BOX PROGRAMMING CERTIFICATION

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PRINCIPLES

General Adaptation Syndrome (GAS)

What is it?

General Adaptation Syndrome is Hans Seyles theory of the three predictable phases our bodies experience in response to stress. They are alarm, resistance, and exhaustion from overtraining. His theory was later adapted to describe training stress.

How does it work?

Alarm phase:
The initial phase of training, when the first stimulus is recognized and performance generally decreases in response to fatigue.

Resistance phase:
The increase in resistance to stress can be referred to as “adaptation” and when the stressor is exercise then it can be referred to as “training adaptation”.

Supercompensation phase:
A new level of performance capacity that takes place in response to the adaptation.
Overtraining:

If/when stressors are too high, performance will decline as well as other deleterious effects that result from overtraining syndrome.

Why it's relevant to you and your clients:

Training can be described as the process where the body is exposed to stressors and learns to cope with future exposure to those stressors.

Your clients undergo this process consistently throughout their tenure in your facility. They are constantly adapting to the new variations of exercises they are exposed to.

It can be exciting to see supercompensation in your clients but managing their training stress load is an integral part of a well-designed plan to prevent overtraining syndrome.

Notes:

To ensure adaptation continues to occur stressors need to be removed in a timely manner and reapplied in a new way or by using progressive overload. This can be accomplished by avoiding monotonous training, too heavy of loading, and high-intensity conditioning too often (less than 72 hours between sessions).

It’s important to remember that if stress is too intense, too often, exhaustion or overtraining will occur. Also note, that other life-stressors will have a role in whether or not someone overtrains, so it’s vital to recognize additional stressors.

Adaptation

What is it?

Adaptation is the adjustment of an organism to its environment. In training adaptation it's the clients adjustment to their training stimuli.

How does it work?

Regular exercise is the vehicle for adaptation which occurs on a number levels both directly and indirectly to training stimuli.

Why it's relevant to you and your clients:

Understanding the proper balance of programming and the ebbs and flows of their results is important so your clients can stay focused on the task of reaching their fitness and lifestyle goals as well as staying engaged in the process.

Notes:

During the adaptation process training will be stimulating, retaining, as well as detraining.

As a client goes through the natural ebbs and flows of adaptation it is essential to create programs with a variety of measures, that do not focus solely on high-intensity work.

Understanding the process of adaptation will allow your clients to see the reasoning behind lower intensity training days.

Supercompensation

What is it?

When training stress is appropriately structured, and not excessive, the adaptive response is to elevate one's level of fitness above their initial baseline.

How does it work?

During training structural, biochemical, and mechanical adjustments occur in the client's body, as explained through General Adaptation Syndrome, that allow him/her to perform above their initial level. For this to happen, training volume and intensity must not induce the "exhaustion" phase.

Why it's relevant to you and your clients:

Understanding supercompensation helps ground the client in the experience of adjusting to new training stimuli, while recognizing how optimal programing will maximize their initial gains, which have the potential to be substantial.

Notes:

Your clients will go through this phase quite often, but it's important to take into consideration their training age, current state of conditioning, and injury history, to better understand the level of adaptations that will take place.

Specific Adaptation to Imposed Demands

(SAID)

What is it?

Specific Adaptation to Imposed Demands is the concept that the type of demands placed on the body dictate the type of adaptation that occurs. SAID can be used interchangeably with “training specificity.”

How does it work?

Understanding SAID allows us to engage in sport specific training.

High power sports require explosive strengths and respond best to plyometrics.

High endurance sports require training of the oxidative system and development of slow-twitch fibers so cardiac output work is preferred.

Strength-Speed Sports like powerlifting require the training of all three special strengths.

Why it's relevant to you and your clients:

Most of your clients are training to improve body-composition.

For best results they need to developALL special strengths/capacities to improve body-composition, posture, and promote longevity, as the saying goes, if you don’t use it, you lose it.

Notes:

All special strengths and aerobic functions will be broken down in future modules.

The key take away from this unit is that all types of training have a place in our model of fitness. This framework allows for a concurrent model that improves multiple systems simultaneously, while preventing injury and overtraining.

Accommodation

What is it?

Accommodation is when the body adjusts to stimuli. Constant exposure to the same stimuli over time can cause detraining (the loss of aerobic and muscular gains) along with diminishing returns.

How does it work?

Accommodation occurs when the program is not varied enough and relies heavily on the same modes of exercise, load, and intensity.

Why it's relevant to you and your clients:

This is a basic principle of human biology that we cannot avoid - having variety is stimulating both in performance and mental acuity.

Notes:

Too much of the same thing will overtrain your clients and cause them to lose momentum with their progress.

TRAINING EFFECTS

What are they:

Training effects are the physiological adaptations that improve both capacity and efficiency in response to consistent exposure to exercise.

The effects of resistance training are maximal strength development and hypertrophy.

The effects of aerobic training are higher efficiency of the heart and lungs.

How does it work?

Training effects vary based on exercise mode, exercise frequency, exercise duration, exercise intensity, and exercise volume.

Why it's relevant to your clients:

Understanding how each training session affects the next is important so they can understand how to better monitor stress and their progress (or lack of progress).

Acute Training Effects

What are they?

Changes that occur during exercise.

How does they work?

These training effects are the actual impacts to the client's body that occur during the exercise, e.g. changes in heart-rate during an air bike sprint.

Why it's relevant to your clients:

Understanding all forms of training effects is more important for the coach than the client, as it helps the coach to understand their client's progress or lack there of.

Immediate Training Effects

What are they?

Immediate training effects are the results that are manifested after, and in response to, a single training session.

How do they work?

Will manifest after a training session e.g. fatigue.

Why it's relevant to your clients:

Understanding the immediate effects of training, such as soreness and fatigue, will allow the coach to navigate and prescribe scaling options to help the client best manage their period of adjustment to new stressors.

Cumulative Training Effects

What are they?

Cumulative training effects occur as a result of continued training sessions or even seasons of training.

How does they work?

They manifest after prolonged bouts of strength training e.g. gains in maximal strength.

Why it's relevant to your clients:

Understanding cumulative effects allows the client to see the value of consistent and patient training, recognizing gains as a cumulative process.

Delayed Training Effects

What are they?

Delayed training effects are manifested over a given time interval after a performed training routine.

How do they work?

Hard training work induces fatigue that accumulates over time so a period of “easier” exercise is needed to uncover effects from previous training, also called “delayed transformation.”

Why it's relevant to your clients:

Clients need to understand that training effects are maximized when hard-training is accompanied by easier sessions to allow supercompensation to occur, while preventing overtraining syndrome.

Partial Training Effects

What are they?

Partial training effects are the changes produced by single training means e.g. the box squat.

How do they work?

They are the effect of one specific aspect of a training session, such as high-volume wall balls producing high-levels of lactate and peripheral fatigue.

