

MASS

RESEARCH REVIEW

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A woman with long dark hair, wearing a black and red sports bra, is performing a bicep curl with two black dumbbells in a gym setting. She is looking off to the side with a focused expression. The background is slightly blurred, showing gym equipment.

MASSive Training Guide

Time-Efficient Training Techniques: Upper Body

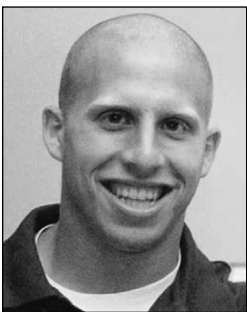
This guide provides a brief overview and actionable examples on exactly how to implement rest-pause sets, super sets, and drop sets into upper-body workouts.

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Eric Helms is a coach, athlete, author, and educator. He is a coach for drug-free strength and physique competitors at all levels, including two former IPF World Champions and multiple natural bodybuilding pro-show winners as a part of team 3D Muscle Journey. He has a B.S. in fitness and wellness, an M.S. in exercise science, a second Master's in sports nutrition, and a Ph.D. in strength and conditioning from the Auckland University of Technology (AUT). Eric has been a Senior Research Fellow for AUT in the Strength and Conditioning and Sports Physiology and Nutrition research groups since 2017 at the Sports Performance Research Institute New Zealand. There, he mentors masters and Ph.D. students studying applied strength and physique sport science. Eric is also a WNBFF pro natural bodybuilder and competes in various strength sports.



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Michael (Mike) C. Zourdos, Ph.D., CSCS, has specializations in strength and conditioning and skeletal muscle physiology. He earned his Ph.D. in exercise physiology from The Florida State University (FSU) in 2012 under the guidance of Dr. Jeong-Su Kim. Prior to attending FSU, Mike received his B.S. in exercise science from Marietta College and M.S. in applied health physiology from Salisbury University. Mike served as the head powerlifting coach of FSU's 2011 and 2012 state championship teams. He also competes as a powerlifter in the USAPL, and among his best competition lifts is a 230kg (507lbs) raw squat at a body weight of 76kg. Mike owns the company Training Revolution, LLC., where he has coached more than 100 lifters, including a USAPL open division national champion.

Guide Background and Overview

Typically, lifters complete a set, take a couple minutes of rest, then complete another set. This “traditional set” strategy usually comprises the bulk of someone’s training. However, if you are short on time, tend to lose focus during interset rest periods, or just want to change it up there are various set structures such as rest-pause, super sets, drop sets, myoreps, rest redistribution sets, and cluster sets. Collectively, these programming strategies have been referred to as “advanced training techniques” or “alternative set structures.”

However, practically, these programming strategies are mostly useful (exception = cluster sets) because they are time-efficient strategies used to accumulate volume. The research tends to show that all of these strategies lead to similar muscle growth and strength gains compared to traditional sets. Since outcomes seem to be similar, this means that these advanced training techniques can be used to

achieve a lifter’s desired outcome, but in a shorter amount of time. That doesn’t mean that these strategies should always be used, but it does mean that they can be very useful tools; thus, this MASSive training guide is here to demonstrate how to use those tools.

Purpose

This guide will provide the definitions, benefits, and limitations of rest-pause, super set, and drop set training in a ready-to-implement format. It will include specific examples of upper body workouts for the purposes of accumulating volume efficiently.

Importantly, all examples given in this document are to be taken conceptually. In other words, examples should often be modified or adjusted to reflect any specific lifter’s individualized needs. Understanding the conceptual basis of each training strategy is crucial to developing your own iteration of the given examples.

