How Smart People Exercise

10 guideposts for how to think about and perform exercise

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In his compelling book, Essentialism: *The Disciplined Pursuit of Less,* author Greg McKeown outlines a powerful framework from which we can view our professional and personal lives. McKeown's thesis is this: Essentialism is a systematic discipline for discerning what is absolutely essential, then eliminating everything that is not, so we can make the highest possible contribution toward the things that really matter. Essentialism is about "doing less, but better" in every area of our lives. McKeown argues for using an essentialist's approach as we make decisions in our work and in virtually all aspects of our personal lives and although he doesn't venture into the topic of exercise, when I read his book, my first thought was, the vast majority of exercisers sure could adopt this same mindset to their exercise. Indeed, this is a framework that I have used for over 15 years. The founder of Nautilus Sports Medical Industries, Arthur Jones, said, and I paraphrase, instead of seeing how much exercise we can tolerate, we should aim to identify the minimal amount of exercise we can perform to stimulate the best possible results. Jones was using an essentialists' approach to exercise 44 years before McKeown wrote the book. However, today well intended exercisers stray further away from an essentialist approach than ever before. The following 10 guideposts serve to move exercisers toward an "evidence-based" approach to maximizing the benefits from exercise. An evidence-based approach means that instead of relying on fitness fads or the testimonial of incredibly fit looking people, we turn to what the scientific research says about exercise. **To the extent that you can integrate these 10 guideposts into your exercise, your health and fitness benefits will be more robust, will come faster, and your training will be safe and sustainable.**

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1 **Strength training is not just "strength" training.** Across the entire fitness landscape, "Strength Training" has edged "Weight Training" as the preferred vernacular, and this is a move in the right direction. However, the term "Strength Training" doesn't really tell the whole story and in fact, is most likely a remnant of an old paradigm. When we say "Strength Training," we are implying that we are performing this form of exercise for "strength" (defined as the ability of a muscle to produce force). But to be clear, the benefits derived from strength training are far more robust and profound than simply improvements in strength. To be more specific, we should be universally adopting the term, "Resistance Exercise." That is more specifically what we are doing. **We are performing "Resistance Exercise" to stimulate not only improvements to our muscle strength, but we are also meaningfully improving our cardio-vascular health, bone health, cognitive function, disease resiliency, and slowing the aging process. This is the new, evidence-based paradigm.** If you think you are strength training for "strength" first and foremost, you are unaware of some of the more important benefits of resistance training.

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2 **First, do no harm.** The Hippocratic Oath is credited to the ancient Greek physician and philosopher, Hippocrates. Taken by physicians and healthcare professionals, the most well-known tenet is translated as **"First, do no harm." This is an essential starting point when considering an exercise program.** I had the fortune of being taught this lesson by a mentor and leader in the field of exercise science and strength and conditioning, Mark Asanovich. Asanovich was the long-time strength and conditioning coach for the Tampa Bay Buccaneers under head coach Tony Dungy and went on to spend several seasons as the strength and conditioning coach for the Jacksonville Jaguars. Asanovich was presenting at a strength and conditioning conference in Ohio in 2002 that I attended, and his presentation was confrontational and not universally well received by the audience. Why? Because he questioned the popular practices and trends in strength training (Olympic weight lifting, fast speeds of movement, plyometric training) and called them out as, "Dangerous." His message was simple. The strength and fitness professional's role as an allied health professional is to "First, do no harm." Our first priority in an exercise program should be **safety.** This really shouldn't be a controversial topic. After all, **by definition, exercise should improve physical function, not decrease or degrade it. Arthur Jones put it succinctly: "Exercise should help to avoid injury; not cause injury."** If the exercise we are performing doesn't improve our function or in fact has a negative impact on our health or function, it really isn't appropriately defined as exercise (it is probably better classified as sport or physical activity; which is very different than exercise). Asanovich was very clear; if an exercise carries with it a potential for acute or chronic injury, it shouldn't be performed. This message resonated with me in 2002. Today, Asaovich's message is more important (and less accepted) than ever. A review of current exercise practices, trends, classes, and methodologies reveals that the vast majority of what passes as exercise (particular resistance exercise) is in fact, about as dangerous as it gets.

