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And

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Disclaimer:

This Presentation is only for educational purpose and all standard safety protocols should be followed and Final consultations should happen with specialised health professionals

Programming Strength & Conditioning for Boxing

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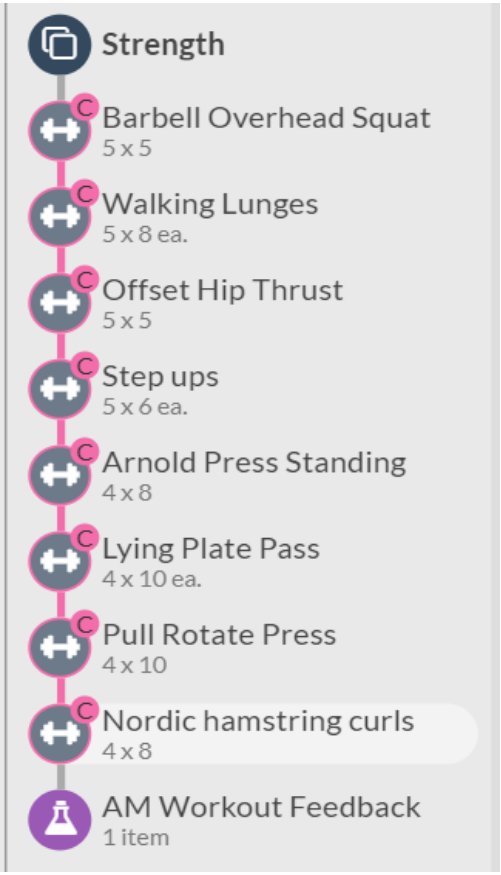
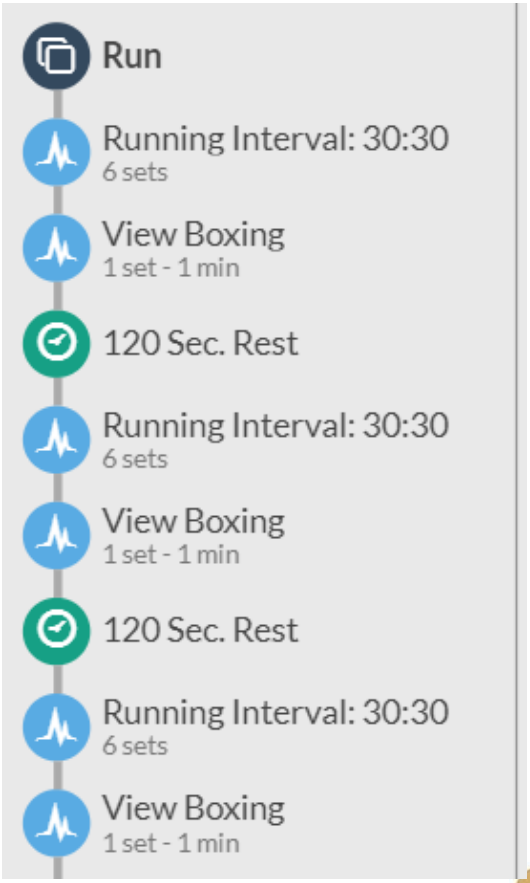
What is a Program?

It is a set of exercises put in a specific way to produce a stronger more robust athlete





