

CrossFitKids

ISSUE Fifty Two

Forging the Future of Fitness

March 15th 2010



CrossFit Kids at The Arnold Sports Festival

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Repeat visitors to the CFK Obstacle Course at the Arnold, Aedan and Roman, pose with the crew.



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Kids Kettlebell Workout

Courtesy CrossFit Central Scotland

Davie Easton

Workout 1

Big Dawgs 20 reps each exercise

Pack 15 reps each exercise

Puppies 10 reps each exercise

Bear Crawl 40ft

KB swing

Bear Crawl 40ft

Burpees

Bear Crawl 40ft



Workout 2

Big Dawgs 5 rounds

Pack 3 rounds

Puppies 2 rounds

Run or row 200M

5 burpees

10 KB swing

15 walking lunges

Workout 3

As many rounds as possible in -

Big Dawgs 15mins

Pack 12 mins

Puppies 8-10mins

10 box jumps

10 KB swing

10 push ups

As always, scale weight of KB as needed.

Davie Easton operates CrossFit Central Scotland - <http://www.crossfitcs.com> - a small garage affiliate based in Motherwell, Scotland. He is an avid CrossFitter that has been drinking the Kool-aid since 2004. A father of 2 boys, he is happy to fuel the interest his boys are already displaying for fitness. Davie is a Level 2 CrossFit Instructor, and is also a kettlebell instructor with the U.K.K.A (United Kingdom Kettlebell Association <http://www.ukka.org>) He was the 2007 U.K.K.A British Kettlebell Champion in 2007. If you have any questions regarding kettlebells, he can be emailed at crossfitcs@gmail.com

I started playing recreational soccer when I was 6 years old and immediately fell in love with it. I have always idolized Mia Hamm and Landon Donovan. When my Mom took me to see the U.S. Women's National team play, my other heroes became Abby Wambach and Kristine Lilly. My goal became to follow in their footsteps and make the Olympic team.

When I started playing select soccer, a few of my teammates-- Andrea and Abigail-- invited me to join them at CrossFit Kids Denton County www.crossfitdentoncounty.com

to train with them. The first day of my workout with Coach Dave I couldn't even do one pull-up, I could barely jump two boxes, and I almost didn't survive the hour session. I didn't have a lot of confidence in myself, but I kept returning week after week. After a few sessions and a lot of motivation from Coach Dave, I started to really enjoy CrossFit. Coach Dave really helped me improve my strength and do things I never could have imagined. Now, I can shoulder press over half of my body weight, dead lift more than my body weight, and I can jump a 32" box jump. I credit my training at CrossFit for improving my endurance on and off the soccer field. My kicks are now much stronger and so are my throw-ins. And my confidence has soared!

Recently I achieved the first step in my goal to follow in the footsteps of my idols—I tried out for and made the North Texas ODP (Olympic Development Program) soccer team. Thank you CrossFit, Coach Dave, and everyone who has supported me in the process of achieving my dream.



Pictured left is Jalyse Garcia. Last week Jalyse won the Washington State wrestling tournament. Jalyse needed only 41 seconds to pin Shay Workman of Kelso, WA to win the WA State Title at 125#. Jalyse has been training at Mt Baker CrossFit for over a year. She and her mom, Donna, train 4-5 days a week, every week. When Donna arrived this morning, I congratulated her on her daughters accomplishment. She replied, "It is the CrossFit that has helped her!"

www.mtbakercrossfit.blogspot.com

JOURNAL CLUB

Exercise Exerts Its Effects On The Brain Through IGF-1

For this Journal Club I would like to present the basic, front-line science behind a topic we discuss at some length during the CrossFit Kids Certifications; that exercise benefits the brain. I'm going to present data from four papers that I think provide a cohesive model for how using your muscles can lead to complex events in the brain (3 of the papers are from the same laboratory). All of the papers I chose for this issue are available for free, so you can also look at the original publications. To download the papers, visit the PubMed site (<http://preview.ncbi.nlm.nih.gov/pubmed>) and in the search field type the PMID # that's included in the reference section below. In the right corner of the resulting page there should be a link to download the free PDF. Please keep in mind that I only chose four papers on this topic. A PubMed search for the terms "exercise and brain" results in over 4,000 papers and a similar search for "IGF-1" returns more than 29,000! So what is presented here is a very small snapshot of the overwhelming amount of research being done on this topic. I'd also like to call to your attention that all of the studies mentioned in this article used mice or rats as their test subjects, and that any conclusions about these same pathways in humans are extrapolated from those results - a common and accepted practice.

A universal truth among species is that cells need to communicate with each other. Whether this communication is between single bacterial cells growing in stagnant water or cells from distant locations in our own bodies, they all produce proteins or chemicals that serve to transmit information. The goal of this article is to explain how information is sent from an exercising muscle to the brain. But perhaps it might help to briefly think about WHY this would happen. As you move around and experience your environment can you imagine not thinking about it? Avoiding objects, engaging in proper social interactions, learning, and of course simultaneously coordinating that movement. These examples are just everyday things, what if you were chasing prey (or perhaps were prey yourself)? It would help if your brain was notified that its services were going to be taxed so it could increase processing speed or power by either changing the way neurons fire or increasing their number. It turns out that the information takes a rather circuitous route: from the muscle, to the brain, to the liver, and then finally back to the brain! Sometimes organisms don't evolve to use the most direct means to solve a problem, but then again, the problem is not always as simple as we perceive it.

