



Local + Systemic Metabolic hybrids



Overview of Local +Systemic Hybrid Programming

Program Logic

- ▶ Achieve a Systemic and Local Metabolic Stimulus
- ▶ Allows for greater specificity of volume and stimulus
- ▶ Allows you to maintain high frequency
- ▶ Allows for body part specialization

Program Logic

- ▶ Greater Nutrient Partitioning effect
- ▶ Adds Variety to the session
- ▶ Allows for more focused effort (may be more enjoyable/rewarding)

General Stats **NOT** Rules

▶ Volume

- ▶ 3-8 sets per body part/workout
- ▶ 22 - 40 total sets per workout

▶ Frequency

- ▶ 1-3 x per week for large muscle groups
- ▶ 2-4 total sessions per week

Local Strategies

- ▶ **IRM**
- ▶ **High Reps**
- ▶ **Supersets and other multi sets sequences**
- ▶ **Exercise selection and strategy must be taken into consideration with volume and frequency.**

Example Archetypes

- ▶ Big systemic / small local
- ▶ Small systemic / big local
- ▶ Non priority systemic / priority local
- ▶ Rotating stimulus full body, half body, priority

BIG SYSTEMIC / SMALL LOCAL

- ▶ Can have a larger systemic stimulus using big body parts and exercises
- ▶ Performing small muscle groups can increase the relative effort and metabolic contribution of smaller muscles that are less productive to a systemic stimulus.
- ▶ Can make “more boring low effort” body parts more “fun” to train.
- ▶ Can be done in front/back load variations
- ▶ Can be tough to fit volume in full body unless you get creative or asymmetrically allocate volume across days.

BIG SYSTEMIC / SMALL LOCAL

Arms
Delts
Calves

Thighs
Chest
Back

Thighs
Chest
Back

Arms
Delts
Calves

Option 1

- 4x10 30s
- UL supersets 75s

Option 2

- 2x agonist supersets
- ULUL Giant sets

Option 3

- 1-2x drop sets
- UL supersets

SMALL SYSTEMIC / BIG LOCAL

- ▶ Can lower the systemic demand for larger/stronger athletes.
- ▶ Can allow for more performance focus on big movements
- ▶ Evens out the systemic effort between smaller and larger body parts.
- ▶ Can be done in front/back load variations
- ▶ Can be tough to fit volume in full body unless you get creative or asymmetrically allocate volume across days.

SMALL SYSTEMIC / BIG LOCAL

Arms
Delts
Calves

Thighs
Chest
Back

Thighs
Chest
Back

Arms
Delts
Calves

Option 1

- 4x10 30s
- 3+ exercise circuits

Option 2

- 2x agonist supersets
- Unilateral giant sets

Option 3

- 1-2x drop sets
- Supersets*

NON PRIORITY SYSTEMIC / PRIORITY LOCAL

- ▶ Allows you not to be performance limited on priority body parts, and easily give them more volume.
- ▶ Can be done in front/back load variations
- ▶ Can be tough to fit volume in full body unless you get creative or asymmetrically allocate volume across days.

NON PRIORITY SYSTEMIC / PRIORITY LOCAL

Non Priority

Priority

Priority

Non Priority

Option 1

- ▶ 4x10 30s
- ▶ 3+ exercise circuits

Option 2

- ▶ 2x agonist supersets
- ▶ UL supersets

Option 3

- ▶ 1-2x drop sets
- ▶ Big small supersets

ROTATING STIMULUS

- ▶ Allows for more volume but lower frequency of local stimulus or more body parts.
- ▶ Adds session variation and rotating volume that can be used for fatigue management.
- ▶ Can be done in front/back load variations
- ▶ Can be easier to fit volume in full body if doing less local volume per session.

ROTATING STIMULUS

Glutes	Delts		
Everything Else	Everything Else	Half Body A	Half Body B
		Half Body B	Half Body A

ROTATING STIMULUS

Glutes

Delts

Half Body A

Half Body B

Everything
Else

Everything
Else

Half Body B

Half Body A



Local Metabolic

Intensity Vs Metabolic

- ▶ Lower intensity (load) allows for a greater metabolic expenditure during a set because the set can continue to a greater degree of muscular failure, which means a greater degree of energy depletion, and metabolite accumulation.
- ▶ If you took an exercise to failure with 200lbs, you could get more reps if you dropped the weight to 180, and even more if you dropped it to 150.

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Intensity Cut Off for Metabolic

- ▶ If the intensity (load) is too low, the rate of fuel delivery and substrate clearance can be equal or close to matching the exercise demand which makes it very hard to accumulate the conditions for the metabolic stimulus.
- ▶ Choosing too light of a resistance can make the exercise very time inefficient and lower the the stimulus.
- ▶ In most cases you don't want to use less than your 25-30 rep max. (~50% 1RM)
- ▶ In some cases this could extend out to ~50 rep max, (~33%1RM) but I would not recommend doing this in a straight set fashion, but only with ascending rep supersets (6,12,25).

How can we increase local metabolic demand

- ▶ Longer sets
 - ▶ Higher reps
 - ▶ Set Extensions
- ▶ Incomplete Rest
- ▶ Sequenced Exercises

Longer Sets vs Shorter Rest

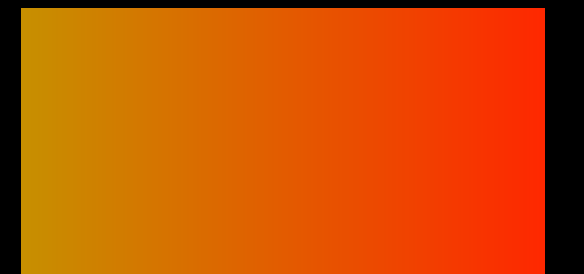
- ▶ Longer sets cost more metabolically as a stand alone set
- ▶ Short rest periods increase the metabolic demand by not allowing the muscle to completely restore energy levels and clear metabolites. This allows for later sets to be more metabolically stimulating earlier in the set.

