

Master Exercise Programming with  
Simplicity and Precision

# Exercise Programming Simplified

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# Introduction

Welcome to "Exercise Programming Simplified," your best resource for mastering the art and science of exercise programming. Whether you're a Health & Fitness Professional seeking to enhance your clients' results, fitness enthusiast looking to optimize your workouts, or simply someone interested in learning how to design effective exercise routines/plans/programs, this book is for you.

Exercise programming is the cornerstone of effective training. It aims to create a structured, purposeful plan that aligns with individual goals, fitness levels, and physical limitations. Optimal exercise programming not only helps in achieving desired results but also minimizes the risk of injury and maximizes overall performance.

In this book, we will explore the fundamental principles of programming, understand what programming variables actually are and explore the stages of creating an effective program. We will also build an actual workout plan that will help us practically apply everything we learn in various in-depth chapters that have been carefully crafted to provide you with all the information you need to design and implement optimal programs.

Our goal here is to simplify Exercise Programming. The Fitness industry has made programming appear more complicated than it needs to be. We aim to make these principles straightforward and accessible to the readers, eliminating any sort of confusion and overcomplications of concepts.

Let's make programming simple and effective again—starting now!



# Chapter 1: Introduction to Exercise Programming

Welcome to the first chapter of our comprehensive guide on exercise programming. In this chapter, we will understand what exercise programming is at its fundamental level.

Mastery of any given subject can only happen if we lay a strong foundation first and that's exactly what this chapter is about. The first step is to define what "Exercise Programming" is, before we jump onto other crucial aspects of it.

However, before defining Exercise Programming, it is essential to first establish a clear definition of "Exercise". Only then will it be possible to accurately and appropriately define Exercise Programming

## What is Exercise?

*"Exercise is thinking and applying force using a strategy that is appropriate for the subject in a given situation."* - **Gaurav Jain**

I developed this definition some time ago, as I could not find an existing definition of exercise that truly captured its essence.



If we break my definition of exercise down, we will find some interesting things that show us what exercise entails.

*Exercise is **thinking** and **applying force** using a **strategy** that is **appropriate** for **the subject** in a **given situation**."*

**thinking** - It all begins in the mind. Without critical thinking, it is impossible to come up an exercise that truly aligns with your goals.

**applying force** - Exercise is all about force application. Understanding the concept of force and how it manifests as resistance is crucial.

**strategy** - Having a clear strategy on how to apply force will dictate the outcome.

**appropriate** - The strategy we use to apply force should align with the subject's capacity and tolerance levels.

**the subject** - Always provide personalized solutions for the person you are working with which is your subject.

**given situation** - It is essential for professionals to recognize that the subject may require varying approaches depending on the context.



With a solid understanding of exercise established, we can now proceed to defining Exercise Programming.

How I like to define Exercise Programming is based on the definition of Exercise itself.

## Exercise Programming

"Exercise Programming refers to a **thoughtful process of designing and implementing a strategic exercise plan** that is **appropriate for the subject in a given situation.**"

- **Gaurav Jain**

The highlighted terms in this definition much like the definition of Exercise will influence:

- *the effectiveness of your programs in achieving desired outcomes*
- *minimizing the risk of injury*
- *and enhancing the overall experience for the subject.*

## Chapter 2: Programming Variables

In this chapter, we will dive deep into Programming Variables associated with exercise programming. Understanding these variables will help you build well founded programs that are outcome based.

Before delving into these variables, it is essential to first understand what programming variables are. Establishing a clear definition of programming variables will enable us to effectively identify and address them.

### What is a Programming Variable?

*"Everything that influences a training program is a programming variable."*

For some reason, the fitness industry has predominantly focused on *Frequency, Volume, and Intensity* as programming variables, completely overlooking the myriad of other factors that significantly influence a training program.

*But, we are not going to do that!!*





Now that we know that everything that influences a training program is a programming variable. Let's expand on it.

Apart from *frequency, intensity and volume*, think of factors that could influence your training program. Let me help you out with it!

Does **exercise selection** influence your training program? Yes, it does.

Does the **exercise order**, the sequence in which exercises are performed influence your training program? Yes, it does.

Do the number of **sets**, number of **repetitions**, the amount of **rest** you take in between sets, also influence your training program? They do.

Would your **current injury or past injury** influence your training program? It most certainly will.

What about your **mental stress**? Would that influence your training program? It definitely will.

When you plan your training program, you will have to consider how much time you can spend in the gym each day. Doesn't this make it a programming variable?

As a professional, it is your responsibility to apply critical thinking and consider all potential factors that could influence a training plan as variables, and optimize the process of programming.



Let's now list key variables to conclude our discussion, however, do not limit yourself to these variables and feel free to address other factors that you as a professional think are worth addressing for the subject.

## Key Variables in Exercise Programming

### Frequency

- Frequency is how often exercise sessions occur in a week/day.
- How often a muscle group is trained in a week/day.
- Optimal frequency depends on fitness goals, experience, and recovery ability.

### Intensity

- Intensity measures the effort level of each set that you perform which ultimately dictates the overall intensity of your workout sessions.
- Appropriate intensity is crucial for bringing out the desired outcome.

### Volume

Volume is another thing that the industry has unnecessarily complicated. Volume in simple terms is:

- Number of working/hard/heavy sets per muscle group per week/day.
- Total number of sets of all muscle groups combined per week/day.



## Exercise Selection

- Exercise Selection is the process of choosing appropriate exercises that ensure an optimal path from current state to the desired state.
- Consider skill level, experience, goals, and limitations.

## Exercise Order

- Exercise order refers to the specific sequence in which selected exercises are performed within a given workout.
- It can significantly influence the effectiveness of your workouts.

## Rest Period

- The rest period is the interval of time allocated between sets to allow for recovery from the preceding set.
- Ensuring appropriate rest between sets and exercises are vital for recovery and performance.

## Training Load and Repetitions

- Training load is simply the weight lifted in each set which should be individualized. Consider current strength levels to decide on load appropriately.
- Repetitions are the number of times an exercise is performed in a given set.



## Other Influencing Factors

- Current and past injuries
- Stress levels and personal circumstances
- Other commitments in life
- and everything that has the potential to positively and negatively influence the program.

All of these factors need to be considered as programming variables to ensure the program is appropriate for the subject in the given situation.

# Chapter 3: Stages of Exercise Programming

In this chapter, we will go through the stages of building an effective exercise program. From data collection to designing the final program, each step is crucial for ensuring that the program meets your subject's unique needs and goals. By the end of this chapter, you will have a clear roadmap for developing a personalized exercise program that has the potential to bring out the desired outcome.

## Stage 1 - Data Collection

The process of creating a workout program begins with Data Collection. The data gathered from clients serves as the foundation upon which the program is built. This first stage of Exercise Programming comprises of a few steps.

### Step One: Basic Information

Building a program for a client would require us to gather their basic information first. As professionals, we need to know who we are working with before we can tailor our assistance to their needs.



## Basic information that we need from the client:

- Age
- Current Weight
- Height
- Sex
- Lifestyle

This information about a person provides a foundational starting point, allowing you to begin conceptualizing and understanding how to develop a tailored training approach for this specific individual. It sets the stage for creating a personalized and effective exercise program.

## Step Two: Training History

The next step in the Data Collection stage of Exercise Programming involves understanding the subject's training status, which essentially refers to their training history. This encompasses the following aspects:

### 1. Type of Previous Training Program

- Determine the type of training program the client was following previously. Was it a powerlifting program, calisthenics, a standard bodybuilding routine, or another type?
- Understanding the nature of the previous training regimen provides insight into the client's experience and familiarity with different training modalities.



## 2. Duration of Previous Training Program

- Assess the length or duration of the previous training program. How long did the individual follow their previous training program?
- This information helps gauge the client's level of experience and commitment. Did they adhere to the program for a week, a few months, a year, or even longer?

## 3. Intensity of Previous Training Program

- Evaluate the level of intensity in the previous training program. How hard was the client training?
- Was the client following a simple, low-intensity routine, indicating they might be a beginner? Or were they engaged in an intense program for an extended period of time?
- Understanding the intensity level provides insight into the client's tolerance for physical exertion and their skill level. A higher intensity over a prolonged period often correlates with greater proficiency and experience.

