GRAY COOK

Principles

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Let's make sure you don't have a big issue or disagreement with the 10 movement principles outlined in the book *Movement*.

The first thing I want to do is discuss the difference between 'principle' and 'method.' When we say principle, we're talking about a fundamental rule or law, usually unaffected by time or technology. Methods are how to do or make something, usually improved over time with technical advances.

The first time I presented the Functional Movement Screen on a national level was at the NATA/NSCA conference. One of the first things I said was, 'We will probably have a better movement screen one day.' That was 12 to 15 years ago, and I'm still sure of it.

I'm sure the people who invented the compass thought we might have a better direction system one day. I don't know if they envisioned a GPS, but things get better. Things get better, so all of my eggs aren't in the FMS basket.

Everything I believe is in the principles I'm about to show you. The FMS was, and still is, a really cool method to accomplish these. The reason I'm outlining this is because people expect you to know this model.

Other people will want to get into arguments with you about where the feet go in the squat test or to demonstrate how they don't think the FMS is a performance test.

What are they trying to argue about—a method or a principle?

Your answer should be that you'll argue about the methods, but does the person you're talking with know why we do the FMS? Your starting point should be to explain how you think it would help to know the principles behind the screen.

Your conversation could be, "I want you to look at the 10 principles in the back of the *Movement* book. Tell me which of those you have a problem with before we start talking about the SFMA, the Y Balance Test, corrective strategy or the FMS. If you agree with those 10 principles, I have a question for you. How do you not step on one of those principles each day?"

We created these methods—the way we do correctives, the corrective algorithm, corrective strategy, the FMS, the Y Balance Test and the SFMA for clinical situations. All of these are methods we use to take action on the principles.

Without further ado, think about the idea of health and fitness. Those two words are almost linked together. Have you ever heard them in reverse—fitness and health? They just doesn't fit together that way. Maybe they're in the order we know because that IS the right order.

Getting fit can make us healthy. We know that. Many people seeking a health solution through fitness will get that, but what happens when we bring a health problem to a situation where we're supposed to be normal and want to advance our health? We have a problem.

Health comes first. That's why we do vital signs—*Health comes first.*

This is why we do a movement screen. If this makes sense to establish at least a minimum level of health before we seek a goal in fitness, shouldn't we seek a minimum level of movement health? That doesn't mean getting a '21' on the Functional Movement Screen. That doesn't mean seeing if you can get a '3' on the deep squat. It means don't have a movement screen with '0s' or '1s' in it.

We believe movement health comes before movement fitness. It doesn't have to be optimized; it has to meet your minimums—*meeting your minimums*. If you have a '0' or a '1' on a movement screen, your movement health probably can't support your fitness goal. That's all.

But how many of your clients' '1s' on the leg raise change in a single session? You just took the health problem off the table because now the learning pathway is open. The fitness load can be carried by the established movement competency.

Don't get in a fight about the movement screen on our behalf. If people want to talk to you about it and they don't have time for the 10 principles, you don't have time to answer their questions. I'm going to save you a lot of time with discussions that aren't going to change anyone's mind anyway.

If people don't have time to look at the principles, you don't have time to discuss the methods. I just got you out of a bunch of blogs, a bunch of email and a bunch of tweets too. If they don't have time to look at the principles, you have no time to discuss the methods.

Let's do a review of the 10 principles.

Principle #1: Separate painful movement patterns from dysfunctional movement patterns whenever possible to create clarity and perspective.

A squat is a '1.' A leg raise is a '0.' The squat is dysfunctional, but you have pain on the leg raise. Are you moving poorly because you're in pain or are you in pain because you're moving poorly?

The question cannot be answered with the screen, but it can be answered. It just can't be answered with the screen. We answer those '0' questions with an SFMA and a thorough clinical evaluation after the SFMA.

Am I being too hard? What about delayed onset muscle soreness? What happens if I train really hard and I know I'm going to be sore for a few days? That's not what I'm talking about. I'm talking about stuff you buy a whole bottle of ibuprofen for and use the whole damn thing.

Say I roll my ankle—I've done it a lot. It's a Grade I. It swells up. I know not to run this week. I'm not going to load it that much. A week from now, it feels good when squatting. I didn't need to see a doctor, but I did need to rest it, ice it, elevate it a little bit and be conservative.

