The Abdomen

THE MUSCLES OF THE ABDOMEN

The **rectus abdominis,** a long muscle extending along the length of the ventral aspect of the abdomen. It originates in the area of the pubis and inserts into the cartilage of the fifth, sixth, and seventh ribs.

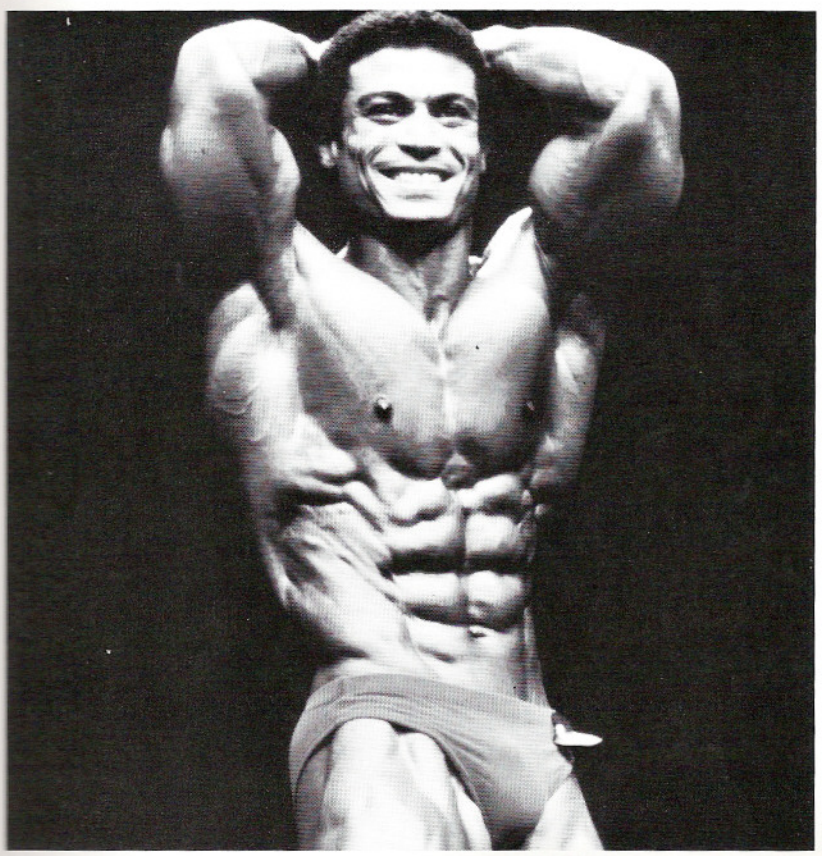
Basic function: To flex the spinal column and to draw the sternum toward the pelvis

The **external obliques** (obliquus externus abdominis), muscles at each side of the torso attached to the lower eight ribs and inserting at the side of the pelvis

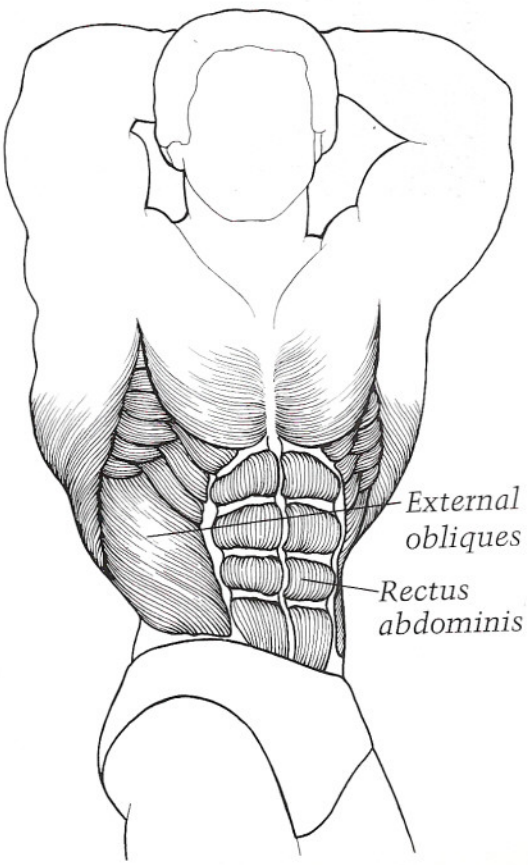
Basic function: To flex and rotate the spinal column

