Spark Application

Applying the Spark Program to your life.

NORTH HOMES
Children and Family Services

To provide a Community-Based Continuum of Quality Care to Children and Families

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Disclaimer and/or Legal Notices

The information provided in this book is for educational purposes only. I am not a doctor and this is not meant to be taken as medical advice. The information provided in this book is based upon my experiences as well as my interpretations of the current research available.

The advice and tips given in this course are meant for healthy adults only. You should consult your physician to insure the tips given in this course are appropriate for your individual circumstances.

If you have any health issues or pre-existing conditions, please

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Intro / *Chapter One*

Before beginning any new exercise or diet program, it is recommended that you seek medical advice from your personal physician. This program is not intended to be a substitute for the advice of a licensed physician, nor is it intended for the treatment or prevention of disease. Use of the information herein is at the sole risk of the reader.

The Spark Program

The Spark Program is a wellness initiative based on the research of John Ratey, a member of the Harvard Medical Team. Ratey's research supports the dynamic benefits of exercise on the mind and body. Spark aims to create impact in the areas of exercise, nutrition, and stress management in order to activate multiple streams of benefits.

During Spark, our goal is to simultaneously create cognitive, physical, and physiological benefits that our youth can utilize throughout the rest of their lives.This fits into our mission statement of providing a community based continuum of quality care for the youth we serve here at North Homes. While this data is science backed and research based, it is important to note that it is only a part of the puzzle. Spark is not meant to take the place of medical and/or therapeutic interventions but rather work in conjunction with other treatment options.

In order to create human adaptation, we need a combination of information and individual application. Throughout this short e-book, I hope to provide the information and

application of the Spark principles. By doing so, I believe you will have the tools to further reach your wellness goals and drastically enhance quality of life.

In order to reach your wellness goals, we need to dissect the areas of **exercise, nutrition, and stress management.** These areas work in tandem to create results. However, before we begin, we need to understand the importance of individualization. Before beginning an exercise, nutrition, and/or stress management plan we need to be aware of our individual profile. This includes topics like medical history, nutritional history, emotional relationship with food, allergies, intolerances, preferences, injuries, goals, gut health, hormone profiles, and other lifestyle factors. The challenge with writing this book is the lack of context and individual attention. Consider these factors into ALL of your decisions regarding exercise, nutrition, and stress management programming.

It is beyond the scope of this e-book to assess the numerous scientific principles, methods, and factors involved in wellness. However, I want to provide value through key topics in the areas of exercise, nutrition, and stress management. We will dissect these three areas by discussing the key principles in the field of science, adherence, and application.

Science

Science serves as the scientific direction to your goal. These are comprised of key scientific principles. The principles will never change but the method in which we apply the principle can and should differ between each individual. The better we understand the principles related to our goals, the easier it becomes to design effective individual plans.

Adherence

Adherence refers to your ability to stick to a plan (consistency). You can have the best exercise routine and diet in the world but if you can't stick to it then it is useless. In order to create adherence, we need to understand that consistency is the highest priority.

Application

Application refers to the structure in which you apply the principles based on your lifestyle. This section will provide a snapshot into how each principle applies to your lifestyle by providing practical and simple steps to your goal.

Exercise / *Chapter Two*

The positive effects of exercise on the human body and brain are heavily researched and proven. As previously mentioned, it is beyond the scope of this e-book to dive into the science and anatomy of the human system. However, I want to briefly discuss some of the key benefits. These include improvements in bone density, connective tissue, posture, activities of daily living, mobility, quality of life, cognitive function, stress resiliency, mood management, metabolism, life expectancy, attention span, motivation, lung health, and heart health. In summary, our bodies our biologically designed to move and that movement creates benefits at every physiological level in the human body.

Science: Progressive Overload

The Principle of Progressive Overload is the foundation of exercise adaptation. Progressive Overload states that in order for adaptation to occur, the human body must be subjected to a stressor above and beyond what it has previously experienced. In short, we need to consistently alter/change certain variables in order to see results. This can be done by increasing the reps, weight, tempo (speed of the movement), range of motion, rest periods, and muscle contraction emphasis. While this may sound complicated at first, the principle is actually very simple. It doesn't matter how fast you progress, it matters how consistently you progress. Find small ways to progress your workouts every 4-6 weeks.

Adherence

The most important factor in wellness is adherence. In the area of exercise, start by asking yourself the following questions based on your individual lifestyle. These questions follow the key variables associated with exercise, also known as the FITT plan (frequency, intensity, time, and type). When answering each question, give yourself a 20-year timeline. If you can't imagine yourself sticking to an exercise plan for the next 20 years then you need to re-think the plan. Spark is about lifestyle transformation not behavior modification. We need to start thinking long-term.