Longer Sets vs Shorter Rest

Long Sets with full recovery



Long Sets with incomplete recovery



8x8 IRM



Long Sets Vs Drop Sets

- ▶ The benefit of using a set extension method with a “drop” is that it allows the earlier part of the set to be done at a higher intensity (load).
- ▶ Higher intensity reps create more occlusion and burn more energy, as well as recruiting more motor units at once.
- ▶ Higher intensity reps also sustain strength adaptations better.
- ▶ The TUT to get to the same metabolic endpoint is smaller in a drop set because you get more per rep early, but still get to the same destination if you end at the same intensity.

Set Extensions for Metabolic

- ▶ While all set extension methods will increase the metabolic demand to an extent simply by increasing volume, the most specific to metabolic stimulus will be the ones that have allow for continued work through some sort of drop in load, ROM, or mechanics.

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Drop Set Variables

- ▶ Type of drop (load, ROM, tempo, mechanics)
 - ▶ Combining types
- ▶ Size of drop
- ▶ Number of drops
- ▶ Rest

Longer Sets vs Drop set

20 Rep Max to Failure



10 Rep Max to Failure



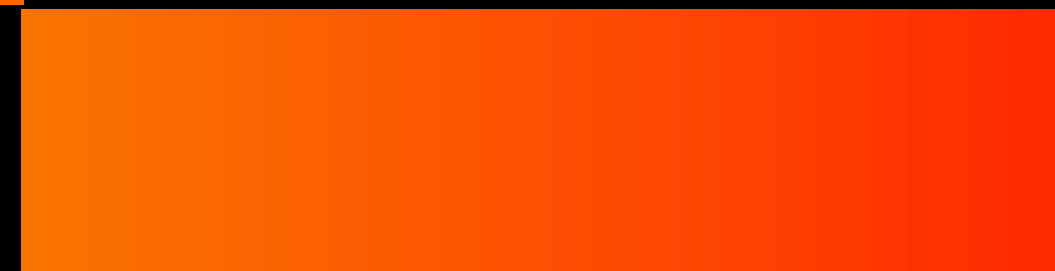
~6 reps with 20 Rep max



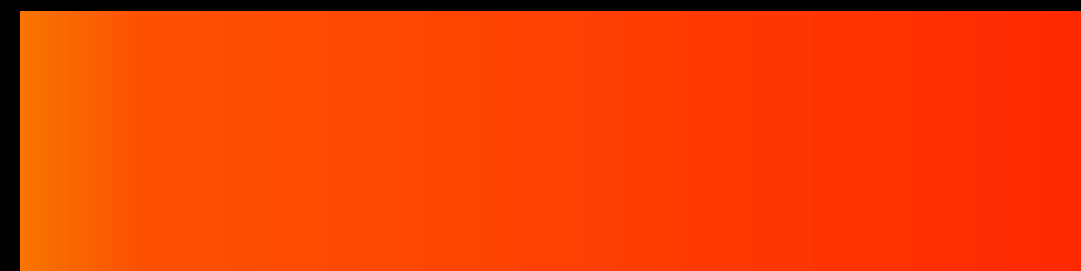
5 Rep Max to Failure



12 Rep Max to Failure



20 Rep Max to Failure



Super Sets Vs Drop Sets

- ▶ Super Sets and Drops are similar in that there must be a “drop” in the second exercise intensity compared to baseline to achieve similar reps.
- ▶ If you want to do 10 reps of incline press, into 10 reps of fly, the fly will have to be significantly lower intensity than your fresh 10RM.
- ▶ Where they differ is a drop set keeps the movement the same, where as a superset changes the exercise in some way that may allow the stimulus to broaden across different regions of the muscle or across synergist muscles.
 - ▶ This can lead to an overall increase in the amount of fibers stimulated, but may come at a cost of the magnitude of stimulus in specific fibers.
 - ▶ However this may be offset by the increased performance from the variation in exercises.
 - ▶ There is a tremendous grey area when you start varying exercises, intensity, and even rest.

Super Set vs Drop set

10 Rep Max to Failure

~6 reps with 20 Rep max

10 Rep Max to Failure

Superset

~8 reps with 20 Rep max

~6 reps with 15 Rep max

Super Sets Variables

- ▶ Exercise similarities and differences
- ▶ Adding variables to the exercise change (same as drop sets)
 - ▶ Load, tempo, rest, ROM etc
- ▶ Pre/Post Exhaust effects across regions and muscles

Beyond 2 exercise sequences

- ▶ We can extrapolate the principles to using 3,4 + exercises.
- ▶ The greater the exercise variation or number of exercises the more of a difference between sequences of exercises and drop sets.

Are Rest Pause Methods Good for Local Metabolic



- ▶ Like a single set, it can simply depend on the intensity range you are working in.
- ▶ As a method, rest pause is designed to extend work at the same intensity. For metabolic, if the intensity is too high, there stimulus per set volume is not efficient.
 - ▶ The intensity range and overall volume will determine how much stimulus
 - ▶ In a grey area rest drops, or RP+DS methods can be used.