The **intercostals,** two thin planes of muscular and tendon fibers occupying the spaces between the ribs

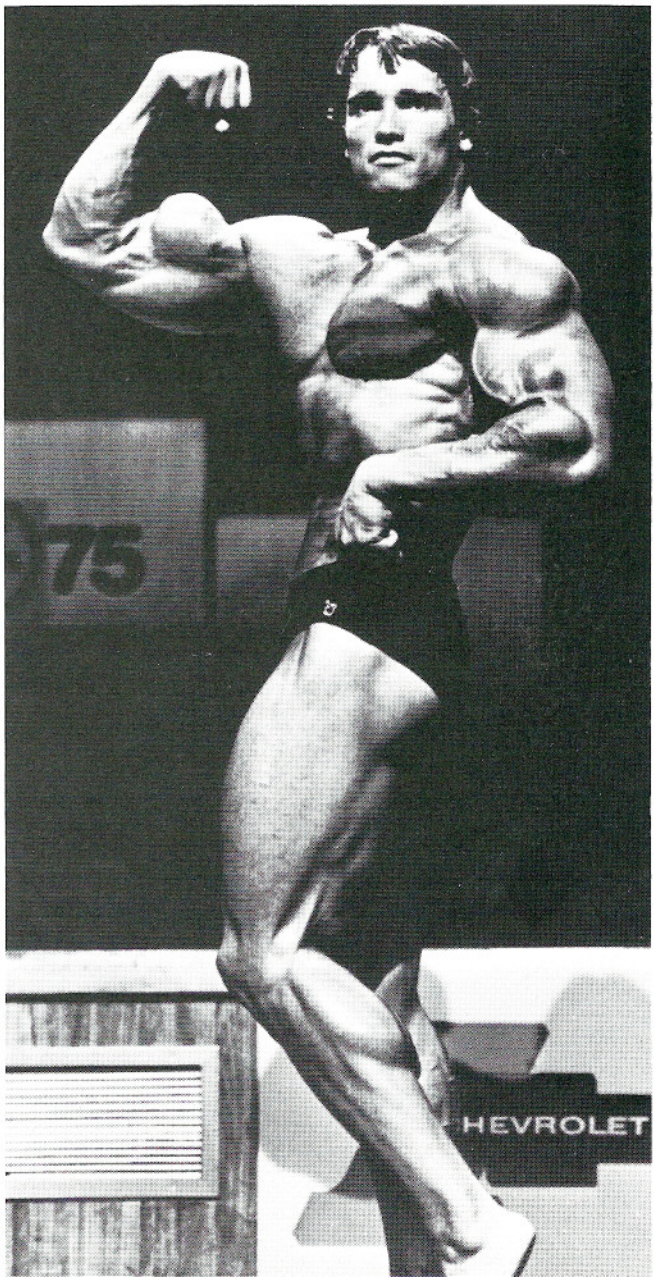
Basic Function: To lift the ribs and draw them together



Mohamed Makkawy



Mike Francois, Flex Wheeler, and Chris Cormier demonstrate the IFBB mandatory abdominal pose: hands behind the head, abs flexed, and one leg extended.



Well-defined abdominals are important, but so is having a small waist, which makes poses like this twist biceps shot so much more effective.

TRAINING THE ABDOMINALS

Strong abdominals are essential to maximizing performance in almost all sports. In bodybuilding, the abdominals play an extremely important role when it comes to the visible impression your physique makes on an observer. The abs are, in fact, the *visual* center of the body. If you superimpose an X on the body with the terminal points being the shoulders and the feet, the two lines cross at the abdominals, and this is where the eyes are inevitably drawn. Men carry a disproportionate number of fat cells in the abdominal area compared to women (who can often be relatively fat and still have abs showing), so well-defined abs are one sign of being in top condition—lean, hard, and strong.