Frequency: With my current lifestyle, how many days per week can I work out?

Intensity: With my current lifestyle, how hard should these workouts be?

Time: With my current lifestyle, how long can these workouts be?

Type: Based on my preferences, what types of exercise do I find most enjoyable?

These questions begin to mold the appropriate sustainable mindset around your exercise routine. From there, we can easily implement some exercise structure to reach your goal.

Application

Now let's apply some structure around progressive overload and sustainability. The structure of an exercise program will somewhat depend on the goal you are trying to achieve. However, there is some foundational structure that should be included in your exercise routine regardless of the goal.

Step 1: Warm Up

In order to see progress, we need to remain injury free and have our bodies working at full capacity. A proper warm up format includes:

- Thermoregulation (blood flow): Start off with cardiovascular movement (biking, walking, jogging, climbing, rowing etc.) to initiate blood flow for 3-5 minutes (or longer depending on your connective tissue health and age).
- Soft Tissue/Mobility: Next you want to focus on preparing joints and muscle tissue. This can be done by foam rolling, active/dynamic stretching, and/or a combination of both.
- Activation: The last step in a proper warm up involves activating the muscles that will be used during that session. For example, if you are about to work out your legs, then you want to start with some bodyweight, light weight, and/or banded exercises that will be utilizing the same muscle groups (bodyweight squats, lunges, step ups etc.).

Step 2: Resistance Training

Resistance training should serve as the foundation of an effective exercise regime. Proper resistance training can be directly linked to life expectancy, metabolism, and activities of daily living. Resistance training creates/maintains muscle mass via progressive overload which is beneficial for longevity, fat loss, muscle gain, and/or performance based goals. Resistance training doesn't have to be long in order to be effective. I recommend that you start with no more than 5 exercises per session. These exercises should contain a squat, hinge, push, and pull movement. These are functional movements that are found in everyday life and create the most adaptation. Furthermore, these exercises contain tons of variations and methods of progression.

Step 3: Cardiovascular Training

Cardiovascular activity will burn calories, stimulate cognitive benefits, and increase heart/lung health. Generally, you want to save the cardiovascular component till after you have finished the resistance training section. This allows you to place your full energy into building/maintaining muscle tissue, connective tissue, and strength (all of which are connected to life expectancy). The cardiovascular component will be somewhat dependent on your goal. However, the foundational principle is based on time and heart rate. Pick cardiovascular methods that are enjoyable for you. This can be found in sports, running, walking, jogging, biking, rowing, swimming, climbing, and/or a combination. Aim for 10-15 minutes of moderate intensity (60-85% of MHR) at the end of each session unless otherwise contraindicated by a health concern or doctor.

Step 4: Cool Down

The last step in an exercise routine is the cool down. This may not seem important but it will make all the difference. After exercise our bodies are in a heighted state (Sympathetic Nervous System) and need to return to normal levels (homeostasis) in order to begin the recovery process (Para-Sympathetic Nervous System). A proper cool down speeds up this process which will increase recovery, progress, and decrease the risk of injury. This can be done by foam rolling, static stretching (holding each stretch for >30 seconds), and/or other mobility work (yoga etc.). Spend 3-5 minutes at a low heart rate with proper breathing

Nutrition

Chapter Three

I am not a registered dietitian so I cannot give specific nutritional recommendations. However, the benefits of proper nutrition are so well documented that you cannot overlook the power of what we eat. Nutrition can be linked to every physiological process in your body (gut health, brain health, heart health, skin health, muscle health, connective tissue health).

Exercise creates the stimulus and nutrition helps create the end-product. At the end of the day, nutrition will always need to be individualized because everyone has a different profile. However, in regards this e-book, I want to provide some solid nutritional direction and individual application.

Science: Energy

From the nutritional perspective, energy is extremely important to understand. Calories are just a measurement of energy. The same as inches are a measurement of length. Our body can create three energy levels. An energy balance, an energy surplus, and an energy deficit. Energy balance is our body's energy requirements to maintain its current condition. If you weigh yourself consistently and notice little to no changes you are most likely in an energy (calorie) balance. An energy surplus is the condition of excess energy (calories) coming into our body. This can either be stored as muscle (glycogen) or body fat. If you are continually gaining weight you are most likely in an energy surplus (assuming all things normal). An energy deficit is when our bodies are burning more calories than they are currently consuming. If you are consistently losing weight, then you are probably in an energy deficit. With that being said, energy balance is only applicable assuming all things normal.