Why it's relevant to your clients:

Understanding partial training effects allows them to monitor their own volume and make smarter decisions about scaling workouts as needed.

Residual Training Effects

What are they?

Residual training effects are the retained changes that occur at the cessation of training that last beyond the time period during which adaptation can take place.

How does they work?

These are training effects that are kept even after training has been stopped, however, de-adaptation inevitably takes place and detraining will occur.

Why it's relevant to your clients:

It is important from them to understand that regular exercise should be a part of their routine for life, not just used to accomplish one specific goal or during a singular time period.

THE NERVOUS SYSTEM

Central Nervous System (CNS)

What is it?

The complex of nerve tissues that controls the activities of the body. In vertebrates it comprises the brain and spinal cord.

How does it work?

Controls most the functions of the body and mind. It consists of the brain and spinal cord.

Why it's relevant to your clients:

It allows them to understand that adaptation to training stimulus has a neural component that affects their progress and can help explain adaptations that take place with strength and hypertrophy work.

Notes:

Central factors that relate to an athlete is the coordination of muscle activity. This can be viewed via the ME method.

Peripheral Nervous System (PNS)

What is it?

Part of the nervous system that is outside the brain and spinal cord.

How does it work?

The primary role of the PNS is to connect the CNS to the organs, limbs, and skin.

Why it's relevant to your clients:

Can help explain fatigue in workouts that involve high amounts of local musculature.

Notes:

Maximal force capabilities of individual muscles - developed with the RE method.

Automatic Nervous System (ANS)

What is it?

The part of the nervous system responsible for control of bodily functions not consciously directed, such as breathing, heartbeat, and digestive processes.

How does it work?

The ANS has two main divisions: sympathetic (fight or flight) and parasympathetic (rest & digest).

Why it's relevant to your clients:

Can help prevent overtraining syndrome and will make clients more aware of their own signs of fatigue, allowing them to become more accountable for monitoring fatigue and utilizing stress reduction tactics.

Notes:

By using an HRV (heart-rate variability) tool as well as "recovery methods" we can regulate both the sympathetic and parasympathetic responses to improve performance as well as expedite recovery.

Heart-Rate Variability (HRV)

What is it?

Heart-rate variability is a tool to monitor changes in the autonomic nervous system (ANS) which regulates two branches: the sympathetic (fight or flight) and parasympathetic (rest & recover). Changes in heart-rate can indicate excessive amounts of fatigue (both training and non-training) and serve as a guide for your clients to take rest days or simply down-regulate their effort in a given training session.

How does it work?

Information on the ANS response to stress can give the coach and client a window of information into how the client is responding to stress. If HRV scores are continuously showing signs of fatigue and low energy, then this can provide the coach valuable information that can drastically alter the longevity/success of the clients fitness journey.

The body’s response to varying stimulus is also known as allostasis.

HRV gives the client and coach a glimpse into the inner workings of allostatic load so they can see precisely how the body is responding to the demands placed upon it.

Why it's relevant to your clients:

How clients handle stress in your facility and outside of your facility can be instrumental in predicting their length of membership.

All too often, clients avoid the warning sides, such as how they're feeling and still push themselves because society tells them they need to work harder to get better.

We know this is simply not the case and by using HRV we force the client to take ownership on their training as well as their lives outside of the gym.

HRV is an invaluable tool to ensure future success and continued membership at your facility.

Notes:

This information comes from the teachings of Joel Jamieson at 8weeksout.com and his Certified BioForce Conditioning Coach Course. His HRV tool, Morpheus, is the best on the market.

PLYOMETRICS

Power

What is it?

Defines force-speed relationship.

Plyometrics improve production of muscle force and power. Defined by two models: mechanical and neurophysiological.

How does it work?

Plyometrics are used to improve rate of force development as well as fast twitch muscle fiber maintenance.

Why it's relevant to your clients:

Plyometrics provide a variety of benefits for both health and performance.

Mechanical Model of Plyometrics

What is it?

In the mechanical model of plyometrics elastic energy in the musculotendinous components is increased with a rapid stretch and then stored. When this movement is immediately followed by a concentric muscle action, stored elastic energy is released - increasing total force production.

How does it work?

See series elastic component.

Neurophysiological Model of Plyometrics

What is it?

The neurophysiological model of plyometrics involves potentiation, the change in the force-velocity characteristics of the muscle contractile components caused by stretch of the concentric muscle action by use of the stretch reflex.

How does it work?

See stretch reflex.

Series Elastic Component (SEC)

What is it?

SEC is part of the mechanical model of plyometric exercise, it is **a non-contractile component of muscle that lies in series with muscle fibers**.

Series elastic components store energy when stretched and make a major contribution to the elasticity of the human skeleton.

Tendons are the major representatives of the series elastic component, but the cross bridges between actin and myosin may also contribute.

How does it work?

When the musculotendinous unit is stretched, as in an eccentric muscle muscle action, the SEC acts as a spring and is lengthened; as it lengthens, elastic energy is stored.

If the muscle begins a concentric action immediately following the eccentric action, the stored energy is released allowing the SEC to contribute to the total force production by naturally returning muscles and tendons to their unstretched configuration. If the transition phase, or amortization is too long, this stored energy is lost (box squat).

Why it's relevant to your clients:

Understanding how the SEC works in basic exercise can help them steer clear of injuries as well as improve rate of force development.

Notes:

This will be covered in more depth in strength-systems, particularly in the Dynamic Effort Modules.

Stretch Shortening Cycle (SSC)

What is it?

The SSC is part of the neurophysiological model of plyometric exercise that involves potentiation. The stretch reflex is the body’s involuntary response to an external stimulus that stretches the muscles. The SSC employs the energy storage of the SEC and stimulation of the stretch reflex to facilitate a maximal increase in muscle-recruitment over a minimal amount of time.

How does it work?

Eccentric Contraction is the stretch of the agonist muscle (a muscle whose contraction moves a part of the body directly). Elastic energy is then stored

in the SEC. Muscle spindles are stimulated. Amortization occurs which is a pause between eccentric and concentric actions. Type 1a afferent nerves synapse with alpha motor neurons. Alpha motor neurons transmit signals to agonist muscle group. Concentric: shortening of agonist muscle fibers. Alpha motor neurons stimulate the agonist muscle group. Also referred to as “reversible muscle action”.

Why it's relevant to your clients:

Understanding the basic concepts helps to further explain plyometrics (the difference between step down vs. rebounding box jumps), the olympic lifts and squats (bouncing out of the hole) as well as the logic behind using movements like the box squat to build reversal strength without the aid of the SSC.

Notes:

This will be covered again in strength-systems, particularly in the Dynamic Effort Modules.

Explosive Strength Work

What is it?

Explosive strength work is used to improve rate of force development and is an important aspect of strength development. It utilizes fast twitch muscle-fiber which are higher threshold motor units.