You're going to get injured. If you know what to do to overcome that injury, you might clear it yourself, but I can also tell you if you get a few ankle sprains on one side, the glute is going to shut down. You may have enough mobility to squat, but your hurdle step just got bad and you forgot to check that.

Having that baseline early in your athletic career or early in your fitness career with the movement screen, every time you have a little hiccup in life, you can go back to the movement screen and find out if that injury changed your movement competency. The pattern you think changed may not be the one to look for. If you tweak your back, your pushup will drop in a flash. It's very important to have these baselines so we can revisit them.

The number one principle we have is to separate pain and dysfunction. This person has a '0' on the leg raise and a '1' on the squat. He wants to know how to improve the '1' on the squat, but I'm thinking, 'I'm not going to do it because that '0' on the leg raise is crashing his hard drive.'

Don't ask me to load new software again. Let's get the '0' off and maybe your '1' will disappear. We have to separate those two things. Both the SFMA and the FMS do that, but in different ways.

Principle #2: The starting point for movement learning is a reproducible movement baseline.

If guys didn't believe in this principle, you wouldn't be here at CK-FMS, because we spent the entire first day of this workshop establishing a baseline. We've had some growing pains and some stuff that didn't make sense, but things are starting to become clearer.

How can we call what we do corrective if we don't at some point establish a minimum level of quality first? How many people are calling what they're doing corrective without setting a baseline?

Our baseline was a thought in my head around 1995 or 1996. In our little clinic, our little part of the world, we hammered it out, beat on it and we used it. Our idea wasn't to make it a nationally or internationally recognized certification. We didn't want to sell software, applications or corrective exercise. We literally wanted to see if we could prevent a few more injuries at our local high school. That was as big as our ambition was at the time.

On physicals, we asked ourselves, 'Is there any other information we can get in addition to height, weight and blood pressure to help these kids?'

So we started doing what we do. We're movement people; let's look at movement. We discovered some of that movement stuff is sport-neutral. It wasn't necessarily for football. It wasn't necessarily for fitness. It wasn't necessarily for soccer or golf. This is human movement one-oh-one.

Since we didn't make a test full of sets and repetitions, it's not a volume or capacity-based test for fitness. It's a quality or a competency-based test for fitness. What we realized after backing up and looking at the current research was that nothing existed like this. Everything else we were doing in fitness was either full-on researched biomechanical analysis or it was quantity-based—not quality-based. We needed a qualitative standard.

Why do you think I'm so passionate about the way kettlebells are taught? It's because when you have organizations with a qualitative standard, you don't get that many injuries and people get really strong really quick.

When the only instruction a person has ever had on kettlebells is *YouTube,* you're probably not going to see that attention to detail in quality. Now the kettlebell looks bad instead of the problem being the way that the kettlebell training was delivered.

Principle #3: Biomechanical and physiological evaluation does not provide a complete risk screening or diagnostic assessment tool for comprehensive understanding of movement-pattern behaviors.

This is the whole exercise physiology profession that says it's all about V02 max. To me, it's also about movement efficiency.

Why am I worried about my cardiovascular health if my hips are so stiff that I get winded going up the steps? I can ride a bike for 30 minutes and not get winded, but when I go up an incline, I get winded. Is it because my heart changes or is it because my hips are inefficient? Some of us have great cardio in one platform, but very poor cardio in another platform. Take an endurance athlete and teach him kettlebell swings. He's going to get smoked quickly because he's inefficient at using his body powerfully, while really good at using it at a sub-max state.

Is it the cardiovascular situation or is it the way he moves?

A new, inefficient movement pattern will spike your heart rate. A familiar, very efficient movement pattern will not spike your heart rate. Maybe it's not all about V02 then. Maybe it's about how we move.

Can we increase an elderly person's endurance without doing cardio? We can absolutely improve the biomechanical efficiency. However, it's not all about biomechanics either, because I can show completely clean joints—lie you flat on your back and show all the mobility necessary for a squat.

If you can stand on one foot and move around, you have all the necessary strength or at least the bodyweight strength, but then I have people who can do both of those and can't squat. Somehow when we put all of the parts together, they just don't line up. Do we need biomechanical stuff? Yes. Do we need to know anatomy and physiology? Absolutely. However, I can't look at that and predict your movements.

For a long, long time, we were trying to predict who was going to get injured in a given endeavor by looking at physiology and biomechanics. But now what we do is capture behavior. We capture habits, compensations and inconsistencies—underlying mobility and stability problems.