A bodybuilder is likely to score points in a contest if he has wide shoulders and flaring lats that taper down to a firm, narrow waist. A small waist

In a posedown, when you can hit any shot you want, it makes sense not to try to hit the same pose as other competitors who have advantages as a result of superior development of certain body parts or greater mass. (Nasser El Sonbaty, Vince Taylor, Milos Sarcev, and John Sherman)

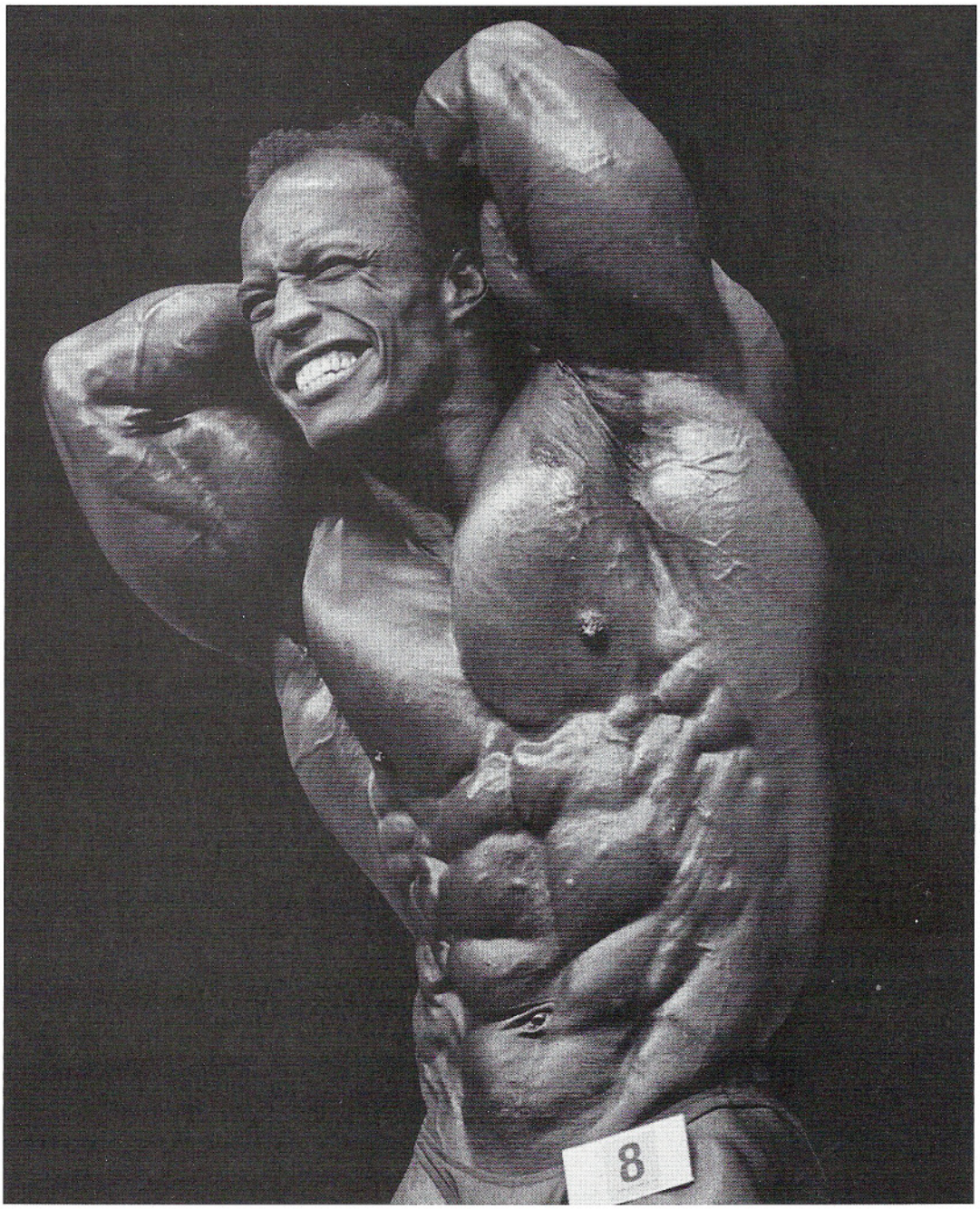
tends to make both your chest and your thighs appear larger, more impressive, and more aesthetic.

The traditional V-shaped torso is as important as sheer mass when it comes to creating a quality, championship physique. I have often seen contests in which good bodybuilders came in a few pounds overweight in order to appear bigger but found the extra weight they were carrying at the waist spoiled the visual effect. When I got into bodybuilding, there were a few bodybuilders who made up for lack of overall size by the outstanding development of their abs—competitors like Pierre Vandensteen and Vince Gironda, for example. But in modern bodybuilding *every* would-be champion, no matter his body type, has to have well-developed abs in order to be competitive, from the really massive bodybuilders (Dorian Yates, Nasser El Sonbaty, Paul Dillett) to mid-size (Flex Wheeler) to smaller (Shawn Ray) to short (Lee Priest).