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What is a Journal Club?

While I was in graduate school, pretty much every week for 6.5 years I participated in a Journal Club. The closest thing I can compare it to is a book report. Perhaps a dozen students would get together and it was the responsibility of one of us to present a paper (or perhaps a couple linked by a common theme) to the rest of us. We could present the paper as something imaginative or ground-breaking, in order to let everyone else in on the cool science; but it could also be a paper that was a bit questionable, either in its experimental procedures or conclusions. In either case, it was a great learning tool for critically reading papers. It was also a great way to disseminate knowledge to the rest of the group.

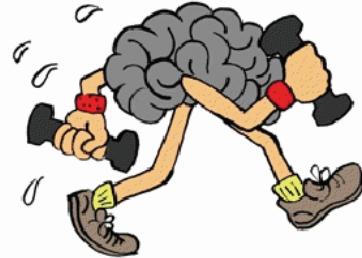
I'd like to try the same thing here in the CFKids Magazine. Perhaps present a couple papers that I think are pretty interesting, in the hopes that it starts a dialog, opens some eyes, or even makes you do a bit of research for yourself! These papers are not presented as the end-all-be-all on these topics but a point from which further consideration and research can begin.

JOURNAL CLUB

EXERCISE INDUCES THE GROWTH OF NEW NEURONS IN THE BRAIN

The first paper(1) is from Dr. Gage's lab here in San Diego. At the time this paper was published, studies in humans had already shown that exercise could aid in the recovery from stroke and even enhance cognitive function (see references in 1). Similar work had been conducted on rodents and found that an "enriched environment" also causes changes in the brain, including new neuron growth (neurogenesis) in a part of the brain called the hippocampus. An enriched environment is comprised of many components, from increased social interactions to increased opportunity for physical activity.

In order to determine which aspect of the enriched environment was causing the neurogenesis, van Praag et al.(1) broke down the enriched environment into several exercising subgroups for testing: learners (taught in a swimming maze daily), swimmers (daily swimming with no goal), and runners (voluntary wheel running). The growth of neurons in the brain during these different regimes was monitored by injecting the mice with bromodeoxyuridine (BrdU); an analog of one of the building blocks of our DNA. If a cell is growing/dividing it needs to make more DNA and, in the presence of BrdU, cells will incorporate this modified compound as well. DNA built with BrdU has the unique property that it can be visualized in a microscope on tissue slides using a relatively simple procedure. Therefore, BrdU allows researchers to pinpoint the exact location and number of growing cells in the brain.



After 12 days in their respective protocols the number of BrdU-positive cells in the hippocampus was determined. The results show that the running group had the greatest number of newly growing neurons(1). In addition, the running group also had the greatest number of these neurons survive for up to four weeks (while maintaining this exercise protocol) after the administration of BrdU has ceased(1). The idea behind the swimming exercise protocols was interesting: will learning while exercising (swimming with maze) increase neurogenesis more than exercising alone (swimming only or running)? However, it turned out to be difficult to gauge neurogenesis in the swimming groups, especially when compared to voluntary running. Wheel running can exceed 20,000 revolutions per day, compared with 40 second bouts of daily swimming that are most likely very stressful(1). Despite this difficult to interpret aspect of the study, the main point is clear: voluntary exercise is sufficient to induce the growth of new neurons in the hippocampus(1). The next question is, can the pathway between the muscle and the brain be determined?

CIRCULATING IGF-1 ENTERS THE BRAIN AFTER EXERCISE

IGF-1 stands for Insulin-like Growth Factor 1. It is a relatively small protein, composed of 70 amino acids, primarily produced by the liver, and circulates through the body in the blood. As its name suggests, it belongs to the insulin family of proteins and can take over for some of the glucose regulatory functions of insulin. However, IGF-1 is a growth factor with many other functions. To see what the protein looks like, go to <http://www.rcsb.org/pdb/explore/explore.do?structureId=1IMX>. This represents the data from

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X-ray crystallography, allowing us to visualize things much smaller than light waves can resolve (fun: use the Jmol viewer to manipulate the structure).

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IGF-1 is secreted from the liver in response to Growth Hormone (GH) released from the pituitary gland. GH is another protein-based hormone and suffice it to say that there are many things that can induce its release, one of them being exercise. This part of the signaling axis (exercise-->GH-->IGF-1) has been well documented, as has IGF-1's effects on muscle, bone, cartilage, and the liver. The remaining papers I've chosen to discuss reveal the actions of IGF-1 in the brain.

Carro et al.(2) begin their study with the observation that in rats, one hour of treadmill running causes IGF-1 to accumulate in various regions of the brain; no IGF-1 was observed in the brains of control rats that did not run! The location and relative amount of IGF-1 in the brain was determined by slicing the brain into thin sections and treating them with an antibody specific for IGF-1. Further manipulations make the antibodies produce light, and because the antibody sticks to only IGF-1, the light corresponds to where IGF-1 is located. The specific areas of the brain containing IGF-1 can then be identified by microscopy. The identified areas include: the thalamus, hippocampus, striatum, brain stem, cerebellum, cerebral cortex, olivary nuclei, and red nucleus(2). But more importantly, the functions of these regions fall into only two main classes: memory/learning and motor control/sensory perception.