I think this weekend we're all learning that some of your mobility and stability problems actually exist right here. The reason you can't turn your thoracic spine is just because you haven't turned your thoracic spine in a while. There's nothing back there stopping movement. You go right into it. There's no pain. There are no dragons. There's no fire. You just haven't been there in a while.

The switch flips. Ahhhh…I just opened up my movement. Some of the limitations we have are in the way the brain and body play together. We need to add physiology and biomechanics, but we also need to capture behavior.

If you know your client's or athlete's personality type—introvert, extrovert—you can coach and train the best. I didn't tell you anything about the way

they move, but if you know personality or behavior type, you will know if they like a lot of criticism or they need a lot of encouragement.

Just having that information before you train changes everything. This is an opportunity to capture that movement behavior. You need that third piece of information in programming.

Principle #4: Movement learning and relearning have hierarchies fundamental to the development of perception and behavior.

That's what we do. After every injury, after every long time off of training and after every change in hobby, we have to re-learn movement. But movement learning the first time and movement re-learning have hierarchies that are fundamental to the development of perception and behavior.

It's not only about movement behavior. What do you perceive? We have a little rule we use: You have to have '2s' on your leg raise and a clean toe touch before we're interested in deadlifting.

I know a lot of people who can do a really good deadlift and don't have those qualifications. They're the exception—not the rule. They have learned to deadlift. We could test a few other things and could look at the injury history, but I'm not going to debate that.

For all of the benefits we've been talking about of why a deadlift belongs in fitness, athletics and even rehabilitation, if you want to get somebody deadlifting, the clearest path is to make sure the hips are both independently symmetrical and can hinge. Demonstrate also that the toe touch is available.

Now, the toe touch and the deadlift look nothing alike. You round your back in a toe touch, and I want you to. You hold your back still in a deadlift, and I want you to. What the toe touch tells me is that you don't put on brakes when you go through the motion. It tells me that behavior doesn't scare you.

That behavior moves fluidly in and out of range of motion, so there's a little bit of a hierarchy there. We want to have a fundamental representation of mobility in a very simple movement before we go into deadlifting.

Here's the main thing. People who have a '2' on the leg raise and can at least make it to their toes have a completely different level of perception than people who can't. They just feel different. If they feel that sagittal plane moving differently, it's much easier to teach them a deadlift.

When people can't get all the way to their toes, there's a lot of tension in the body. There's not good breathing. Are we going to need to talk about breathing and pressurization during a deadlift? Let's get that problem off the table first.

The reason I'm separating these people is not because they can't mechanically pull through a deadlift with '1s' on the leg raise or without touching their toes. It's going to be harder to teach and get them to perceive how far I want them to sit back and how much I want them to engage. These two people feel completely different things, so it's good to get them in a perceived category where the learning pathways are open.

Principle #5: Corrective exercise should not be a rehearsal of outputs.

Let's stop right here. That's shoulder rehab for most people. When I say shoulder rehab, some people are playing this video in their heads right now. There's a piece of Theraband going that way and a little gadget in use. Is that a rehearsal of outputs?

Compare that to a half-getup, crawling, climbing, an arm bar or a farmer's carry. This is all input. Every time I take a step, those bells jerk on me. When I crawl, I'm shifting my weight. When I'm doing a half-getup, everybody is watching the kettlebell. That shoulder is doing all of the work. We have a beautiful closed-chain, open-chain exercise right under our noses.

Think about rehabilitation. Think about corrective exercise. Is this a rehearsal of your outputs where we make you behave correctly, or do we give you an opportunity to grow your behavior through a more correct platform? We don't want to tell people how to do things.

You tell me, "If you can't stand on one leg, you need to engage your glutes." Good, I hope I can

remember that every time I'm on one leg today. It's a rehearsal of outputs. What we want to do instead is represent challenging opportunities to manage mistakes on a functional level near the edge of ability.

How we do know where the edge of ability is? We already set a baseline. I know what you can do and can't do. I know I'm trying to move you from a '1' to a '2,' or I'm trying to move you from a '2' to a '3.' I already know what your abilities are, and I know about how hard to hit that correct strategy.

However, if I have you half-kneeling with a wide base, you're not challenged. If I take you all the way down to narrow where you have to keep touching the ground to re-balance, you're not learning anything. I widen you out just enough where you can self-correct.

