



PROGRAM AND PROGRESS ENERGY SYSTEM TRAINING

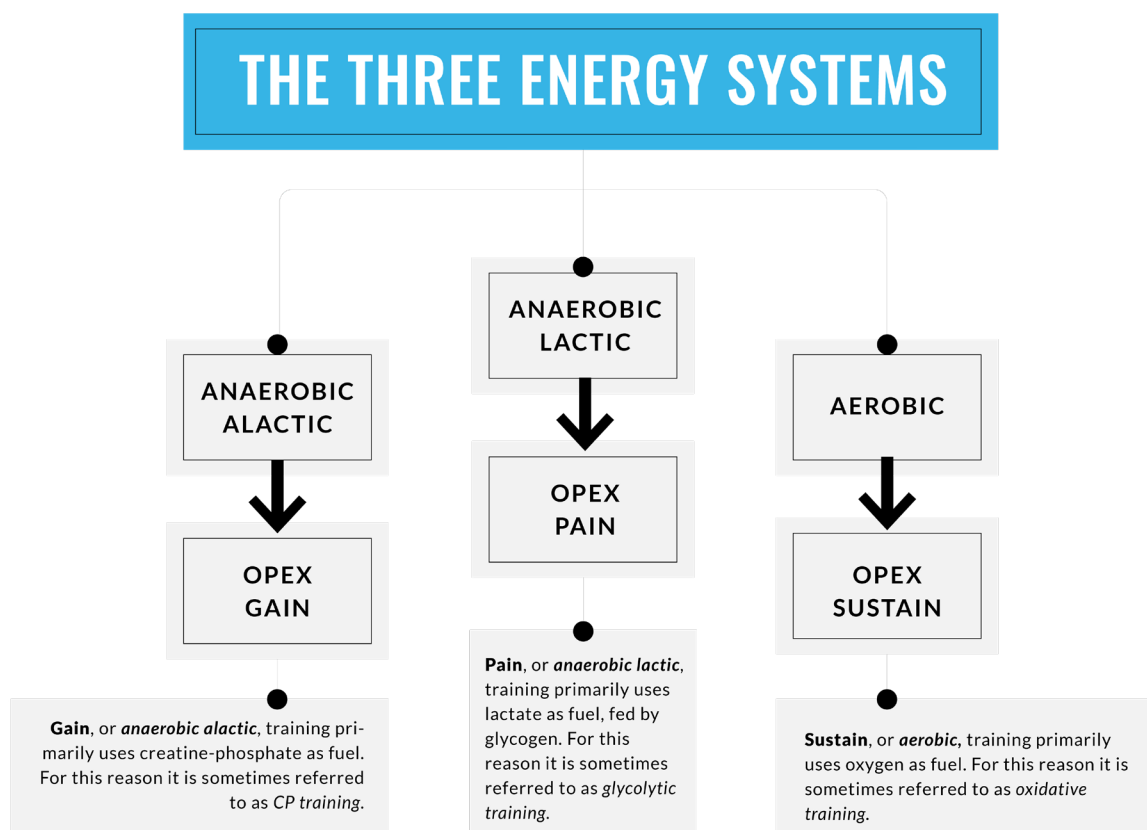
HOW TO DEVELOP THE ANAEROBIC AND AEROBIC ENERGY SYSTEMS

Introduction

OPEX Fitness is known as a leader in data-driven fitness coaching education. One of our areas of expertise is Energy System Training, the topic of this guide.

The body has three main energy systems, and Energy System Training is training that is designed to improve each of these.

What are the body's three main energy systems?