Problem with programming in Boxing

Lack of knowledge

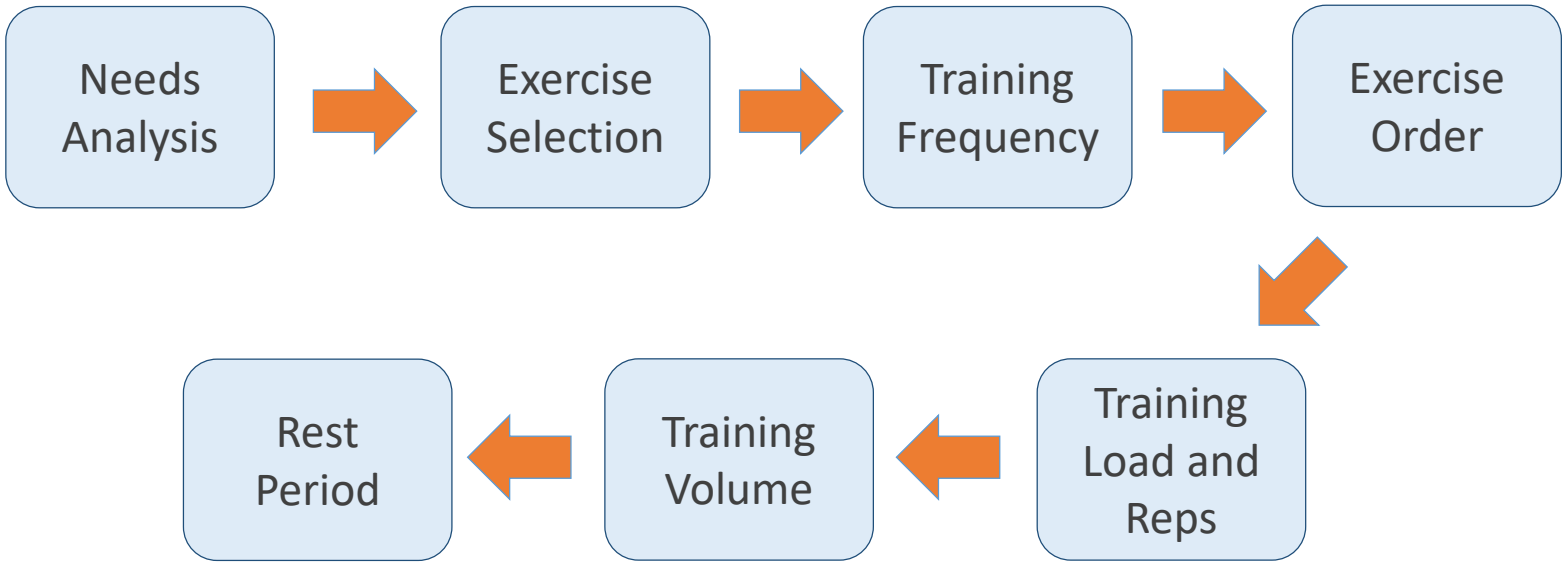
Inadequate Program Design

Programs do not include progressions

One size fits all approach

Inappropriate Exercise Selection

How to design a program



Needs Analysis

Needs Analysis

What needs to be analyzed before designing a program

Evaluation of the Sport

- Movement Analysis
- Physiological Analysis
- Injury Analysis

Evaluation of the Athlete

- Biological Age of the Athlete
- Training Age of the Athlete
- Training Goals
- Testing

Needs Analysis

Assessment of the Athlete	
Name	Mr. Boxer
Age	22
Training Age	5
Sport	Boxing
Height	170cm
Weight	67.6
Training Goal	Strength & Power

Evaluation of the sport	
Movement Analysis:	Full body movement, laterally and linear. Type of Punches: Right Cross, Hook, Left Jab & Upper Cut
Physiological Analysis:	Short Duration High Intensity bursts of activity (anaerobic and aerobic). Require Strength, Power, Speed, Mobility and Stability
Injury Analysis:	Common injuries in the shoulder, wrist, lower back and neck

Testing		
	Left	Right
Grip Strength	53	57
Counter Movement Jump	75	
Vertical Jump	65	
Medicine Ball Throw	4.2	
Back Squat 5 RM	90	
Deadlift 5 RM	85	
Pull Ups 1RM	25	
Bench Press	80	
Prone Hold	180s	
Supine Hold	90s	
Side plank	96s	86s
MAS	4.5m/s	

Exercise Selection

Exercise Selection

Selecting the right exercises for an athletes goal

1. Power Exercise
2. Knee Dominant Exercise
3. Hip Dominant Exercise
4. Upper Body Pull Exercise
5. Upper Body Push Exercise
6. Sport Specific Exercise

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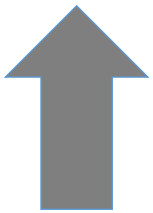
Exercise Selection