## 4. Proficiency in Exercise Technique

- Determine the client's level of proficiency in exercise techniques. What is their skill level in the exercises they have been practicing in their previous program?



- Ask the client to rate their proficiency or skill level in the specific exercises included in their previous training program.
- While this will be further assessed physically during later stages, it is crucial to understand the client's self-assessment of their skill level at this point.

Each of these aspects is a critical variable that will influence the design and effectiveness of the new training program. Understanding these factors allows us to create a more individualized and optimal exercise program for the subject.

### **Step Three: Injury Analysis**

The third step in the first stage of Exercise Programming involves conducting a thorough injury analysis. This step is crucial for putting together a safe training program.

Here are some key elements that you must consider:

#### **1. Past Injuries**

- Identify any past injuries the client has experienced.
- Determine whether these injuries have been fully or partially recovered from.
- Collaborate with the client's physiotherapist and rehab specialist to ensure a coordinated approach.





## 2. Current or Recent Injuries

- Examine any current or recent injuries the client may have.
- Analyze the nature and extent of these injuries, as they will significantly influence the design of the training program.

## 3. Surgical History

- Collect information on any surgeries the client has undergone.
- Evaluate how these surgeries might impact the client's range of motion, the types of exercises they can perform, and the load they can handle.
- Recognize that post-surgery limitations may restrict the client to specific movements.

## 4. Current Pain

- Identify any current pain the client is experiencing.
- Understand that pain is a significant variable that can dictate the types of exercises the client can safely perform and influence the overall structure of their training program.



Each of these elements—*past injuries, current or recent injuries, surgical history, and current pain*—is a critical programming variable that will influence the development of a personalized, safe and effective exercise program.

Recognizing and addressing these variables ensures the safety and efficacy of the training plan.

## Conclusion

By completing these three steps in the Data Collection stage, you have established a solid foundation for developing a tailored training program:

**Basic Information:** You have gathered essential background details about the client, providing a starting point for personalized program design.

**Training Status:** You have information on the client's training history, including the type, duration, intensity, and proficiency in their previous programs, offering insight into their experience and skill level.

**Injury Analysis:** You have identified past injuries, current or recent injuries, surgical history, and any present pain, ensuring that these critical variables are factored into the program to maximize safety and optimality.

With this extensive data, you are now prepared to move to the next stage of programming.



## Stage 2 - Assessment Based on Data

After completion of Stage One, the next stage involves assessing your client based on the information collected. This assessment phase is crucial for designing an individualized training program for the subject. Let's break it down:

### Step One: Movement Analysis

Movement analysis is the first step in Stage Two. It involves evaluating the active and passive range of motion (ROM) of your client's joints. This analysis will guide you in creating a safe and effective exercise program tailored to the individual's capabilities.

#### 1. Active Range of Motion (ROM)

**Definition:** Active ROM refers to the extent a client can move a joint without external assistance.

**Assessment:** Ask the client to perform basic movements such as shoulder flexion, extension, abduction, hip flexion, extension, abduction, knee flexion, extension, spinal flexion, extension, lateral flexion etc.

**Purpose:** This helps determine the client's current ROM and identifies any limitations in their joint movements.



## 2. Passive Range of Motion (ROM)

**Definition:** Passive ROM refers to the extent a joint can be moved with external assistance, beyond the active ROM.

**Assessment:** Assist the client in moving their joints to see how far they can go beyond their active ROM.

**Purpose:** This reveals the full potential ROM and identifies any discomfort or internal resistance, which can indicate areas needing attention or specific training adaptations.

## 3. Implications of ROM on Training

**Personalized Exercise Range:** Use the active and passive ROM test to determine the appropriate range of motion for exercises.

**Safety and Effectiveness:** Ensure exercises are performed within the client's safe and active ROM to prevent injury. For example, not everyone needs to touch the bar to their chest during a bench press if their active shoulder ROM doesn't allow it.

**Structural Considerations:** Respect individual anatomical & structural differences. Joint restrictions, connective tissue limitations, or neural protection mechanisms can affect ROM and should be acknowledged.



#### 4. Basic Movement Assessments

**Movements to Assess:** Ask the client to perform basic movements such as squats, hinges, standing toe reaches, lateral bends, back bends etc. Provide external support if required.

This assessment will reveal the level of ownership the individual has, their capabilities and how connected and coordinated they are with their body.

**Functional Implications:** Use these assessments to understand how the client's structure and ROM will influence their training program.

#### 5. Programming Variables

**Active ROM as a Variable:** Active ROM will dictate the specific exercise modifications needed for each client.

**Structure as a Variable:** Individual anatomical structure affects exercise execution and must be considered in program design.

#### Importance of Movement Analysis

As a professional, conducting a thorough movement analysis is critical. It helps ensure that your clients remain free from injuries and perform exercises within their safe and effective ROM. This tailored approach will enhance their training outcomes and overall experience.



## Step Two: Exercise Technique Analysis

The next step in the assessment phase is the evaluation of the client's exercise technique. This analysis will help gauge their skill level, identify areas needing improvement, and provide clarity towards building a safe and effective training program.

### 1. Purpose of Exercise Technique Analysis

**Evaluate Skill Level:** Assess the client's proficiency in exercises they used to perform in their previous training program.

**Identify Technique Quality:** Determine based on their performance whether their technique is poor, decent, or excellent.

**Provide a Practical Assessment:** Move from data collection to practical, hands-on evaluation.

### 2. Process of Exercise Technique Analysis

#### a. For Clients with Previous Training Experience:

- **Perform Known Exercises:** Ask the client to perform exercises from their previous training program. This ensures they are working within a familiar context, making it easier for you as a professional to assess their true skill level.
- **Analyze Technique:** Observe and rate their exercise technique, focusing on form, control, and execution.



- **Exercises to Focus On:** Concentrate on exercises that the client is experienced with to accurately assess their skill level. This includes noting any deviations from optimal form that could indicate areas for improvement.

#### **b. For Clients with No Previous Training Experience:**

- **Use Movement Analysis Data:** Refer to the client's movement analysis from Step One to select appropriate exercises for them. This helps in choosing exercises that align with their current range of motion and movement capabilities.
- **Choose Basic Exercises:** Start with simple exercises to build a foundation:
  - **Machines:** Begin with machine-based exercises for safety and ease of use, providing controlled movement patterns.
  - **Basic Free Weight and Bodyweight Exercises:** Consider exercises like flat dumbbell presses or bodyweight squats to introduce fundamental movement patterns. Avoid complex exercises.
  - **Adjust Based on Movement Analysis:** Avoid exercises that may exacerbate potential issues identified in the movement analysis.



### 3. Implementing Exercise Technique Analysis

#### Step-by-Step Execution:

- **Select Exercises:** Based on the client's prior experience and movement analysis, pick exercises that are appropriate for their skill level and capabilities.
- **Demonstrate Proper Technique:** Show the client how to perform the exercises correctly, emphasizing key aspects of form and control. Demonstrate both correct and incorrect ways of performing an exercise.
- **Observe and Assess:** Watch the client execute the exercises, taking note of their form, control, and any compensatory movements.
- **Provide Feedback:** Offer constructive feedback to improve their form and technique. Highlight strengths as well as areas for improvement.
- **Safety Considerations:** Prioritize exercises that minimize risk, especially for beginners. Ensure that exercises are within the client's capacity to perform safely. Also, make sure that they perform exercises in a safe environment.





## 4. Adapting Exercises Based on Assessment

**Tailor Exercises:** Modify exercises based on the client's current performance, skill level and movement capabilities. This might involve adjusting the range of motion, the weight used, or the complexity of the movement.

**Progressive Approach:** Gradually introduce more complex exercises as the client's proficiency improves if you think that's necessary. Always start with basic movements and progress to more advanced techniques as they demonstrate competence and control.

### Examples of Adaptations:

- For a client with limited shoulder mobility, modify overhead pressing movements to a shorter range of motion.
- For a client with limited hip mobility, adjust the depth of squats or use machine-based exercises such as Smith machine squats with adjustments specific to the client.

