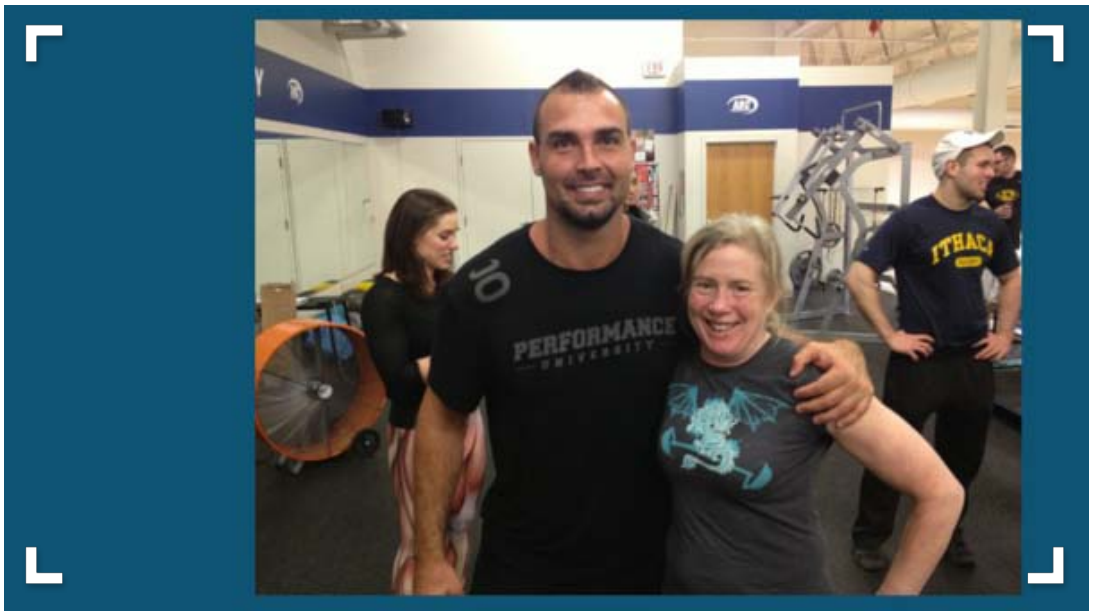
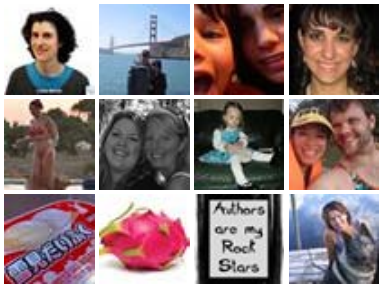
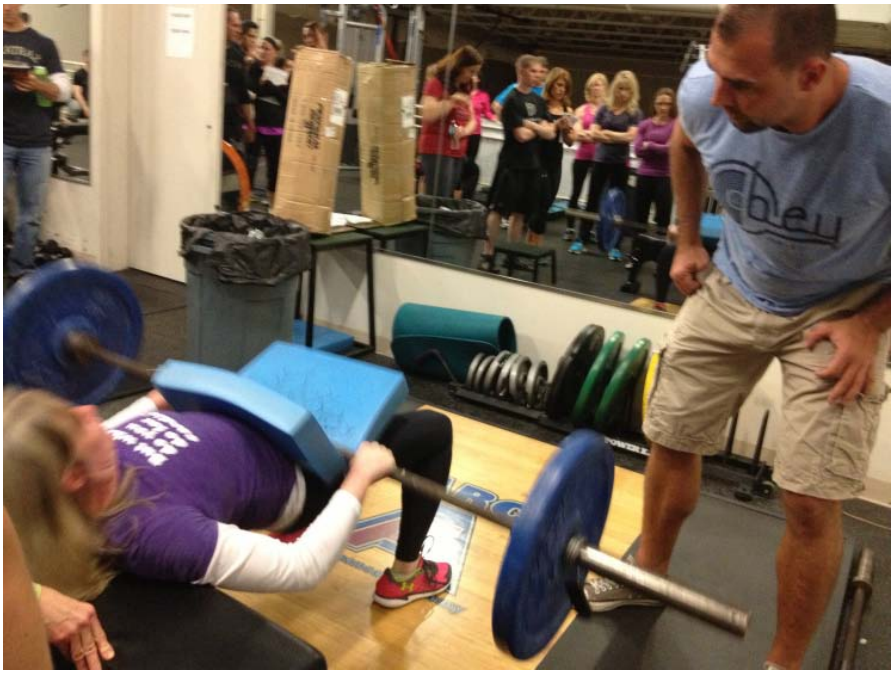


Strengthening the Core: An Interview with Bret Contreras

Bret Contreras, is most recognized as "The Glute Guy" as he is one of the world's leading experts on training the glutes. While shaping the gluteus maximus is what Bret is most known for, he is an expert in all things sports science related and in the biomechanics of the human body. He is a PhD candidate in Sports Science from AUT University, and is literally a walking encyclopedia of biomechanical knowledge. Bret is a huge contributor to the fitness industry in educating fitness professionals, as well as helping clients and others just wanting an effective training program. He contributes 100s of published articles and blogposts every year. Here is a list of links to 425 articles and blogposts he has written on various topics from core training, to glute training, to spinal health and more.