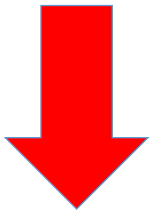
Progression and Regression

Progression
Increasing the difficulty of the exercise



Difficulty

Regression
Decreasing the difficulty of the exercise



Difficulty

Exercise Selection

Progression

Single Leg Good morning

Single Leg RDL

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Exercise Selection

Progression

Deadlift

Romanian Deadlift

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Exercise Selection

Regression

Cable/Band pull through

Dumbbell Pick up

Exercise Selection

When thinking of exercise selection, things to keep in mind is:

Muscle Imbalance

Exercise to Promote Recovery

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Training Frequency

Training Frequency

How often should I train

Depends on:

Training Status	***Sport Season***	***Training Load & Exercise Type***	***Other Training***

Sport Season	***Frequency Guidelines (sessions per week)***
Off Season	4-6
Preseason	3-4
In-season	1-3
Postseason (active rest)	0-3

Training Status	***Frequency Guidelines (sessions per week)***
Beginner	2-3
Intermediate	3-4
Advanced	4-7

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Exercise Order

Exercise Order

Power Exercises

Multi joint exercises

Single joint Exercises

Core Exercises

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Training Load & Repetitions

Training Load & Repetitions

Technical Failure

You never count a rep after technique breaks down

"I don't care how many reps you do. I care how many ***GOOD*** reps you do"

More is ***NOT*** better

Training Load & Repetitions

The training load is the 'shock' used to induce the body to improve itself.

Recovery should be adequate to meet level of workload/shock then new strength or performance level achieved in days/weeks to come

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Training Load & Repetitions

Factors affecting Training Load

Variation of training load

Intensity of Workout in a week can carry depending on sport season and other training

Progression of training load

2 × 2

TIMING OF LOAD INCREASE

QUANTITY OF LOAD INCREASE

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Training Load & Repetitions

% 1 Repetition Max	No of Reps
100	1
95	2
93	3
90	4
87	5
85	6
83	7
80	8
77	9
75	10
70	11
67	12
65	15

Training Goal	Load (%1RM)	Goal Repetitions
Strength	> 85	<6
Power Single-effort	80-90	1-2
Power Multiple-effort	75-85	3-5
Hypertrophy	67-85	6-12
Muscular Endurance	<67	>12

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Training Volume

Training Volume

Training Volume = Total Amount of Weight Lifted in Training Session

Training Goal	*Goal Repetition*	*Sets*
Strength	<6	2-6
Power Single-effort	1-2	3-5
Power Multiple-effort	3-5	3-5
Hypertrophy	6-12	3-6
Muscular Endurance	>12	2-3

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Training Volume

Volume Load = No of Sets × Reps × Weight

Name:	Boxer
Weight	70 kg
Sport	Boxing
Day No	1

Season	Pre Competition
Boxing Sessions per week:	8
Strength Sessions per week:	2
Conditioning sessions:	2

No	Exercise	Reps	Load			Volume Load	RPE
			Set 1	Set 2	Set 3		
1	Hang Snatch	5	60	63	65	940	8
2	Romanian Deadlift	6	75	78	80	1398	7
3	Front Squat	6	55	60	60	1050	8
4	Pull Ups	6	10	12.5	15	225	8
5	DB Bench Press	6	25	25	30	480	7
6	Nordic Hamstring Curls	8	14	14	14	336	6
7	Hang Leg Raises	10	14	14	14	420	6
8	Face Pulls	10	14	14	14	420	6
Total						**5269**	**7**

Training Volume

Volume Load = No of Sets ✖ Reps ✖ Weight

Name:	Boxer
Weight	70 kg
Sport	Boxing
Day No	2

Season	Pre Competition
Boxing Sessions per week:	8
Strength Sessions per week:	2
Conditioning sessions:	2

No	Exercise	Reps	Load			Volume Load	RPE
			Set 1	Set 2	Set 3		
1	Clean	5	65	67	70	1010	9
2	Back Squat	6	65	70	75	1260	7
3	Hip Thrust	6	75	80	85	1440	8
4	Bent Over Rows	6	40	45	50	810	7
5	Standing Shoulder Press	6	30	35	40	630	8
6	Deadbugs	10	14	14	14	420	6
7	Cable rotation from hip	10	5	5	7.5	175	6
8	Bench I,Y,T	10	14	14	14	420	6
Total						**6165**	**7**