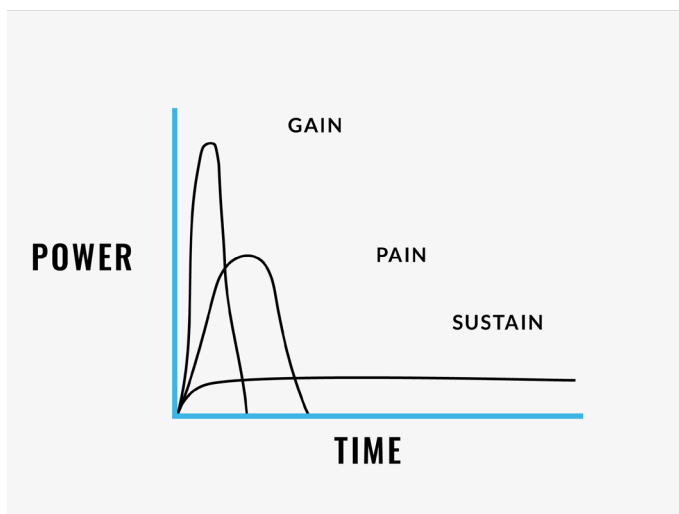


This download will detail each energy system, why they should be trained, and who should train them, as well as providing you with sample training programs for each system. While it's easy to copy the example programs and give them straight to your clients, it's important to know that this will not yield the best results for them. To truly create a program that will get your clients optimal results you must individualize their training.

TO CONTINUE YOUR PROGRAM DESIGN EDUCATION, SIGN UP FOR THE **PROGRAM DESIGN ESSENTIALS PLAYLIST** AND LEARN THE OPEX PRINCIPLES THAT HAVE HELPED THOUSANDS OF COACHES DESIGN BETTER PROGRAMS. *USE THE CODE **PDMADESIMPLE** FOR 50% OFF YOUR PURCHASE.*

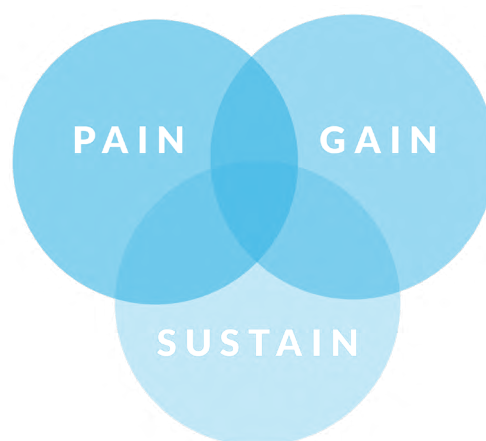
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Overlap between Gain, Pain, and Sustain



Before exploring Gain, Pain, and Sustain, it is important to note that it is impossible to isolate one energy system in training. In fact, all three systems are always at work, but with one system taking a dominant role in each specific kind of training.

There is also overlap as the duration of work is extended out from Gain to Pain to Sustain. It is helpful to visualize the interaction that occurs in Energy System Training as a Venn diagram.



All three energy systems are always at work, but with one system taking a dominant role in each specific kind of training.

OPEX Gain

What is Gain Training?

Gain refers to the anaerobic alactic energy system which primarily uses creatine-phosphate for fuel. This energy system is used for resistance training and short, powerful efforts lasting up to 20 seconds. The term “alactic” means without lactate, while “anaerobic” means without oxygen.

The Benefits of Gain Training

The main benefit of training the Gain system is mechanical adaptation. When performing this type of training the muscle breaks down. As the muscle recovers, it adapts to the training and with that adaptation creates improvements in the muscles' cross-sectional characteristics, including hypertrophy (muscle growth) and motor control (movement efficiency). Other benefits of Gain training include improved motor control, coordination, and hormonal effects resulting in increased ability to recover, vitality, and longevity.

Who Should Train the Gain System?

Any client can benefit from Gain training. The most effective type of Gain training for the client is determined by their training age.

Beginner clients will only train muscle endurance, as their primary limitation is motor control. Intermediate clients can train strength endurance, and advanced clients can train maximal contractions as they have worked their way up the Muscle Endurance Tree.

Learn the muscle endurance tree principles and how to use them to progress program design in the Muscle Endurance Tree course, inside the [Program Design Essentials Playlist](#). Use code **PDMADESIMPLE** for **50% off**.

It's easy to think of Gain training as something that can be templated with a standard strength progression. But it is nuanced and needs to be tailored to the client's training age. The best way to determine what type of Gain training is right for a client is through an assessment. Learn our assessment model and how to tailor training to a client's needs in this [free course](#).

Sample Gain Training:

Gain training can be programmed as resistance training or high-power, cyclical efforts such as 10-second sprints on an Assault Bike.

The most common Gain prescription is in the form of lifting weights. However, this application of Gain will look very different depending on the ability of the trainee. For example, in a beginner's program, they will train their full-body during each training day because they can recover quickly. Advanced clients will have movement-specific sessions since their highly developed nervous system capability means they will need longer to recover.