If my waist had been small and hard, and with defined abs and obliques, when I came to compete in the United States in 1968, I might not have finished second to Frank Zane. But along the same lines, if Frank had gone to the 1982 Olympia in London in the kind of shape he achieved in 1979 when he beat Mike Mentzer for that title, he might well have defeated Chris Dickerson instead of having to settle for second. Frank had actually gained mass for this competition, but in doing so appeared on-

The posedown at the 1980 Mr. Olympia contest demonstrates very clearly that top bodybuilders have to have great abs to stay in competition. As the biggest man, it was essential for me to have abs that would stand up to the likes of Mike Mentzer, Frank Zane, and Chris Dickerson.

Shawn Ray



stage without the washboard abs that make him at his best so tremendously impressive. Lack of abdominal development, or failure to display the abs properly, can be very costly in competition. Boyer Coe had great success in competition in the 1960s and 1970s, but he was one of the few top bodybuilders who couldn't boast of a well-developed "six-pack." Boyer's lack of ab development was genetic and not due to incorrect or lax training. But the sport has become so competitive that there is no longer any such thing as a champion bodybuilder without excellent abs at almost any level of competition.

When Bill Pearl won his first contests in the early 1950s, outstanding abdominal development was not considered essential. However, by the time he had won his NABBA Mr. Universe titles, even though his body weight had actually increased, Pearl's abdominals were fantastic.

Nowadays, the bigger men in the sport often have problems because their abdominals have become *too massive*, and they get too thick in the middle and at the sides of their torso. Often this happens as the result of doing very heavy exercises like Squats, for example, that call for a lot of involvement on the part of the abdominals and the obliques as stabilizers. Because of this, you almost never see these bodybuilders using weights to train their abs or their obliques. But the fact that you put so much stress on the muscles of the waist whenever you train heavy means that no bodybuilder—even the smaller ones—needs to train abs using any kind of extra resistance (though many will just before a contest). Of course, there are some abdominal exercises that involve more effort because more of your body weight is involved and we'll discuss those in detail.

SPOT REDUCTION

Since most of the top bodybuilders today, regardless of stature, are massively developed for their body size, the most important goal of abdominal training has become *definition*. This involves two things—training and developing the abdominals and reducing body fat sufficiently to reveal the muscularity underneath.

When I got into bodybuilding most competitors believed in something called spot reduction, and there are a lot of people who still think this is possible. Spot reduction refers to training a specific muscle in order to burn off fat in that particular area. According to this idea, to develop abdominal definition, you do a lot of ab training, lots of high reps, and burn away the fat that is obscuring the development of the abdominal muscles.

Unfortunately, this doesn't work. When the body is in caloric deficit and begins metabolizing fat for energy, it doesn't go to an area where the muscles are doing a lot of work in order to get additional energy resources. The body has a genetically programmed pattern by which it determines from what adipose cells to access stored fat energy. Exercise does burn calories, of course, but the abdominals are such relatively small muscles that no matter how much ab training you do you won't metabolize nearly the energy you would by simply going for a walk for the same amount of time.

But this is not to say that training a given area like the abs doesn't increase definition. As I said, the abdominals get a hard workout when you do heavy exercises, but what they don't get is *quality training*—that is, isolation, full-range-of-movement exercises. Movements that do this bring out the full shape and separation of the abdominals instead of just making them bigger. So although training the abs like this doesn't do a lot to reduce the fat around the waistline, it does create very well defined muscles that are revealed once you are able to reduce your body fat sufficiently by means of diet and aerobic exercise.