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Rest Periods

Rest Periods

How much rest in between sets and exercises

Training Goal	*Rest Period*
Strength	2-5 min
Power Single-effort	2-5 min
Power Multiple-effort	2-5 min
Hypertrophy	30s-1.5min
Muscular Endurance	<30 s

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Conditioning

Conditioning

Program Variables:

Exercise Interval: Duration or distance over which a repetition executed

Exercise Order: Sequence in which a set of repetitions is executed

Frequency: Number of training sessions performed in given time period

Intensity: Effort with which a repetition is executed (% MAS)

Recovery/Rest: time period between reps and sets

Repetitions: execution of specific workload

Series: Group of sets and recovery intervals

Set: group of reps and rest intervals

Volume: the amount of work in a given training session

Work to rest ratio: density of volume performed at prescribed intensities

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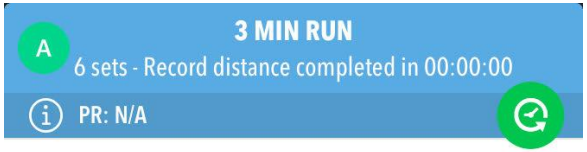
Conditioning

Program Variables:

Workout

- 2 min Fast Run
  6 sets - Record distance completed in 00:02:00
- 240 Sec. Rest
- 2 min Fast Run
  6 sets - Record distance completed in 00:02:00
- 240 Sec. Rest
- 2 min Fast Run
  6 sets - Record distance completed in 00:02:00



Rest between sets: 120 secs.

3 min @ 92%, Target: 745m

#	Meters
1	
2	
3	
4	
5	

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Conditioning

Training our aerobic and anaerobic system (cardiovascular system)
Should be Individualized for each athlete

MAS (Maximum Aerobic Speed)

The lowest speed at which the **VO2** maximum occurs

Typically can be sustained for ~ 5- to 7-+minutes

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Conditioning

Testing: how much distance you can cover in 5 to 7 minutes

Using the **distance** you can work out what the maximum aerobic Speed is.

This gives you an indication of **100%**

If the time is shorter you can work at a higher percentage of MAS.

Long intervals (1-3-mins) ! training at > **92-100% MAS**

Short interval (<1-min) training at > **100-130% MAS**

Conditioning

Example:

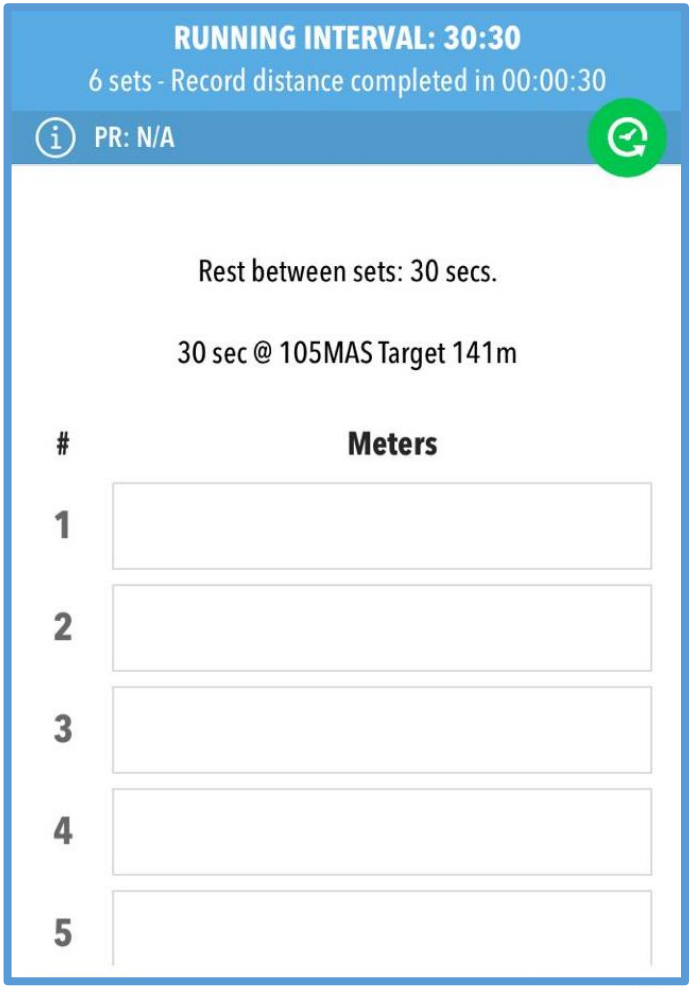
1350m in 5 min
1350m/300s = ***4.5 m/s***

