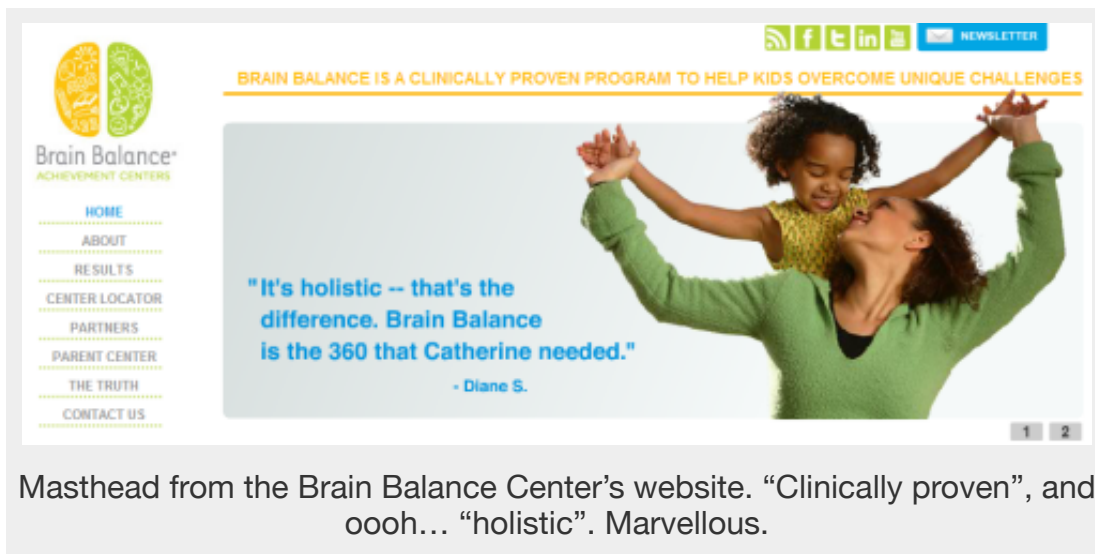


NeuroBollocks

Debunking pseudo-neuroscience so you don't have to

Brain Balance Centers: total and utter neurobollocks

Posted on [March 5, 2013](#) | [60 Comments](#)



Masthead from the Brain Balance Center's website. "Clinically proven", and ooh... "holistic". Marvellous.

Brain Balance Centers are a network (actually, to be precise, a network of franchises) of treatment centers spread across the United States, currently operating in 54 locations; most of the major US cities. They offer a treatment called the 'Brain Balance Program' that claims to be able to improve:

1. Academic performance
2. Social abilities
3. Cognitive function
4. Sensory and motor skills
5. Visual-spatial organizational skills
6. Immunity and nutritional health

They also claim to effectively treat pretty much any developmental disorder under the sun, including autism, ADHD, Asperger's, Tourette's and dyslexia, without the use of any drugs. This is because all these disorders are (apparently) caused by an ["underlying functional imbalance or under-connectivity of electrical \(brain\) activity within and between the right and left sides of the brain."](#)

Any alarm bells ringing yet? They should be. Whenever someone comes along with a miracle-cure for a range of unrelated conditions, and has come up with the equivalent of a [Unified Field Theory](#) of neurodevelopmental disorders, something must be a bit fishy. So it appears in this case. There have already been a couple of excellent take-downs of the claims that Brain Balance Centers make. The first is by the really-very-wonderful [Emily Willingham](#), and you [can find it here](#). Emily expertly refutes a number of the key claims, and proceeds to drill down on the list of evidence and references provided on the website. Her conclusion is that the claims are an **"enormous steaming pile of bullshit"**.

Another great piece on these guys is by Harriet Hall of [SkepDoc](#), and [can be found here](#). This examines in detail [a study](#) published in the International Journal of Adolescent Medicine and Health (which at least appears to be a ‘proper’, if obscure, journal). Harriet notes that despite all the waffle about functional disconnection and hemispheric imbalance of the brain, the exercises performed by the kids in the study were relatively simple (such as synchronising movements to a metronome) and the conceptual link between the treatments and correction of the underlying ‘hemispheric disconnection’ is vanishingly tenuous. Most damningly, the study didn’t include a control group, meaning it’s possible (likely?) that any improvement seen was simply a placebo effect (or more precisely, a [Hawthorne effect](#)).

The last author [on that paper](#) is a guy named FR Carrick, and all the authors’ affiliations are listed as the “The FR Carrick Institute for Clinical Ergonomics, Rehabilitation and Applied Neuroscience”; and this is where it gets really interesting. Dr Carrick is a specialist in ‘Chiropractic Neurology’. [Chiropractic](#) is a branch of alternative medicine with a fairly wacky history (founded in 1895 by a magnetic healer named DD Palmer), and essentially aims to treat health issues by manipulation of the spine. Debunking chiropractic is well beyond the scope of this piece, but let’s just note that there is a paucity of evidence for effectiveness in any condition other than low-back pain, and even there, evidence is pretty mixed. ‘Chiropractic neurology’ as a discipline then, is highly suspect.

It turns out the FR Carrick Institute of whatever whatever [has a very glossy and slick webpage](#), that on closer inspection, really doesn’t contain a whole lot of content. The Wikipedia page for the institute [gushes on at some length](#) about the incredible research happening at the Institute, and the “faculty of world class scientists and clinical researchers” employed there (clearly in need of some de-biasing, Wikipedia) but the only personnel mentioned on the website are in the ‘Management’ section: Dr Gerry Leisman and Dr Robert Melillo. Gerry Leisman seems to have had a somewhat chequered career at several universities in the US and UK. Interestingly, [in 1994 he was sanctioned by the NIH office of research integrity](#) for falsely claiming to have a MD degree from the University of Manchester (amongst other things).