Sample Beginner Gain Program:

A1. [Toes Elevated Dumbbell Romanian Deadlift](#), @30X0, 10-12 reps x 3 sets; 60 seconds rest

A2. [Single Arm Neutral Grip Dumbbell Press](#), @20X1, 10-12 reps x 3 sets; 60 seconds rest between arms

B1. [Goblet Curtsy Squat](#), @20X0, 10-12 reps x 3 sets; 60 seconds rest between legs

B2. [Seated Dumbbell Hammer Curl](#), @30X0, 10-12 reps x 3 sets; 60 seconds rest

C. [Side Plank](#), 45-60 seconds x 3 sets; 45 seconds rest between sides

Sample Advanced Gain Program:

A. [Power Clean](#), 1.1 reps x 5 sets; rest 2 minutes between sets

B. [Deadlift](#) @20X0, 2 reps x 5 sets; rest 3-4 minutes between sets

C1. [Kettlebell Single Leg Single Arm Deadlift](#), @30X1, 6-8 reps x 2-3 sets; rest 60 seconds between sides

C2. [Weighted Extended Side Plank](#), 30-45 seconds x 2-3 sets; rest 60 seconds between sides



The main benefit of training the Gain system (anaerobic alactic) is mechanical adaptation.

OPEX Pain

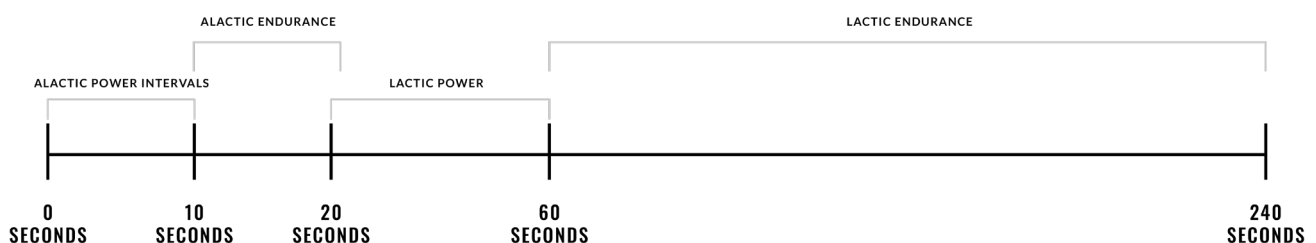
What is Pain Training?

Pain refers to the anaerobic lactic energy system and primarily uses lactate as a fuel source. It is defined by efforts that are at an unsustainable level of work and with the presence of lactate. Lactate is the byproduct of intense work and will begin to accumulate at a significant level as intense efforts are extended out beyond 15-20 seconds.

Pain training is work that typically lasts 30 seconds and can be extended out to minutes.

Pain training is progressed by starting with power and moving towards endurance. It is necessary to have a base of Gain by training cyclical anaerobic alactic training, before progressing to Pain training.

When planning training cycles this would look like beginning with alactic power intervals (0-10 seconds), then alactic endurance (10-20 seconds), before moving into lactic power (20-60 seconds), and finally lactic endurance (60-240 seconds).



The Benefits of Pain Training

There are three main reasons Pain training can be beneficial.

Firstly, since Pain training is stressful it can be used to teach the body how to adapt to stress. This is beneficial for those who have to deal with stress for performance like elite athletes.

Secondly, Pain training creates a massive metabolic response. However, this does not necessarily mean long-term positive metabolic effects, as if this type of heightened stress response is overtrained, the stress of being in survival mode can overload the system.

A third reason to train Pain is that it provides a booster effect for power output in people who can initiate the unsustainable work. This means that the creatine-phosphate system and the aerobic system are enhanced by the anaerobic lactic system when it is at near-threshold levels of work. Pain is often anecdotally described as being a helpful booster for people in sport or job-specific environments where the stress is high.

Who Should Train the Pain System?

Pain training is only appropriate for specific intermediate to advanced clients who are strong enough to express it. It is tempting to utilize this type of training for general population clients that have limited time to train because of its short and intense nature. However, if incorrectly performed, this type of training can detract from health and longevity and burn clients out quickly.

Sample Pain Training:

With Pain training, it is important to focus on proper execution. If the training is not progressed properly the effect of the training will be missed and will result in developing compensatory patterns.