100% MAS = 4.5 m/s
Short interval example: 30s

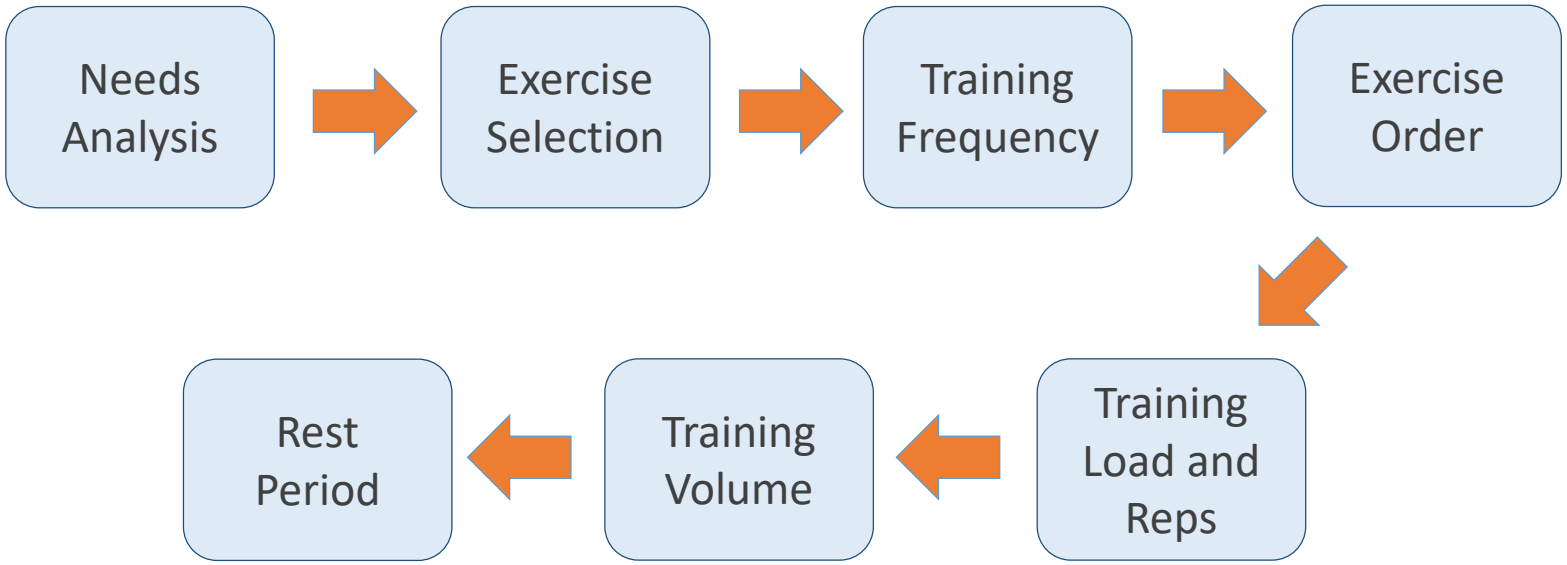
Target: 105% MAS

Target Speed : 4.5 m/s X 1.05 (%) = 4.725 m/s

Target Distance : 4.725 m/s X 30 = **141.75 m**



Summary:


Needs Analysis
Exercise Selection
Training Frequency
Exercise Order
Training Load and Reps
Training Volume
Rest Period

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