The next question Carro et al.(2) asked was where the IGF-1 found in the brain was coming from. Experiments looking for increased production of IGF-1 inside the brain indicated that the vast majority of the IGF-1 comes from another location(2). To ascertain whether the blood was the reservoir, a large dose of molecularly-tagged IGF-1 was injected into the bloodstream of rats and within 5 minutes this tagged version of the protein was found in the same brain areas

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were IGF-1 was previously located(2)! There are two avenues for substances in the blood to reach the brain: either through the cerebrospinal fluid (CSF), which is the liquid that bathes the brain and spinal cord, or across the blood-brain barrier. Carro et al.(2) were able to show that the CSF was the most likely path by loading the CSF with antibodies to soak up any IGF-1 that might pass through it. In these mice, neither exercise-induced nor the injected, tagged-IGF-1 could make it into the brain(2).

The above experiments certainly are consistent with IGF-1 being the link between the muscle and the brain. Exercise induces GH release, GH results in IGF-1 production in the liver, and IGF-1 makes its way into the movement and learning areas of the brain after exercise. But does the presence of IGF-1 lead to similar changes in the brain observed by van Peer et al.(1)?

EXERCISE AND IGF-1 CHANGE BRAIN PHYSIOLOGY

While van Praag et al.(1) showed that exercise led to an increase in BrdU-positive neurons, Trejo et al.(3) conducted a similar experiment on rats and additionally found that injected IGF-1 also induced BrdU-positive cells in the hippocampus! Rats were injected with IGF-1 (or a control saline solution) for seven days. Those animals receiving IGF-1 had significantly more neurons containing BrdU than in the controls(3). A greater number of those BrdU-positive cells also survived for three weeks in the IGF-1-treated animals(3). Further proof supporting the role of IGF-1 in exercise-induced neurogenesis came in another set of experiments. Trejo et al.(3) showed that the labeling of new neurons with BrdU after 15 days of treadmill running could be inhibited by the injection of antibodies against IGF-1. Control rats injected with antibodies not specific for IGF-1 had no effect(3). The antibodies act to soak up the IGF-1 in the blood and render it non-functional. The administration of IGF-1 antibodies also prevented the accumulation of IGF-1 in the CSF after exercise(3).

Besides assessing neurogenesis directly, other properties of neurons have also been tested following the administration of IGF-1. Neurons are conductors of electrical signals. Modifications in the ability to carry out this function could provide additional evidence linking IGF-1 to the changes observed in brains during or after exercise. Carro et al.(2) determined whether IGF-1 injection could cause electrophysiological changes in the neurons of the cerebral cortex and the dorsal cochlear nucleus in rats. Strangely, the researchers did not decide to do similar tests on hippocampal cells. The two regions they chose however, are involved in memory/attention and auditory processing. Within 15 minutes of IGF-1 injection, detectable changes were observed in conductive properties of both cell types. Some of the effects lasted up to four hours(2)! Changes were not observed in cells from animals injected with a control saline solution(2).

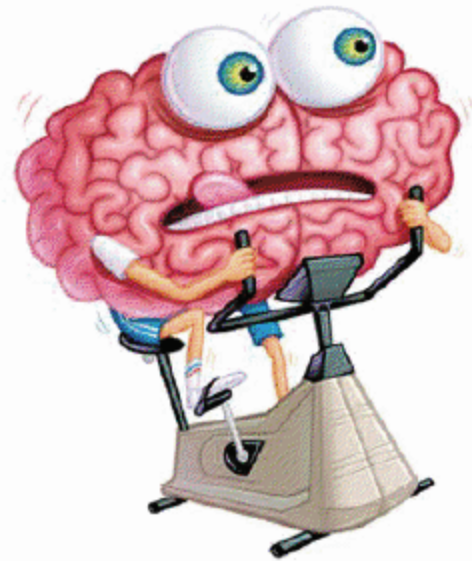
In a separate paper, Carro et al.(4) found that exercise can protect the rat brain from induced damage and improve recovery. Prior running on a treadmill for one hour per day for two weeks resulted in significantly greater retention of motor coordination and spatial memory than sedentary controls even one week after the administration of two differ-

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ent neurotoxins (3-acetylpyridine and domoic acid)(4). In a different protocol, the neurotoxin was added first and the role of exercise in recovery was monitored. Again, only those animals which were in the exercise group recovered to nearly pre-insult levels within five weeks(4). Besides these behavior tests, Carro et al.(4) extended their analysis to show that exercise actually prevents neuron loss in these animals. The mice which exercised both before and after neurotoxin treatment retained a significant percentage of neurons that were lost in the identically treated sedentary group(4)! These results mirror studies in humans indicating that exercise can aid in the treatment of neurodegenerative diseases or just slow the neuronal losses associated with old age (see references in 4). Similar to the experiments conducted above with BrdU, Carro et al.(4) showed that IGF-1 is required for these observed positive effects of exercise. If neutralizing antibodies specific for IGF-1 were injected during exercise, the improved recovery and neuronal protection phenotypes were abolished(4)!

Taken together, I think the evidence for IGF-1 being a key player in transferring information from an exercising muscle to the brain is quite compelling. Exercise induces IGF-1 release from the liver and promotes its uptake through the CSF and into the brain(2,3). The injection of IGF-1 can mimic the effects of exercise in the brain(2,3,4), and conversely the removal of IGF-1 can inhibit the benefits of exercise (3,4).