All things normal refers to your internal bodily processes (hormones/metabolism). In order to create advantageous hormone regulation, nutrient absorption, and internal system function, we need to take into account food quality. Food quality is the type of food you are consistently consuming. One should aim for non-processed, natural, whole food sources the majority of the time. If food quality is not prioritized, it opens the doorway to a host of metabolic issues which can drastically effect energy balance. Creating consistency in the areas of food quality should be the first step in your nutritional direction.

Adherence

45 million people will attempt a new diet this year and yet two thirds of Americans are overweight. The issue with diets involves the lack of individual adherence (consistency). Diet's create structure and force you to adapt your lifestyle around their specific "rules/ regulations". In reality, proper adherence should do exactly the opposite. You should adapt your nutrition around your lifestyle. Start off by figuring out your goal. Nutritional direction will change depending on what you are trying to achieve.

What is my goal? Fat loss or Muscle gain?
Generally speaking, these are the two main goals most people have. With that being said, there are also performance goals and longevity goals. These are extremely dependent on the sport needs and/or goals of the individual. It is beyond the scope of this e-book to discuss longevity and performance goals.

What are my individual factors?
This includes topics like family life, stress levels, preferences, job responsibilities, allergies, intolerances, time constraints, barriers (money/time), cravings, activity levels, social connections, and many others. The idea here is to develop a good idea of your lifestyle structure. From here we can begin to implement nutritional guidance to fit inside that structure.

Application

Fat Loss

Assuming all things normal, fat loss is created from a combination of both food quantity and food quality. Food quantity is how much food (energy) you are consuming. There are many fitness calculators on the market that estimate these numbers based on your individual factors. However, at the end of the day, these are just estimates. The best and most efficient way is to track your calories (MyFitnessPal) and compare it to the changes on the weight scale (Happy Scale) over an extended period of time (10-14) days. If you have a deep emotional connection to your weight number, then I don't recommend this step. Focus on creating consistency with food quality and exercise habits until you can meet with a licensed professional. Food quality refers to the types of food that are in your diet. Food quality can be directly correlated to gut health,

hormone production, and other metabolic processes. Simply put, if food quality is lacking then we can't expect normal responses from altering food quantity. Our bodies need to be working properly in order to see progress.

With that being said, adherence is always number one. I recommend following the 80/20 approach. That is, 80% of your calories deriving from nutrient dense, non-processed, whole foods. The other 20% can come from less advantageous sources (processed, sugar based). This is a general recommendation. Some people will do better with a 70/30 approach and some better with a 90/10 approach. Start at 80/20 and make adjustments accordingly. As long as we are in an energy deficit (food quantity) with proper internal health (food quality) you can enjoy "treats" and reach your goals.

Practical Tips

Find the calorie range that puts you in an energy deficit. From here, we need find the most enjoyable and sustainable way to maintain this energy deficit based on your lifestyle factors previously discussed. Use the tips below to help break plateaus and create fat loss momentum.

Drink more water and limit drinking calories (soda, tea, sugary drinks). Aim for high volume foods with low to no calories (fruits/vegetables). Eat only when you are hungry and limit mindless snacking. Eat slower as this allows our brain to process fullness/satiety signals (if you find this challenging, try eating with the non-dominant hand). Eat a protein source with each meal. Protein helps keep us full, preserves lean muscle mass, and burns more calories through the thermic effect of digestion. Eat a variety of foods as this will help combat palate fatigue.

Muscle Gain

Muscle gain is very similar to fat loss. The major difference lies within the calorie consumption. Muscle gain is created with an energy surplus via food quantity and the food choices (food quality). Aim for the 80/20 approach while monitoring weight and calorie consumption on a weekly basis.

A big misconception during the muscle gain phase is the amount of calories you need to consume. Due to the nature of muscle tissue, you only need to consume 200-300 calories above your energy balance (maintenance) set point. Increasing calorie consumption drastically will lead to eventual fat gain. Muscle gain takes time and patience. Aim for an increase in 2 pounds per month (the research is clear on this).

Practical Tips:

Find the calorie range that puts you in an energy surplus (preferably 200-300 calories above energy balance). From here, we need to find the most enjoyable and sustainable way to maintain this energy surplus based on your lifestyle factors. Use the tips below to help break plateaus and create muscle adaptation. Drink plenty of water. Muscle is composed of 70% water. Furthermore, de-hydration can lead to decreased performance and decreased muscle activation.