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3 **Train with a high level of intensity.** The term "High Intensity Training" has entered our fitness vernacular over the last few years due largely to the emergence of Cross Fit and a variety of boot camp style exercise regimens, brands, and classes. However, the use of the term "intensity" to describe these exercise modalities is a misnomer; and it's an important matter of nomenclature. Interestingly, in the early 1970's, Arthur Jones, touted the importance of exercise intensity. But Jones's definition was far different than the definition ascribed by exercisers today. Jones's definition of intensity referred to the level of intensity that an individual used during a strength training exercise. Specifically, Jones was referring to the level of tension placed on a muscle during a strength training exercise. To maximize intensity, he encouraged body-builders, athletes, and eventually, all of us, to perform a set of strength training exercise to the point of "momentary muscle failure," the point in which another "perfect" repetition could not be performed. A perfect repetition meant that we shouldn't alter body positon or increase the speed of movement so that we incorporated momentum. Striving to continue the set to muscle failure maximizes the number of muscle fibers that are recruited. Over the past 40 plus years, the scientific community has adopted both Jones' definition of intensity and the importance he placed on muscle failure. In fact, training with this high level of intensity, that is, continuing strength training sets to the point where another perfect rep is impossible, is the recommendation of virtually all of the scientific and medical establishment. Keep in mind, intensity has nothing to do with the amount of weight we lift; it has everything to do with our effort. Lifting a relatively heavy weight for 6 reps or a relatively light weight for 20 reps are both deemed "intense" so long as it is utterly impossible to lift a 7th rep or a 21st rep. When looking to produce better results, faster results, or to break through a plateau, our attention should be on the training intensity. Most well intended trainees err in almost the opposite direction. They add more exercises, add more sets, and/or increase

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the number of weekly workouts. All of these are steps in the wrong direction. When most people think about "intensity" today, they picture something far different from what Jones described. Today, intensity seems to be defined by bloody and calloused hands; loud music; swinging of all kinds (your body, a kettle bell); grunting; flipping over a tractor tire; and orthopedic pain. To be clear, Jones is rolling over in his grave at this. Exercise INTENSITY is central for health and fitness benefit. But it looks nothing like what many exercise enthusiasts assume. Exercise intensity involves a focused effort in placing tension on muscles and muscle groups until we are no longer able to complete a repetition with perfect form. The tension on the muscle is high, but because momentum is minimized, the force imposed on the joints is very low and thus safety is maximized. This is the foundation of safe and intelligent exercise. The present day, popular definition of intensity is more aptly...WRECKLESS.

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4 **Focus on your RECOVERY.** Gym goers love to focus on the workout itself. We obsess about how often we work out, how long we work out, what exercises we do, and if we're really smart, how HARD we work out. But even well intended exercisers err by failing to allow adequate recovery between workouts (particularly strength workouts). **Our fervor for creating better results causes us to do the one thing that will effectively erode our progress: we sneak in an extra workout instead of allow for complete recovery.** At Discover Strength, we see this every day. A client who really wants to expedite his or her progress will tell us. "I'm a little sore because I did a few exercises yesterday at the gym." Let me be clear. This is the worst thing you can do if you are interested in maximizing results. The strength-training (and by strength training, I mean any type of resistance training; this includes but is not limited to push-ups, a single sit-up, band exercises, or body weight exercises) workout is a STIMULUS. There is no real fitness benefit that occurs during the workout itself. The benefit comes during the recovery from the workout. Often times, we can become addicted to the "high" of the workout itself. We literally feel better about ourselves during the workout and immediately after (and usually, the rest of the day). This can become a powerful addiction. However, the workout itself does not produce results. Instead, the workout simply STIMULATES results. The results occur if and when we recover from the workout. And by recover, I mean COMPLETELY AVOID RESISTANCE. It is during this recovery that our lean muscle tissue undergoes histological (tissue remodeling) and morphological (growth in the muscle) changes. It is important to remember that the stimulus to improve our fitness and our physiques, in one word, is INTENSITY. And don't make the mistake of assuming that you can make up for a lack of intensity by doing MORE exercise or exercising more frequently. You cannot. **This has important implications for your mindset during the workout and specifically, during the exercise set itself.** At the point of fatigue, when you are breathing hard, your