AB-SPECIFIC EXERCISES

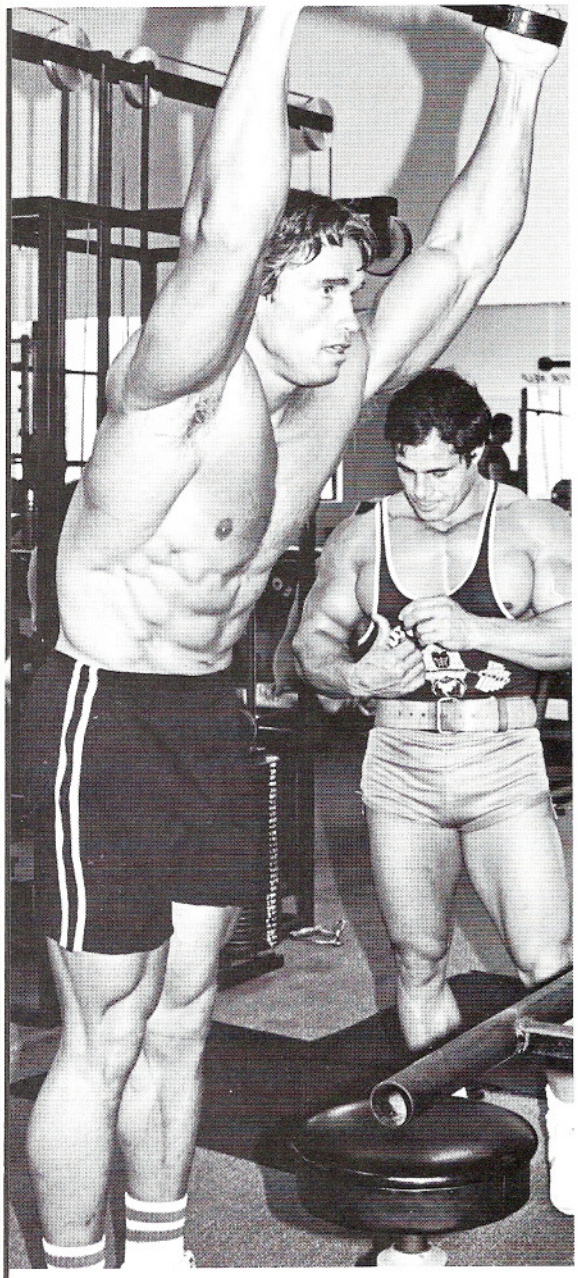
When the abdominal muscles contract, a very simple thing happens: They pull the rib cage and the pelvis toward each other in a short, "crunching" motion. No matter what kind of abdominal exercise you do, if it is *really* a primary ab movement this is what happens. In the past, before the physiology of abdominal training was well understood, bodybuilders used to do a lot of "conventional" abdominal exercises such as Sit-Ups and Leg Raises. Unfortunately, those are not primary abdominal exercises but instead work the iliopsoas muscles—the hip flexors. The hip flexors arise from the lower back, go across the top of the pelvis, and attach to the upper thigh. When you raise your leg, you use the hip flexors. When you hook your feet under a support and lift your torso up in a conventional Sit-Up, you are also using the iliopsoas muscles.

Try this experiment: Stand up, hold on to something for support, and lift one leg up in front of you while putting one hand on your abdominals. You'll feel a pull at the top of the thigh but it will also be obvious that the abdominals are not involved in lifting the leg. The abdominals attach to the pelvis, not the leg, so they have nothing to do with raising the leg up in the air.

The same thing is true of a Sit-Up or Slant-Board Sit-Up. This exercise is really the reverse of a Leg Raise. Instead of keeping the torso steady and lifting the leg, you are keeping the legs steady and lifting the torso—and the same muscles are being used, the hip flexors. When you do any of these exercises, the primary role of the abdominals is as *stabilizers*. They keep the torso locked and steady. But this is directly opposite of what you want to achieve in your ab-specific training because the role of the abs, as I have pointed out, is simply to *draw the rib cage and pelvis together*—to crunch them together in a very short movement which involves the back curling forward. The back doesn't bend much doing a Sit-Up, while it curls a lot doing a Crunch. That is the secret to full-range, quality isolation training of the abdominals.

ALL KINDS OF CRUNCHES

All ab-specific exercises are some kind of crunch. You can crunch your rib cage down toward your pelvis (the Crunch), your pelvis up toward your rib cage (Reverse Crunch), and the rib cage and pelvis toward each other (Leg Tucks). You can do Reverse Crunches on a flat bench, a decline bench, or hanging from a bar. But in all of these cases, the same fundamentals of exercise physiology hold true: The abs are contracting full range (through their limited range of motion), the pelvis and rib cage are coming together, and the spine is rounding forward during the movement.



This photograph was taken just a week before the 1980 Mr. Olympia contest; you can see how prominent and well defined my abdominal muscles were.

OBLIQUE EXERCISES

The obliques, located at the side of the torso, are primarily stabilizers. There aren't a lot of movements you do in the gym or in daily life that call for a lot of bending from side to side. Therefore, the obliques (like the stabilizer muscles of the lower back) tire fairly quickly from a lot of full-range repetitions and are relatively slow to recover.