I started following Bret on Facebook in June of 2012 and got to know him as a friend and colleague at The Fitness Summit in Kansas City in May 2013. He was doing a hands-on workshop on glute training, much of which focused on the Hip Thrust, a exercise that Bret has brought back to the forefront of training. In the picture above, Bret is evaluating my hip thrust form and technique. I am proud to say that he thought my technique and form were excellent! At last year's summit, Bret helped my on my Glute-Ham raise technique. Bret is always happy to share his time, knowledge, and expertise to help others, which is what I believe makes him a standout in the industry.

My interview with Bret revolves around the core, what it is, the importance of core stability and strengthing in the training program, and more.

Thank you Bret for agreeing to the interview!

KM: So many people associate the core mostly with the abdominal muscles, without realizing there is a lot more to the core than just your stomach muscles. Can you briefly describe the major muscle groups that make up the core, why core stability is important, and the benefits of strengthening the core muscles for people of all ages?

BC: *First off, thanks for interviewing me Kimberly. I appreciate it.*

If you ask 10 experts to list off the core musculature, you'll get 10 different answers. The bro will name the abs and obliques, while the anatomist will name dozens more.

You have the core muscles responsible for creating intraabdominal pressure, which help stabilize the spine during heavy lifting. These mainly include the transverse abdominis, multifidus, diaphragm, and pelvic floor muscles.

You have the muscles that prevent the spine from moving eccentrically into spinal flexion, which are mainly the erector spinae and multifidi. Interestingly, the thoracic extensors are more heavily activated in deadlifts compared to squats, whereas the lumbar erectors are more heavily activated in squats than deadlifts.

You have the muscles that prevent the spine from moving eccentrically into spinal extension, which are mainly the rectus abdominis, internal obliques, and external obliques.

You have the muscles that prevent the spine from moving eccentrically into lateral flexion, which are mainly the internal and external obliques and quadratus lumborum.

And you have the muscles that prevent the spine from moving eccentrically into rotation, which involves many muscles. Interestingly, the external obliques are known to be more active in opposite side rotation while the

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internal obliques are known to be more active in same side rotation. There are no muscles with purely rotational lines of action, so rotational tasks are carried out by a variety of muscles. Since these muscles are also responsible for flexion, lateral flexion, and extension, they have to contract in proper balance and synchronicity in order to produce pure rotation – or anti-rotation during isometric tasks.

And since so many muscles are involved in rotation, large spinal compressive forces are created during tasks where the spinal twisting muscles are activated. Muscles shorten when they contract, so they compress the structures that they span – in this case the lumbar spine.

Some will list the gluteals, hip adductors, hip flexors, hip external rotators, pecs, lats, rhomboids, serratus, traps, and rotator cuff as core muscles as well, which is true if you consider the core to involve everything except the arms and legs. The gluteus maximus stabilizes the pelvis by preventing anterior and lateral pelvic tilt, in addition to stabilizing the hips by preventing hip flexion, hip adduction, and hip internal rotation, so it's a pretty important core muscle!

Core stability is direction-specific, so you need to strengthen a variety of muscles through a variety of exercises in order to sufficiently strengthen the core. Possessing core strength and stability is important, but one should also be concerned with hip, ankle, and shoulder mobility, glute activation, and multi-directional strength and power.

KM: Many people use "low back pain" as a reason as to why they don't exercise or lift weights. They fear making their back problems worse with lifting and resistance training. Can you explain why people with low back problems should be strength training and exercising more?

BC: *Well, I'm not a pain scientist, though I'm very interested in that field. So I can't speak with full confidence on this matter. From what I've seen in the research, movement is good for back pain and bedrest is not good for back pain. Biomechanist-types such as myself like to investigate precise pain mechanisms and categorize back pain subjects into groups such as flexion intolerant, extension intolerant, and compression intolerant. However, pain science is convoluted and complex, and research has shown that general exercise, dynamic core exercise, and core stability exercise are each beneficial in helping people improve their low back pain symptoms.*

What is of great importance is for individuals with low back pain to realize that damage and pain are not reliably correlated in that people with seemingly marked damage to the spinal structures can experience little or no pain, and people with virtually zero damage to the spinal structures can be in excruciating pain. Knowledge involving biomechanics, anatomy, and posture is only part of the larger pain picture, and there are mechanisms involving sociological and psychological factors that are highly important for understanding pain.