### Conclusion

Thorough evaluation of the client's exercise technique is a critical component of the assessment phase. It ensures that the training program is tailored to the client's specific needs. This step allows you to provide personalized feedback and adjustments, enhancing the client's overall training experience and progression. It also sets the foundation for ongoing monitoring and adjustments, enabling continuous improvement and adaptation to the client's evolving capabilities.



## Stage 3 - Program Building

After the successful completion of the data collection and assessment phases, we move on to *stage three: building the training program*. This stage involves creating a structured and customized exercise program based on the information gathered. The first step in this process is determining the training frequency.

### Step One: Determine Training Frequency

#### Purpose:

- Establish how many days per week the client can realistically commit to exercise.
- Ensure the program is sustainable and fits into the client's lifestyle.

#### Process:

##### 1. Client Consultation:

**Assess Commitment:** Discuss with the client transparently how many days per week they can consistently commit to exercising. The client's availability is the primary factor in determining training frequency.

**Avoid Bias:** Base the frequency on the client's ability rather than personal or external biases about the ideal number of workout days per week.



• **Example Questions:**

- “How many days per week can you realistically commit to training?”
- “Are there any days or times you are consistently unavailable?”

**2. Training Frequency Considerations:**

**Client's Weekly Availability:** Determine the number of days the client can train, whether it's 2, 3, 4, 5, or 6 days a week.

- **Clarify Expectations:** Explain that the ideal number of workout days varies and should align with their personal schedule and commitment level.

**Muscle Group Training Frequency:** Decide how often each muscle group will be trained. For instance, if the goal is to train each muscle group twice a week, the program structure needs to accommodate this.





### 3. Workout Splits Based on Frequency:

#### Example for 3 Days/Week:

**Day 1:** Upper Body

**Day 2:** Lower Body

**Day 3:** Full Body

This structure ensures each muscle group is trained twice per week.

#### Example for 4 Days/Week:

**Day 1:** Upper Body

**Day 2:** Lower Body

**Day 3:** Upper Body

**Day 4:** Lower Body

This ensures each muscle group is worked twice.

#### Example for 5 Days/Week:

**Day 1:** Chest and Shoulders

**Day 2:** Back and Arms

**Day 3:** Legs

**Day 4:** Shoulders and Arms

**Day 5:** Full Body

This allows for focused muscle group training with an additional full-body day.



## 4. Client's Training Status:

### Novice/Beginners

For people with no training experience, in simple terms, any stimulus is a good stimulus. Any training frequency for inexperienced clients will likely yield results due to the novel stimulus.

**Recommendation:** Start with a manageable frequency (e.g., 2-3 days per week) and adjust as needed.

### Example:

Day 1: Full Body

Day 2: Rest or Light Activity

Day 3: Full Body

Day 4: Rest or Light Activity

Day 5: Full Body

Day 6: Rest or Light Activity

Day 7: Rest

### Intermediates and Advanced

For experienced clients, the training frequency should be decided based on their previous experience and current expectations & needs.

**Consistency with Previous Training:** Match the frequency to what the client has previously done and can maintain.

**Higher Commitment Levels:** More experienced clients are likely to commit to higher frequencies (e.g., 4-6 days per week).



**Example:**

- Day 1: Upper Body
- Day 2: Lower Body
- Day 3: Active Rest
- Day 4: Upper Body
- Day 5: Lower Body
- Day 6: Full Body

**5. External Factors:**

**Other Commitments:** Consider the client's involvement in sports, outdoor activities, or other commitments that may affect their recovery and availability.

**Examples:**

- A football player might need more recovery time, leading to a lower gym frequency.
- An active hiker or traveller might require a more flexible schedule.

**Assessment:**

Ask questions such as,

- “Do you participate in any sports or physical activities regularly?”
- “Are there any days you dedicate to specific activities like hiking or sports?”
- “Do you dedicate certain days of the week to family?”



## Step Two: Exercise Selection

After deciding the training frequency, exercise selection is the next major step in building a training program. This involves choosing exercises that align with the client's training status, skill level, and individual structural limitations & differences. The goal is to select effective, safe, and enjoyable exercises for the client.

### Key Considerations for Exercise Selection:

#### 1. Match Exercises to Skill Level and Training Status

- **Assessment Review:**

- Reflect on the exercises that the client performed in the previous training program and during the assessment phase.
- Consider the evaluation you did in the exercise technique analysis step that revealed the client's exercise proficiency and technique.

- **Proficiency and Technique:**

- Pick exercises that the client can perform with proper technique, confidence and a high skill level.
- For exercises that could be beneficial but the client lacks proficiency in, introduce them gradually as they build skill and confidence.



- **Gradual Progression:**

- If a client lacks proficiency in certain exercises, avoid starting with those immediately.
- Gradually build up to more complex exercises as the client's skills improve.

## 2. Anatomically Accommodating Exercises

- **Structural Considerations:**

- Respect the client's structural limitations and active range of motion when selecting exercises.
- Recognize the fact that every individual has unique structural characteristics affecting their ability to perform certain movements and exercises.
- Regularly assess the client's form and make necessary adjustments to exercises.

- **Individual Differences:**

- Eliminate exercises that the client's anatomy does not accommodate well.
- Choose alternative exercises to achieve the same goals.

- **Active Range of Motion:**

- Ensure that exercises are performed within the client's active range of motion to prevent injury and improve the overall exercise experience.





### 3. Biomechanically Efficient Exercises

As a professional, it is crucial to incorporate biomechanically efficient exercises into your clients' training programs. While a detailed exploration of biomechanics is beyond the scope of this book, adhering to the following key points can significantly enhance your exercise selection:

- **Efficiency in Force Application:**

Select exercises with resistance profiles that align with the strength profiles of the targeted muscles, which implies:

- Exercises that challenge the muscles the most when they are strongest and the least when they are weakest.
- Exercises that ensure the challenge increases as the muscles get stronger and decreases as they get weaker.

- **Improving Efficiency:**

- For exercises that are not inherently biomechanically efficient, use strategies to modify them for a better resistance profile that improves their overall efficiency.





#### 4. Avoid Aggravating Injuries and Pain

- **Injury and Pain Considerations:**

- Select exercises that do not exacerbate existing injuries.
- Avoid movements or exercises that could cause discomfort and adjust accordingly.

#### 5. Client Enjoyment

- **Engagement and Adherence:**

- Incorporate exercises that the client enjoys to make the workout experience more engaging and enjoyable.
- Create a balance between enjoyment and effectiveness to encourage adherence.
- Ask the client about their preferences and try to include exercises they enjoy within the training program.
- Aim to make each session a positive and rewarding experience for the client.

#### Conclusion

Proper Exercise selection is a vital component of program building. Selecting exercises that are appropriate for the client’s skill level, anatomical structure, and personal preferences is crucial. By carefully picking and tailoring exercises, you create a program that is effective, safe, and enjoyable. This client-centered approach promotes adherence, enhances the overall training experience and helps clients achieve their fitness goals safely and efficiently.





## Step Three: Deciding the Training Volume

After determining the training frequency and selecting appropriate exercises, the next crucial step in building a training program is to decide on the training volume.

The concept of volume has been unnecessarily complicated within the fitness industry. As the title of this book suggests, the objective is to simplify things, allowing us to concentrate more on practical implementation rather than getting bogged down in needless complexities.

### Defining Volume

**Volume:** The number of working sets (also referred to as heavy sets or hard sets) per exercise.

- **Working Sets:** Sets that are performed with significant intensity and are challenging.
- **Volume Calculation:** Focus on the number of working sets, avoiding complex calculations involving weight, sets, and repetitions.
- Volume can refer to the number of working sets per muscle group per day or week, or it can encompass the total number of working sets for all muscle groups combined per day or week.



## Key Points for Determining Volume

### 1. Simplicity in Volume Calculation:

Keep volume calculation straightforward by focusing on the number of working sets.

**Example:** If the client performs four sets of a dumbbell press with 30 kgs, those four sets constitute the volume for that exercise.