Figure 1 Total Reps Example

- Set a goal of 45 reps
- Choose load on DB bench (or other exercise) you can do for 20 reps
- Perform set 1 to failure
- Rest 20s
- Perform set 2 to failure



Continue this process until you reach 45 reps

Figure 2 Total Sets Example

- Prescribe 5 total sets
- Choose load on DB bench you can do for 20 reps
- Perform set 1 to failure
- Rest 20s
- Perform set 2 to failure



Continue this process until five sets are completed

1. Rest-Pause (Research for Reference [HERE](#))

Definition

Performing sets to failure or to a specified RIR with very short rest (e.g., 20 – 30s). Can prescribe by meeting a total number of reps or sets (Figures 1 and 2).

Progression over time:

If using rest-pause in successive weeks, progressive overload is built in by attempting to perform more reps on each set. Additional overload strategies include: increasing

the load once a certain number of reps are achieved within a predetermined number of sets, increasing the total number of reps, or increasing the total number of sets. Below are specifics using the examples above.

- If 45 reps are completed within 5 sets then increase the load 2.5kg for the next session.
- If 45 reps are completed within 5 sets then increase the reps to 50 total for the next session.
- If 45 reps are completed within 5 sets then increase the total number of sets to 6 for the next session.

Table 1 Traditional Set Prescription

DAY	EXERCISE	SETS × REPS	REST / ESTIMATED TOTAL TIME
Day 1	Bench Press	5 × 8 @2-4 RIR	4 min / 22 min
	DB Incline Bench	4 × 10-15 @2-3 RIR	3 min / 14 min
	Bent Over Row	3 × 10-15 @2-4 RIR	2 min / 6 min
	DB Lateral Raise	4 × 12-15 @2-4 RIR	2 min / 11 min
	DB Fly	3 × 10-15 @2-4 RIR	2 min / 8 min
	Tri Pushdowns	4 × 12-15 @2-4 RIR	2 min / 11 min
	Bar Curl	3 × 12-15 @1-3 RIR	2 min / 7 min
			<i>Total Session Time = 79 minutes</i>
Day 2	Bench Press	5 × 4 @1-3 RIR	5 min / 25 min
	Close Grip Bench	3 × 6-10 @1-3 RIR	2 min / 7 min
	Weighted Chinups	3 × 4-6 @1-2 RIR	2 min / 7 min
	DB Shoulder Press	3 × 6-10 @1-3 RIR	2 min / 7 min
	Seal Row	4 × 8-12 @2-4 RIR	2 min / 8 min
	DB Lateral Raise	3 × 8-12 @2-4 RIR	2 min / 7 min
	DB Lying Triceps Ext.	3 × 8-12 @2-4 RIR	2 min / 7 min
	Cable Curl	3 × 8-12 @0-2 RIR	2 min / 7 min
			<i>Total Session Time = 77 minutes</i>

RIR = Repetitions in Reserve. All times are estimated and consider time to perform each set and rest intervals between sets. Total session times do not include warm-up.

Table 2 Rest-Pause Incorporated Upper-Body Sessions

DAY	EXERCISE	SETS × REPS	REST / ESTIMATED TOTAL TIME
Day 1	Bench Press, Rest-Pause Bench	1 × 1 @1-2 RIR, 4 sets at 15RM to 1-2 RIR	2 min (after traditional set) / 2.5 min 20-30s / 6 min
	DB Incline Bench	40 total reps w/20RM load	
	Bent Over Row	5 sets to failure w/15RM load	
	DB Lateral Raise	40 total reps w/20RM load	
	DB Fly	4 sets to failure with 15RM	
	Tri Pushdowns	5 sets to failure w/15RM load	
	Bar Curl	3 sets to failure w/15RM	
			<i>Total Session Time = 47.5 minutes</i> <i>Time Saved = -31.5 minutes</i>
Day 2	Bench Press	1 × 1 @1-2 RIR, 4 sets at 8RM to 1-2 RIR	2 min (after traditional set) / 2.5 min 20-30s / 5 min
	Close Grip Bench	3 × 6-10 @1-3 RIR	2 min / 7 min
	Weighted Chinups	3 × 4-6 @1-2 RIR	2 min / 7 min
	DB Shoulder Press	30 total reps w/15RM load	20-30s / 6 min
	Seal Row	4 sets to failure w/15RM load	20-30s / 6 min
	DB Lateral Raise	3 sets to failure w/15RM load	20-30s / 5 min
	DB Lying Triceps Ext.	3 sets to failure w/15RM load	20-30s / 5 min
	Cable Curl	3 sets to failure w/12RM	20-30s / 4 min
			<i>Total Session Time = 47.5 minutes</i> <i>Time Saved = -32.5 minutes</i>