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muscles are burning, and every part of you wants to stop (or even just relieve tension for a second), you must arm yourself with the knowledge that that very instant is what it's all about. What you do in that moment will largely dictate the effectiveness of the exercise stimulus. If, during your recovery days, you find yourself craving more exercise or extra workouts, you would be wise to channel this emotion into the INTENSITY toward the end of each set of exercise that you perform. If you are interested in receiving even better results from your workouts, I pose the question, HOW MUCH ARE YOU FOCUSING ON YOUR RECOVERY?

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5 **Aim to boost metabolic rate.** Losing weight is one thing, keeping weight off is another. You are 45 years old and are thrilled that you have recently lost 20 pounds. This weight loss contributes to an improved appearance, decreased cardiovascular disease risk factors, and a reduction in all-cause mortality. In every sense, this is a success. However, your challenge has just started. When the average adult loses weight (even an active adult), between 30-50% of the weight loss is muscle loss. Lean muscle tissue dictates your "Resting Metabolic Rate" (RMR), the number of calories you burn on a daily basis to support daily bodily functions. Although your 20-pound weight loss was a success, your 6-10 pound loss of muscle tissue has significantly reduced your metabolic rate and thus, you burn fewer calories day in and day out. In other words, you actually have to consume fewer calories in order to maintain this fat loss. In losing muscle tissue, you have lost your most important ally in long term fat loss. For this reason, any fat loss program should include a focus on resistance exercise. Intelligently performed, resistance exercise maintains (or even increases) lean muscle tissue and thus maintains or even increases resting metabolic rate. As you strive to lose weight, it is imperative to fight to maintain or even increase your lean muscle tissue in order to contribute to the long-term maintenance of this weight-loss.

DISCOVER STRENGTH

4 Things You Need to Know About Metabolic Rate:

01

The variability in your Resting Metabolic Rate or "Basal Metabolic Rate" (the number of calories required to support normal bodily functions; this is the number of calories you expend each day when you aren't physically active or exercising) is attributed solely to the amount of muscle tissue that you possess. The decline in your metabolic rate that occurs as you age is not due to chronological aging or menopause; it is due to a wasting away (atrophy) of muscle. If you strength train and regain or retain your muscle tissue, your metabolic rate will be restored.

02

Cardio-respiratory exercise does NOT increase your metabolic rate (as is commonly assumed). In fact, metabolic rate decreases for a few hours after a bout of "cardio."

03

Strength training has a positive, acute effect on metabolic rate. When you strength train, your metabolic rate is elevated between 7-11% for the next 3 days. This effect exists for beginners or experienced exercisers alike.

04

Strength training has a positive, chronic effect on metabolic rate. When we add muscle tissue to any part of our body, we burn more calories constantly to support that new muscle.

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6 **Strength train slowly and accentuate the negative.** Avoid any form of strength exercise that involves fast or sudden movement. This fast movement unloads your muscles resulting in reduced muscle fiber recruitment. Additionally, when we lift a weight fast, we dramatically increase the forces on the joints and connective tissue. If you are already moving slowly while strength training, focus on moving even slower with particular attention paid to the transition from positive to negative. When we lift a weight, we are performing a concentric muscle contraction or "positive" work and when we lower the resistance, we are performing an eccentric contraction, also known as "negative" work. According to a growing body of research, "negative" work may be the most important mode of exercise to reduce body fat, reverse frailty in the elderly, combat diabetes, rehab following ACL surgery, and improve fitness in both cardiopulmonary and cancer patients. Noteworthy is that although more and more research is continually published about the importance of "negative" work for optimizing fitness and a myriad of health measures, the clear majority of exercisers appear to be engaged in styles of exercise that actually ***avoid*** negative work all together. It's not an overstatement to say that the vast majority of dedicated exercisers actually miss out on the most valuable part of exercise. ***For the best results from your exercise, accentuate the negative by lowering the weight slowly rather than letting it "drop" after lifting the weight.***