Aim for whole, non-processed, nutrient dense foods. A common mistake during this phase is to increase calories and throw food quality out the window. It is still extremely important to consume natural food sources as this will limit fat gain and maximize muscle gain. If you find it difficult to eat more calories, aim for caloric dense food sources (peanut butter, milk, steak, potatoes, and seeds if not contraindicated by an allergy, intolerance, or doctor). Aim for a protein source within each meal as protein will be vital for building muscle tissue.

Stress Management

Chapter Four

Stress management is probably the most overlooked factor in the health and wellness space. However, in reality, it's probably the most important. We cannot completely eliminate stress from our lives. However, we can increase our capacity to deal with stress (resiliency). Stress management is directly linked to exercise and nutrition. They work in conjunction and need to be accounted for along your wellness journey. Stress management includes topics such as sleep, scheduled relaxation, and recovery techniques. To understand this process further, let's dive into the science.

Science: General Adaptation Syndrome

The General Adaptation Syndrome was created by Hans Selye and illustrates the human body's response to stress. In simple terms, this process can be broken down into three steps.

Step 1- Stressor: Our bodies receive a stressor (exercise, nutrition, and/or lifestyle).

Step 2- Recovery: Our bodies are then stimulated. During this phase we need to implement proper recovery to meet or surpass the current stressor level.

Step 3: Adaptation or Exhaustion: If our recovery meets or surpasses the current stress level then our bodies are able to adapt and increase stress capacity. If our recovery does not meet the current level then our bodies enter the exhaustion phase which creates negative effects (sleep alteration, immune system dysfunction, mood disturbances etc.)

Based on this premise, we understand that recovery is just as important as or more important than the stressor (exercise, nutrition). We can have the best exercise/nutrition program in the world but if we don't have adequate recovery, it is useless.

Adherence

The key to building adherence in this area is by understanding bio-feedback. Bio-feedback is our body's internal messaging system. Bio-feedback is comprised of various topics such as sleep quality, fatigue levels, muscle soreness, stress levels, mood, motivation, resting heart rate, immune system function, skin health, and hunger/craving levels (to name a few). Through bio-feedback we can become aware when we gravitate away from homeostatic levels (normal). Like previously mentioned, our end goal isn't eliminating stress. Our end goal is to become more stress resilient. We can't always control the outcome of the situation but we can increase our capacity to deal with our response to the situation. Understanding bio-feedback allows us to determine when we need to implement interventions to increase recovery and ultimately increase stress capacity. Simply put, if bio-feedback is consistently poor we need to INTENTIONALLY increase the three key interventions mentioned below.

Application

In order to create proper recovery, we need to focus on 3 key interventions.

Sleep

Sleep is non-negotiable when it comes to wellness. It is by far the most important and well documented topic in the stress management arena. During sleep, our bodies recovery, reset, and recharge. Sleep has a direct influence on hormone levels which is linked to everything else in the wellness space. Aim for a minimum of 7-8 hours per night. If you can't find the time to do this, you need to recalibrate your schedule and/or find times throughout the week where napping can be implemented.

Scheduled Relaxation

Find times throughout the week where you can schedule relaxation time. This will look different from person to person. This includes choices like movies, board games, hobbies, social connections, leisure activities, reading, and/or other interests. Scheduled relaxation targets your Para-Sympathetic Nervous System and allows your body to rest and digest.

Recovery Techniques

Lastly, you want to think about purposely adding in recovery techniques to your weekly lifestyle, especially if you have high stress levels. This area includes things like salt baths, contrast showers, saunas, massages, essential oils (aromatherapy), and ice therapy to name a few.

Find your why

Chapter Five

Changing human behavior is extremely difficult. There has been a lot of research to support the connection between emotions and change. In order to create lifestyle change, we need to connect with the underlying reason.

Why are you wanting to achieve your goal? Many times, our why has less to do with what we see and more to do with what we feel. I want to challenge you to find the true motive behind your wellness goal. If your motivation is externally based, then odds are it won't manifest into something powerful. If your motivation is internally based it will possess a deep emotional connection. This connection is extremely important when facing behavior change. Dig deep and connect your 'why' to something that matters to you.

The goal can be something external such as losing 30 pounds. However, the question remains, why do you want to lose those 30 pounds? Is it to build an external image? Most people that reach their goals possess a deep internal motivation that helps burn the fire over a lifetime.

These motivations can be centered around loved ones, passions, health conditions, quality of life, medical bills, and many others. Your best is yet to come!

I'm humbled and honored to take this journey with you.

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If you want more information on The Spark Program, please feel free to visit www.eudafit.com/spark.