
MUSCLE ENDURANCE TREE

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OPEX

Muscle endurance is the foundation for the performance of all other contractions. The broader the base of muscle endurance you develop, the higher the peak your clients will reach.

The Muscle Endurance Tree is a framework to progress clients from simple to more complex muscle endurance characteristics. It provides guidelines for what you should and should not do with each client based on their capabilities, experience, and goals.

IT STARTS WITH MOTOR CONTROL

Motor control is a necessary baseline when considering any framework that includes contractions. While it is not shown on the Muscle Endurance Tree, it is a prerequisite to muscle endurance.

In the [OPEX Coaching Certificate Program \(CCP\)](#), contraction progression is organized by the framework of Motor Control > Strength Endurance > Maximal Contractions. **Learn more about CCP [here](#).**

CONTRACTION TYPES DEFINED

Muscle Endurance

Muscle endurance is the ability to contract muscles against resistance for high(er) volumes. Motor control is challenged by these contractions and quality is an important consideration.

Strength Endurance

This is similar to muscle endurance, however, it is done at higher tension than muscle endurance. The limitation is overcoming load, and not motor control breakdown.

Maximal Contraction

Maximal contractions require the highest levels of tension, CNS response, and load. They represent the highest levels of physical expression through one repetition maximums.

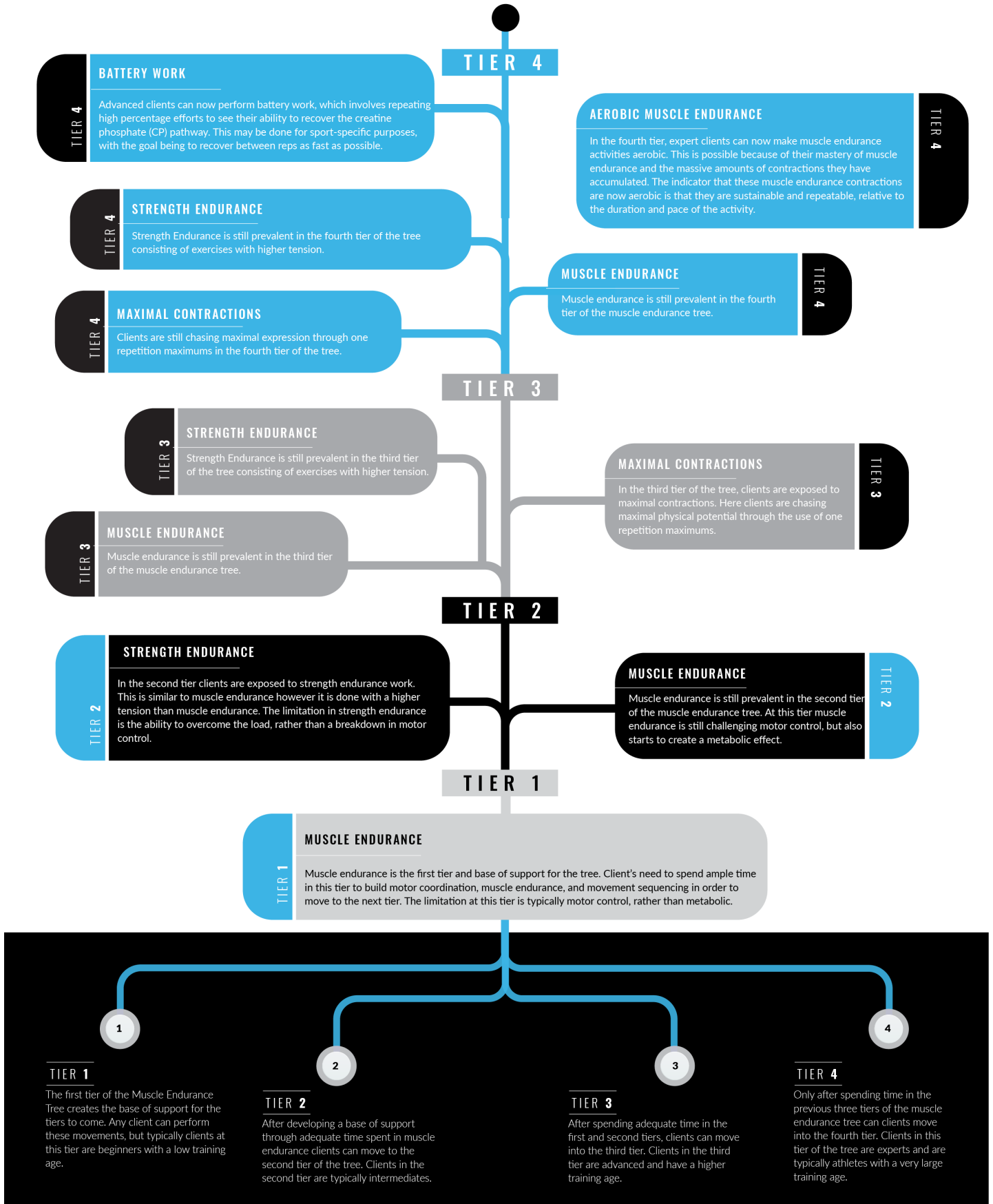
Aerobic Muscle Endurance

Aerobic muscle endurance is the ability to make muscle endurance activities aerobic. These contractions are measured as aerobic based on repeatability and sustainability.