There was a time when bodybuilders did a lot of oblique exercises, some of them using substantial amounts of weight. You rarely see successful bodybuilders doing those exercises today because the obliques, like any other muscle, get bigger when you train them with weight, and massive obliques tend to make the waist thicker and take away from the aesthetics of an outstanding V taper.

Of course, the obliques get an isometric workout whenever you do heavy training such as Squats or Shoulder Presses, but since they are only acting as stabilizers and not working through a full range of motion these exercises usually don't cause them to grow to the degree that you'd get from doing Side Bends, for example, holding on to heavy dumbbells. So bodybuilders who train obliques at all tend to stick to nonresistance movements, such as Twists or Side Bends, using no weight, which tighten the muscles without causing them to become too big.

SERRATUS AND INTERCOSTALS

These muscles, located at the side of the upper torso, are crowd pleasers as the abdominals are. When you do a pose such as the Arms Overhead Abdominals and Thighs, and work the torso side to side to show definition in this area, it can really add to the impression you make on the judges.

Again, these muscles are worked with a kind of crunching movement, only this involves squeezing the shoulder and elbow down and in, and bending the torso to the side. Try this and you'll see how easy it is to feel the muscles flexing in this area. These are also muscles that become developed as a result of your overall training program, but you can do specific definition training for serratus and intercostals by adding a twist to various Crunches as you perform them.

BEGINNING PROGRAM

Many bodybuilders who are just starting out get excited about training the chest and arms and tend to ignore the abdominals. Then, later, when they begin to think about competition, they find they have to go on extreme abdominal programs in order to try to catch up in this area. So I recommend

training abs right from the beginning, just as you do other body parts. This way, they will develop along with the rest of the body and you will never be forced to play catch-up.

I recommend training abs in every workout. In the Beginning Program, I recommend alternating each day between 5 sets of Crunches and 5 sets of Reverse Crunches. Both exercises work the abdominals as a whole, but the Crunches tend to work the upper abdominals to a greater degree, while the Reverse Crunches put a greater amount of stress on the lower area.

Another practice I recommend for beginners is to start immediately working on your stomach "vacuum"—simply blow out all your breath, suck in your stomach as far as possible, then try to hold this for 15 or 20 seconds.

Holding in your stomach and tensing your abs as you go about your daily business is also a good way of firming and strengthening them and making yourself more conscious of how to control this important area of the body. You should begin to notice right away whether your abs are likely to be a weak point in your physique so that you can take appropriate action when you move on to Advanced Training.

ADVANCED PROGRAM

Once you have started to develop your abdominals, you can begin to train each of the particular areas that contribute to a firm and well-defined waist. This involves doing more sets and a wider variety of exercises like Twisting Crunches, Leg Tucks, and different kinds of Reverse Crunches, as well as Twists.

In Level II, I recommend beginning your workout with a warm-up session of Roman Chairs, one of my favorite crunching movements. For obliques, in addition to twisting movements, you will find exercises like Side Bends and Twists.