As your clients age their type 2 fibers deteriorate, which is applicable to other aspects of health and performance.

How does it work?

Explosive strength work is executed most effectively in a group setting with a variety of plyometrics - both unweighted and weighted.

Why it's relevant to your clients:

Maintaining type 2 muscle fibers will improve performance and keep training balanced, while also acting as a neural charge tool.

Notes:

Explosive strength work should be used during Dynamic Effort sessions.

SKELETAL MUSCLE FIBERS

Eccentric

What is it?

Stretch of agonist muscle.

How does it work?

Elastic energy is stored in the SEC. Muscle spindles are stimulated.

Amortization

What is it?

Pause between eccentric and concentric phase

How does it work?

Alpha motor neurons transmit signals against agonist muscle group.

Concentric

What is it?

Shortening of agonist muscle fibers.

How does it work?

Elastic energy is released from the SEC.

Type 1

What is it?

Slow-twitch, more suited for enduring activities (aerobic). These red fibers have high levels of aerobic enzyme activity, capillary density, mitochondrial density, and intramuscular triglyceride stores, and low fatiguability.

How does it work?

Characterized by low fatiguability and ideal for low intensity, long duration actives such as long distance running or swimming and high numbers of repetitions with light weights.

Has limited potential for rapid force development as characterized by low myosin ATPase activity and low anaerobic power.

Why it's relevant to your clients:

Understanding where their strengths and weaknesses lie and how they'll adapt to specificity of training. This will help the coach understand how some clients respond to different training stressors and why others do not. This can also help explain the lack of progress with a single modality as muscle-fibers rely on genetics.

Notes:

Know that the aerobic system has room for development, but the anaerobic system has less room for development i.e. you're not going to be able turn a distance runner into a sprinter. The soleus has a high composition of Type 1 fibers.

Type 2A

What is it?

White/Red Fibers possess both good aerobic and anaerobic abilities. While these fibers do not possess the same capabilities for explosive sports as 2X or enduring sports such as 1, many high-level CrossFitters may fall into the category of having high concentrations of 2A fibers although many subsets of muscle fibers do exist (refer to Type 2c, Type 2ax.)

How does it work?

Characterized as inefficient and fatiguable and as having low aerobic power, rapid force development, and high anaerobic power. Type 2a and 2x differ mainly in their capacity for aerobic-oxidative energy supply. Type 2a fibers have greater capacity for aerobic metabolism.

Why it's relevant to your clients:

Understanding where their strengths and weaknesses lie and how they'll adapt to specificity of training. Helps the coach understand how some clients respond to different training stressors and why others do not. This can also help explain the lack of progress with a single modality as muscle-fibers rely on genetics and this will help the coach understand movement specificity with both variation and loading to achieve the desired outcome.

Notes:

Clients with high concentrations of Type 2a muscle-fiber will likely be the "stud" client that excels in both speed-strength while still having a great engine/aerobic capacity. The quadriceps group have a mixture of Type 1/2 muscle fibers to enable both low and high output activities such as jogging and sprinting.

Type 2X

What is it?

White fast-twitch fibers or fast glycolytic fibers, are recruited for very short-duration high-intensity bursts of power such as maximal and near-maximal lifts and short sprints.

Type 2X fibers contain a low content of myoglobin, relatively few mitochondria.

How does it work?

Characterized as inefficient and fatiguable and as having lower aerobic power than Type 2a, rapid force development, and high anaerobic power. Type 2x and 2a differ mainly in their capacity for aerobic-oxidative energy supply. Type 2x fibers have less capacity for aerobic metabolism vs. Type 2a.

Why it's relevant to your clients:

Understanding where their strengths and weaknesses lie and how they'll adapt to specificity of training. This will help the coach understand how some clients respond to different training stressors and why others do not. This can also help explain the lack of progress with a single modality as muscle-fibers rely on genetics.

Notes:

Clients with high concentrations of Type 2x will excel with strength and power development, but "gas out" quickly in a metcon. The gastrocnemius possesses a high concentration of Type 2 muscle fiber.

Group Programming Considerations

What are they?

Understanding where certain clients will excel and others will struggle. This is critical to ensure clients are getting the most out of the program design.

How do they work?

Understanding your clients training histories will help coaches better understand how to guide clients during their training sessions. For instance, endurance athletes will struggle with explosive strength work.

Why it's relevant to your clients:

This will help clients understand their individual make-up which will allow them to better reach their goals and adjust their training schedule in order to get the most benefit out of the programming.

Notes:

Aligning clients' goals to programming.

STRENGTH SYSTEMS

What is strength?

What is it?

Strength is the single most important aspect of fitness for clients in group programming. It provides the basis for success across multiple modalities as well as increased resiliency and longevity.

How does it work?

Strength is defined as the ability of a given muscle or muscle group to general force. While they're a number scenarios for ‘strength’ to be manifested, all of the special strengths listed will help provide context as to how strength is developed, classifications, and specific guidelines therein.

Why it's relevant to your clients:

All special strengths contribute to increasing strength qualities.

Notes:

Each special strength has a specific intent and parameters that are instrumental in its use - in our model of concurrent fitness, we seek to improve all special strengths simultaneously.

Strength Adaptations

What are they?

Understanding the adaptations that take place from various forms of special strength training helps ensure your clients program design will allow for a balanced attack of strength development.

Maximal force or torque of a muscle or a muscle group can generate the ability of the neuromuscular system to produce force against an external resistance. This can be expressed in biomotor abilities which also includes speed and endurance. Strength is directly related to other qualities of fitness.

How do they work?

Strength adaptations result in an increase in the number of filaments per myofibril, myofibrils per muscle fiber, and filament area density.

They also create an enlargement of the cross-sectional areas of individual fibers (hypertrophy), and an increased number of motor fibers or individual fibers, known as hyperplasia, but contribution to muscle size is still not known (some research has shown less than 5% while other research is inconclusive).

People with a large number of fibers have greater potential in strength sports such as powerlifting or olympic lifting. The size of individual fibers does increase with training, but the number of fibers is not changed.

Strength exercises can increase the number of filaments per myofibril, and the myofibrils per muscle fiber. This can reduce age related drops in muscle tissue.

Muscle cell size and strength are synonymous.

Increase in cross-sectional area (hypertrophy) - increase number of contractile units.

Why it's relevant to your clients:
All special strengths contribute to increasing strength qualities.

Notes:
Further resources should include basic muscle physiology which can be found in any exercise science text e.g. “Essentials of Strength Training and Conditioning.”

General Strength

What is it?
Refers to strength of the whole muscular system, this is the foundation of any general fitness program. General strength can be developed using GPP measures such as sled work. If neglected the clients progress can be impeded and/or significant deficiencies may exist.

Specific Strength

What is it?
Refers to motor patterns that are essential to a sporting activity. This is typically worked on outside of the gym and will likely be applicable to your one-on-one clients, but not your group clients.