RIR = Repetitions in Reserve. All rest-pause rest intervals are 20 - 30s. All rest-pause work is in bold. All times are estimated and consider time to perform each set and rest intervals between sets. Total session times do not include warm-up.

Conceptual Understanding, Uses, and Practicality:

- Rest-pause accumulates volume in a short amount of time
- For muscle growth, can be used any time
- For strength, mainly in volume blocks, perhaps after a heavy top set to maintain strength
- Probably best used on “assistance movements” (i.e., not squat, bench press, and deadlift)
- Probably best used in addition to “traditional sets” but can utilize as a sole method for certain sessions if short on time
- Conceptually, rest-pause can be used with loads anywhere from 10 - 25RM.
- The exact number of sets or total number of reps can be changed depending on individual volume needs.

Actionable Example

Below is a “traditional set” upper body workout followed by a modified workout to include rest-pause sets. The total time savings and volume (set number) are calculated to demonstrate that the session including rest-pause can be completed more quickly and without sacrificing volume. The right hand column of each table (Tables 1 and 2) shows the interset rest time and the total time to complete each exercise. The total session time is also included in each table. Table 3 shows the difference in total sets between the traditional and rest-pause workouts.

Notes About Tables 1 and 2

Overall, incorporating rest-pause training saved >60 minutes of time between both sessions. Further, the number of *direct* weekly sets (only counts as a set for the muscle group that is the prime mover) was actually slightly greater in the rest-pause training week. Of note, sets are estimated in the total reps rest-pause model and the two sets of singles were not counted toward the total for the rest-pause training week since the hypertrophy stimulus was likely minimal. Additionally, while the total number of sets for biceps and triceps may seem low, remember this table only counts direct sets and the example is only conceptual. Also, since so much time is saved by incorporating rest-pause, more volume could be added and a session could still be finished in less time. That is not to say that adding more volume with rest-pause is always the correct choice, only that it is an option, if appropriate.

Table 3 Comparison of Direct Weekly Sets in Tables 1 and 2

MUSCLE GROUP	TABLE 1 REPS (TRADITIONAL SETS)	TABLE 2 SETS (REST-PAUSE INCORPORATED)
Direct Chest Sets	20	20
Direct Shoulder Sets	10	11
Direct Back Sets	10	12
Direct Triceps Sets	7	8
Direct Biceps Sets	6	6
Total Sets (Sum)	53	57

Chest sets = Bench press, incline bench, close grip bench press, and flyes. Back sets = Rows and chinups. Shoulders = Shoulder presses and lateral raises. Biceps = Curls.

2. Super Sets (Research for Reference [HERE](#))

Definition

A time-efficient strategy performing two exercises back-to-back followed by a rest period. There are various options such as “agonist-agonist,” “agonist-peripheral,” and “agonist-antagonist” super sets.

