

Your lack of upper body strength is disturbing.....

...and it is why you have problems running

I will start out saying that I have no peer-reviewed research to support anything in this article. All I have is many years of working with people every day as they are on their quest towards their training goals as well as the experience of performing thousands of Movement Screens and Movement Assessments on the people I train. Here are my very broad stroke generalizations from this:

- People have no spatial awareness.
- No one is strong enough for what they want to do.
- Peoples perceptions and their actuality rarely line up.
- Strength Asymmetries rank right there with movement asymmetries as a predictor for injury
- Upper body strength is virtually non-existent

So what does that have to do with Running? Everything. Running is the ultimate expression of motor control. Think of the complexities and intricacies of running. While I agree that people need motivation to move and be active, whoever came up with the “Couch to 5k” concept ranks right behind the brainiac that had the idea to find the most unhealthy people in America, feed them water and lettuce, have them compete with each other, and then have them kill themselves for multiple hours a day under the supervision of a “trainer” (also known as televisions The Biggest Loser). There is a better way to get fit, and to improve your ability to run. Running more to run more is an archaic approach that fails most people.

RUNNING IS A SKILL. Just like any other sport out there, it is a skill. It just happens to be a skill that needs minimal equipment and has no real rules - which makes it an appeal to the masses. I am not opposed to running, I just think most people that run shouldn't (especially if it is an addiction situation - that is no longer a fitness issue but a larger scale health issue). The fact that research has shown if someone is a consistent runner they have a 97% chance of suffering a significant injury can't be overlooked. Not even football has that high of injury rate.

“Well, I've ran for years and I've never been hurt!” Dial it back. This isn't an indictment on running. But if you take part in any skill activity and bring asymmetries to the table it is like playing Russian Roulette. It's kind of like Earthquakes - if you live in a region where quakes are the norm, a few little ones here and there barely register as an annoyance. They don't bother you - the BIG one that everyone knows is coming is the concern. That person that has asymmetries but has never been hurt is getting closer to “the BIG one” every day they take part in their activity. Its not an if it will happen, it is a when it will happen.

When I say strength and running, I'm probably not on the same page as your thought process. I don't mean 'core strength' and I'm not talking lower body strength. The entry point to strength for anyone - especially runners- is upper body strength. Huh? The Neurodevelopmental Sequence is widely known and understood as an explanation for how movement develops, but this sequence does not include a strength phase that kids go through. Strength and Movement develop in tandem - remove either from a developing child and it is no longer a developing child. Contrary to the current social statistics, Strength and Movement are like Love and Marriage - *"you can't have one without the.....other."* (Okay, who just sang that in their head?)



In parallel with the NDS is the Neurodevelopmental Strength Progression (NSP)©. The NDS is the blueprint for the development of sequential movement; the NSP© is the blueprint for the sequential development of strength - the mirror image of movement development. Just like movement develops through a series of repeating patterns, so does strength; nature is a series of repeating patterns - trees, our DNA, spider webs, sea shells, etc. I'm not going to describe the entire NSP©, but just know and understand that the first expression of purposeful, non-survival driven strength is upper body extension. People will try to justify other areas - lifting the head (still extension), breathing (survival driven), gripping moms finger when you place it in her had (a reflex) but the fact of the matter is all strength flows from upper body extension.

Once a child progresses through the NDS and the NSP© to the point that they are walking, the sequence doesn't stop, it just changes its appearance. Every stage that continues to develop does so in a sequential fashion. That continued sequence is

Pattern	When we see it:
Carrying	12 months on
Hanging	1-3 years
Galloping	20 months
Running	2-3 years
Striking	2 years
Hopping	4 years
Climbing	3-6 years
Skipping	4-5 years
Throwing	3-6 years
Jumping	4-5 years
Catching	4-6 years

We see this progression of movement skills / play continuing to follow our principles of development. What I want you to notice is where Running falls into this, at about the 2 year mark is when kids START to run. A mature running pattern is not seen in kids until the 6-10 year mark. Four to 8 years of running PRACTICE before they are competent. Hmmmmmm. Part dos - look what comes before running. Carrying, Hanging, Galloping and Striking. Galloping is just asymmetrical running - running on one side of the body and dragging the other leg; essentially, developing the coordination to run one building block (side) at a time. Striking (hitting with the hands/feet) is finalizing the proximal stability of the hip/shoulder in the presence of a large perturbation of the limb(s) based off of developing hand/eye coordination. It would really suck to not have an appropriate level of hand/eye coordination while running (maybe this is our population of 'clumsy' people.....). What we are left with is Carrying and Hanging.