This is the edge of learning and that's how kids learn to throw balls, run and ride bikes—right on the edge of ability…*at the edge of ability.* Beyond that, it's embarrassment and injury. Guess what's over here on the easier side? No growth.

Right on the edge of ability is where we grow. You have to create a sensory-rich environment.

Principle #6: Perception drives movement behavior and movement behavior modulates perception.

Let's use the Turkish getup as an example. Every one of you knows the steps in the Turkish getup. Some days it feels different than others. The minute you move through a pattern, you have to re-establish and re-orient yourself. It's one of the few exercises where your head goes through a huge amount of positioning and re-positioning.

One of the beautiful things in the Turkish getup is that you cross your midline. This side of my brain works this side of my body. Every time that I take this hand across to the other side, my brain has to really do something pretty cool.

When I do a Turkish getup on the left and right, it's sensory-rich. My body goes from horizontal to vertical. Do I roll within a getup? Partially. Closed-chain? Open-chain? Yes and yes.

We have a lot of little drills we do to make the getup even more proprioceptive rich. What do we do in Kalos Sthenos? Show me that neck turn. Show me that shoulder.

Every time we do that, it's the same muscle group and a lot more awareness. I have load in that. I have support. I have stability. I'm winding up your senses. We have tactile contact with the earth at the bottom, and we have you on your feet at the top. So many things we've been learning have such a deeper penetration when we're learning movement.

Principle #7: We should not put fitness on movement dysfunction.

Competency before capacity. Once again, let me reiterate this: You don't have to get a '21' on the Functional Movement Screen. Just don't have a '1' or a '0' anywhere on your score. That's a minimum level of competency.

Principle #8: We must develop performance and skill considering each tier in the natural progression of movement development and specialization.

Both in *Athletic Body in Balance* and in the *Movement* book, I drew a performance pyramid. The first rung is movement. That means competency. The second rung is performance, but it's better worded as capacity. The third rung is skill.

A lot of people mess that up. Is it possible to learn to play golf without doing a deadlift first? Absolutely. As a matter of fact, maybe the only reason I'm trying to get fit is because I want to play better golf. Many times we pick a skill we like. Then we work backward and try to develop performance. We get a little stronger and get a little more endurance to support that skill.

Say I want to run trails. I can't run trails every day, but I want to work on my endurance every day so I can run more trails. Did I ever consider I don't balance well on one leg? No, I didn't. I'm just on a treadmill or on a trail. It never occurred to me that I look like good on one side and bad on the other.

You have to go down the pyramid and establish competency and reinforce capacity, but why are we doing all of this? It's because we love to embrace a

skill. We want to fight. We want to play. We want to run. We want to do something.

Skill doesn't have to come after fitness. Skill is one of the driving factors to become more fit, but don't expect your skill levels to keep getting better if you have a crack in your foundation. On the other hand, if your movement screen is good and you're pretty competent in the gym, that's still not going to make you a scratch golfer. You have to practice your skill.

Just realize one of the reasons you plateau or hit a wall in your skill development is minimum competency, and everybody else in your sport has at least this much strength, endurance and power. Have you measured yours lately?

When I'm working with a professional football player, I can go specifically to that position, look at what the average bench press is, look at what the average squat is, the average body composition and the average speed. I can see when a player hase an above-average movement screen but below-average weight room statistics.

You want to be an above-average position player. It makes logical sense. You try to get above the cut. You're above the cut in one area, so you should have enough competency to support that capacity. Let's get you a little stronger. Let's get you a little faster. That doesn't mean you're not looking at the playbook.

Principle #9: Our corrective exercise dosage recipe suggests that we work close to the baseline, at the edge of ability, with a clear goal.

Just set a goal. I see a leg raise and I'm thinking deadlift. I'm thinking deadlift, not because I'm thinking of weights. Deadlifts will keep you from ever having to stretch your leg raise again. It will create support, stability and competency within a sagittal plane pattern.

Say I see your lunge is really bad and everything else is good. I'm thinking half-kneeling work, but I'm not thinking half-kneeling because there's a goal there for half-kneeling. I'm thinking half-kneeling because I can get you into some chopping, lifting and halos. If I can juice your glute without your quad helping you out, you will establish hip stability without contribution of knee muscles, ankle and foot.

Babies load their knees before they load their feet. They don't stand first. That means they developed their hips first. The hips got strong and stable, and then they popped up. They had to get their knees and feet in the mix, and they had to connect it all up.