Speed Strength

What is it?
The ability to develop force rapidly and at higher velocities. Effectively developed using the dynamic effort method. Developing speed strength is the intent of accelerating through each repetition and olympic lifting using percentages of 75-85% of 1-Rep max. Is targeted in 2-3 week pendulum waves.

Strength Speed

What is it?

Refers to moving near maximal loads as fast as possible. Bar velocity is slower than that of speed strength. Loading above 90% of 1-Rep max. Greater emphasis is on load vs. speed and is developed at slow velocities.

Maximum Strength

What is it?

Maximum strength is the highest force the neuromuscular system can generate during a max contraction, and it is the highest load an athlete can lift for 1 repetition. It is used with the max effort method to develop inter and intramuscular coordination.

Muscular Endurance

What is it?

The ability of the neuromuscular system to produce force in a repetitive fashion over extended periods of time. This includes the total number of repetitions that can be lifted with a specific load its a marker of muscular endurance. Muscular endurance can be trained in a variety of manors with both single and multi-joint movements.

Absolute Strength

What is it?

Muscular strength when not related to bodyweight.

How does it work?

Favors individuals with higher bodyweight. With increases of bodyweight comes an increase in absolute strength, but relative strength decreases. A

good example is a shot-putter who tend to be taller and heavy, but not obese - athletes with large body dimensions have an advantage here.

Why it's relevant to your clients:

Using bilateral movements that require the athlete to start from a disadvantage such as concentric only variations. The Anderson squat is a great example of concentric based variation that relies on an athletes ability to move a maximal load without the use of the elastic component of a lift. Best used with the Max Effort Method, 1 rep-maxes.

Relative Strength

What is it?

Strength calculated in relation to bodyweight.

How does it work?

Favors individuals with lower bodyweight. A great example is a gymnast, they tend to be shorter and smaller with the requisite of needing to lift their own bodyweight through space.

Why it's relevant to your clients:

Bodyweight variations such as the pull-up and push-up, used with the repeated effort method or sub-maximal effort method.

Max Effort Method

What is it?

Lifting a maximum load for 1-Rep max. This is the best method for improving both intermuscular coordinate (maximum number of motor units activated) and intramuscular coordination (ability to improve movement patterns). Improves motor unit recruitment and improves rate coding (The force exerted by a muscle during a voluntary contraction depends on the number of motor units recruited for the action and the rates at which they

discharge action potentials). Improves MU synchronization Improves coordination pattern which results in an increase of serum testosterone/ growth hormone.

How does it work?

The muscles and central nervous system (CNS) adapt only to the load placed upon them, so maximal loading will bring about the greatest gains in strength. As a result, the trainee years to enhance and memorize changes in motor coordination without having to think about it.

Athletes using the ME method can easily become burnt out if it's used too often (this is why the lift-heavy often model should be avoided). Can be characterized as "strength-speed" work where intensity is highest and bar velocity is slow.

Can ONLY be trained every 72 hours/separated from DE Method. Works best when done with 1-Rep Maxes blends well and can potentiate high-threshold Conditioning.

Why it's relevant to your clients:

Bilateral movements i.e. squats, presses, pulls rotating variations each week and retesting every 12-16 weeks.

Notes:

Used for the upper and lower body x 1 session each per week. Is separated from dynamic effort work by a minimum of 72 hours. Adhere to Prilepins chart in terms of loading recommendations (no more than 3 singles above 90% of 1RM).

Dynamic Effort Method

What is it?

Lifting a non-maximal load with the highest attainable velocity. Primary of objective is to improve Rate of Force Development (RFD) Increases the corridor of recruited and trained motor units.

How does it work?

Using sub-maximal loading and moving with the intent of using optimal bar velocity (between .7-.9m/s) Is highly dependent on an individuals make-up for fast twitch vs. slow twitch muscle-fibers. In group programming, can act as a teaching tool to reinforce good motor patterns i.e. sub maximal loading allows us to remove the need to lift slow/heavy). Must be separated from ME Lower by a minimum of 72 hours. Works best done with triples in group programming. Blends well and can potentiate high-threshold conditioning

Why it's relevant to your clients:

Bilateral Movements i.e. squats, pull, presses, and their variations. Performed in 2-3 week dynamic effort pendulum waves with an increase of 5% of each subsequent week.

Notes:

Used for the upper and lower body x 1 session each per week. Is separated from max effort work by a minimum of 72 hours. Adhere to Prilepins chart in terms of loading recommendations.

Submaximal Effort

What is it?

Stimulate muscular hypertrophy, it’s used to improve muscular imbalances utilizing special exercises. Sets are kept within 2 repetitions of maximal. Only recruited MU’s are trained, induces high rates of fatigue so needs to be used with the overall intent in mind. Sets are NEVER performed to failure. Used to reinforce good motor patterns, particularly with inexperienced clients.

How does it work?

Critical for the success of athletes of all levels in group program design. Is used in place of bilateral work in group program design, but is NOT limited to only single-joint movements. Can include multi-joint movements performed with a variety of variation. Time under tension is between 6-10 seconds, volume recommendations with ranges are given to facilitate multiple abilities and resistance training experience.

Why it's relevant to your clients:

Special exercises for all muscle-groups include bent-over rows, glute ham raises, glute bridges, good-mornings, reverse hypers, barbell tricep extensions, pull-ups, and dips. Can be used with squats, pulls, and presses to improve motor patterns while giving newer athletes repeated exposure with loads that coincide with their ability.

Notes:

For the purposes of group programing the best anecdotal guidelines we've found to be anywhere from 15-30 total repetitions. Cluster sets work well with the submax method.

Repeated Effort Method

What is it?

Stimulates muscular hypertrophy. Used specifically to target limitations and lagging muscle groups. Sets are trained to maximum effort. Increases neuromuscular efficiency, while increasing the ability of the muscle to generate force. Muscles with large physiological cross-sectional area produce more force than similar muscles with a smaller cross section.

How does it work?

Arguably the most valuable tool for group program design, its used with single-joint special exercises to target weak muscle groups.

Time under tension between 10 to 30s. Volume recommendations will be higher than any of other strength work because the movement demand is low. Does NOT include multi-joint movements in our model of group program design. Improves body-composition and increases lean body mass.

Will effectively increase maximal strength in bilateral movements including the olympic lifts. Can be executed in a “conditioning setting” mixed with cyclical work. Is often performed as a “stand alone” accessory piece at the end of class. Rep ranges vary greatly, anywhere between 50-100 total reps.

Can be used to substitute for bilateral work with new athletes. Will improve strength-endurance of local musculature. Improves oxidative abilities of slow twitch muscle fibers.

Why it's relevant to your clients:

These are all single joint exercises. In group program design the musculature of the glutes, hamstrings, posterior deltoids, rhomboids, lattismus, biceps and triceps groups, and pillar complex (core, hips, shoulders) are targeted on a weekly basis.