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7 **Consume a post workout snack.** To hasten recovery, replenish fuel supplies, and aide the remodeling of muscle tissue following resistance training exercise, one should consume a snack containing 20-30 grams of protein. This snack should be consumed within a 20-30-minute period following exercise (or even immediately prior to the workout). This snack is important in terms of increasing lean muscle tissue and losing fat. In research trials, women who consume a 250-calorie snack after a strength-training workout lose almost twice as much fat as women who eat nothing after the workout. We are probably safe to assume that men experience a very similar response.

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8 **Avoid "Functional" training.** Although the term "functional training" has become increasingly popular in the sport and fitness industry, the use of the term is somewhat deceiving. The intent of so called "functional training" is to perform movements that mimic movements performed during daily life. The thought is that these "functional" exercises carry over to our normal movements in daily living. However, the scientific research in the area of motor learning and control definitively indicates that strength training movements that attempt to mimic everyday movements do NOT carry over to everyday movements. Stronger muscles make daily life easier and more efficient, but the mimicking of these movements while training is not necessary. Instead, exercisers should strengthen the muscles that are used to perform the specific movement in the most effective manner possible. Consider a running example: A functional training advocate would suggest that because running is an activity performed on one's feet, we should perform lunges (an exercise for the thighs and glutes) as they too are performed while standing. In truth, the runner's goal should be to strengthen these muscles in the most effective means possible, which often involves sitting on a leg extension, leg curl, or leg press machine. The movements are different than running (as the exerciser is clearly not on her feet) but the leg muscles are strengthened and this improved strength transfers to running – not the neuro-muscular pattern of the strength training exercise. An important question to ask is: **What *causes* function?** The answer of course is MUSCLE and MUSCLE CONTRACTION. Here is the bottom line. The goal of strength training should be to improve the ability of a muscle to contact and produce force. Only then can functional ability (our ability to bend, run, swing, ski, jump, climb, live) actually improve. Side note: To be precise, we can see improvements in performance by practicing a specific "closed-skill." This simply means that if we practice a specific task or skill, we will get better at it. The limitation to this is that this improved performance does NOT transfer to other tasks or skills. This is a basic and long held tenet in the field of motor learning and control. Exercise should be all about changing our physiology, NOT about improving our skills.

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9 **Train with supervision.** Ken Mannie, the long-time strength and conditioning coach at Michigan State University had a profound impact on me very early in my career. In college, I perused his articles addressing every aspect of strength training, cardio-respiratory conditioning, speed development, and performance enhancement. I can also vividly remember watching videos of him speaking at clinics. My senior year, a close friend (and now a respected colleague) of mine and I decided to fly to Michigan to meet Ken. The 2 hour discussion we shared served as the impetus for a relationship that is intact today, 17 years later. Perhaps the most powerful and lasting message that I took with me from that initial visit with Coach Mannie was the mantra that serves as the foundation of the entire Michigan State University Strength and Conditioning program. It is visible on the walls of the weight room and on the apparel adorned by athletes. IRON SHARPENS IRON. Mannie borrows inspiration from Proverbs 27:17, "Just as iron sharpens iron, one man must sharpen another." The concept is simple and profound. I rely on another person to push me to help me become a better person and to reach my potential. At MSU, this is the epitome of the team concept: We need each other to be successful. On the window of Coach Mannie's office is the quotation, "We will not accept you as you are. We prefer to show you what you can be and help you achieve it." In my opinion, the principle of Iron Sharpens Iron is pervasive and has application to nearly every human endeavor. **Interestingly, it also embodies the most frequently over-looked and powerful components of any exercise program: Supervision.** Scientists, fitness professionals, and exercise enthusiasts alike are in constant pursuit of a new, improved, or better way of doing things. As a fitness professional, I read journal articles and attend conferences where presenters discuss the numerous variables of exercise: how many exercises to perform, what type of equipment to use, how long a workout should last, how often a person should workout. And, of course these variables are important. However, the element that is rarely discussed is the element of supervision. When it is discussed, it is mentioned almost