Below is an example of a Pain session, as well as good and bad executions.

5 Sets @ hard effort:

5 Power Clean @ 65% of one rep maximum
6 Bar Facing Burpees
20 Calorie Assault Bike
Rest 6 minutes

Perform at hard effort

Track time to complete each set

 [Click here](#)
to see this Pain
session in action.

GOOD EXECUTION

Set 1: 59 seconds
Set 2: 60 seconds
Set 3: 58 seconds
Set 4: 60 seconds
Set 5: 59 seconds



In this example, the client shows great repeatability from set to set. The pace was executed at a hard effort and unsustainable pace, but with adequate pacing to ensure repeatability across all 5 sets.

BAD EXECUTION

Set 1: 49 seconds
Set 2: 63 seconds
Set 3: 68 seconds
Set 4: 72 seconds
Set 5: 71 seconds



In this example, the client started at too fast a pace to sustain across the 5 sets. By performing unsustainable work that is not repeatable, the client will experience negative adaptations of fuel utilization, as the mechanisms needed to sustain power output are not being properly trained.

Lactate is the byproduct of intense work and will begin to accumulate at a significant level as intense efforts are extended out beyond 15-20 seconds.



OPEX Sustain

What is Sustain Training?

Sustain refers to the aerobic system. The aerobic system primarily uses oxygen for fuel. Sustain training is work that is often long, slower, and always repeatable. Think about a 60-minute walk, rowing intervals at a sustainable and repeatable pace, or biking at a conversational pace.

The Benefits of Sustain Training

There are many great reasons to perform Sustain training.

Firstly, Sustain training builds the aerobic system. This also trains the lungs and muscles, which improves how efficiently one can produce energy.

Secondly, Sustain training builds the foundation for movement. In all forms of movement, the aerobic system is activated at some level. Therefore, a robust aerobic system prepares one for all other types of movements.

Who Should Train the Sustain System?

Everyone can benefit from Sustain training. As highlighted earlier, building the aerobic system has a plethora of benefits and will improve anyone's performance and function in their daily lives or goal-oriented fitness journeys.

Sample Sustain Training:

There are two ways of performing Sustain training: cyclical and mixed. Below are two examples of four-week progressions of each type of Sustain training.

CYCLICAL SUSTAIN TRAINING:

Cyclical training refers to training that takes place in a recurring pattern, think repetitive motion like riding a bike, rowing, or running.

As the name suggests, Sustain training must be performed at a sustainable pace. Proper execution of cyclical Sustain training is maintaining power output throughout each interval and across sets.

Cyclical Sustain Training Program:

Week 1

2 Sets:
15 Minute Airbike @ 50 RPM
10 Minutes Rest

Week 2

2 Sets:
12 Minute Airbike @ 52 RPM
8 Minutes Rest

Week 3

3 Sets:
10 Minute Airbike @54 RPM
5 Minutes Rest

Week 4

4 Sets:
8 Minute Airbike @55 RPM
4 Minutes Rest

MIXED MODAL SUSTAIN TRAINING:

The second way of training Sustain is in a mixed environment. This is often prescribed as a circuit or set number of rounds of a combination of cyclical, gymnastics, and weight lifting modalities.

The goal of this mixed modal Sustain training is to keep all of the exercises aerobic. A great way to measure this is with intraset repeatability, measuring how long it takes to complete a set and ensuring that time frame is sustained for the entire duration of the workout and across sets.

Mixed Modal Sustain Training Program:

Week 1

2 Sets:
15 Minute AMRAP @
sustained:
5 Push-Ups
8 Ring Rows
250 m Row @ 2:15/500m
10 Minutes Rest

Week 2

2 Sets:
12 Minute AMRAP @
sustained:
5 Push-Ups
8 Renegade Rows (4/side)
250 m Row @ 2:12/500m
8 Minutes Rest

Week 3

3 Sets:
10 Minute AMRAP @
sustained:
5 Burpees
6 Dumbbell Power Cleans
250 m Row @ 2:10/500m
5 Minutes Rest

Week 4

4 Sets:
8 Minute AMRAP @ sustained:
5 Burpees
6 Dumbbell Thrusters
250 m Row @2:08/500m
4 Minutes Rest

 Click [here](#) to see Week 1 and [here](#) to see Week 4 of Mixed Modal Sustain sessions in action.