### 2. Types of Sets:

**Warm-up Sets:** These sets prepare the muscle for the working sets but are not included in the volume count.

**Working Sets:** These are the intense, challenging sets that contribute to the training volume.

### 3. Volume Per Muscle Group:

- **Muscle Group Volume:** Measure volume in terms of average working sets per week for each muscle group.
- **Recommended Range:** 5 to 20 sets per muscle group per week.
- **Beginners:** Start at the lower end (5 sets per muscle group per week).
- **Intermediate and Advanced:** Progress to the middle or upper end of the range (up to 20 sets per muscle group per week).



#### 4. Flexibility and Adaptation:

- Use the recommended range as a starting point and adjust based on client progress and response to training.
- Understand that program design is an iterative process and may require daily or weekly adjustments.
- *Margin of Error:* Allow for changes and optimizations to find the most effective and sustainable training plan.

#### Most Important:

As a professional, feel free to adjust and play with the volume as needed. The recommended range of 5-20 sets is not rigid and can be modified based on individual requirements and goals.

Recognize the importance of experimentation as it is essential for developing an optimal plan that yields the best results.

Be open to modifying the program based on client responses and outcomes.

Regularly evaluate and tweak the program to improve effectiveness and ensure it meets the client's needs.

Understand that the optimal plan may evolve over weeks of iteration.



## Practical Application

### 1. Setting Initial Volume:

- For beginners, start with approximately 5-10 sets per muscle group per week.
- For intermediate clients, aim for the middle of the range, around 10-15 sets per muscle group per week.
- For advanced clients, consider up to 20 sets or more per muscle group per week, depending on their goals and recovery ability.

**Note:** These are only recommendations that are not rigid, you are encouraged to change things up as per your subjective point of view and professional experience.

### 2. Monitoring and Feedback:

- Track the client's performance and recovery to adjust volume as needed.
- Solicit feedback from the client to understand their experience and make necessary adjustments.

### 3. Iterative Process:

- Regularly review and revise the training program based on observed outcomes and client feedback.
- Make incremental changes to volume to optimize the training effect.



### **Summary:**

Deciding on the training volume is a critical step in building an effective and personalized training program. By focusing on the number of working sets per muscle group per week, you create a simple and manageable framework for measuring volume. Starting with a recommended range of 5 to 20 sets per muscle group per week allows for flexibility and adaptation based on the client's progress and feedback. Remember that program design is an ongoing process, requiring regular adjustments to achieve the best results.



## Step Four: Deciding the Intensity

Determining the intensity of the workouts is a crucial step in developing an effective training program. This step focuses on how challenging the working sets should be, particularly for different levels of fitness and experience.

### Understanding Intensity

- **Intensity:** A measure of how challenging a set is. It reflects how hard, difficult, or fatiguing the set was.
- **Proximity to Failure:** Intensity can be defined by how close a set brings you to failure, meaning the point at which you can no longer perform a full repetition.

### Intensity for Different Fitness Levels

#### 1. Beginners:

- **Focus:** Practicing the skill of exercising rather than performing highly intense sets.
- **Intensity:** Low to medium, as they lack the skill and tolerance to handle intense sets and to allow for learning proper form and technique.





## 2. Intermediate and Advanced:

- **Focus:** Training hard with higher intensity to stimulate progress.
- **Intensity:** Medium to high, as they have the skill and tolerance to handle more challenging sets.

### Measuring Intensity

#### 1. Rate of Perceived Exertion (RPE):

- **Definition:** A subjective scale from 0 to 10 that rates the exertion level of a set.
- **RPE Scale:**

Rating	Perceived Exertion Level
0	No exertion, at rest
1	Very light
2-3	Light
4-5	Moderate, somewhat hard
6-7	High, vigorous
8-9	Very hard
10	Maximum effort, highest possible



## 2. Reps in Reserve (RIR):

- **Definition:** A simpler and more practical method than RPE, measuring how many more repetitions you could have performed after stopping.
- **RIR Scale:**

Reps in Reserve	Inference
10	Could have done 10 more reps
9	Could have done 9 more reps
8	Could have done 8 more reps
7	Could have done 7 more reps
6	Could have done 6 more reps
5	Could have done 5 more reps
4	Could have done 4 more reps
3	Could have done 3 more reps, moderately hard
2	Could have done 2 more reps, hard
1	Could have done 1 more reps, very hard
0	no more reps, maximum effort



- **Application:**

- For beginners, keep RIR around 3-4 to focus on skill development.
- For intermediates and advanced, RIR can be closer to 1-2 for more intense training.

## Types of Failure

### 1. Technical Failure

- **Definition:** When form and technique start to break down.
- **Recommendation:** Focus on technical failure for beginners to ensure they learn proper form and avoid injury.

### 2. Repetition Failure

- **Definition:** When you can no longer perform another full repetition.
- **Recommendation:** Suitable for intermediate and advanced athletes who can maintain form even when fatigue starts to set in.



## Practical Application

### 1. Assessing Intensity:

- For beginners, have them practice exercises with an RIR of 3-4 to focus on learning the movements.
- For intermediate and advanced clients, increase intensity by reducing RIR to 1-2.

### 2. Contextualizing Failure:

- **Example:** If a client performs a dumbbell curl with 15 kgs for 10 reps but cannot complete the 11th, they have reached muscular failure with 15 kgs. To extend muscular fatigue, they could switch to a lighter weight and continue.
- **Practicality:** This method (drop sets) helps in extending muscular failure by reducing weight progressively.

## Strategies to Increase Intensity

1. **Partial Reps:** Performing partial repetitions when full repetitions are no longer possible.
2. **Drop Sets:** Reducing the weight and continuing the set after reaching failure with the initial weight.
3. **Rest-Pause Method:** Taking short breaks (e.g., 10 seconds) and continuing to perform more repetitions.



## Adjusting Intensity Based on Client Feedback

### 1. Beginner Focus:

- Emphasize learning proper form in all exercises.
- Adjust the intensity to ensure the technique does not break down too early.
- Use technical failure as a stopping point. The point of technical failure will move ahead when tolerance builds up.

### 2. Intermediate and Advanced Focus:

- Push closer to muscular failure.
- Use RIR of 1-2 to ensure challenging sets with appropriate intensity.
- Adjust intensity for new exercises to focus on execution before increasing difficulty.

### 3. Iterative Process:

- Regularly evaluate client performance. Tracking progress consistently enables you to make better decisions.
- Make adjustments to the intensity as needed to optimize progress and prevent injury.



## Additional Details

### Beginner Intensity Guidelines

- **Skill Development:** Emphasize learning and practicing the execution of exercise techniques rather than achieving high intensity.
- **Lower Intensity:** Use lighter weights and terminate sets when the form starts to break down (technical failure).
- **RIR for Beginners:** Maintain an RIR of 3-4 to ensure that the client is not pushing too close to failure, which allows for better focus on technique.

### Intermediate and Advanced Intensity Guidelines

- **Maintaining the Challenge:** Intermediates and Advanced clients can handle higher intensity while sustaining correct technique.
- **Higher Intensity:** Use heavier weights and allow sets to approach repetition failure for more advanced clients.
- **RIR for Intermediate and Advanced:** Maintain an RIR of 1-2 to ensure the client adequately challenges their muscles while preserving form and safety.



## Conclusion

Determining intensity is essential for customizing a training program to each client's level and goals. For beginners, keep the intensity low to focus on skill development. For intermediate and advanced clients, maintain the appropriateness of the intensity to promote continuous progress. Use methods like RPE and RIR to measure and adjust intensity appropriately. Regularly assess and adapt intensity based on client feedback and progress to ensure effective and safe training.



## Step Five: Exercise Order

Determining the order of exercises is crucial for optimizing workout effectiveness and efficiency. The sequence in which exercises are performed can significantly impact the overall training experience and outcome.

### General Guidelines for Exercise Order

#### 1. Systemically Fatiguing Exercises first

Exercises that:

- involve multiple joints and muscles at the same time,
- are not externally stabilized,

are more systemically fatiguing compared to their counterparts. Such exercises are better performed first when energy levels are high.

**Examples:** Exercises such as Squats and Deadlifts are better performed before exercises like leg press, biceps curls, triceps pushdowns etc.

#### 2. Priority Exercises First

Exercises that align with specific training goals or weak points should be performed early in the workout when focus and energy are optimal.

**Example:** If gaining lateral deltoid mass is a priority in the current phase of the training, start with cable lateral raise.





