyond just having a flat stomach and six-pack abs.

Core Strength for 50+ is very different from other core training books becaus

it focuses on providing comprehensive, total-body core-strengthening options. Th
exercises described in this book are based on the most recent scientif
knowledge of how the spine responds to corrective exercise. Any exercise tha
doesn’t have superior benefits and minimal risks was not included. Additionall
some traditional core exercises were transformed a bit to accommodate balanc
and joint issues often seen in the 50-plus person. By using Core Strength for 50-
you’re well on your way to enhancing your spine’s stability and re-educatin
correct muscle activation patterns.

What is core strength?

Fitness fads come and go but core-strength training is not a passing trend. “Cor
strength” is not achieved by just doing a bunch of sit-ups; in addition, using heav
resistance is counterproductive. Rather, core strength is an integrated approac
of systematic conditioning and correcting of muscular imbalances.

Too often people exercise their abdominals (or “abs”) for aesthetic reasons, bu
correct core strength is gained through proper activation of specific muscles in
coordinated fashion. Proper core training teaches you to engage and protect you
back even when you’re not even thinking about your core. You’ll know yo
mastered core training if you automatically engage your core muscles when yo
open a door, swing a golf club, get up from sitting, or lift something.

The roots of core training stem from sound back rehabilitation. The averag
fitness follower or anyone who has ever had a bad back is familiar with the term
“core stability” and “core training.” Core training is also known as “dynam
lumbar stabilization.”

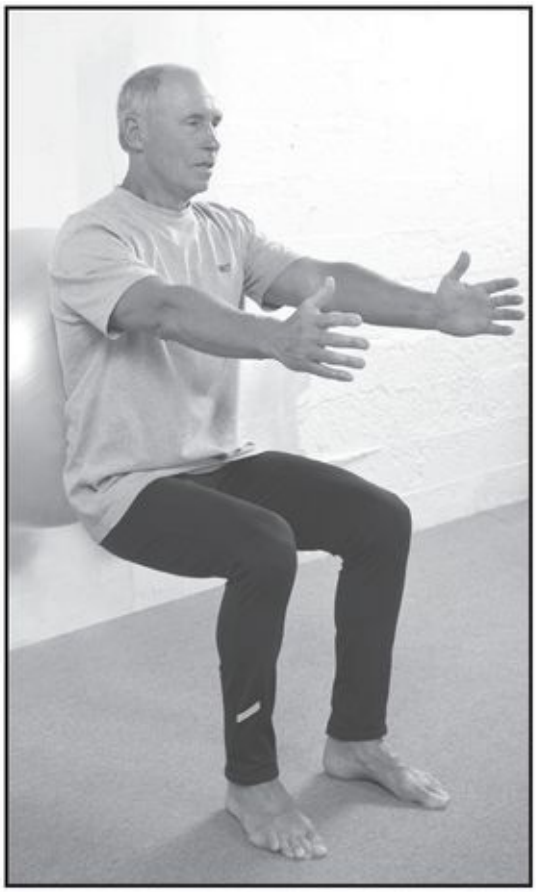
Core training became very common in the early 1980s and received the mos

acclaim when used by San Francisco 49er quarterback Joe Montana. The belie
was that stabilization of the lumbar region would guard your low back by usin
your own body to build your own lumbar support. Patients were taught how t
find the most balanced, pain-free position while in a static position and the
progress to being able to locate that position in a variety of dynamic movement
This approach was so successful with clients who had intervertebral disc problem
as well as facet joint involvement and other muscular imbalance issues that it wa
incorporated into fitness and sports conditioning routines for the young and old.

Core Strength vs. Core Stabilization

Core training goes by many names, such as core stabilization and cor
strengthening, to name the most common ones. They all generally agree that th
abdominal and low back muscles must have the right amount of strengt
endurance, and flexibility, as well as the muscle memory of knowing automaticall
when and how to engage and relax the core set of muscles. However, people ofte
overlook the muscular balance that's required for a strong core, and only do si
ups and back extensions without addressing all the subtle changes of posture an
deep-lying muscles. This may lead to physical problems down the line. Whe
strengthening your core, be sure to train both the superficial and deep-lyin
muscles in the front, back, and sides of the body. Your body needs a combinatio
of muscular endurance to handle prolonged sitting and standing, and enoug
strength in that region to keep your posture long and tall.

Where is the core?



The “core” of anything is the central foundation of the structure, whether it’s th
core of an apple or the core of a nuclear reactor. Although no one universa
definition of “core” exists, most people refer to the abdominal wall muscles in th
front of the body and the muscles of the back that run up and down the spine a
the core of the human body. Sometimes the gluteal region gets included.

The core is a complicated arrangement of bones, nerves, ligaments, tendon
and supporting muscle configurations. Understanding the locations and roles o
the muscles that comprise the core will motivate you to keep participating in
core-strengthening routine day in and day out.