Notes:

See our list of top variations for all muscle-groups.

Accommodation

What is it?

If a coach employs the same exercises or training loads over long periods of times (more than 3 weeks), performance improvement decreases.

How does it work?

Repeated training stimulus such as the use of linear periodization for more than 3-weeks at a time causes individuals to adapt to the training stimulus. As a result, progress will stall or decline.

Why it's relevant to your clients:

Your clients are paying their membership with the expectation of consistent progress. By including a rotation of work they'll continue to move forward and not be bored by the process.

Notes:

Refer to Science and Practice of Strength Training.

PRILEPINS CHART

PERCENT 1RM	APPROXIMATE NUMBER OF REPETITIONS	OPTIMAL	TOTAL RANGE
40%	4-8	36	30 to 50
50%	3-6	30	18 to 30
60%	3-6	24	18 to 30
70%	3-6	18	12 to 24
80%	2-4	15	10 to 20
90%+	1-2	4 to 10	1 to 10

MOVEMENT CLASSIFICATIONS

GLOBAL	REGIONAL	LOCAL	CYCLICAL
THRUSTERS	KIPPING PULL-UPS	STRICT HSPU	ROWING
WALLBALLS	TOES TO BAR	PUSH-UPS	RUNNING
SUMO DEADLIFT	BOX SQUATS	STRICT CHIN-UPS	AIR BIKE
SNATCHES	UNWEIGHTED LUNGES	STRAIGHT LEG RAISES	LIGHT SLEDPULL FOR DISTANCE
CLEAN & JERK	PISTOLS	BACK EXTENSIONS	SKI ERG
BURPEES	PUSH PRESS	BANDED PULL-APARTS	SWIMMING
SLEDPULL POWERWALK	AIR BIKE	SHOULDER PRESS	LIGHT FARMER CARRY FOR DISTANCE

RUNNING	**DOUBLE UNDERS**	**BAR DIPS**	**BELT SQUAT WALKING FOR TIME**

VOLUME PRESCRIPTIONS

MODALITY	APPROXIMATE NUMBER OF REPETITIONS
SUBMAXIMAL METHOD	15-30 TOTAL REPS
REPEATED EFFORT METHOD	50-100 TOTAL REPS
BAND WORK HYPERTROPHY	50-100 TOTAL REPS
SLED STRENGTH WORK	SETS OF 40-60 YARDS
LOADED CARRIES	SETS OF 20-40 YARDS
BAND WORK SOFT-TISSUE	100-200 TOTAL REPS

SOFT TISSUE WORK

Why?

Easy to teach and does not require high-levels of skill to perform correctly. These variations can improve strength capabilities of the muscle and also act as a rehabilitative measure improving the resiliency of connective tissues.

How does it work?

Can be used for both hypertrophic adaptations as well as soft-tissue improvement. The result of this work carries the benefit of improving the quality of tendons as well as increasing the elastic ability of soft-tissue.

Guidelines?

High Volume 100-200 total reps per movement. This should varied regular i.e. position, grip, stance, band-thickness.

Lower-body	Upper-body	Rep schemes
Double Leg Banded Hamstring Leg Curls	Banded Facepull-aparts	100-150 reps
Banded Pull-Throughs	Banded Pushdowns	100-150 reps
Prone Banded Hamstring Leg Curls	OH Banded Tricep Extensions	100-150 reps
Banded Glute Bridge	Banded Pull-apart (vary grip between pronated/supinated)	200-300 reps

Single Leg Banded Hamstring Leg Curls	Banded Pull-apart (vary grip between pronated/supinated)	150-200 reps each leg

BIOLOGICAL ENERGY SYSTEMS

Bioenergetics

What is it?

How the body supplies energy required to meet the physical demands of various physical activities.

How does it work?

The flow of energy in a biological system concerns primarily the conversion of carbohydrates, proteins, and fats which contain chemical energy into useable forms of energy. The breakdown of chemical bonds in these macronutrients that provides energy necessary for work.

Why it's relevant to your clients:

The coach who understands the bioenergetic properties of physical activity and sport as well as the impact of the timing of the presentation of training stimuli on the timeline of physical adaptation will have a greater chance of developing effective training plans.

Notes:

To understand all these systems in more depth, I would recommend taking a basic exercise physiology course, if you have not taken one already.

Phosphagen (ATP-PC) System

What is it?

The primary anaerobic (without oxygen) system for energy for extremely high-intensity activities, such as sprints, (40 yard dash or 1RM Power Clean) and sports such as American football.

How does it work?

Provides ATP primarily for short-term, high intensity activities e.g. 40 yard dash, 1RM Power Clean or 10s Assault Bike Sprint. This system is highly active at the start of all exercise regardless of the intensity. This energy system relies on the hydrolysis (breakdown) of ATP and the breakdown of another high-energy phosphate molecule called creatine phosphate (CP) also called phosphocreatine. Occurs in the sarcoplasm of the muscle cell.

Why it's relevant to your clients:

Skeletal muscle can only store small amounts of ATP and can be depleted in as little as 10 seconds of high-intensity work.

Understanding ATP explains why certain movements/workouts take longer to recover from, why effort degrades quickly in these situations, and how to program and explain the proper amounts of rest needed.

Notes:

An Example of a workout that relies heavily on the ATP-PC system is:
10 Rounds of:
10s Assault Bike Sprint
Rest 2:30 between sets.

Glycolytic System

What is it?

The second anaerobic system which is predominately energy for activities lasting 20 seconds to 2 minutes. The primary fuel source comes from the breakdown of blood glucose and glycogen.

How does it work?

Initially most of the energy (ATP) is supplied from fast glycolysis and as the duration of the activity approaches 2 minutes, the supply of ATP comes from slow glycolysis. An example of an event that relies heavily on the glycolytic system is a 400 meter sprint.

Why it's relevant to your clients:

Like the ATP-PC system ATP is depleted fast and requires longer bouts of rest to fully recover from. Being able to train both anaerobic systems in group programming is difficult when utilizing acyclic pieces, but being able to explain the logic of longer rest intervals as well as planning the proper rest within your program design is crucial to ensure proper delivery of higher-intensity work.

Notes:

An Example of workout that relies heavily on the Glycolytic system is:
Every 5:00 x 5 Sets:
15 Thrusters
15 Bar Facing Burpees

Oxidative System

What is it?

The aerobic system (with oxygen) the primary fuel source of ATP at rest and during low-intensity activities uses primarily carbohydrates and fats as substrates. This activity is longer than 2 minutes in duration and can be maintained for long periods of time.

How does it work?

The major difference between the oxidative system and the other anaerobic systems is that the enzymatic reactions occur in the presence of oxygen. The oxidative system is the primary source of ATP for events lasting between 2 minutes and 3 hours.