The bench mark I hold for my runners is a 75% body weight carry (35%ish in each hand) for 2:00 and pull ups (3 for gals/5 for guys). Before I get to these benchmarks, they have to be a solid 2 on their Trunk Stability Pushup from the FMS. Surprisingly, my runners that have 1) a 2 on their TSPU, 2) carry 75% of their bw for 2:00 and 3) hit the minimal pull up numbers are independent and self-sustainable. Those that fall short in any area are the ones I work with on a regular basis, until they hit those numbers and run off into the sunset.

Why those bench marks - Out of the 1500+ FMS screens we ran in our facility last year 67% of every health person that walked through our doors scored a 1 on TSPU. It is by far the worst performed test on the FMS. Breaking it down it was 55% for guys and 72% for gals, but still the lowest score across every category. 100% of people I've testing coming back from an ACL tear scored a 1 on their TSPU. Not saying this is a cause effect number, just an observational correlation I've seen over the past 10 years of looking at this (averaging 75 post-op ACL patients per year in that window). Regardless of cause/effect or correlation, upper body strength is the biggest problem most people face. We can discuss the validity of the TSPU and how much of it is strength and how much is stability, but that is another discussion - fact is people suck at it and we need to make it better, especially if we remember that upper body strength is our strength gateway from the NDS and NSP©.

Why the carry and the pull ups? Simple - grip and proximal stability. Running is an expression of total body motor control, coordination, and power. If I don't have adequate proximal control of the shoulder girdle while I'm running, those flaws will be carried down into the stance leg (running is just repeated single leg stance). So, now in single leg stance (which is already less stable than normal gait), my flailing arms or non-moving arms -which are supposed to be helping control rotation and generate force- are now making everything harder, which decreases the ability to generate force and increases our likelihood of compensations elsewhere in the body.

If someone doesn't possess the grip capacity to just hold 35% of their bw in one hand in a controlled environment, the likelihood of them being competent at pull ups is minimal (not saying it can't happen, but odds are better you will win the PowerBall Jackpot).

Remember, kids pick things up and carry them a lot while they are growing and learning to move. They drag things, they grab on to the dogs collar and refuse to let go (Seriously, how hard is it to dislodge a 5 year olds grip from something they don't want to let go of?). The important thing is that nature dictates that they have to develop their grip so that they can develop stability of their shoulder. Why fight nature? All we have to do is look at the current trend of running injuries with an open mind and realize there is a problem - remember, step one is admitting there is a problem.

How do we practically apply this to our running. First, we need to acknowledge the importance of the TSPU. In our corrective hierarchy, it is #2 - right behind the ASLR. Why? Well if we look at the NDS it comes second and if we consider the real world numbers, people are showing us that it is a problem. Ignoring it won't make it go away, so why not kick it square in the teeth. In most people we can turn a 1 on the TSPU into the 2 range within 3-4 visits. (Keep in mind, good mobility, FULL ROM, and no pain must be present for this to work.) There is a caveat - those that have a strength deficit. So how do we differentiate? Well, I could tell you the modification we made to the FMS, but then the FMS purest would start commenting about how I'm not honoring the FMS and yada, yada, yada. There is a very simple modification that follows the NDS that answer the question of is a 1 on the TSPU a strength problem or a stability problem - no, its not doing it from the knees. That completely changes to posture. (**get our FB page to 7k followers and I might think about a video to show this one).

Once we have addressed this, upper body pressing is our go to so that we can cement this new pattern - there are many ways to accomplish this: Kettlebells, bodyweight, barbells, etc. Your choice, just make sure to follow very sound principles of movement once you begin to add load. Remember, once you load a pattern you have just saved that pattern so if a pattern sucks and you load it, you just made your job even harder.

Carries come next, until we hit the 2:00 mark with 75% bodyweight carries. I don't modify this for the gals. Why? Well, with every step when we are running we have to land and control 2-3x our body weight. If gravity is gender neutral, our carries can be gender neutral for a while. Once we hit the 2:00 mark, we move to our pull up progression.

Remember, these aren't maximal numbers, or PR's; these are our minimal expectations. I'm not even saying you have to stop running while you work to improve these numbers, but if you are running and your performance isn't where you want it to be or you have issues when you run it might be good to check in on these numbers. If you fall under the minimal threshold, work yourself up above that threshold and then re-assess how your running is going.

Disclaimer- I'm not a running coach, I'm not even a runner. I do believe everyone should have the capability to run. I also believe that those that enjoy running or compete in running events should treat running with the respect of any other skill dependent sport. RUNNING IS A SKILL. Just because you can get away with doing something, doesn't mean that you should. If what you are doing works for you, keep doing it.