ENDING THOUGHTS

In the CrossFit Kids Certifications we talk of the role of brain derived neurotrophic factor (BDNF) in causing the effects of exercise on the brain. Neeper et al.(5) found that exercise does induce the production of BDNF in the brain (specifically the hippocampus) after one hour of treadmill running, but Carro et al.(2) found a similar increase in BDNF one hour after injecting IGF-1 into rats! This result suggests that BDNF is "downstream" of IGF-1 in the signaling pathway, and although BDNF may mediate the actual changes in the brain, the signal must go through IGF-1. However, another paper assessed the relative ability of IGF-1 or BDNF to promote the survival of hippocampal brain cells in culture (grown in a dish in the lab)(6). Although both were found to be effective, in the particular experiments done by Zheng and Quirion(6), IGF-1 was determined to be more potent. In the end, we can say that exercise clearly causes dramatic changes in the brain. While the gross pathways that transmit the signal from the muscle to the brain may be understood to some degree, the actual detailed mechanism of how brain physiology is altered remains more of a much more active area of research.

The papers discussed here all used adult rodents as a model. Remember that the human brain finishes developing between 20-30 years of age, and that all the changes elicited by exercise in these experiments

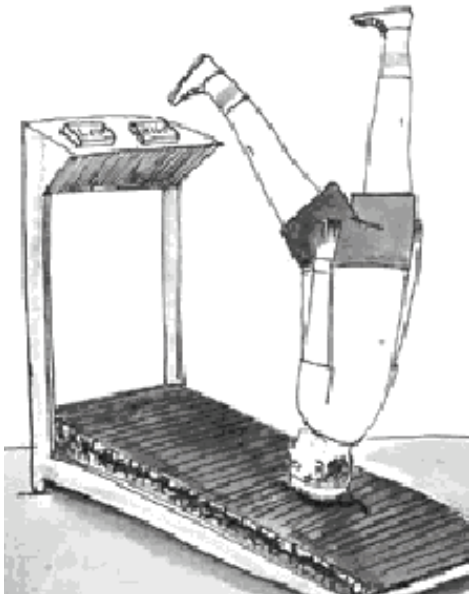
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correspond to a developed human brain. If exercise or IGF-1 in the adult brain is beneficial, then just imagine how these same mechanisms will act on a child's brain that is still actively developing in many other regions! Indeed, Carro et al.(2) observed electrophysiological changes in two areas not associated with exercise-induced neurogenesis. Furthermore, with the positive effects IGF-1 can elicit in the brain, it would not be a great leap to ask whether this protein could be used as a medical therapy for people with neurodegenerative diseases such as Alzheimer's, amyotrophic lateral sclerosis, Parkinson's, or myotonic muscular dystrophy; especially because they are often too old or infirm to exercise. In fact, an IGF-1 therapy is FDA approved and on the market, however it can only be administered to individuals who have an extreme IGF-1 deficiency. Clinical trials to determine whether IGF-1 itself or a drug that increases a patient's own IGF-1 have not yet shown these treatments to be advantageous for neurodegenerative diseases. The reason for the failure of this therapy has not been determined.

The human genome is composed of approximately 30,000 genes, a pretty small number when you think of how complex we are as an organism. How can so few genes (that code for proteins) get all the necessary functions done? One of the many ways to overcome this problem is to have proteins multi-task. IGF-1 is a great example of a single protein that has many functions. As shown by the papers presented here, it has been implicated in playing a role in neurogenesis, but it has also been found to be involved in energy regulation, bone growth, and when present improperly, cancer progression! Consistent with these research findings, individuals born with defects in the IGF-1 gene

present with various disorders including: growth retardation, deafness, or mental retardation. As I mentioned at the outset, using IGF-1 to connect actions in the muscle to changes in the brain may not seem to be the most direct way of signaling; why not just use GH? The elegance of the solution evolution ended up with is to use a protein that ties together energy regulation and neurogenesis! When scientists ask questions, they tend to be focused in scope. However, an organism must solve problems in the midst of all the other interactions going on, many that we have yet to appreciate. Organisms, therefore, often arrive at answers that are more efficient.



Thanks for your time! Hopefully you can see how each paper and each lab experiment sheds some light on an initial question or observation and then leads to new hypotheses and new experiments that will eventually allow us to understand the amazing processes going on in our bodies.

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REFERENCES

1. van Praag H, Kempermann G, Gage FH. Running increases cell proliferation and neurogenesis in the adult mouse dentate gyrus. *Nat Neurosci*. 1999. Mar2;(3):266-70. PubMed PMID: 10195220.
2. Carro E, Nuñez A, Busiguina S, Torres-Aleman I. Circulating insulin-like growth factor I mediates effects of exercise on the brain. *J Neurosci*. 2000. Apr 1520;(8):2926-33. PubMed PMID: 10751445.
3. Trejo JL, Carro E, Torres-Aleman I. Circulating insulin-like growth factor I mediates exercise-induced increases in the number of new neurons in the adult hippocampus. *J Neurosci*. 2001. Mar1;21(5):1628-34. PubMed PMID: 11222653.
4. Carro E, Trejo JL, Busiguina S, Torres-Aleman I. Circulating insulin-like growth factor I mediates the protective effects of physical exercise against brain insults of different etiology and anatomy. *J Neurosci*. 2001. Aug1;21(15):5678-84. PubMed PMID: 11466439.
5. Neeper SA, Gómez-Pinilla F, Choi J, Cotman C. Exercise and brain neurotrophins. *Nature*. 1995. Jan 12;373(6510):109. PubMed PMID: 7816089.
6. Zheng WH, Quirion R. Comparative signaling pathways of insulin-like growth factor-1 and brain-derived neurotrophic factor in hippocampal neurons and the role of the PI3 kinase pathway in cell survival. *J Neurochem*. 2004 May;89(4):844-52. PubMed PMID: 15140184.