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in passing and generally in reference to exercise compliance or safety. "Work out with a partner so you stay motivated and so you don't get injured." This mentality completely misses the mark. **Regardless of the type of exercise, the style of the workout, or the goals of the individual performing the workout, ranging from a type-2 diabetic or an elite athlete, the singular element of direct supervision always produces better results.** In research studies, two separate groups who perform the exact same workouts will have dramatically different results when one group has direct supervision. Direct supervision always produces better, faster results. This applies to chronic disease prevention, improved athletic performance, fat loss, and increased muscle strength/size. Throughout my career, I have used the element of direct supervision as the cornerstone of the exercise program. When I worked as a strength and conditioning coach with the Minnesota Vikings, we personally trained every single player. We did this not because they didn't know how to workout and not because they weren't motivated; we did it because it produced better results. As a high school strength and conditioning coach, I was a part of a team of coaches with a strict rule: every student athlete must be partnered with another; and these students would personally train each other. Again, we didn't do this for safety's sake; we did it because it produced superior results. In my own personal workouts, I can count on one hand the number of times where I have strength trained without direct supervision. I have always had access to great equipment, I possess the knowledge of what to do as well as how to do it, and I don't think I lack motivation. But I simply won't train alone because I know I can't stimulate or produce the same results as I can if I am directly supervised. Of all the exercise variables we spend so much time debating, the well-intended exerciser is, more often than not, ignoring the single most powerful component. **To enhance the results you experience from your fitness routine, add the element of supervision. Just as Iron Sharpens Iron, one man must sharpen another.**

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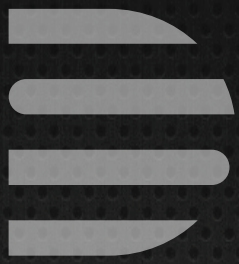
10 View strength training as the ultimate "Saw Sharpening" activity.

You can call this ***Work on Yourself,*** or ***Improve Yourself,*** or my personal favorite, ***"Sharpen the Saw,"*** Stephen Covey's seventh habit from his seminal book, The 7 Habits of Highly Effective People. Whatever the vernacular, the message is the same. Before we can become more effective and contribute more meaningfully in our relationships, in the organizations we work in, in our families, in our communities, and in the other roles we play, we must first take care of and in fact, focus on improving ourselves. Covey goes to great lengths to articulate the importance of taking the time to "Sharpen the Saw" as it pertains to our physical well-being. I maintain that we must take the time to improve ourselves through exercise. From this vantage point, time spent exercising is anything but a selfish act. Instead, we must make an appointment with ourselves to exercise so that we can improve our health and our performance. And, because the benefits are so pervasive, we can view strength training as the ultimate saw-sharpening activity. In effect, when we Sharpen the Saw via exercise, we are better prepared to be effective in all the roles that we play. We must Sharpen the Saw through exercise so that we can care for and love our families, contribute to our organizations, and serve our communities. Covey's words resonate, ***"This is the single most powerful investment we can ever make in life – Investment in ourselves, in the only instrument we have with which to deal with life and contribute. We are the instruments of our own performance, and to be effective, we need to recognize the importance of taking time regularly to sharpen the saw."*** The intelligent exerciser prioritizes proper strength training as an essential mechanism for Sharpening the Saw.



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