Example:

- Agonist-agonist: same muscle group for each exercise
 - DB Flyes / DB Bench Press
 - Perform 10 reps of flyes, then immediately 10 reps of bench press, then rest two minutes → continue until all prescribed sets are completed.
 - Also called a “compound set
 - This tends to decrease performance
 - No long term data, but likely neutral for

hypertrophy if volume is maintained

- Agonist-peripheral: two unrelated muscle groups, but peripheral fatigue may be present
 - Bench press / squat
 - May indirectly decrease performance (due to peripheral fatigue), but not too much
 - Could be useful to save time, especially with a low training frequency due to time constraints
 - Perform 10 reps of bench press, then immediately 10 reps of squats, then rest two minutes → continue until all prescribed sets are completed.
 - To avoid indirect performance decreases pair small muscle group or accessory lifts with main lift or two accessories e.g, Squat / bar curl or Bar curl / calf raise
- Agonist-Antagonist: Training the agonist-antagonist muscle groups in a super set
 - Row / Bench Press, such as: seated Row: 3 sets to failure or 0 – 2 RIR / DB Bench Press: 3 sets to failure or 0 – 2 RIR
 - Perform 10 reps of rows, then immediately 10 reps of bench press, then rest two minutes —----> continue until all prescribed sets are completed.
 - Does not impair performance and may even improve reps performed on the second exercise (as shown [here](#) and [here](#))

Conceptual Understanding, Uses, and Practicality:

- Super sets accumulate volume in a short amount of time
- For muscle growth, can be used any time
- For strength, mainly in volume blocks
- But, agonist-antagonist super sets can be used regularly
- Agonist-peripheral super sets can be used when squats and bench presses are done on the same day (super set a light squat with a volume bench) or for accessories
- Probably best used in addition to “traditional sets”
- May enhance volume performance via more reps or more RIR with the same load
- Agonist-antagonist should be the primary type of super set used with agonist-peripheral used in specific circumstances

Actionable Example

Below is a super set incorporated upper body workout. This workout (Table 4) is a modified version of the traditional set workout in Table 1 demonstrating how agonist-antagonist super sets can be done without compromising volume while saving time. The right hand column shows the intersets rest time and the total time to complete each exercise. Total session time is also included in each table. Table 5 shows the difference in total sets between the traditional and super set workouts.

Table 4 Super Set Incorporated Upper-Body Sessions

DAY	EXERCISE	SETS × REPS	REST / ESTIMATED TOTAL TIME
Day 1	Bench Press	5 × 8 @2-4 RIR	4 min / 22 min
	Bent Over Row / DB Incline Bench	4 × 10-15 @2-4 RIR / 4 × 10-15 @2-4 RIR	2 min / 10 min
	DB Lateral Raise	4 × 12-15 @2-4 RIR	2 min / 11 min
	DB Fly	3 × 10-15 @2-4 RIR	2 min / 8 min
	Tri Pushdowns / Bar Curl	4 × 12-15 @2-4 RIR	2 min / 10 min
			<i>Total Session Time = 61 minutes</i> <i>Time Saved = 18 minutes</i>
Day 2	Bench Press / Seal Row	5 × 4 @1-3 RIR / 5 × 8-12 @2-4 RIR	4 min / 26 min
	Close Grip Bench / Weighted Chinups	3 × 6-10 @1-3 RIR / 3 × 4-6 @1-2 RIR	2 min / 10 min
	DB Shoulder Press	3 × 6-10 @1-3 RIR	2 min / 7 min
	DB Lateral Raise	3 × 8-12 @2-4 RIR	2 min / 7 min
	DB Lying Triceps Ext. / Cable Curl	3 × 8-12 @2-4 RIR / 3 × 8-12 @0-2 RIR	2 min / 10 min
			<i>Total Session Time = 50 minutes</i> <i>Time Saved = 27 minutes</i>

RIR = Repetitions in Reserve. All times are estimated and consider time to perform each set and rest intervals between sets. Total session times do not include warm-up. A / represents a super set.

Notes About Table 4

Incorporating super sets saved ~45 minutes between both sessions and this was with incorporating only agonist-antagonist super sets (on Day 1 further time could have been saved doing agonist-peripheral super sets for lateral raises and flyes). Further, *direct* weekly sets were actually slightly higher in the super set training week. Similar to the rest-pause example, since time was saved, more volume could be added, if desired. Importantly, all studies on agonist-antagonist super sets show that volume performance is either

similar or greater than traditional sets; thus, the time savings do not risk performance.