JONATHAN GARY

Is a CrossFit Level 1 and CrossFit Kids certified satellite BrandXer and member of CrossFit Kids HQ and CFK Certification team. Jon received his B.A. in Biology from Northwestern University and his Ph.D. from UCLA in Molecular Biology. He is a Principal Scientist at a biotech company in San Diego where he lives with his wife and dog. He has been CrossFitting since late 2003 after finding it on the Internet and following the WOD's in a company gym, where he saw Jeff Martin across the room, doing the same WOD's.

Last month we discussed how we teach the kettlebell deadlift to kids. Here is a brief video review of that process. (see link below.)

Now let's move the skills acquired by our younger kids to those in our advanced class. Our four step process for teaching the barbell deadlift leans heavily on Coach Rip's method.

Approach the bar. I want you to stand so that when you look down the bar hides the knot in your shoe. Coach Rip asks that you place the bar in the middle of your foot. Hiding the knot in your shoe works well as a focal point for the kids. Without bending your knees lean over and grab the bar. Without moving the bar, touch your shins to the bar. It is necessary to remind the kids, EVERY TIME, not to roll the bar forward when they touch their shins to it. Now get your Angry Gorilla back. The child is now in position to lift.

(see video link below.)

Occasionally we get one of our kids who has long legs and a short torso and the standard deadlift set up is tough for them. Teens go through some crazy

growth spurts. Everything tightens up and they have all kinds of trouble deadlifting from a standard stance. We have had great luck working kids through this using the sumo stance. The skills they learned on the Kettlebell transfer equally well to the sumo stance. Approach the bar. I want your heels wider than you shoulders. When you look down the bar should hide the knot in your shoe. Without bending your knees lean over and grab the bar.

Without moving the bar, touch your shins to the bar. It is necessary to remind the kids, EVERY TIME, not to roll the bar forward when they touch their shins to it. Now get your Angry Gorilla back. The child is now in position to lift.

(see video link below.)

A couple of problems that we see and quick fixes. The most common problem we see with teens is that they hurry through the set up and ended up pulling before they are in the correct position or pulled the slack out of the bar. We combat this by having them set up by the numbers, and tell them they are not allowed to lift the weight until we say "Lift". Another problem we see with kids is that they will properly set up, but slacken everything when they take a deep breath before lifting. Couple things you can do to remedy this. The first is to tell them not to lift until we give them the cue "Lift". Then we have them set up. When they take their breath we cue "Tighten up". Once they have tightened up, taken the slack out of the bar, we cue them "Lift".

Being able to correctly and safely lift heavy things up off the ground is one of the most useful skills to develop. Taking time to teach it correctly to your kids will benefit them in every aspect of their lives.



Video Link Button



<http://media.crossfit.com/kids/DeadliftSetups.wmv>

<http://media.crossfit.com/kids/DeadliftSetups.mov>

CrossFit Kids at the Arnold Sports Festival March 5-7 2010



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A Special Thanks to all of the CFK Team, Connor Martin, Dan Strametz, David Shanahan, Debbie Rakos, Duncan Martin, Ester Dohl, Jacob Cutting, Jon Gary, John Brown, Keegan Martin, Kelly Brown, Nichole DeHart, Sven Hestrand and Todd Rakos.

Bob Guerre of CFK California City, Gordon Limb of CFK Fair-Fax, Dr. Darrell White, Steve Liberati, Lee and Tim from Steve's Club and to Kris and Bill of Rogue Fitness www.roguefitness.com for supplying the great equipment.



Front page article from the Columbus Dispatch :

http://www.dispatch.com/live/content/local_news/stories/2010/03/06/its-exercise-in-disguise.html?sid=101

flux CrossFit and Hip Hop: Considering the Relationship Between Athleticism and the Arts

Charity Marsh



Snowshoe WOD

Hip Hop and athleticism are rarely discussed in tandem and yet, breakdancing, one of hip hop's recognized cultural practices, is physically demanding, requiring efficiency in all ten of the recognized elements of fitness - cardio-vascular respiratory endurance, strength, power, stamina, agility, speed, balance, coordination, accuracy, and flexibility.

To be a successful breakdancer one needs kinesthetic awareness (or self-awareness of the body in time and space), the courage to perform choreographed and improvised dance movements, **and** a strong dose of creativity. To assist in the encouragement and facilitation of all these factors, flux CrossFit and flux CrossFit Kids has come on as one of the community partners of The Scott Collegiate/ IMP Labs Hip Hop Project.