### 3. Technical Lifts First

Exercises that are highly technical or carry a higher risk of injury should be performed when the body is least fatigued.

**Examples:** Olympic lifts like clean and jerk, snatch.

### Step Six: Deciding Training Loads and Repetitions

Selecting the appropriate training loads and repetitions is vital for achieving specific fitness goals. These variables should be tailored to the individual's fitness level and objectives.

### General Guidelines for Training Loads and Repetitions

#### 1. Beginners:

- **Focus:** Learning the skill of exercising not the external load.
- **Loads and Repetitions:** Depends on the type of exercise, target muscle group and the goal of the exercise.

#### 2. Intermediates and Advanced:

- **Focus:** Maximizing challenge through the external load.
- **Loads & Repetitions:** Depends on the type of exercise, target muscle group and the goal of the exercise.

**Note:** Training loads and repetitions will be discussed further in the next chapter wherein we will build an entire training program.



## Step Seven: Rest Periods

The duration of rest periods between sets and exercises can influence the overall effectiveness of a workout and should be tailored to the individual's goals and fitness level.

### General Guideline for Rest Periods

Rest periods are highly subjective and are influenced by the following factors:

- Type of exercise
- Muscle trained
- Load lifted
- Repetitions performed
- Goal of the exercise etc.

**Note:** Rest Periods will be discussed further in the next chapter wherein we will build an entire training program.

## Chapter 4: Building a Comprehensive Workout Program: Step-by-Step Guide

In this chapter, we will put into practice all the concepts we have learned so far. As professionals, it is essential not only to understand the theoretical aspects of programming but also to effectively apply this knowledge to create tailored workout programs. This chapter will guide you step by step through the practical application of these principles, ensuring you can develop comprehensive and customized exercise programs for your clients.

### The subject

Now, let's select a subject for whom we will design a comprehensive exercise program. We will go through the entire process of program creation, ensuring that the final exercise regimen aligns with the individual's experience, limitations, and goals. This will allow us to apply our theoretical knowledge to a practical scenario, resulting in a tailored and effective exercise program.



## Subject

Rahul is a 25-year-old male who has been training consistently for the past 12 months following a standard bodybuilding routine. He started as a beginner with low-intensity workouts and gradually ramped up the intensity as he gained confidence. He has been training with a moderate to high intensity for 6 months now. 4 months back he tweaked his lower back (reason unknown) and has been experiencing minor pain in the lower back region since.

Rahul's goal is to build more muscle and get stronger. However, his lower back pain is becoming a limiting factor which is why he reached out to you.

Now, we are going to go through all the stages of programming, step by step and build the best possible exercise program for our subject, Rahul.

## Stage 1 - Data Collection

### Step one - Basic Information

- **Name:** Rahul
- **Age:** 25
- **Height:** 178 cm
- **Sex:** Male
- **Lifestyle:** 9-5 Job, can commit sufficient time to working out



## Step two - Training History

- **Type of previous training program:** Standard bodybuilding routine
- **Duration of previous training program:** 12 months
- **Intensity of previous training program:** Moderate to high
- **Proficiency in exercise technique:** Good (self-rated)
- **Frequency of workouts per week:** 4-5 times per week
- **Frequency of muscle groups trained per week:** 2 times per week

## Step three - Injury Analysis

- **Past injuries:** Lower back tweak (reason unknown, 4 months back)
- **Recent injuries:** None
- **Surgeries:** None
- **Current Pain:** Lower back region

**No physiotherapist involved** - Connect Rahul with a physical therapist at the earliest if you aren't one and work in collaboration with them.



## Stage 2 - Assessment Based on Data

### Step one - Movement Analysis

As discussed in Chapter 3, perform a comprehensive movement analysis for Rahul. This should include the following steps:

#### 1. Identify the Active Range of Motion (AROM):

- Assess the AROM in various joints to understand their functional capacity.

#### 2. Determine Factors Limiting Motion:

- Identify any factors that restrict the motion of specific joints.

#### 3. Evaluate Partial Range of Motion (PROM):

- Analyze the PROM in various joints to identify any limitations or asymmetries.

#### 4. Assess Pain and Discomfort:

- Identify any pain experienced in particular positions.
- Note movements and positions that elicit pain.

By systematically addressing these elements, you will gain a thorough understanding of Rahul's movement capabilities and limitations, enabling the development of a more effective and personalized training program.



## Step two - Exercise Technique Analysis

Now it is time to evaluate Rahul's exercise proficiency. Given his experience and adherence to a decently structured workout program, identifying the exercises for evaluation should be straightforward.

### Evaluation Process

#### 1. List Experienced Exercises

Compile a comprehensive list of lower-body and upper-body exercises that Rahul is familiar with from his previous workout regime.

##### • Lower-Body Exercises:

- Barbell Squats
- Smith Machine Squats
- Leg Press
- Romanian Deadlifts
- Walking Lunges
- Leg extensions
- Leg Curl (Seated and lying)
- Static Lunges
- Smith Machine Calf Raises
- Seated Calf Raises

These are the lower body exercises that Rahul has been exposed to at least for a few weeks since he started training 12 months back.



## • Upper-Body Exercises

- Flat Barbell Bench Press
- Incline Barbell Bench Press
- Flat Dumbbell Bench Press
- Incline Dumbbell Bench Press
- Cable Cross Over (High to Low)
- Pec Deck Fly
  
- Wide Grip Lat Pulldown
- Close Supinated Grip Lat Pulldown
- Barbell Bent Over Row
- Seated Cable Row
- One Arm Dumbbell Row
  
- Standing Overhead Barbell Press
- Seated Overhead Dumbbell Press
- Dumbbell Lateral Raises
  
- Barbell Curl
- Dumbbell Curl
- Preacher Curl
  
- Triceps Pushdown (Straight Bar)
- Overhead Triceps Extensions (Dumbbell)
- Dumbbell Kickback
- Bench Dips
  
- Barbell Shrugs
- Dumbbell Shrugs





Now that we have a comprehensive list of exercises Rahul is familiar with, it is time to determine which exercises to assess for proficiency. It is not necessary to evaluate every exercise from his previous training program. Instead, we will select exercises based on the following criteria:

### 1. Inclusion Criteria:

- **Exercises to Include in the New Program:** Prioritize exercises that will be part of the new training regimen.
- **Exercises for Future Inclusion:** Identify exercises that may be beneficial in the future but are not immediately necessary.
- **Biomechanically Efficient Exercises:** Select exercises that are biomechanically efficient and suitable for Rahul's new program.

### 2. Exclusion Criteria:

- **Anatomical Considerations:** Exclude exercises that are not anatomically accommodating for Rahul.
- **Pain and Discomfort:** Avoid exercises that cause discomfort or pain, particularly in the lower back, which has been identified as a concern for Rahul in the Data Collection Phase.
- **Professional Judgment:** Use your professional expertise to identify any other reasons for including or excluding specific exercises. This is where your critical thinking skills are essential.



By applying these criteria, we can ensure that the selected exercises are both effective and safe for Rahul, contributing to a well-rounded and tailored training program.

I will select exercises for Rahul based on my professional assessment of the risk-to-reward ratio, biomechanical efficiency, and other previously mentioned factors. I encourage readers to make exercise selections based on their professional judgment and not feel compelled to adhere strictly to my recommendations. As an educator, I aim to foster independent thinking and avoid dogmatism.

### **Exercises for evaluation**

- **Exercises from previous training program:**

- Barbell Squats
- Smith Machine Squats
- Leg Press
- Romanian Deadlifts
- Smith Machine Calf Raises
- Flat Dumbbell Bench Press
- Incline Dumbbell Bench Press
- Cable Cross Over (High to Low)
- Wide Grip Lat Pulldown
- Close Supinated Grip Lat Pulldown
- One Arm Dumbbell Row
- Seated Overhead Dumbbell Press
- Dumbbell Lateral Raises
- Dumbbell Curl
- Preacher Curl



- Triceps Pushdown (Straight Bar)
- Overhead Triceps Extensions (Dumbbell)
- Barbell Shrugs
- Dumbbell Shrugs

• **Exercises that I deem fit for Rahul:**

- Hack Squat
- Smith Machine Squats (Quad dominant)
- Cable Chest Press
- Neutral Grip Lat Pulldown
- Iliac Lat Pulldown
- Chest Supported T Bar Row
- Chest Supported Seated Row
- Cable Lateral Raises
- Pinned Dumbbell Curl
- Incline Dumbbell Curl
- Preacher Curl Cable
- Overhead Triceps Extensions (Cable)
- One Arm Cross Body Triceps Pushdowns

The exercises listed above are those I intend to include in the new program. These exercises will help address aspects that were not adequately covered in Rahul's previous training regimen.