Dr Robert Melillo (and congratulations for making it, if you wondered where I was going with this digression...) as well as being the executive director of the FR Carrick Institute for advanced alternative navel-gazing is [also the founder of... you guessed it! The Brain Balance Centers!](#) Let’s look at his list of eminent-sounding qualifications listed [on the site](#) shall, we?

“...adjunct professor of functional neuroanatomy for the graduate doctoral neuropsychology program at Touro College, NY and Leeds Metropolitan University, England.”

Well, they sound like academic appointments at genuine, if hardly wildly-prestigious institutions. Unfortunately, a search of the Leeds Metropolitan University website produces no hits for [“melillo”](#). A search of the Touro college site [also comes up blank](#) (except for a Nicholas P. Melillo – oohh, so close!).

“He is also an associate professor of clinical neurology and childhood behavioral disorders at The Carrick Institute, in FL.”

[This Carrick Institute in Florida](#) (not to be confused with the one mentioned above, in New York state!) appears to be a teaching school concerned with chiropractic neurology, and has [a loooong list](#) of associate/assistant professors.

“He holds a master’s degree in Neuroscience and is currently completing his PhD in Clinical Rehabilitation Neuropsychology.”

No indication of where he obtained his Masters degree, or where he’s working on his PhD. I’m betting that it might be in one of the FR Carrick Institutes... Incidentally, if he doesn’t have a PhD, or any medical qualifications, why is he calling himself ‘Dr’?

“He is board certified in Chiropractic Neurology and is the former chairman of the American Board of Chiropractic Neurology.”

Meh.

“He is also President of the Foundation for Cognitive Neuroscience.”

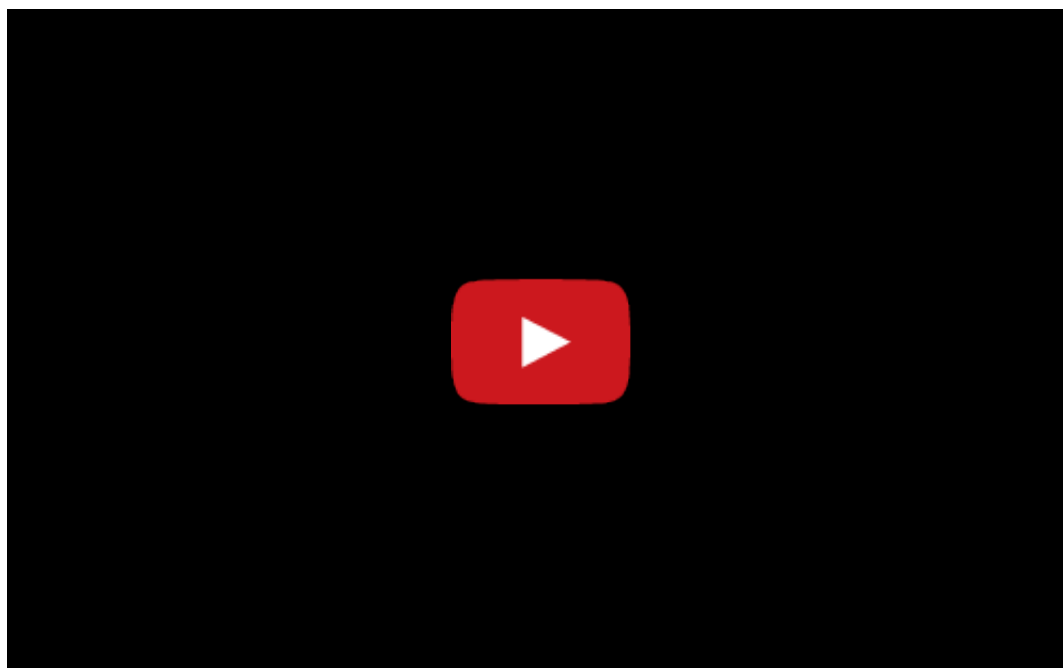
The what, now? I can't find anything online about a Foundation for Cognitive Neuroscience, in fact a google search for “Foundation for cognitive neuroscience” +melillo [returns precisely zero results](#).

My point in all this is not to expose this guy as some kind of fraud, *fun though that might be*. I find it interesting that Dr (?) Melillo's background is obviously in chiropractic treatment, and he's found a gosh-darn-whizzo way of spinning this out into a national network of treatment centers for children. Interestingly, chiropractic isn't mentioned anywhere on the Brain Balance Center site *at all*, and it's not clear if the treatments are derived from chiropractic theory/practice. [This paper from 2008](#) notes that chiropractic has something of an image problem, and is declining in popularity – re-packaging it as ‘hemispheric integration therapy’ for developmental disorders is a good wheeze – it allows a complete break with the previous practices, and allows you to pander to the fears of time-poor, cash-rich parents (a course of treatment is reported to cost around \$6000).

So, will your child benefit from treatment at a Brain Balance Center? Possibly they will; regular sessions of individual attention and structured exercises of almost any kind are probably good for children. Will they benefit more than if you just took them to the park to ride their bike every weekend? Most likely not. The neuro-inspired claims that the Brain Balance Center makes are an incoherent muddle of utterly fly-blown bullshit, built on the foundation of an alternative therapy (chiropractic) which itself is highly suspect. Don't waste your hard-earned money people – it's an out-and-out scam.

What this means, is that the Brain Balance Centers receive the highest honour it's possible for this humble blog to bestow – a mighty **10 out of 10** on the NeuroBollocks rating scale!

Finally, just to leave you in a good mood, here's Eddie Izzard with a brief bit on chiropractors:



Update