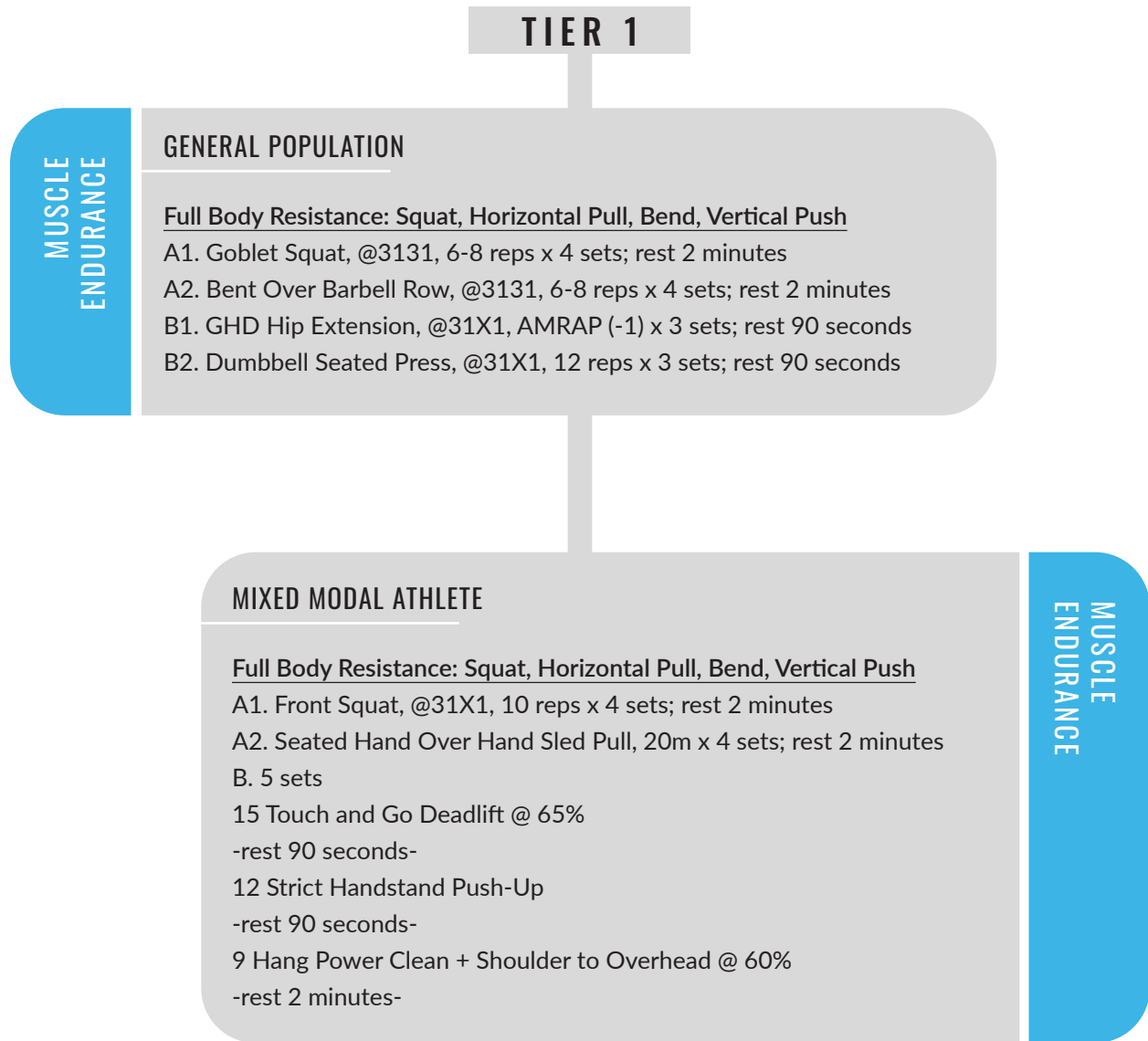
Battery

Battery work refers to performing high percentage efforts over and over and having the ability to extend efforts out for longer times. A relevant characteristic is the ability for the creatine phosphate system to recover after each bout.

MUSCLE ENDURANCE TREE



PROGRAM DESIGN EXAMPLES FOR GENERAL POPULATION AND MIXED MODAL ATHLETES



TIER 2

STRENGTH
ENDURANCE

GENERAL POPULATION

Full Body Resistance: Squat, Horizontal Pull, Bend, Vertical Push

A1. Back Squat, @31X1, 6-8 reps x 4 sets; rest 2 minutes

A2. Barbell Prone Row, @31X1, 6-8 reps x 4 sets; rest 2 minutes

B1. Double Kettlebell Deadlift, @20X1, 10-12 reps x 3 sets; rest 90 seconds

B2. Strict Press, @20X1, 10-12 reps x 3 sets; rest 90 seconds

MIXED MODAL ATHLETE

Full Body Resistance: Squat, Horizontal Pull, Bend, Vertical Push

A1. Front Squat, @20X1, 6-8 reps x 4 sets; rest 2 minutes

A2. Pendlay Row, @21X1, 6-8 reps x 4 sets; rest 2 minutes

B. 5 sets

12 Touch and Go Deadlift @ 75%

-rest 90 seconds-

9 Strict Deficit Handstand Push-Up

-rest 90 seconds-

6 Touch and Go Power Clean @ 70%

-rest 2 minutes-

STRENGTH
ENDURANCE

TIER 3

MAXIMAL
CONTRACTIONS

GENERAL POPULATION & MIXED MODAL ATHLETE

A. Back Squat, @20X1, build to a 1 rep max

B. Strict Weighted Pull-Up, @30X1, build to a 1 rep max

TIER 4

AEROBIC MUSCLE