Sometimes I see a pattern and I drop you might to a knee, but it's not to keep you there. It's to make that pattern look good. That's my goal. I don't just want people to have '3s' on the lunge. Why do I want the lunge pattern to be good? It's because a good part of field-and-court sports is getting the center of gravity loaded so you can cut, turn and decelerate.

Your hurdle step sometimes tells me if you're going to have good running mechanics. Your lunge tells me if you're going to have the cutting, starting and stopping mechanics. Your squat tells me what you're like in a vertical plane. It's not just how low you can go, but if you're going to be an efficient jumper, or what your swing and your deadlift are going to look like.

Shoulder mobility and leg raise are not hamstring or shoulder motions—it's reciprocal motion. Both legs are doing something opposite, and both arms are doing something opposite. That's our counterbalance for movement. We take those problems off the table first. Crawling comes before planking. Rotary stability comes before the pushup. We have hierarchy we have to go through.

This should produce a rich, sensory experience filled with manageable mistakes. Did that get clear when we worked on half-kneeling yesterday? You did farmer's carries this morning; the first command I gave you to check your breathing. How many of you were holding your breath while trying to walk and carry something at the same time? Oxygen is good. Take a breath.

As I reminded you about your alignment, don't think 'up.' It's down and back. Use those lats.

For some of you, your grip gave out. Some of you forgot about your neck and I had to cue you on that.

We used a little bit of a load and it was something within your capacity—rich sensory environment. Rich sensory environment here meant half-kneeling, rolling, farmer's carry, half-getup. Walking on a balance beam and the bear crawl are other examples of a rich sensory environment.

Principle #10: The routine practice of self-limiting exercises can maintain the quality of our movement perceptions and behaviors, and preserve our unique adaptability that modern conveniences erode.

The goal of the Functional Movement Screen is not to sell corrective exercise or even to have you do screens for a long time. It's to get you strong and fast as quickly as possible. What is your goal? We want to help you with that, but we have to establish competency.

Here's one thing you need to think about. Once you find the corrective exercise that magnifies the problem and changes it, how quickly can you remove the corrective exercise and maybe replace something in your programming that caused the problem in the first place?

Most people you'll movement screen have already been working out for years. This means that part of their '1s' and '0s' could be the way they're training. Do not add a corrective if you're not willing to delete something that could be causing a problem. Once you're in a position of having cleaned up clients' screens to '2's on everything, no asymmetries and getting them above the cut, reconsider their entire programs.

If you come to the Perform Better Summit Pre-Conference this summer, you'll hear Alwyn Cosgrove, Lee Burton and me talk about programming. Once we've had the corrective change, the ownership is on you. Do we keep correcting? Is it like eating fast food and taking supplements to counteract it, or do we actually generate a better workout from what we learned on this journey?

What I learned is that somewhere in my workout, if life has already handed it to me, if the bench is always in the same place, and all I do are swings and nothing else, I'll get real good and very specialized in that. But every now and then, I should mix things up. I should mix it up with self-limiting activity—walking on a beam, doing a getup or bear crawling.

We see all of this coming in, but there's not a lot of structure for it yet. Part of your work in your workout needs to be self-limiting, but that doesn't mean not to practice your skill. That's the variety that keeps you mobile and keeps you from going back into dysfunction.

I don't work on my balance. I just paddle a standup paddleboard. I want to be outside. I enjoy the water. My balance stays pretty good. I play on a paddleboard. I'm probably not going to race anytime soon, but I do get after it. I pull it for about 30 minutes. As long as I'm doing it once a week, my balance stays pretty good.

If you read all of the principles, the very last thing you read in the *Movement* book before you got to the appendix section was this. The responsibility of the screen to assess and correct movement is one we can shoulder together.

We have provided some science and some common sense to help you in the practice of your profession. You must develop the art. That's the only difference in what Brett Jones and I are doing today. We have the same science. We have no tricks. We're a little more artistic at dispensing that science.

Outside of that, develop the best methods you can, methods designed to keep you close to your movement principles. That's the point. That's what I want to leave you with. You don't have to defend the movement screen. It's well established and researched. If people don't know that, it's because they don't read.

Our point is not to defend the Functional Movement Screen. The movement screen is to defend these principles. I want you to take that high road. Don't get into this debate with people. You're not going to change them anyway. When they want to be here, they'll be here.