Table 5 Comparison of Direct Weekly Sets in Tables 1 and 4

MUSCLE GROUP	TABLE 1 REPS (TRADITIONAL SETS)	TABLE 4 SETS (SUPER SET INCORPORATED)
Direct Chest Sets	20	20
Direct Shoulder Sets	10	10
Direct Back Sets	10	12
Direct Triceps Sets	7	7
Direct Biceps Sets	6	7
Total Sets (Sum)	53	56

Chest sets = Bench press, incline bench, close grip bench press, and flyes. Back sets = Rows and chinups. Shoulders = Shoulder presses and lateral raises. Biceps = Curls.

3. Drop Sets (Research for Reference [HERE](#))

Definition

Performing sets with no rest and decreasing the load on each successive set

Various Methods

- Time-efficient method to add volume
- Can be used as an “add-on” to (Figure 3) traditional sets or as a standalone (Figure 4)

Conceptual Understanding, Uses, and Practicality:

- Drop sets increase time-efficiency by accumulating volume in a short amount of time
- Mainly used in volume blocks

- Probably best for “assistance movements” if using the standalone strategy
- Could add a single drop set to some “main movements”
- Probably best used in addition to “traditional sets” but can be a sole method for certain sessions if short on time or for less demanding hypertrophy exercises

Actionable Example

Table 6 is a version of the traditional workout in Table 1 demonstrating how drop sets can be done without compromising volume in a time-saving fashion. The right hand column shows the interset rest time and the total time to complete each exercise. The total session time is also included. Table 7 shows the difference in total sets between the traditional and drop set workouts.

Figure 3 Traditional Set “Add-on” Example

- Perform 3 × 15 on DB curls with 20kg DBs
- With no rest after the 3rd set immediately perform a set to failure with 15kg DB



- There is no “rule” to how many drop sets to perform, but drop sets seem slightly less efficient set-to-set versus straight sets. With 3 initial straight sets, 1 -2 drop sets should be sufficient
- One drop set is also appropriate if doing really high reps or doing it on a skilled movement such as a squat or bench press so that technique doesn't suffer too much

Figure 4 Standalone Example

- If really short on time, perform only drop sets and no traditional sets
- Perform 1 set of DB curls to failure with 20kg DBs
- With no rest perform a set to failure with 17.5kg DB
- With no rest perform a set to failure with 15kg DB
- Then another set to failure with 12.5kg DB
- Then another set to failure with 10kg DB



- Again, there is no “rule” to how many drop sets to perform, but 3 - 5 should be sufficient to roughly equate to a typical performance of 3 - 4 traditional sets

Table 6 Drop Set Incorporated Upper-Body Sessions

DAY	EXERCISE	SETS × REPS	REST / ESTIMATED TOTAL TIME
Day 1	Bench Press	4 × 8 @2-4 RIR, 1 × failure w/no rest @20kg less	4 min / 17 min
	DB Incline Bench	3 × 10-15 @2-3 RIR, 1 × failure w/no rest @20kg less	3 min / 7 min
	Bent Over Row	4 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 4 min
	DB Lateral Raise	3 × 12-15 @2-4 RIR, 1 × failure w/5kg less	2 min / 11 min
	DB Fly	4 sets to 1-2 RIR w/no rest, drop wt. each set, starting at 15RM	0 min / 4 min
	Tri Pushdowns	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
	Standing Alt. DB Curl	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
			<i>Total Session Time = 53 minutes</i> <i>Time Saved = 26 minutes</i>
Day 2	Bench Press	4 × 4 @1-3 RIR, 1 × failure w/no rest @25kg less	5 min / 20 min
	Close Grip Bench	2 × 6-10 @1-3 RIR, 1 × failure w/no rest @25kg less	2 min / 5 min
	Bodyweight Chinups	2 × 4-6 @1-2 RIR, 1 × failure w/no rest @ bodyweight	2 min / 5 min
	DB Shoulder Press	2 × 6-10 @1-3 RIR, 1 × failure w/no rest @10- 15kg less	0 min / 3 min
	Seal Row	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
	DB Lateral Raise	3 × 8-12 @2-4 RIR, 1 × failure w/5kg less	2 min / 9 min
	DB Lying Triceps Ext.	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
	Cable Curl	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
			<i>Total Session Time = 57 minutes</i> <i>Time Saved = 20 minutes</i>