Why it's relevant to your clients:

The coach needs to understand the mechanisms that supply energy for exercise and performance and understanding the importance of the oxidative system in group program design is critical to your clients longevity.

Developing the aerobic system is critical for success in the sport of fitness. An efficient aerobic system has more potential to be developed than the other systems, but most importantly improving aerobic function can support a longer life, better recovery, and improved ability to replenish ATP for explosive work.

Notes:

An example of a workout that relies on the oxidative system: AMRAP 20: 400 Meter Run 15 Wallballs - 15 Kettlebell Swings

Overlap of Energy Systems

What is it?

All three energy systems contribute to ATP yield at all times, but depending on the activity one system may be more responsible than another.

How does it work?

In group program design, there are many overlaps in terms of energy systems with differing movement patterns and methods used. This presents challenges that need to be considered in the overall structure of a given workout if the desired stimulus is going to be met.

Why it's relevant to your clients:

If a coach isn't mindful of these overlaps, differences in movements, as well as energy demand required then your clients may see little improvement to their conditioning, recovery, and body-composition. Understanding these certainties will also help prevent overtraining.

Notes:

Additionally, if a coach is programming for an individual, or if a client has a specific goal, it's crucial to know the primary energy sources of their chosen sport or event to develop their training plan.

CONDITIONING (ATP-PC)

ATP-PC Power

Why?

Explosive bursts and ability to be quick

How does it work?

Improves rate of ATP regeneration by the alactic system by increasing the amount of enzymes involved in its energy production.

Exercises:

Global and/or cyclical movement patterns.

Guidelines:

- 7-10 seconds per rep
- 2-4 Minutes Rest
- 5-10 Sets
- 1 sessions per week

Sample Programming:

1) 10 Rounds of:
10s Sprint on Air Bike
Rest 2:00
2) 10 Rounds of:
3 Power Cleans @70% of 1RM

3) 5 Rounds of:
40 Yard Sprint
Rest 4:00

ATP-PC Capacity

Why?

Helps improve the ability to maintain explosive power for extended durations.

How does it work?

Improves maximum capacity of ATP-PC system by increasing the amount of stored phosphocreatine.

Exercises:

Global and/or cyclical movement patterns.

Guidelines:

- Work intervals of 10-15s
- Rest intervals of 20-90s
- 1 sessions per week

Sample Programming:

1) Every 3:00 x 5 Sets:
5 Squat Cleans (185/125)
2) 5 Rounds of:
3 Power Clean
3 Front Squat
3 Jerks
Rest 3-4:00
3) 6 Rounds:
15s Assault Bike Sprint
Rest 2:30

CONDITIONING (GLYCOLYTIC)

Glycolytic Power Intervals

Why?

Lactic power output is an important component of prolonged high energy output.

How does it work?

Stimulates increase in the enzymes involved in anaerobic glycolysis and shifts the metabolism of working muscles to rely more on anaerobic vs. aerobic metabolism.

Exercises:

Wide variety of exercises can be used for glycolytic power intervals, but using a combination of a global movement + cyclical pattern works well.

Guidelines:

- Max intensity and speed on each rep

Each rep should be 20-40s

- 1-3 minutes of rest between sets
- 5-7 sets per session
- 1 session per week

Sample Programming:

1)5 Sets of:

12 Calorie Row

12 Thrusters (95, 65)

Rest 2:00

2) 5 Sets of:

30 Second Assault Bike

Rest 2:00
3) 6 Sets of:
7 Burpees
10 Thrusters (95, 65)
Rest 2:00

Glycolytic Capacity Intervals

Why?

The ability to sustain anaerobic energy production for extended periods of time is important.

How does it work?

Stimulates increase in buffering mechanism involved with allowing anaerobic glycolysis to continue. Also increases glucose storage and utilization potential.

Exercises:

A wide variety of exercises can be used favoring global patterns such as running or rowing in sprint form.

Guidelines:

- Each set is 60-120s
- 2-5 sets
- Incomplete rest intervals, 1-2 mins

*Goal should be complete fatigue

Sample Programming:

1) AMRAP 20:
400 Meter Run
Rest 90s
2) 5 Rounds of:
300 Meter Row

Rest 90s.

Mixed Modality Circuits

Why?

Can improve lactic power and capacity of many different muscle groups in a time effective manner when used properly.

How does it work?

Produces very rapid rate of ATP turnover and high levels of blood lactate when large muscle groups are used. Stimulates increase in lactic power or capacity.

Exercises:

A wide variety of exercises can be used with a combination of global and/or cyclical patterns.

Guidelines:

- 60-90s per set
- Use primarily explosive exercises
- 1 session per week

Sample Programming:

1) 5 Rounds of 60s on/30s off:
1a) DB Thrusters
1b) Shuttle Sprint
1c) Deadlifts (155/105)
1d) Ab mat Sit-ups

CONDITIONING (OXIDATIVE SYSTEM)

Cardiac Output Method

Why?

Helps improve oxygen supply by increasing how effectively the heart can deliver oxygen and develops the peripheral vascular network. Incredibly easy to implement and crucial for developing the aerobic system.

How does it work?

Stimulates eccentric cardiac hypertrophy through volume overload of cardiac fibers thus causing them to stretch. This leads to an increase in left ventricular cavity volume.

Exercises:

Any low intensity exercises i.e. jogging, biking, ski-erg, rowing, swimming, light sled-pulls as long as heart-rate is in the correct range.

Guidelines:

- HR 130-150 BPM
- 30-90 minute session
- Increase volume overtime
- Used 1-3x a week

Sample Programming:

10 Minutes of:
Row for distance
10 Minutes of:
Bike for calories

10 Minutes of:
Light Sled-pull power-walk for distance
*All work is done at a "sustainable" pace

Cardiac Power

Why?

Helps improve oxygen supply at higher intensities and improves the endurance of the cardiac muscle.

How does it work?

Stimulates an increase in the contractile strength of the cardiac fibers along with the corresponding increase in mitochondria.

Exercises:

Any high-intensity exercises that maximally elevate the HR such as global movement patterns.

Guidelines:

- Heart-rate maximal on each rep of 60-120s
- Rest 2-5 mins or HR at 120-130
- 1 Session per week

Sample Programming:

5 Rounds of:
10 Thrusters (95/65)
10 Bar Facing Burpees
200 Meter Run
*Rest 3:00

High-Intensity Intervals

Why?

Offers a very unique combination of high intensity and high volume thus a high level of stimulus

How does it work?

Stimulates greater oxygen utilization and results in increased endurance of the fast twitch fibers

Exercises:

Unweighted or low resistance movements, like walking unweighted lunges. Cyclical movements like the Air Bike or SkiErg can be included.