ENDURANCE

GENERAL POPULATION

Mixed Aerobic
20 minute AMRAP (As Many Rounds as Possible)
50 calorie Row
30m Farmer's Walk
10 Burpee Box Step-Overs
-rest 10 min-
x 2 sets

MIXED MODAL ATHLETE

Mixed Aerobic
For Time @ 90% aerobic
5 Hang Squat Clean Thruster @ 75-80%
10 Muscle-Up
500m Row
-rest walk 3 min-
x 5 sets

AEROBIC MUSCLE
ENDURANCE

BATTERY

GENERAL POPULATION

Not Applicable

MIXED MODAL ATHLETE

10 minute EMOM (Every Minute on the Minute)
3 Deadlift + 3 Hang Power Clean + 3 Shoulder to Overhead
*70-80% of 1 rep max Hang Power Clean + Shoulder to Overhead

BATTERY

IMPLEMENTING THE MUSCLE ENDURANCE TREE

The Muscle Endurance Tree is just one principle that guides you in designing personalized and progressive fitness programs.

Frameworks like this one remove the guesswork from program design by showing you the best methods for matching workouts to training age, assessment data, goals, lifestyle, and more.

In the [OPEX Coaching Certificate Program \(CCP\)](#), you'll learn our comprehensive system of coaching, with principles for personalizing both resistance and energy systems training, and how to couple exercise with nutrition and lifestyle program design.

Are you ready to level up your fitness coaching and deliver your clients lasting results? Click the button below to learn more about CCP today.



[LEARN MORE](#)