**For example:** Neutral grip lat pulldown is more lat-specific compared to wide grip lat pulldown. Additionally, it is more accommodating to the wrist and elbow joints than the supinated close grip lat pulldown.



## Implementing Exercise Technique Analysis

With a comprehensive list of exercises from Rahul's previous training program and the new inclusions, we will now assess Rahul's proficiency in these exercises.

This phase can be conducted over several days, depending on how you prefer to distribute the exercises. Evaluating all the exercises in a single day is impractical, so a phased approach will ensure a thorough and accurate assessment.

### Important:

- Before commencing the actual assessment, it is essential to gather data on the maximum weights Rahul has lifted for each exercise, including the corresponding number of repetitions. Additionally, document the average repetition scheme of Rahul's previous workout regimen.
- Demonstrate exercises that Rahul isn't familiar with. Demonstrating exercises from his previous program isn't necessary.

## Grouping Exercises for Assessment

### Day 1:

- Barbell Squats
- Flat Bench Dumbbell Press
- Chest Supported T-Bar Row
- Overhead Triceps Extensions
- Incline Dumbbell Curl
- Wide Grip Barbell Shrugs



**Protocol:**

- Warm-up sets:** 2
- Working sets:** 1-2
- Repetitions:** 8-10
- Weight:** Moderate
- RIR (Reps In Reserve):** 3

The exercises that selected for each day of the assessment are strategically chosen to avoid interference with each other. This ensures that the fatigue developed in one exercise does not impede performance in subsequent exercises, allowing for a more accurate evaluation of Rahul's proficiency.

**Note:** Apply these principles to the subsequent days of the assessment as well.

**Day 2:**

- Romanian Deadlift (Do not evaluate if it causes lower back discomfort)
- Incline Bench Dumbbell Press
- Iliac Lat Pulldown
- One Arm Cross Body Triceps Pushdown
- Preacher Curl Cable
- Cable Lateral Raises

**Protocol:** (same)



### Day 3:

- Hack Squat
- Cable Chest Press
- Neutral Grip Lat Pulldown
- Pinned Dumbbell Curl
- Smith Machine Calf Raises

**Protocol:** (same)

### Day 4:

Smith Machine Squats (Quad Dominant)  
 Seated Overhead Dumbbell Press  
 Chest Supported Seated Row  
 Cable Cross Over  
 Leg Press (Glute Dominant)  
 Seated Leg Curl  
 Leg Extensions

**Protocol:** (same)

### Guidelines for Each Assessment Day:

1. Demonstrate unfamiliar exercises.
2. Ensure warm-up sets are included for each exercise.
3. Provide spotting assistance as needed.
4. Observe and document setup, repetition quality, and exit phases.
5. Offer immediate feedback.
6. Request the client to repeat any exercise if necessary.
7. Use verbal cues to enhance performance



**Based on the assessment, we will develop a detailed report that includes:**

1. **Exercise Proficiency:** Evaluation of Rahul's proficiency in each exercise.
2. **Strengths and Weaknesses:** Identification of areas where Rahul excels and areas needing improvement.
3. **Adjustments Needed:** Recommendations for technique adjustments or modifications to improve performance and safety.

This will help us tailor the new exercise program optimally.



## Stage 3 - Program Building

After successfully completing the data collection and assessment phases, we will now proceed to develop a customized program for Rahul. Recognizing that the program-building stage involves several critical steps, let us delve into the process in detail.

### Step one: Determining training frequency

Based on the data collected, we know that Rahul has been training 4-5 days per week and is now prepared to commit to a consistent 5-day-per-week regimen.

#### **Training Frequency:** 5 Days per Week

Furthermore, Rahul has been training each muscle group twice a week. We will continue with this frequency. If we identify the need for modifications, we will make adjustments based on continuous monitoring and assessment.

#### **Muscle group training frequency:** 2 times per week





## Step Two: Exercise Selection

After determining Rahul's training frequency, we will now select the appropriate exercises to include in his new program.

The specific exercises chosen for Rahul will be detailed in the actual workout plan as we progress. However, to provide a broad overview, the exercises used in the Exercise Technique Analysis will form the core of the program. Additional exercises may be incorporated based on their suitability.

### • **Key Factors for My Consideration:**

- **Pain Management:** I will ensure that none of the exercises exacerbate Rahul's lower back pain, a known issue.
- **Collaborative Decision-Making:** I will work in collaboration with Rahul's physiotherapist for the inclusion and exclusion of exercises.
- **Biomechanical Efficiency:** I will prioritize exercises that are biomechanically efficient and joint-friendly to ensure optimal performance and safety.



### Step Three: Determining the Training Volume

After establishing the training frequency and selecting the appropriate exercises for Rahul, we will now determine the training volume.

Given that Rahul is an intermediate trainee with a consistent workout history of 4-5 times per week over the past 12 months, I recommend the following training volume:

**Volume per Muscle Group per Week:** 10-15 sets

The exact volume for each muscle group will be reflected in the final program we develop moving forward.

**Important Recommendation:** It is essential to collect data on the volume per muscle group from Rahul's previous training program. This information will provide insights into the volume he is accustomed to and enable more informed decision-making.

As discussed in the volume section of Chapter 2, the volume that we have established for each muscle serves as a starting point and can be altered as deemed fit.



## Step Four: Determining the Intensity

The next crucial step is to determine the intensity. Since Rahul has been training at moderate to high intensity in the previous training program, we can begin with the following:

- **For exercises with excellent proficiency:** RIR 1-2
- **For exercises with decent proficiency:** RIR 2-3
- **For exercises with poor proficiency:** RIR 3-4

By choosing an appropriate RIR for different exercises, we ensure that the working sets are adequately intense depending on the proficiency level in that exercise.

As an exercise graduates from poor proficiency to excellent proficiency, the RIR must be reduced.



### **Step Five: Determining Exercise Order**

### **Step Six: Determining Training Loads & Repetitions**

### **Step Seven: Determining Rest Periods**

The subsequent steps outlined above will be implemented using the general guidelines provided in Chapter 3 and will be reflected in the actual exercise program we develop moving forward.

# The Workout Program

Having completed all the preliminary steps, we are ready to construct the actual exercise program.

## Step 1 - The Workout Split

Since, Rahul is prepared to commit to working out 5 days per week, with the goal of training each muscle group twice within that period. An appropriate workout split would look like this:

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
<b>Workout</b>	<b>Workout</b>	<b>Workout</b>	<b>Rest</b>	<b>Workout</b>	<b>Workout</b>	<b>Rest</b>
<ul style="list-style-type: none"> <li>• Pecs</li> <li>• Deltoids</li> <li>• Triceps</li> </ul>	<ul style="list-style-type: none"> <li>• Lats</li> <li>• Upper Back</li> <li>• Elbow Flexors</li> </ul>	<ul style="list-style-type: none"> <li>• Quads</li> <li>• Hams</li> <li>• Glutes</li> <li>• Calves</li> </ul>		<ul style="list-style-type: none"> <li>• Pecs</li> <li>• Lats</li> <li>• Delts</li> <li>• Upper Back</li> <li>• Elbow Flexors</li> <li>• Triceps</li> </ul>	<ul style="list-style-type: none"> <li>• Quads</li> <li>• Hams</li> <li>• Glutes</li> <li>• Calves</li> </ul>	

This split ensures that Rahul is working out five days a week, training each muscle group twice a week with adequate rest in between sessions to facilitate proper recovery.

Now that we have designated the workout and rest days, it is time to create detailed workouts for each day. This includes selecting specific exercises, determining the number of sets and repetitions, and establishing appropriate rest periods. This structured approach will ensure a comprehensive and effective training program tailored to Rahul's needs.