Guidelines:

- 10-20 Minutes of work
- 4-5 sets
- 1-2 sessions per week

Sample Programming:

4 Sets of:
60s Box Step-ups (unweighted)
60s of KBS (53/35)
60s of Walking BW Lunges
60s Air Bike (moderate effort)

High-Resistance Aerobic Methods

Why?

Improving the aerobic abilities of the fast twitch fibers means high power can be maintained longer. This work is incredibly beneficial for general population athletes and high-levels of skill are NOT needed to properly execute this work.

How does it work?

Recruits high-threshold motor units and increases oxidative abilities of these fibers by supplying them with constant oxygen.

Exercises:

Sled-pull power-walk forward, backward, laterally, backpedal, or wheelbarrow walking.

Guidelines:

- HR Below ANT
- Each rep should be maximal intensity
- Rest to HR is 130-140
- 10-12s per set
- 10-15 sets per session
- 1 session per week

Sample Programming:

10 Rounds of:
60 yard Sledpull Powerwalk @AHAP. Rest 60s.

Loaded Carries/Strongman

Why?

Training the ability to maintain proper posture when heart-rate is elevated and fatigue sets in. This variations tend to be very low-skill and incredibly beneficial to general population athletes regardless of their level of ability.

How does it work?

Improves areas of core muscular endurance, posture, and grip strength.

Exercises:

Overhead movements (posture) carrying OH, Barbell Carries different loads/distances, Carries (heavy medball, KB, wheelbarrow), ODD Object carries like heavy medballs, and sledwork + loaded carry combination.

Guidelines:

- 60s-90s Work
- Choose a load that you can work for the entire interval without stopping
- 1-2 sessions per week. Can be done with high-resistance method (sled work).

Sample Programming:

10 Rounds of:
100 Ft. Stone Carry
100 Ft. Farmer Carry
Rest 90s-2:00

LOADED CARRIES

Why?

Can provide a multitude of benefits for your clients such as aerobic capacity, strength development, grip strength, and core/posture improvement without excessive axial loading. Perfect for group programming because they require very little requisite skills.

How does it work?

Using implements such as kettlebells, barbells, yokes, or heavy dumbbells, loaded carries can effectively improve multiple capacities and be adjusted to reach specific goals.

Exercises:

See chart below.

Guidelines:

Anaerobic or strength purpose, short distances of 20-40 yards x 8-10 sets aerobic work sets of 60-90s x 4-5 sets.

Examples	When to be used	Recommendations	Sample Programming
Farmer Carry	In a standalone conditioning session OR at the end of a lower-body session.	Heavy-loads x short intervals (20 yards) Moderate loads x medium distances (60 yards) Light loads x longer distances (200 yards)	5 x 60 yards. Rest 60-90s.

Examples	When to be used	Recommendations	Sample Programming
Front Rack Carry	In a standalone conditioning session OR at the end of any training session i.e. lower or upper.	Heavy-loads x short intervals (20 yards) Moderate loads x medium distances (60 yards) Light loads x longer distances (200 yards)	5 x 20 yards. Rest 60-90s.
Asymmetrical Carry	In it's own conditioning session OR at the end of a lower-body session.	Moderate loads x medium distances (60 yards) Light loads x longer distances (200 yards)	5 x 20 yards each. Rest 60-90s.
Overhead Carry	In it's own conditioning session OR at the end of a upper-body session.	Moderate Loads x short distances (20 yards) Light Loads x medium distance (40 yards)	5 x 40 yards. Rest 60-90s.
Safety Squat Bar Carry	In it's own conditioning session	Longer distances x 400-800 meters with a 1/2 - 3/4 BW (includes weight of the bar)	Max Distance in 8:00

Single Arm Farmer Carry	In it's own conditioning session OR at the end of any training session i.e. lower or upper.	Moderate to heavy load x moderate distance of 40-60 yards (split evenly)	4 x 30 yards each. Rest 60-90s.
Asymmetrical Carry (1 Front Rack + 1 Overhead)	In it's own conditioning session OR at the end of an upper-body session.	Shorter Distances with a moderate loads x 20-40 yards each side.	4 x 20 yards each. Rest 60-90s.
Barbell Carries (Back Rack, Zercher, or Front Rack)	In it's own conditioning session	Longer distances x 400-800 meters with a 1/4-1/2 BW (includes weight of the bar)	For time: 200 Meter Overhead BB Carry 200 Meter Front Rack BB Carry 200 Meter Back Rack BB Carry *Rest as needed.

SLEDWORK

Why?

Much like loaded carries sledwork does not require high amounts of skill and can effectively improve strength and conditioning without high amounts of external loading. This work is incredibly beneficial and should be included regularly if possible.

How does it work?

Trains the musculature of the glutes, hamstrings, calves, and quadriceps in a concentric manner which is easy to recover from.

Exercises:

See below.

Guidelines:

Anaerobic or strength purpose, short distances of 40-60 yards x 8-12 sets aerobic work sets of 10-30 minutes of steady-state work.

Variations
Sledpull Powerwalk
Sledpull Backpedal
Sledpush Sprint
Low-handle Sledpush
Heavy Sledpush
Sledpull Powerwalk for Distance
Sledpull Lateral Work
Sledpull with Kettlebells
Sledpull with Medball
Sledpull + wheelbarrow

PACING GUIDE

50-60%

How your clients will feel:

Conversational pace, as if they were going for a light jog with a friend. This is a pace that can be sustained for 30+ minutes. Primary energy system is the oxidative system. This training tends to be close to 100% Aerobic, where your athletes come across the finish line with the same pace they initially went out at. This training is important to facilitate the sustaining of higher levels of work without going anaerobic.

Heart rate:

120-130 BPM.

Ideal measures:

Cyclical i.e. running, rowing, biking.

Sample Programming:

At a slow pace:
5 Rounds of:
2 Minute Jog
2 Minute Bike
2 Minute Row

60-70%

How your clients will feel:

Still conversational, but their pace and heart-rate will be slightly higher so the conversation will be harder to maintain. This is a pace your athlete can sustain for 30+ minutes. Primary energy system is still the aerobic system. An example of this would be a cardiac output session where their heart-rate

must be under 150 BPM in order to increase the size of the left ventricle of the heart thus improving their ability to pump blood.

Heart rate:

130-150 BPM.

Ideal measures:

Cyclical i.e. running, rowing, biking, light sled pull. This can also be combined with other elements if HR is kept in correct range.

Sample Programming:

AMRAP 30:
400 Meter Sled pull (light)
600 Meter Row
800 Meter Run
*Athletes should not keep track of their rounds for this one.

70-80%

How your clients will feel:

Non-conversational and uncomfortable. Efforts are likely sustainable with short intervals of rest. These efforts may be sustainable if your athletes are smart with pacing. This type of pacing is a goal with CF Open workouts that are 7 minutes or longer. These workouts still utilize the aerobic system, but there is an overlap of anaerobic systems as well, but when done correctly will allow for higher-efforts to be sustained. This type of training will be comparable to how an CF Open workout feels and depending on the duration and breakdown of movements will determine how much reliance on each system.