The Scott Collegiate/ IMP Labs Hip Hop project is a collaborative initiative between Scott Collegiate high school and the Interactive Media and Performance (IMP) Labs housed in the Faculty of Fine Arts at the University of Regina in Regina, Saskatchewan (Canada). Scott Collegiate is the only high school in what is often referred to as Regina's 'hood North Central, and it serves primarily Aboriginal students and others coming from low socio-economic living conditions.

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Shania learning the press



Mixing it up in the IMP lab



Brandon learning how to squat and Jason hanging

flux CrossFit and Hip Hop: Considering the Relationship Between Athleticism and the Arts

Charity Marsh

During the first incarnation of the project, grade 10 and 11 Aboriginal students from Scott Collegiate spent their mornings earning English and Arts Ed credits while studying Hip Hop culture in the IMP Labs at the University of Regina twice a week. Students were mentored by local Hip Hop DJs, MCs, B-Boys/ B-Girls, and graffiti artists along with the IMP Labs assistants. In one of the studios outfitted with 8 sets of turntables, students learned the art of scratch, beat juggling, and mixing records. In the other studio, students learned how to use the MPC beat-making machine and computer software (Ableton Live, Reason) to create music. At the end of this first 10-week session, the students organized, created, and performed in a show held at the MacKenzie Art Gallery to an audience of almost 300 community members.



Following the success of the initial project, the second version of the project was planned as a more intensive learning experience. This version included additional skills in dance, recording production, and a more intensive focus on social issues and cultural aspects. This time the final performance was held in the neighbourhood of North Central at the Culture Exchange, followed by additional performances held at Scott Collegiate for the neighbourhood elementary schools. However, at the conclusion of the first



two projects we found that *the majority of participating students simply do not have the strength, coordination, balance, or flexibility required for the rigours of breakdancing and the kinds of moves that they want to perform.* It was upon this realization that we turned to flux CrossFit and flux CrossFit Kids.

Now in its third incarnation the current project includes an added focus on health and wellness. In addition to time in the IMP Labs, students spend one morning and one afternoon a week at flux CrossFit and flux CrossFit Kids, learning what it means to live a healthy lifestyle by leading an active life and eating well. The primary purpose of attending flux CrossFit and flux CrossFit Kids is to give the students an opportunity to develop their athleticism (perhaps a life-long commitment to athleticism), and to understand the rigorous physical commitment that breakdancing as an artistic practice requires. What we have witnessed in only the first month is that the incorporation of flux CrossFit and flux CrossFit Kids into the project enables students to work on strength, stamina, endurance, flexibility, and the coordination needed for break dancing and other aspects of their lives.

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flux CrossFit and Hip Hop: Considering the Relationship Between Athleticism and the Arts

Charity Marsh

This connection between CrossFit and the arts is not new. At flux CrossFit and flux CrossFit Kids many of our athletes are actors, dancers, musicians, painters, and filmmakers. Discovering a synergy between one's artistic life and one's life in the gym here at flux has actually been quite easy. CrossFit Coach Kelly Starrett (CrossFit San Francisco) trains members of the Smuin, San Francisco and Sacramento Ballet Companies while the folks at Norcal Strength & Conditioning supported Lou Mars' drumming marathon with the proceeds going to Little Kids Rock Program. On his January 11, 2010 blog, Coach Robb Wolf commented, "He [Lou] wanted to prove that scientific training and nutrition can dramatically improve the ability of musicians to perform at their absolute best." It is this success through the combination of arts and athleticism that we hope to achieve with the Scott students at flux CrossFit.

To date over 55 grade 10 and 11 Aboriginal students from North Central, Regina and the neighbouring reserves have participated in the Scott Collegiate/ IMP Labs Hip Hop Project. This participation has not only led to increased attendance among these students, but has more importantly engaged them in the process of learning. This engagement has enabled the students to develop a place for themselves creatively, socially and culturally. By including an emphasis on physical health and well being, the students have become aware of what it means to live a healthy lifestyle and the connections between arts and athleticism. Not only has the Hip Hop Project enabled more students to complete required high school credits, it has provided the students an opportunity to develop a connection with the university, thus emphasizing the possibilities and relevance of education at all levels. In fact, one graduate from the first Scott Collegiate/IMP Labs Hip Hop Project is currently attending university and employed at the IMP Labs, creating a meaningful connection between high school and post secondary education, as well as the Hip Hop Project and the rest of the university in general.

To conclude this project the students will perform a full concert at the Culture Exchange as well as for the elementary schools in late April, record a full-length cd in May, and perform at the international conference "Spaces of Violence, Sites of Resistance: Music, Media and Performance" in June. Stay tuned for an update on the project and its final outcomes in summer 2010.

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This feature includes video of some of our kids doing a CrossFit or Cross-Fit Kids Benchmark “Girls” or “Heroes” workout.

This month we use a variation of the Girls WOD “Nicole.”