## Monday - Pecs, Deltoids, Triceps

EXERCISE	SETS	REPS	REST (Min)	RATIONALE	MUSCLES TRAINED
<b>30 Degree Incline Dumbbell Press</b>	4	6-10	2-3	<ul style="list-style-type: none"> <li>• Excellent Proficiency</li> <li>• Familiar Exercise</li> </ul>	<ul style="list-style-type: none"> <li>• Upper Pecs</li> <li>• Middle Pecs</li> <li>• Anterior Deltoids</li> </ul>
<b>Cable Cross Over (Hi-lo)</b>	4	10-15	1.5-2	<ul style="list-style-type: none"> <li>• Excellent Proficiency</li> <li>• Familiar Exercise</li> </ul>	<ul style="list-style-type: none"> <li>• Lower Pecs</li> </ul>
<b>One Arm Cable Lateral Raises</b>	5	12-15	1	<ul style="list-style-type: none"> <li>• Better Resistance Profile compared to Dumbbell LR</li> </ul>	<ul style="list-style-type: none"> <li>• Lateral Deltoids</li> </ul>
<b>One Arm Overhead Triceps Extensions (Cable)</b>	4	8-12	1	<ul style="list-style-type: none"> <li>• More accommodating for the wrist and elbow joint compared to two-arm dumbbell version</li> </ul>	<ul style="list-style-type: none"> <li>• Triceps (Long Head pre-stretch)</li> </ul>
<b>One Arm Cross Body Triceps Pushdowns</b>	3	12-15	1	<ul style="list-style-type: none"> <li>• More accommodating for the wrist and elbow joint compared to straight bar pushdowns</li> </ul>	<ul style="list-style-type: none"> <li>• Triceps</li> </ul>

### Summary

The workout includes five exercises targeting the pecs, deltoids, and triceps. We utilize a versatile rep range for the pecs (6-15) and triceps (8-15) to effectively train different types of muscle fibres. For the lateral deltoids, we employ 12-15 rep range considering their slight type-1 muscle fibre dominance. Training loads will correspond to the number of repetitions performed.

## Tuesday - Lats, Upper Back, Elbow Flexors

EXERCISE	SETS	REPS	REST (Min)	RATIONALE	MUSCLES TRAINED
<b>One Arm Iliac Lat Pulldown</b>	4	8-12	1-1.5	<ul style="list-style-type: none"> <li>• Better targets vertical lat fibres compared to wide grip pulldown</li> </ul>	<ul style="list-style-type: none"> <li>• Vertical Lat Fibres</li> <li>• Teres Major</li> <li>• Rear Delts</li> <li>• Lower Traps</li> </ul>
<b>Chest Supported T Bar Row</b>	4	10-15	1.5-2	<ul style="list-style-type: none"> <li>• Better Resistance Profile compared to bent over row</li> <li>• Externally stabilized</li> </ul>	<ul style="list-style-type: none"> <li>• Horizontal Lat Fibres</li> <li>• Teres Major</li> <li>• Rear Delts</li> <li>• Middle Traps</li> </ul>
<b>75 Degree Incline Bench Dumbbell Curl</b>	4	8-12	1.5-2	<ul style="list-style-type: none"> <li>• Trains the biceps in lengthened state (not addressed in previous program)</li> </ul>	<ul style="list-style-type: none"> <li>• Biceps (pre-stretch)</li> </ul>
<b>One Arm Preacher Curl (Cable)</b>	3	12-15	1	<ul style="list-style-type: none"> <li>• Better Resistance Profile compared to dumbbell preacher curl</li> </ul>	<ul style="list-style-type: none"> <li>• Biceps (shortened)</li> </ul>
<b>Wide Grip Barbell Shrugs</b>	4-5	12-15	1.5-2	<ul style="list-style-type: none"> <li>• Wide Grip allows for better upper traps contraction</li> </ul>	<ul style="list-style-type: none"> <li>• Upper Traps</li> </ul>

### Summary

The workout includes five exercises targeting the lats, upper back, and biceps. We utilize a versatile rep range for the lats (8-15) and biceps (8-15) to effectively train different types of muscle fibres. For the upper traps, we employ 12-15 rep range considering their slight type-1 muscle fibre dominance. Training loads will correspond to the number of repetitions performed.

## Wednesday - Quads, Hams, Glutes, Calves

EXERCISE	SETS	REPS	REST (Min)	RATIONALE	MUSCLES TRAINED
<b>Hack Squat</b>	4	8-12	2-3	<ul style="list-style-type: none"> <li>• Quad Dominant Variation</li> <li>• Minimal Torque at the spine (Rahul's issue)</li> <li>• Externally Stabilized</li> </ul>	<ul style="list-style-type: none"> <li>• Quadriceps (long range bias)</li> </ul>
<b>Leg Press (Glute Dominant)</b>	4	8-12	2	<ul style="list-style-type: none"> <li>• More accommodating for the lower back (Rahul's issue) compared to RDLs</li> </ul>	<ul style="list-style-type: none"> <li>• Glutes (long range bias)</li> </ul>
<b>Seated Leg Curl</b>	4	8-12	1.5-2	<ul style="list-style-type: none"> <li>• Trains Hams in pre-stretched state</li> <li>• Safe for lower back (Rahul's issue) compared to stiff-leg deadlift</li> </ul>	<ul style="list-style-type: none"> <li>• Hamstrings (pre-stretch)</li> </ul>
<b>Leg Extensions</b>	2	12-15	1.5-2	<ul style="list-style-type: none"> <li>• Good Resistance Profile</li> <li>• Makes sure quads are trained in shortened position</li> </ul>	<ul style="list-style-type: none"> <li>• Quadriceps</li> </ul>
<b>Superset:</b> <ul style="list-style-type: none"> <li>• Seated Hip Abduction</li> <li>• Seated Hip Adduction</li> </ul>	3	12-15	1	<ul style="list-style-type: none"> <li>• Worthy inclusion not being addressed in previous program</li> </ul>	<ul style="list-style-type: none"> <li>• Hip Abductors</li> <li>• Hip Adductors</li> </ul>
<b>Calf Press</b>	4-5	15-20	1.5-2	<ul style="list-style-type: none"> <li>• No spinal compression forces</li> </ul>	<ul style="list-style-type: none"> <li>• Calves</li> </ul>



## Wednesday - Quads, Hams, Glutes, Calves

### Summary

The workout includes six exercises targeting the quadriceps, hamstrings, glutes, and calves. I have incorporated exercises that are new to Rahul but are highly effective and unlikely to aggravate his lower back pain, which is a known issue. Training loads will correspond to the number of repetitions performed.

## Friday - Upper Body

EXERCISE	SETS	REPS	REST (Min)	RATIONALE	MUSCLES TRAINED
<b>Neutral Grip Lat Pulldown</b>	3	8-12	2	<ul style="list-style-type: none"> <li>• Better targets lats compared to wide grip pulldown</li> <li>• More accommodating for the wrist and elbow joints</li> </ul>	<ul style="list-style-type: none"> <li>• Vertical Lat Fibres</li> <li>• Teres Major</li> <li>• Rear Delts</li> <li>• Lower Traps</li> </ul>
<b>Cable Chest Press</b>	3	8-12	2	<ul style="list-style-type: none"> <li>• Provides resistance throughout ROM as opposed to dumbbell press</li> </ul>	<ul style="list-style-type: none"> <li>• Upper Pecs</li> <li>• Middle Pecs</li> </ul>
<b>Chest Supported Seated Row</b>	3	10-15	2	<ul style="list-style-type: none"> <li>• Chest support eliminates challenge for hip and spinal extensors</li> </ul>	<ul style="list-style-type: none"> <li>• Horizontal Lat Fibres</li> <li>• Teres Major</li> <li>• Rear Delts</li> <li>• Middle Traps</li> </ul>
<b>Cable Cross Over (hi-lo)</b>	3	12-15	2	<ul style="list-style-type: none"> <li>• Targets lower pec fibres effectively</li> </ul>	<ul style="list-style-type: none"> <li>• Lower Pecs</li> </ul>
<b>One Arm Cable Lateral Raises</b>	3	12-15	1	<ul style="list-style-type: none"> <li>• Better Resistance Profile compared to dumbbell LR</li> </ul>	<ul style="list-style-type: none"> <li>• Lateral Deltoids</li> </ul>
<b>One Arm Pinned Dumbbell Curl</b>	2-3	8-12	1	<ul style="list-style-type: none"> <li>• Eliminates resistance at the shoulder joint</li> </ul>	<ul style="list-style-type: none"> <li>• Biceps</li> </ul>
<b>One Arm Cross Body Triceps Pushdown</b>	2-3	8-12	1	<ul style="list-style-type: none"> <li>• More accommodating for the elbow and wrist joints</li> </ul>	<ul style="list-style-type: none"> <li>• Triceps</li> </ul>
<b>Chest Supported Dumbbell Shrugs</b>	3	10-15	1	<ul style="list-style-type: none"> <li>• Targets horizontal fibres of the upper traps</li> </ul>	<ul style="list-style-type: none"> <li>• Upper Traps</li> <li>• Some Middle Traps</li> </ul>