People have rehabilitated their backs and returned to pull off incredible feats of strength and athleticism, so low back pain subjects shouldn't conjure up long-term movement limitations and restrictions in their minds – fearing movements only makes matters worse.

I'm not suggesting that people who have injured themselves half a dozen times with squats or deadlifts should continuously strive for progressive overload in those lifts; what I am suggesting is that a gradual, progressively graded approach to training can seemingly work recovery miracles, especially if people have a proper mental outlook. But don't take my word for it with regards to pain – seek out people like Jason Silvernail, Greg Lehman, and Todd Hargrove as they know much more than me in this area.

KM: What is the difference between an integrated routine of compound movements to strengthen and stabilize the core vs. isolation-type exercises?

BC: *If one seeks to possess the strongest and most stable core imaginable, then I would recommend that he or she perform a variety of integrated and isolated exercises. Exercises like squats, deadlifts, military presses, bent over rows, and farmer's walks will go a long way in building up the muscles (especially the erectors) and developing the requisite coordination to hoist heavy loads.*

However, this alone would leave much room on the table, as the individual would be lacking in multi-directional capacity such as abdominal strength and anti-extension core stability, which is needed when pushing forward at maximum force. Therefore, core stability exercises like RKC planks, side planks, ab wheel rollouts, dragon flags,

hollow body holds, cable chops and lifts, Pallof presses, landmines, and suitcase carries are of great value as well.

Furthermore, dynamic exercises such as weighted spinal extensions, weighted crunches, weighted side crunches, hanging leg raises, sit ups, and side bends can lend some additional stabilization capacity simply by helping build up the core musculature, especially since they contain an eccentric component which has been shown to be important for maximizing hypertrophy. They're also useful in providing additional metabolic stress. However, not everyone should perform every dynamic core exercise, loads should be increased gradually over time, and people should move through the hips and t-spine when possible and keep lumbar movement to midranges (avoid end-range lumbar flexion, extension, lateral flexion, and rotation).

The same concept applies to hip thrusts in that they can build up the glutes, and this additional glute mass can be trained to integrate to a greater degree during more complex tasks. The law of specificity is important, but variety provides an additional boost in increasing neuromuscular capacity, hence why most powerlifters, Olympic lifters, and strongmen program assistance lifts into their routines.

KM: What do you believe, through your research and experience, to be the 5 most effective exercises to stabilize and strengthen the core?

BC: *In my opinion, front squats, conventional deadlifts, ab wheel rollouts, side bends, and sumo stance Pallof presses.*

KM: Finally, you are known world-wide as "The Glute Guy." While your book, "Strong Curves," that you wrote with Kellie Davis, offers several programs to build a stronger, and more shapely body, and provides plenty of opportunities to work all the major muscle groups, the common thread throughout the book and your programs is the gluteus maximus, also know as "the glutes." Why the emphasis on the glutes? Why, up until the last few years, have the glutes been the least talked about and addressed muscle groups when it comes to exercise programming, yet plays one of the more integral roles in overall wellness, function, and performance of the body?

BC: *The glutes are so critical for maximizing performance and function. They are responsible for producing hip extension, hip external rotation, hip abduction, and posterior pelvic tilt. They're highly involved in sprinting, jumping, climbing, cutting from side to side, throwing, striking, and swinging. They help protect the knees, the low back, and the hips. They also help create a powerful looking physique, and additional glute development is highly sought after by men and women alike.*

I think that glutes have always been talked about in certain circles, for example strength coaches and physical therapists have been shouting from the rooftops for years about the importance of strong, well-functioning glutes. However, thanks to numerous strength coaches including (but not limited to) Mark Verstegen, Pavel Tsatsouline, Mike Boyle, Eric Cressey, Mike Robertson, Tony Genticlore, Nick Tumminello, Kellie Davis, Marianne Kane Fass, Joy Victoria, Sohee Walsh, and of course myself, the glutes are now in the forefront of the entire fitness industry where they belong.

It is important to note that the quads, the hamstrings, and many other muscles are highly important for functional prowess and athleticism as well. Moreover, there are some amazing athletes out there who don't have muscular glutes, and yet their performance clearly isn't lacking in their sporting task(s). It's important to have perspective!

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Thanks again Bret! There is not a day that I don't learn something from you.

If you want a source of solid training information that is evidence-based as well as being based on years of experience, I highly suggest you check out all that Bret has to offer on his website and follow him on Facebook. And for the women reading this article, if you are looking for a well-designed and effective training program to help you get the body shape the you want, I highly recommend the book Strong Curves, which Bret co-wrote with Kellie Davis.

Tags: core, core muscles, glutes, strength training, Strong Curves
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