“Jumpy Nicole”

Big Dawgs:

Complete as many rounds in 15 minutes as you can of:

30 Box Jumps, 24"

Max rep Pull-ups

The Porch:

Complete as many rounds in 12 minutes as you can of:

30 Box Jumps, 20"

Max rep Pull-ups

Pack:

Complete as many rounds in 10 minutes as you can of:

25 Box Jumps, 15-20"

Max rep Pull-ups

(assisted or beginner pull ups okay)

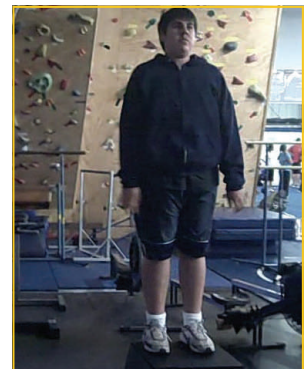
Puppies:

Complete as many rounds in 8-10 minutes as you can of:

15 Box Jumps, 10-12"

Max rep Pull-ups

(assisted or beginner pull ups okay)



Video Link Button



<http://media.crossfit.com/kids/JumpyNicole.wmv>

<http://media.crossfit.com/kids/JumpyNicole.mov>

Building Blocks: A CrossFit Kids Advanced Class

Coach Jeff Martin

Pre Teen & Teen



Building Blocks:

How to's on building a CrossFit Kids Advanced Class:

This months 30-45 minute class:

Warm up

Team warm up

Seated Jumps when whole team is done 200 M run



Skill work

Ice cream makers

Workout

Describe the workout. Explain the movements. Have the kids do a few reps of each. Make the necessary corrections.

Complete as many rounds in 15 minutes as you can of:

Rockets, 5 ea. leg

5 Pull ups

10 Push ups

15 Squats

Reps and progressions can be used to scale the workout.

Skill work

Lever progressions

Cooldown

Stretching

Building Blocks: A CrossFit Kids Class

Coach Jeff Martin

Building Blocks

How to's on building a CrossFit Kids Class:

This months 30 minute class:

Warm up

2 x

1:00 ea. of

Handstand holds

Tarzans

Skill work

Forward roll

Workout

Describe the workout. Explain the movements. Have the kids do a few reps of each.

Make the necessary corrections.

15-12-9

Wall Ball 4-10#

Pull ups

Wall ball weight and reps can be scaled, progressions can be used for pull ups.

Game

CrossFit Darts



Building Blocks: A CrossFit Kids PreSchool Class

Coach Jeff Martin and Debbie Rakos

Building Blocks:

How to's on building a CrossFit Preschool:

This months 15-20 minute class:

Warm up/Concept development

Jump around

Skill acquisition

Hold the Sky up

Workout

AMRAP in 5-10

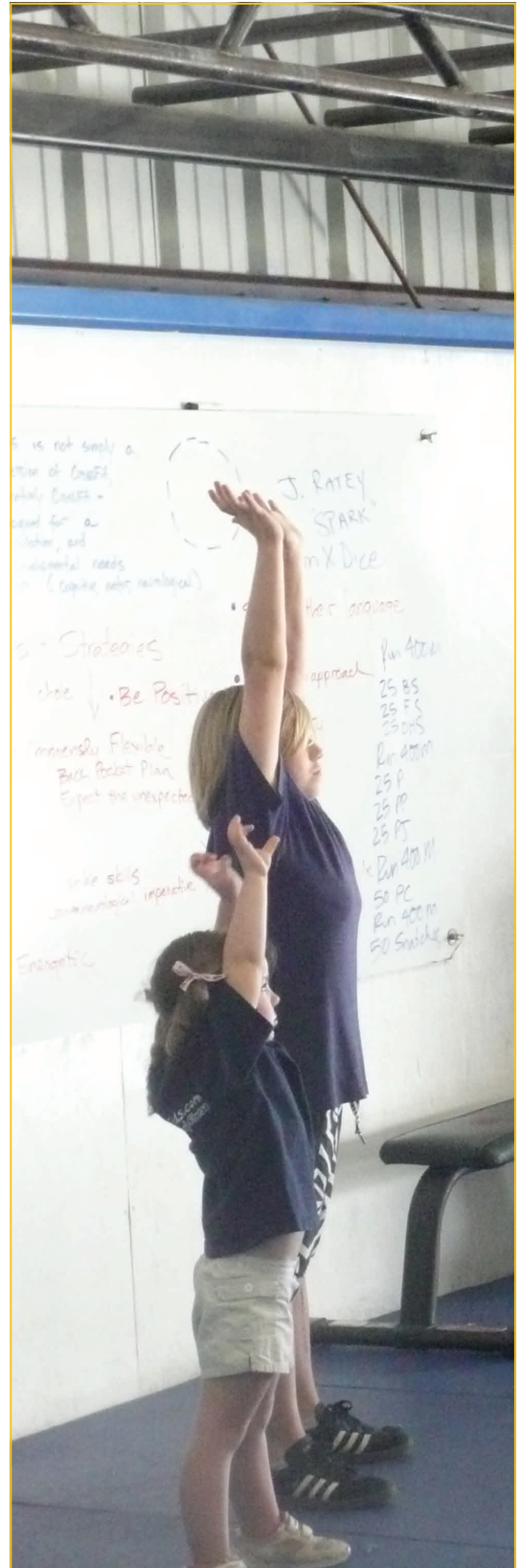
Forward roll

Balance beam walk

3 Perfect squats

Game

Duck, Duck, Goose



WOD #1

Big Dawgs:

3 rounds, Fight Gone Bad Style

1:00 at each station, 1:00 rest between rounds

Side to side hops over low hurdle

Hang Power Snatches, 45-55#

Burpees

Thrusters, 45-55#

The Porch:

3 rounds, Fight Gone Bad Style

1:00 at each station, 1:00 rest between rounds

Side to side hops over low hurdle-

Hang Power Snatches, 25-35#

Burpees

Thrusters, 25-35#

Pack:

3 rounds, Fight Gone Bad Style

1:00 at each station, 1:00 rest between rounds

Side to side hops over low hurdle

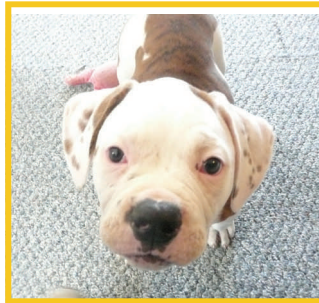
Hang Power Snatches, 10-15#

Burpees

Thrusters 10-15#

Three CFK WOD's

Coach Jeff Martin



Puppies:

3 rounds, Fight Gone Bad Style

1:00 at each station, 1:00 rest between rounds

Side to side hops over low hurdle

Hang Power Snatches, pvc-5#

Burpees

Thrusters, pvc-5#

WOD #2

Big Dawgs:

AMRAP in 12 minutes

100 M Sprint

10 Wall Ball 14-20#

10 Burpees

The Porch:

AMRAP in 12 minutes

100 M Sprint

10 Wall Ball 10#

10 Burpees

Pack:

AMRAP in 12 minutes

50 M Sprint
10 Wall Ball 8#
10 Burpees

Puppies:

AMRAP in 5-10 minutes

25-50 M Sprint

5 Wall Ball 4-6#

5 Burpees

WOD #3

Big Dawgs:

21-15-9

Tuck Jumps

Thrusters, 45-55#

D ball slams 20#

The Porch:

21-15-9

Tuck Jumps

Thrusters, 25-35#

D ball slams 12#

Pack:

15-12-9

Tuck Jumps

Thrusters, 10-15#

D ball slams 8#

Puppies:

12-9-6

Tuck Jumps

Thrusters, pvc-5#

D ball slams 4#

CrossFit Dominoes

Equip

4-8# Medicine Ball

At least Four “Dominoes” standing on edge in a pattern intended to knock each domino over,

In order, one at a time, once force is applied.

Play

Have kids arrange domino pattern in a given amount of time—one or two minutes.(the ones we used weigh 45 #, so this is more work than it may seem) Children take turns as the thrower and throw the medicine ball to knock over the dominoes.

Designate each domino with an exercise. Make the exercises progressively harder and the reps higher farther from the point where the throw is made. For instance, the first domino would be marked sit ups, the second push ups, the third squats, the fourth burpees and so on.

Each domino will represent its number in line, In the above example If we knocked over three dominoes everyone (other than the thrower) would do: one sit up, two push ups and three squats. If a multiplier is used, in the above example if the multiplier were 5, everyone but the thrower would do 5 situps, 10 pushups, 15 squats. Time to reset the dominoes up can be progressively shortened to increase difficulty.

“Dominoes” are available from Rogue Fitness. www.roguefitness.com



CFK & Teen Challenge

T



OH Pistol Squat

Advanced CrossFitters only, needs trainer oversight

First attempt should be on floor with PVC

Max number record weight

Send video and or pictures to mikki@crossfitkids.com

During set up for the Arnold Expo the boys starting playing around with this idea, a crossfit.com main page WOD came out a few days later with OH Pistol Squats.

Rowing Workouts

courtesy **Chris Kemp of CrossFit North East England**



WOD #1

AMRAP in 12 minutes

Row 100 M

10 burpees

10 pull ups

For Pack and Puppies use pull up progressions if necessary

WOD #2

“Jackie and Jilly”

BIG DAWGS

Row 1000M

50 thrusters, 45lb

30 pull ups

Row 1000M

50 ball slams, 14-20lb

30 ring dips

PACK / PORCH

Row 500M / 750M

35 thrusters, 25 / 35lb

20 pull ups or pull up progressions

Row 500M / 750M

35 ball slams, 8 / 12lb

20 ring push ups

PUPPIES

Row 250M

25 wall ball, 5-10lb

12 pull ups or pull up progressions

Row 250M

25 ball slams, 5-10lb

12 ring push ups or push ups



CrossFit Kids Invictus



Chris Kemp Hi, I'm Kempie and I've been training in one form or another for over 15 years in my native Australia and here in the UK. For the last four I have been lucky enough to make a living out of bringing fitness to other people. In my search for more effective training methods I found CrossFit. After a year or so of testing it on myself and my clients I traveled to Santa Cruz in California for certification. A short time thereafter I became an Affiliate and opened

CrossFit North East England
<http://www.crossfitnortheastengland.com>



CrossFit Kids Magazine is an electronically distributed magazine (emailed e-zine) detailing fitness training and coaching with kids, pre-teens and teens in the CrossFit method. CrossFit Kids Magazine is directed to the CrossFit Community, coaches, teachers, homeschoolers, kids and parents who want to work out with their kids. Features may include monthly workouts, team training, sports conditioning, self defense information, and articles on related subjects. Focus skills, games, tips for the home gym and Affiliates are also often included. CrossFit Kids may also feature Affiliate Kids programs, and a child or teen in Focus on CrossFit Kids and Community. (Send your info, questions or comments to

customerservice@crossfitkids.com

Go to www.CrossFitKids.com for a daily workout and don't forget to post your times!

For subscription information go to the CrossFit Kids store at www.CrossFitKids.com/index.php/store

March 15th 2010

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