RIR = Repetitions in Reserve. All times are estimated and consider time to perform each set and rest intervals between sets. Total session times do not include warm-up.

Notes About Table 6

Overall, incorporating super set training saved ~45 minutes between both sessions. If the “standalone” drop set method was used throughout, more time could have been

saved. Further, the number of *direct* weekly sets was actually slightly greater in the drop set training week. Similar to the rest-pause and super set examples, since time is saved, more volume could be added, if desired.

Table 7 Comparison of Direct Weekly Sets in Tables 1 and 6

MUSCLE GROUP	TABLE 1 REPS (TRADITIONAL SETS)	TABLE 6 SETS (DROP SET INCORPORATED)
Direct Chest Sets	20	21
Direct Shoulder Sets	10	11
Direct Back Sets	10	12
Direct Triceps Sets	7	10
Direct Biceps Sets	6	10
Total Sets (Sum)	53	64

Chest sets = Bench press, incline bench, close grip bench press, and flyes. Back sets = Rows and chinups. Shoulders = Shoulder presses and lateral raises. Biceps = Curls.

Conceptual Understanding

Before we finish this drop set section check out this table that originally appeared in the ar-

ticle “[Can You Drop \(Set\) Weight For Gains?](#)” from Volume 7, Issue 2 of MASS. This table shows specific situations and examples of when and how to incorporate drop sets.

4. Final Thoughts

There is nothing magical about these “advanced training techniques,” despite their mystical reputations. Nonetheless, these strategies can save time while producing similar strength and hypertrophy to traditional sets in research. Here are some final take-home points:

1. If strength is a primary goal, these strategies can still be used; however, it makes sense to keep the first set of your primary

Table 8 Situations When Drop Sets are Most Applicable and Conceptual Examples

Specific Situations to Use Drop Sets	Common Situations to Include Drop Sets <ul style="list-style-type: none"> • During volume blocks • As a "finisher" at the end of a workout • Assistance movements. Often single-joint movements. • When short on time • As assistance work during the second session if using two-a-days • Physique athletes looking for an efficient way to add volume • As a one-set add-on to a major lift (i.e., squat or bench press)
Drop Set Training Examples	Drop Set Example 1 <ul style="list-style-type: none"> • Choose an exercise such alternate DB curls or DB lateral raises, but can be performed with many different exercises • Program 3 × 12 at 0-2 RIR (or something similar) for working sets • Following the last set, immediately drop the dumbbell weight by 2.55-10 kg (in each hand, depending on exercise) and perform another set to failure or near failure. • Following first drop set, continue to drop weight by 2.5-10kg for as many sets as desired Drop Set Example 2 <ul style="list-style-type: none"> • Choose an exercise such alternate DB curls or DB lateral raises, but can be performed with many different exercises • Choose a weight in which you would reach failure after about 15 reps and perform a set to failure • Following the set immediately drop dumbbell weight by 2.55-10 kg (in each hand, depending on exercise) and perform another set to failure or near failure • Following first drop set, continue to drop weight by 2.5-10kg for as many sets as desired

DB = Dumbbell. The latter portion of this table originally appeared in the article, "Understanding the Point of Rest-Pause and Drop Sets" from Volume 6 Issue 11. The top portion of this table was added for this article.