COMPETITION PROGRAM

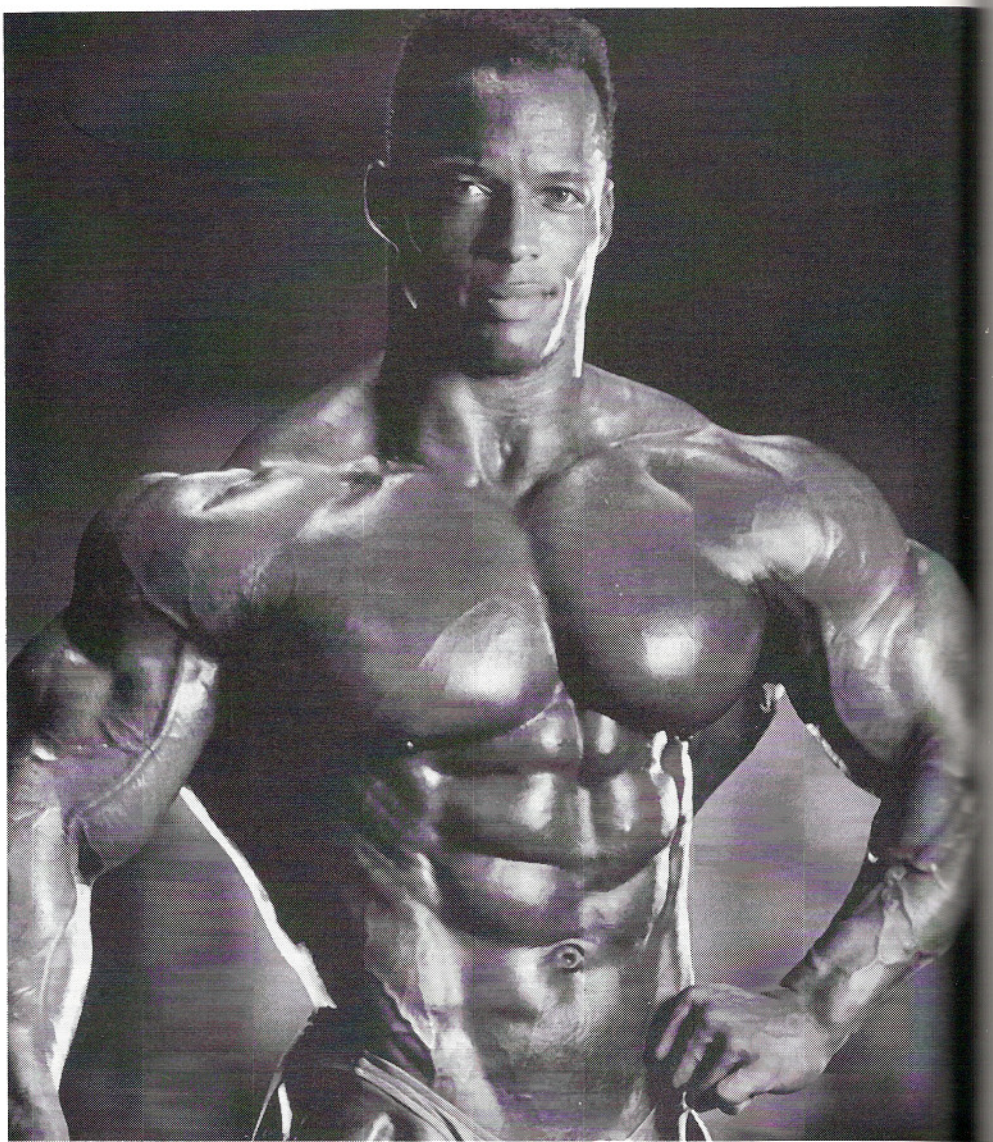
When you are getting ready for competition, your aim should be to sculpt and define your total abdominal area rather than to build more size and strength. To intensify your workout, begin with 10 minutes of Roman Chairs. I always got good results starting out with Roman Chairs, as did many of my contemporaries such as Franco Columbu, Zabo Koszewski, and Ken Waller. Roman Chairs help get you warmed up and are a continuous-tension exercise that keeps the abdominals working for the entire period.

Serge Nubret

The end product of Competition Training is total quality, and each of these exercises is designed to develop and shape a particular area of your waistline. To develop abdominals that will really impress the contest judges, you have to do exercises for the upper and lower abs, the obliques, serratus and intercostals, as well as develop the lower back doing Hyperextensions and other exercises for this area from the back training program. You should demand enormous effort from these areas in order to totally blast them into submission. Keep going, never stop for a second, and you will get the results you need.

WEAK POINT TRAINING

It is just as possible to have a weak point in your abdominals as in any other body part. To help you overcome this, I have included in the abdominal training program exercises designed to work all the specific areas with which you will be concerned. Although most abdominal exercises tend to work several areas of the torso at the same time, certain movements are



Shawn Ray

Milos Sarcev

When you have really outstanding abdominal development, your abs look defined whether you are standing relaxed, semi-flexed, or are hitting an all-out abdominal pose, as Serge Nubret, Shawn Ray, Milos Sarcev, and I demonstrate.

best for each specific area, such as upper or lower abs, obliques or serratus and intercostals. However, be aware that the lack of visual development of the abs is frequently caused by one of two things:

- not enough dieting, so there is a layer of fat over the abs
- not enough isolation, full-range-of-motion, quality training

You don't train abs for quality by contracting them against heavy resistance, by doing hip-flexor rather than abdominal exercises, or with fast, short choppy movements. The best abdominal training involves slow, controlled, full-range-of-motion exercises, and holding at the point of full contraction to achieve a full peak contraction.