

NICK MITCHELL & JONATHAN TAYLOR

**PRINCIPLES OF**  
**MUSCLE**  
**BUILDING**  
**PROGRAM DESIGN**

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A HYPERTROPHY WORKOUT MANUAL  
FOR TRAINING AGES FROM  
MONTHS 0 TO 24

**UP** ULTIMATE  
PERFORMANCE

UP ENCYCLOPAEDIA OF PERSONAL TRAINING

VOLUME 1

# THE ANATOMY OF A WORKOUT

1 ORDER	2 SETS	3 REPS	4 TEMPO	5 REST	6 DURATION
A <sub>1</sub>	3	8-10	3-0-1-0	90-120s	60-75min (Including warm-up)
A <sub>2</sub>	3	8-10	3-0-1-0	90-120s	
B <sub>1</sub>	3	8-10	3-0-1-0	90-120s	
B <sub>2</sub>	3	8-10	3-0-1-0	90-120s	
C <sub>1</sub>	See Target Area Workouts				
C <sub>2</sub>	See Target Area Workouts				
C <sub>3</sub>	See Target Area Workouts				
D	2	10-12	2-0-1-0	60-90s	

7 ORDER	TYPE	OPTION 1	OPTION 2	OPTION 3
A <sub>1</sub>	CHEST	30° Incline dumbbell press	45° Incline barbell press	75° Incline dumbbell press
A <sub>2</sub>	GLUTES AND HAMSTRINGS	Glute bridge	45° Incline hip extension	Barbell Romanian deadlift
B <sub>1</sub>	BACK	Neutral grip cable row	Overhand grip cable row	Single arm dumbbell row
B <sub>2</sub>	QUADS	45° Incline leg press	Horizontal leg press	Leg extension
C <sub>1</sub>	TARGET AREA	Chest and back	Shoulders and arms	Glutes and hamstrings
C <sub>2</sub>	TARGET AREA	Chest and back	Shoulders and arms	Glutes and hamstrings
C <sub>3</sub>	TARGET AREA	-	Shoulders and arms	-
D	ABS	Floor crunch	Exercise ball crunch	Reverse crunch

# INTRO

Program design variables are the building blocks of workout programs.

Exactly how you combine these variables determines the results you get.

## We have designed the workouts to:

1. Teach you the skill of resistance training.
2. Build significant amounts of muscle and strength.

# 1

## Exercise Order and Pairings

How we structure workouts to optimise performance in each exercise.

We have placed the most demanding exercises at the start of workouts when you have the most energy.

You can perform exercises one at a time (straight sets), paired together (paired sets) or as part of a longer sequence (circuits).

# 2

## Sets

A group of reps performed continuously without stopping.

There is a limit to how many sets you can perform before the quality of training suffers, so we must allocate the sets you do perform carefully.

# 3

## Repetitions (Reps)

One complete movement of an exercise from start to finish. The number of reps has a big impact on weight selection and the type of adaptations made by your body in response to training.

# 4

## Tempo (Repetition Speed)

A measure of the speed you move at during a rep. We write tempo in workout programs using a four-number sequence that breaks every rep down into four distinct phases where each number refers to the time taken (in seconds) to complete each phase.

# 5

## Rest Period

The time dedicated to recovery between sets. How long you rest after a set has a big impact on performance in subsequent sets and how much work you can do in a fixed amount of time.

# 6

## Workout Duration

The total time it takes to complete a workout, from warm-up to completion.

Each workout should take no longer than 60 to 75 minutes.

# 7

## Exercise Selection

The total number and type of exercise included in a workout.

The workouts group exercises together based on the muscle groups they target.

There is no single perfect exercise and you will need to vary exercise selection over time for complete muscular development.

# EXERCISE ORDER AND PAIRINGS

## EXERCISE ORDER

The order of exercises in a workout can have a big impact on your performance.

Exercises differ in terms of how much weight you lift (resistance), stability, and the number of joints and muscle groups involved. This makes certain exercises more complex and fatiguing than others.

As a result, it makes sense to place the most demanding exercises at the start of workouts when you will have more energy and perform better.

As an example, the table below explains how a split squat is a more demanding exercise than a leg extension and why you would typically perform it first in a workout.



**SPLIT SQUAT**



**LEG EXTENSION**

### Resistance

Involves lifting your full bodyweight plus dumbbells.

Involves lifting the weight of your legs plus a portion of the weight-stack.

### Stability

Involves balancing on your front foot and tiptoes of your back foot.

Performed sitting down supported by a bench.

### Number of muscle groups

Targets muscle groups across your full body.

Targets your quadriceps muscles.

### Number of joints

Involves coordinating the movement of multiple joints (ankle, knee, hip), also known as a multi-joint exercise.

Movement isolated to a single joint (knee), also known as a single-joint exercise.

## EXERCISE PAIRINGS

Exercises can be performed one at a time (straight sets), paired together (paired sets) or as part of a longer sequence (circuits).

 STRAIGHT SETS		 PAIRED SETS		 CIRCUITS	
<b>A</b>	Flat barbell press	<b>A<sub>1</sub></b>	Flat barbell press	<b>A<sub>1</sub></b>	Seated dumbbell curl
	⋮	<b>A<sub>2</sub></b>	Step-up	<b>A<sub>2</sub></b>	Flat dumbbell triceps extension
<b>B</b>	Step-up		⋮	<b>A<sub>3</sub></b>	Dumbbell lateral raise
	⋮	<b>B<sub>1</sub></b>	Overhand grip pull-down		
<b>C</b>	Overhand grip pull-down	<b>B<sub>2</sub></b>	Prone leg curl		

The workouts use a version of paired sets, where an upper body exercise is paired with a lower body exercise.

With paired sets, one muscle group is resting while another is working, which reduces the amount of rest you need between exercises. In comparison, straight sets are not as time efficient and require longer rest periods to maintain performance levels across multiple sets.

**When pairing exercises together, it is important to consider:**

### Target Muscle Group Overlap

We avoid pairing exercises together that target the same muscle group. For example, pairing two chest exercises together. Although it may feel like your muscles are working harder, the fatigue generated from performing the first exercise will carryover and interfere with your performance on the second exercise. This will make it harder to maintain proper technique, you will be forced to use lighter weights and will complete fewer reps.

A better approach would be to separate the two chest exercises and either pair them with a non-competing exercise or perform them one at a time as straight sets.

### Performance

If your goal was to lift the most amount of weight possible on an exercise, then we would recommend resting between sets rather than performing another exercise. However, if you are sensible with the exercises you choose to pair together, then any effect on performance should be minimal.

In fact, some people prefer paired sets and circuits as they find the longer rest periods required for straight sets boring. A common mistake many people make with straight sets is growing impatient, cutting the rest period short, and starting the next set before they have fully recovered.

### Gym Logistics

Gyms can get very busy, and it will not always be possible to perform paired sets and circuits.

If this is the case, we recommend switching to straight sets, and we explain how to do so in detail in the 'How to Follow the Program' section.