Table 9 Rest-Pause, Super Set, and Drop Set Incorporated Training

DAY	EXERCISE	SETS × REPS	REST / TOTAL TIME
Day 1	Bench Press,	1 × 1 @1-2 RIR,	2 min (after traditional set) / 2.5 min
	Bench Press / Bent Over Row (super set)	4 × 10-15 @2-4 RIR / 4 × 10-15 @2-4 RIR	2min / 14 min
	DB Incline Bench (rest-pause)	40 total reps w/20RM load	20-30s / 7 min
	DB Lateral Raise (rest-pause)	40 total reps w/20RM load	20-30s / 7 min
	DB Fly (rest-pause)	4 sets to 1-2 RIR w/no rest, drop wt. each set, starting at 15RM	0 min / 4 min
	Tri Pushdowns (drop set)	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
	Bar Curl (drop set)	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
			<i>Total Session Time = 47.5 minutes</i> <i>Time Saved = 31.5 minutes</i>
Day 2	Bench Press,	1 × 1 @1-2 RIR,	2 min (after traditional set) / 2.5 min
	Bench Press / Seal Row (super set)	4 × 8-12 @2-4 RIR / 4 × 8-12 @2-4 RIR	2min / 14 min
	Close Grip Bench / Weighted Chinups (super set)	3 × 6-10 @1-3 RIR / 3 × 4-6 @1-2 RIR	2 min / 10 min
	DB Shoulder Press	3 sets to failure w/no rest, drop wt. each set starting at 12RM	0 min / 3 min
	DB Shoulder Press	2 × 6-10 @1-3 RIR, 1 × failure w/no rest @10-15kg less	2 min / 9 min
	DB Lying Triceps Ext.	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
	Cable Curl	5 sets to failure w/no rest, drop wt. each set, starting at 15RM	0 min / 5 min
			<i>Total Session Time = 46.5 minutes</i> <i>Time Saved = 30.5 minutes</i>

RIR = Repetitions in Reserve. All times are estimated and consider time to perform each set and rest intervals between sets. Total session times do not include warm-up.

exercises (e.g., bench press, squat, dead-lift - see Table 2) heavy since peak load lifted drives strength gains. Then, volume sets can be performed with one of the advanced training techniques to save time.

- There may be indirect benefits of these strategies. If you tend to lose focus during training, an advanced training technique with little to no rest may help keep you more engaged and focused.

3. Beware of “downstream” effects. These indirect effects inherent due to short rest coupled with training to failure (or close to it) can lead to higher perceived exertion.
4. These strategies can be used as standalone methods, in conjunction with traditional sets, or with each other. For strength, I wouldn’t use all of these methods all the time, but anytime a strength-focused individual is short on time, looking for a change, or just trying to stay more engaged they are worth a shot. For hypertrophy, however, certain methods like agonist-antagonist super sets, drop sets, rest-pause, and agonist-peripheral super sets can be regularly used with *appropriate exercise selection* i.e., *consider the cardiovascular fatigue cost*). Table 9 illustrates using all strategies (rest-pause sets, super sets, and drop sets) for maximum time-savings without sacrificing weekly set number. Table 10 compares the total weekly sets in Table 1 and 9.

Table 10 Comparison of Direct Weekly Sets in Tables 1 and 9

MUSCLE GROUP	TABLE 1 REPS (TRADITIONAL SETS)	TABLE 9 SETS (ALL TIME- EFFICIENT STRATEGIES)
Direct Chest Sets	20	20
Direct Shoulder Sets	10	10
Direct Back Sets	10	11
Direct Triceps Sets	7	10
Direct Biceps Sets	6	10
Total Sets (Sum)	53	61

Chest sets = Bench press, incline bench, close grip bench press, and flyes. Back sets = Rows and chinups. Shoulders = Shoulder presses and lateral raises. Biceps = Curls.

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Graphics and layout by [MUSA Brand](#)