## Friday - Upper Body

### Summary

The upper body workout is relatively longer compared to other workouts of the week. However, I have included exercises that are relatively less systemically fatiguing to ensure optimal performance throughout the workout. Training loads will correspond to the number of repetitions performed.

## Saturday - Quads, Hams, Glutes and Calves

EXERCISE	SETS	REPS	REST (Min)	RATIONALE	MUSCLES TRAINED
<b>Smith Machine Squats (Quad Dominant)</b>	4	8-12	2-3	<ul style="list-style-type: none"> <li>• Quad Dominant Variation</li> <li>• Minimal Torque at the spine (Rahul's issue)</li> <li>• Externally Stabilized</li> </ul>	<ul style="list-style-type: none"> <li>• Quadriceps (long range bias)</li> </ul>
<b>Leg Press (Glute Dominant)</b>	4	8-12	2	<ul style="list-style-type: none"> <li>• More accommodating for the lower back (Rahul's issue) compared to RDLs</li> </ul>	<ul style="list-style-type: none"> <li>• Glutes (long range bias)</li> </ul>
<b>Lying Leg Curl</b>	4	12-15	1.5-2	<ul style="list-style-type: none"> <li>• Trains Hams in shorter length compared to seated leg curl, hence a different stimulus</li> </ul>	<ul style="list-style-type: none"> <li>• Hamstrings</li> </ul>
<b>Leg Extensions</b>	2	12-15	1.5-2	<ul style="list-style-type: none"> <li>• Good Resistance Profile</li> <li>• Makes sure quads are trained in shortened position</li> </ul>	<ul style="list-style-type: none"> <li>• Quadriceps</li> </ul>
<b>Superset:</b> <ul style="list-style-type: none"> <li>• Seated Hip Abduction</li> <li>• Seated Hip Adduction</li> </ul>	3	12-15	1	<ul style="list-style-type: none"> <li>• Worthy inclusion not being addressed in previous program</li> </ul>	<ul style="list-style-type: none"> <li>• Hip Abductors</li> <li>• Hip Adductors</li> </ul>
<b>Seated Calf Raises</b>	4-5	15-30	1.5-2	<ul style="list-style-type: none"> <li>• No spinal compression forces</li> </ul>	<ul style="list-style-type: none"> <li>• Soleus</li> </ul>

## Saturday - Quads, Hams, Glutes, Calves

### Summary

The workout includes six exercises targeting the quadriceps, hamstrings, glutes, and calves. I have incorporated exercises that are new to Rahul but are highly effective and unlikely to aggravate his lower back pain, which is a known issue. Training loads will correspond to the number of repetitions performed.

# Workout Program Summary

## 1. Workout Schedule

- Rahul will follow a 5-day-per-week workout split with 2 days of rest.

## 2. Muscle Group Training Frequency

- Each muscle group will be trained twice per week.

## 3. Exercise Selection Criteria

- Exercises that are biomechanically efficient
- Exercises that are externally stabilized
- Exercises that do not cause lower back pain or discomfort
- Exercises that are less systemically fatiguing
- Exercises that Rahul enjoys and finds engaging

## 4. Rep Range

- A versatile rep range will be utilized to adequately train different types of muscle fibers.

## 5. Volume

- The average sets per week for each muscle group will be 10-15.

## 6. Intensity

- For exercises with excellent proficiency: RIR 1-2
- For exercises with decent proficiency: RIR 2-3
- For exercises with poor proficiency: RIR 3-4

## 7. Monitoring and Adjustment

- Changes will be made based on continuous monitoring and assessment.

## 8. Progressive Overload

- The program will incorporate progressive overload to ensure consistent improvement in strength and hypertrophy.

## 9. Recovery

- Assess if Rahul is recovering adequately from the training sessions or not. Make changes to facilitate recovery if needed.

## 10. Goal Setting and Tracking

- Regularly set and track specific, measurable goals to ensure Rahul's progress aligns with his fitness objectives.

## Chapter 5: Conclusion

As we reach the conclusion of this comprehensive guide to exercise programming, let's take a moment to reflect on the journey we've undertaken. We began by understanding the fundamental principles of exercise science, gradually building up to creating a tailored, effective, and safe exercise program. This book aimed to equip you with the theoretical knowledge and practical skills necessary to design exercise regimens that cater to individual needs and goals.

### Key Takeaways

#### 1. Assessment and Understanding the Client:

- Before designing any exercise program, it's crucial to understand the individual's background, fitness level, and goals. Conducting thorough assessments allows us to tailor programs that are both effective and safe.

#### 2. Setting Training Frequency:

- Determining how often an individual should train is the first step. This decision should consider their fitness level, goals, and availability. The frequency sets the foundation for how the program will be structured.





### 3. Exercise Selection:

- Choosing the right exercises is pivotal. This involves selecting movements that match the individual's skill level and anatomical structure. Exercises should be biomechanically efficient, accommodate any injuries or limitations, and, importantly, be enjoyable to encourage adherence.

### 4. Determining Volume:

- Volume, defined as the number of working sets, plays a critical role in the overall training load. Keeping volume simple and focusing on working sets per week per muscle group helps in maintaining clarity and effectiveness.

### 5. Setting Intensity:

- Intensity is a measure of how hard a set is and is closely linked to the concept of proximity to failure. Understanding and applying the Rate of Perceived Exertion (RPE) and Reps in Reserve (RIR) scales helps in accurately gauging and prescribing intensity levels suitable for beginners to advanced individuals.

### 6. Progression and Adaptation:

- A good exercise program is not static. It evolves based on continuous feedback and assessment. Programs should be adaptable, allowing for modifications as the individual's fitness improves or as new challenges arise.



## 7. Exercise Order:

- The sequence in which exercises are performed can impact the effectiveness of the workout. This step is crucial and will be discussed in detail when building specific programs.

## 8. Training Loads and Repetitions:

- Deciding on the appropriate loads and repetitions varies based on the individual's goals and experience level. This will ensure that the program is both challenging and achievable.

## 9. Rest Periods:

- Adequate rest periods between sets and exercises are vital for recovery and performance. These periods will vary depending on the intensity and type of exercise performed.

## Practical Application

In the latter part of this guide, we applied these principles to construct a detailed exercise program. This practical approach ensures that the theoretical knowledge gained can be effectively translated into real-world scenarios.

We selected a subject and designed a comprehensive exercise regimen, demonstrating each step from assessment to execution. This hands-on example serves as a blueprint for creating customized programs tailored to individual needs.



## Final Thoughts

The journey to mastering exercise programming is ongoing. This book provides a solid foundation, but continued learning and adaptation are essential. Stay updated with the latest research, listen to feedback, and always prioritize the well-being of the individuals you are training.

As professionals, our goal is not only to impart knowledge but to inspire and support those we work with. The ability to design and implement effective exercise programs is a powerful tool that can significantly impact lives. Embrace this responsibility with dedication and passion.

Thank you for embarking on this journey with me. I hope this guide serves as a valuable resource in your professional development and contributes to your success in the field of exercise programming.



"I hope you enjoyed reading this book and found it insightful. Thank you for your time and commitment to learning."

Gaurav Jain