Heart rate:

160-170 BPM.

Ideal measures:
Mixed Modality can be used here assuming the athlete is proficient.

Sample Programming:
Every 5:00 x 5 Sets:
12 Deadlifts (155, 105)
9 Hang Power Cleans (155, 105)
6 S20H (155, 105)
200 Meter Run

80-90%

How your clients will feel:
Short, intense workouts that are 5 minutes or less. These workouts are extremely uncomfortable. This pace is not sustainable without longer intervals of rest, and even with longer rest-intervals it won't usually won't be long enough in a group-setting to duplicate this effort for more than a few sets. Workouts that are 5 minutes or less, like "Grace" or "Isabel" are great examples. These workouts primarily use the Anaerobic Lactic system.

Heart rate:
Near Maximal.

Ideal measures:
Mixed Modality can be used here assuming the athlete is proficient.

Sample Programming:
For time:
30 Thrusters (135, 95)
30 Bar Facing Burpees

90-95%

How your clients will feel:

All-out max effort set. These intervals need to come with full recovery in order to be duplicated. A good example is Cardiac Power work - 60-90s max effort work.

Heart rate:

Max Heart-Rate

Ideal measures:

Cyclical or sled sprint.

Sample Programming:

10 Rounds of:
100 Meter Sled Push Sprint with an empty sled.
10 Thrusters
Rest 90s-2:00

100%

How your clients will feel:

All-out max effort set. These intervals need to come with full recovery in order to be duplicated. A good example is Cardiac Power work - 60-90s max effort work.

Heart rate:

N/A

Ideal measures:

Max Effort Method

Sample Programming:

1RM Power Clean

RECOVERY MEASURES

Parasympathetic Breathing

Why?

Drive recovery before leaving the gym. A simple and effective tool to help teach your clients about the benefits of recovery as well as the Parasympathetic Nervous system.

How does it work?

The time of recovery breathing is about turning off the sympathetic switch before we leave the gym, so techniques such as positive mental imagery can absolutely be paired together out of this position to really get the most out of these few minutes. Set your iPhone timer for your prescribed duration in order to avoid checking the clock, and just enjoy your time on the floor in celebration of the ball busting work you just put into the weights.

Exercises:

Lay on your back with the head resting on the ground. Elevate the legs to above heart level with knees slightly bent. Elevate the arms up overhead. Close eyes and relax the body reducing any tension of stress.

Guidelines:

Inhale 3-4 seconds, hold at Top 2-3 seconds, exhale 6-8 seconds, hold at Bottom 2 seconds

Global Foam Rolling

Why?

Recovery and parasympathetic response is the goal, so make sure you aren't putting yourself into worlds of pain on the roller, as pain is one of the most sympathetic responses known to man. If an elicited pain response is strong enough to stimulate a threat into the system, aka a sympathetic response, you negated any benefits from this modality in the performance recovery system, so ensure that you are strategic with your soft tissue skills, while modulating your system's excitability with the most effective tool we have available to us, our breathing tempo and rhythm. With any parasympathetic directed technique, slow, controlled deep breathing strategies should be incorporated.

How does it work?

Precisely locating and treating neuromuscular trigger points in soft tissues to normalize the tone (via increased acute spontaneous electrical activity) of these regions with small and targeted oscillatory perturbations, we are going to course the entire tissue of some of the biggest muscles in the body and go after the "pizza dough roller" effect. Using larger passes anywhere from 6-12 inches at a time (or relative foam roller movement on the floor) you'll be able to cover more area, and eventually come into contact with all major aspects of each superficial region you'll be targeting.

Exercises:

N/A

Guidelines:

Target big superficial musculature. Spend 2-3 minutes on each muscle. Use global techniques with 6-12 inches of motion on roller. Utilize parasympathetic breathing throughout.

Aerobic Recovery Measures

Why?

Stimulate recovery and promote regeneration by driving recovery. These sessions should lead to a decrease in soreness and fatigue.

How does it work?

Sessions of 30-45 minutes (more times than not this will be a 30 minute ‘conditioning’ piece for group programming) where effort is between 50-60%.

Exercises:

Cyclical measures such as walking, rowing, jogging, biking, light sled pull, swimming (if you’re a very efficient swimmer.)

Guidelines:

30-45 minutes of low-intensity cyclical work i.e. jog, bike, swim, row, sled pull. Heart-rate should be between 120-130BPM for the duration.

PROGRAM DESIGN TEMPLATES

#1

	STRENGTH WORK	CONDITIONING	SPECIAL EXERCISE
MON.	MAX EFFORT LOWER	LACTIC POWER INTERVALS	ABS OR LOWER
TUE.	REPETITION EFFORT UPPER	MIXED MODALITY CIRCUITS	BACK OR ARMS
WED.	SKILL WORK OR N/A	CARDIAC OUTPUT METHOD	RECOVERY MEASURE
THU.	DYNAMIC EFFORT LOWER	HIGH RESISTANCE AEROBIC	ABS OR LOWER
FRI.	MAX EFFORT UPPER	SPECIAL EXERCISES FOR UPPER-BODY	UPPER BACK OR ARMS
SAT.	N/A	PARTNER CONDITIONING STRONGMAN	RECOVERY MEASURE

#2

	STRENGTH WORK	CONDITIONING	SPECIAL EXERCISE
MON.	MAX EFFORT UPPER	ATP-PC CAPACITY	DIRECT ARM WORK
TUE.	DYNAMIC EFFORT LOWER	SPECIAL EXERCISES FOR LOWER-BODY/ ABS	RECOVERY MEASURE
WED.	SKILL WORK OR N/A	CARDIAC OUTPUT	RECOVERY MEASURE
THU.	DYNAMIC EFFORT UPPER	MIXED MODALITY CIRCUIT	UPPER BACK
FRI.	MAX EFFORT LOWER	HIGH RESISTANCE AEROBIC	ABS OR LOWER
SAT.	N/A	PARTNER CONDITIONING HIGH INTENSITY INTERVALS	RECOVERY MEASURE

#3

	STRENGTH WORK	CONDITIONING	SPECIAL EXERCISE
MON.	DYNAMIC EFFORT LOWER	STRONGMAN	ABS
TUE.	MAX EFFORT UPPER	SPECIAL EXERCISES FOR UPPER-BODY/ABS	RECOVERY MEASURE
WED.	SKILL WORK	SKILL WORK	DIRECT GLUTE WORK
THU.	SUBMAXIMAL EFFORT LOWER	GLYCOLYTIC POWER INTERVALS	UPPER BACK
FRI.	REPETITION EFFORT UPPER	HIGH INTENSITY INTERVALS	DIRECT ARM WORK
SAT.	N/A	CARDIAC OUTPUT	RECOVERY MEASURE

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