It may seem easy to give a templated prescription for Sustain training. However, templates don't drive long-term aerobic development. To get the best results from Sustain training it needs to be individualized to the client and progressed accordingly week after week.

Learn why the individualized approach creates the best results for clients in our **free** coaching course, [The Fitness Coaching Blueprint](#).

**To get the best results
from Sustain training
(aerobic) it needs to be
individualized to the client
and progressed accordingly
week after week.**

Concurrent Training

It is simpler to focus on one energy system at a time, but it is possible to train all three energy systems in a training day with careful program design. This is called concurrent training.

Concurrent training is the act of programming multiple energy systems in a training session to improve **Gain, Pain, and Sustain**.

Daily Concurrent Training:

When training three energy systems in one day the exercises need to be ordered:

Gain
+
Sustain
+
Pain

OR

Sustain
+
Gain
+
Pain

Pain can't come before Gain training because of the metabolic and the central nervous system stress it creates, lowering maximal expression of strength.

Pain can't come before Sustain training because it will create inappropriate utilization of fuel substrates in the Sustain session.

When appropriately designed, Sustain and Gain training can be programmed inside a training session interchangeably.

DAILY CONCURRENT TRAINING EXAMPLE:

A. Back Squat @20X0; 3-3-2-2-1, 3-4 minutes rest

GAIN

B. Pendlay Row @20X0; 5-6 reps x 3 sets, 2 minutes rest

GAIN

C. For sustained reps:

30 Seconds Row for calories, 30 seconds rest

30 Seconds Burpees, 30 seconds rest

x4

SUSTAIN

D. 30 Seconds Airbike for calories @ very hard effort, 4:30 minutes rest x 4 sets

PAIN

Program Design Can Feel a Bit Like Guesswork

If you're anything like most coaches then you've felt that all too familiar writer's block creep in. You waste 15 minutes going back and forth in your brain on the best squat variation to choose for your workout or the perfect rep range to prescribe... and that's only A1. of the session you're designing.

You want to design the best workout possible, you want to strike a balance between enjoyment and effectiveness, and you want to get predictable results for every one of your clients.

While that process may feel like starting over every time you sit down to program, it doesn't have to.

Having a system of assessment is one essential part of writing personalized programs that get your clients predictable results. Just as important? Having a foundation of proven program design principles to guide your application.

Even for the most difficult clients with specific goals, program design can be simple if you adopt a principle-based approach to designing training programs. And the assessment in this guide is just the tip of the iceberg of the complete OPEX Method of program design.

Continue your education with the [Program Design Essentials Playlist](#) course bundle and learn the OPEX principles that have helped thousands of coaches design better programs. *Use the code **PDMADESIMPLE** for 50% off your purchase.*

BUY NOW

Follow a Proven Path To Coaching Success, In-Person or Online

The Program Design Essentials Playlist is a great introduction to programming, but the [Coaching Certificate Program \(CCP\)](#) is right for you if you want to learn the complete OPEX Method and stand out as an elite fitness coach.

OPEX coaches use the data they collect in assessment to build personalized exercise programs, write weekly, monthly, and yearly training plans, and manage recovery outside of the gym with nutrition and lifestyle programs.

To offer this valuable service you need an education that prepares you with both the theory and science of program design, along with hands-on experience implementing coaching systems to all kinds of clients.

Enter our flagship course, the OPEX Coaching Certificate Program (CCP). It's the gold standard of education for individualized coaching and program design.

CCP not only bridges the gap between the classroom and the gym floor, but also gives you the opportunity to develop your own coaching flair with live mentorship calls and case studies.

Spots are going quickly and our next mentorship group won't be open until the next quarter, so act now and apply to speak to a coaching advisor today to see if the CCP is right for you.

[APPLY NOW](#)

READY TO BECOME A CCP COACH?

COACHING CERTIFICATE PROGRAM

An OPEX CCP Coach is a trusted fitness advisor and a partner in delivering results to clients. They are leaders on the front lines, making a real difference in the lives of people in their community. Ultimately, what makes OPEX CCP Coaches stand out is their ability to meet their clients where they are at – regardless of age, training history, lifestyle, or goals – and design a comprehensive personalized fitness program.

ARE YOU READY TO BECOME A
LEADING FITNESS PROFESSIONAL?

LEARN MORE

OPEX CCP