The core team is made up of a pole (the vertebral column) and guide wires (th
muscles), and each member of your core team has a specific role. The core muscl
group includes the transverse abdominis, internal and external obliques, rectu
abdominis, and erector spinae.

The transverse abdominis is the deepest-lying layer of fibers of the abdomina
wall. The transverse abdominis provides compression to the internal organs an
serves as nature’s back brace. Some physical therapists believe that th
transverse abdominis is the most important element of core training.

The internal and external obliques are the muscles on the sides of the body
They’re engaged when you twist to reach and grab something.

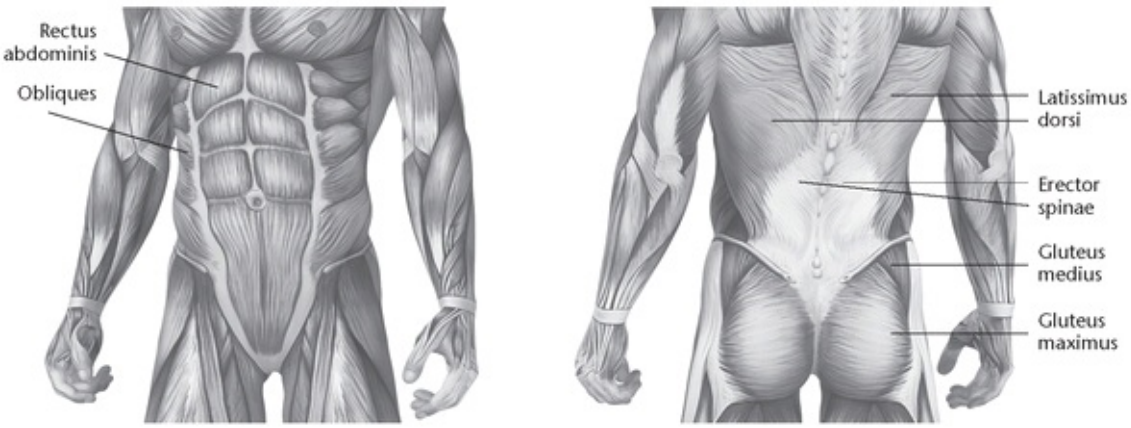
The rectus abdominis is the muscle that flexes the vertebral column. We're mos familiar with this muscle because it gives us the six pack. It also helps stabilize th pelvis when walking.

The erector spinae group is responsible for extending the back. It's made up three distinct muscles: the iliocostalis, the longissimus, and the spinalis. Th erectors add stability to the trunk area and are also the primary muscles that hel us stand erect.

When the core muscles are properly trained, they lead to improved posture an back protection.

Current research also suggests that the diaphragm assists spinal stability via hydraulic consequence on the abdominal hollow space by increasing intra abdominal pressure, often seen in weightlifters who bear down when doing heavy lift. For years the transverse abdominis was considered the key componen for spinal stabilization training. However, today it's understood that the "dee core" muscles and the diaphragm need to work in a coordinated manner t provide an ideal platform from which the more superficial muscles can operate.

Major Muscles of the Core



Author Karl Knopf makes some adjustments.

Benefits of a strong core

Much like replacing the plumbing under your house, core strengthening is ofte
not visible. No one will ever see what you've done but if it's not working, thing
can really become a mess. Being fit doesn't necessarily translate into being high
aware of your core muscles. Oftentimes, a fit, athletic person can more easi
substitute other muscles to perform the functions associated with the core.

The benefits of having a strong core include improved posture, which allows yo
to present a more youthful appearance, and balance. It also means less load o
the lumbar region of your low back, reducing the risk of injury to any arthrit
joints and discs in addition to pain. Performance in sports and recreationa
pursuits is also boosted.

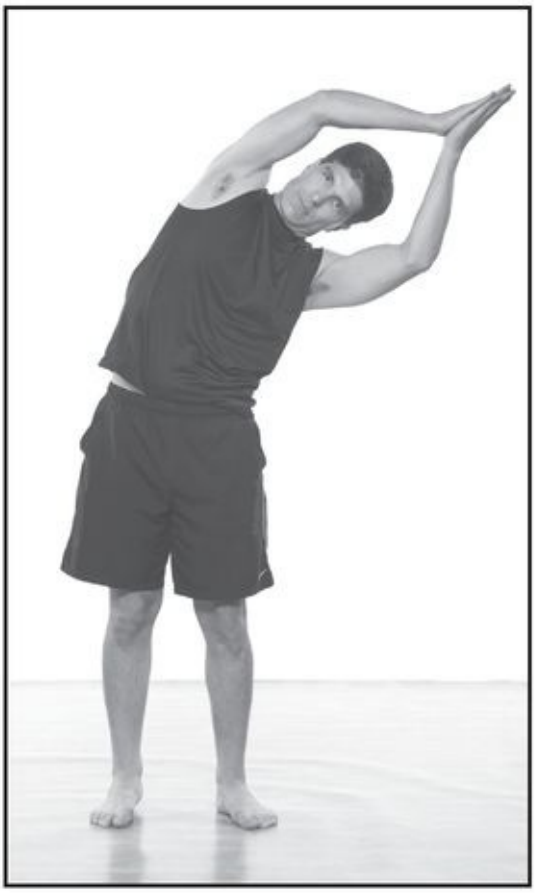
Core Strength and Back Pain Prevention

Having a solid core is analogous to the concept of keeping a radio tower upright
A radio tower is installed with guide wires to keep the tower straight and tall.
one set of wires is lax and another set is too tight, the tower becomes misaligned
The same applies to the back, with the spine being the radio tower and th
muscles of the body being the guide wires. If one set of muscles is too tight fro
overuse and the others too lax from lack of use, the spine becomes unstable and
at high risk for injury. Muscle imbalances, along with poor body mechanics an
age, are believed to be a factor in low back issues.

It's important to keep in mind that "back pain" is a very generic term and ca
range in severity from simple overexertion to a herniated disc to something ver
serious (e.g., pain referred from a major organ). That's why a medical docto
should evaluate persistent, unrelenting low back pain.

That said, certain kinds of back pain can be prevented or reversed by prope
core strengthening. A comprehensive core-strength training program can b
thought of as building your own back brace to protect your spine, along wit
learning proper biomechanics and maintaining flexibility to avoid muscle spasms.

Core training the right way



Core strengthening is all about improving functional fitness and reducing th strain on the spinal region. A well-designed core-strength program requires delicate balance of core strength, core muscle endurance, proper bod mechanics, and flexibility of the surrounding muscles (such as the hamstring quadriceps, iliopsoas, and the iliotibial band) that often contribute to low bac imbalances.

Complete core-strength training requires a balanced multiplanar approach tha includes a combination of isometric and dynamic exercises. While many of th exercises in this book look simple, it's critical that you master the subtleties of th movements through concentration and practice them until they become automat before moving on to the next level.

Proper core stabilization has four basic stages:

Stage 1 Learn to contract deep-lying muscles.

Stage 2 Focus on endurance of the deep-lying muscles.

Stage 3 Challenge the core with arm movements once stabilization can b maintained.

Stage 4 Continue challenging the core.

The beauty of a core strength program is that it can be used as both preventative and rehabilitative back-care wellness tool. The desired outcomes of

good core-strength program are:

- A solid core that will protect the low back, reduce back injuries, and foste better low-back health
- Improved sports performance
- A better interdependence between the muscles on the front of the body an the back of the body, which will reduce fatigue and improve posture

To achieve these aspects, you can progress to performing the exercises in supported position, such as supine, prone, kneeling, and standing, before final incorporating dynamic movement. To truly improve core strength, meticulou body awareness is needed. Talking or listening to music while doing thes exercises can detract from learning core stabilization, so no distractions ar recommended. Core training requires total mind-body interaction. Just poundin out sit-ups to the latest tunes is not what core-strength training is all about.

10 Core-Training Tips

Here are 10 tips that will help you make the most of your core-training workout.

1. Core training can and should be done daily. If you're pressed for time, exercise the front side of your body one day and then exercise the posterior side of your body the next day.
2. Concentration and practice and then more concentration and more practice are the axiom of core training.
3. Train, don't make pain. Follow the two-hour rule: If you hurt more than tw hours post-exercise, re-evaluate your exercise program and back off.
4. Better results occur when you cross-train—in addition to core training, include a regular walking program with comfortable shoes or participate in a water-exercise program.
5. Avoid doing core exercises first thing in the morning. It's believed that intervertebral fluid pressure in the spinal region is higher in the morning and can cause problems.
6. Focus on core muscle endurance rather than aiming to make the muscles overly strong.
7. Sad but true, there's no ideal set of exercises for everyone. Your exercises need to evolve and adapt according to your functional goals and pain issues Some people will do core exercises for rehabilitative purposes and others for general fitness and prevention, while others do it to enhance athletic performance. Therefore, use your inner wisdom when selecting and designing a core strength program.
8. Don't expect quick results. It'll take a long time to learn to perform the exercises correctly and mindfully. The goal of core training is instinctually knowing how to properly engage your core muscles while performing activities of daily living.

9. Practice braced breathing and learn diaphragmatic breathing (see page 35).
10. When performing static exercises, don’t hold your breath. If you have any cardiovascular issues, avoid static exercises.

TRAIN SMART!

The keys to correct core-strength training are as follows:

- Concentration and perseverance
- Quality of movement is more important than quantity
- Slow, purposeful progression to more challenging movements
- The ability to perform every action from a neutral spine

sample content of Core Strength for 50+: A Customized Program for Safely Toning Ab, Back, and Oblique Muscles