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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

The Importance of Strength & Conditioning for Boxing

*Presented by Leandi van Zyl
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1 Introduction to Strength and Conditioning

2 Movement Pyramid

3 Aspects of Strength and Conditioning

4 Training Principles of Strength Training

5 S&C Myths v/s Science



Introduction to Strength and Conditioning

Absence of Strength and Conditioning

What happens when we don't do Strength and Conditioning Training?

Injuries



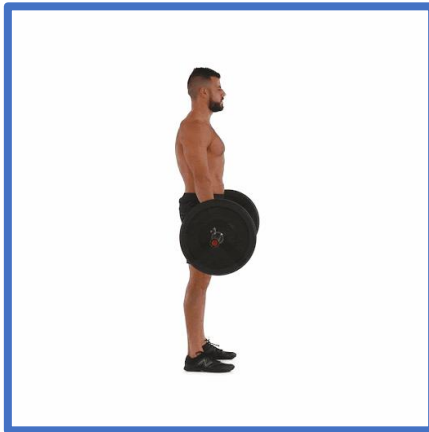
Don't perform



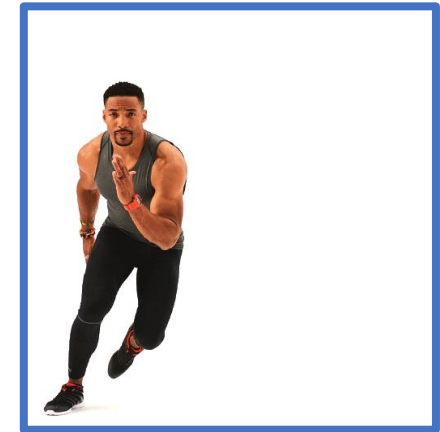
Sir H. N.

What is Strength and Conditioning

Strength and conditioning is using exercises to train our bodies to be able to sustain through sport and perform to our best.



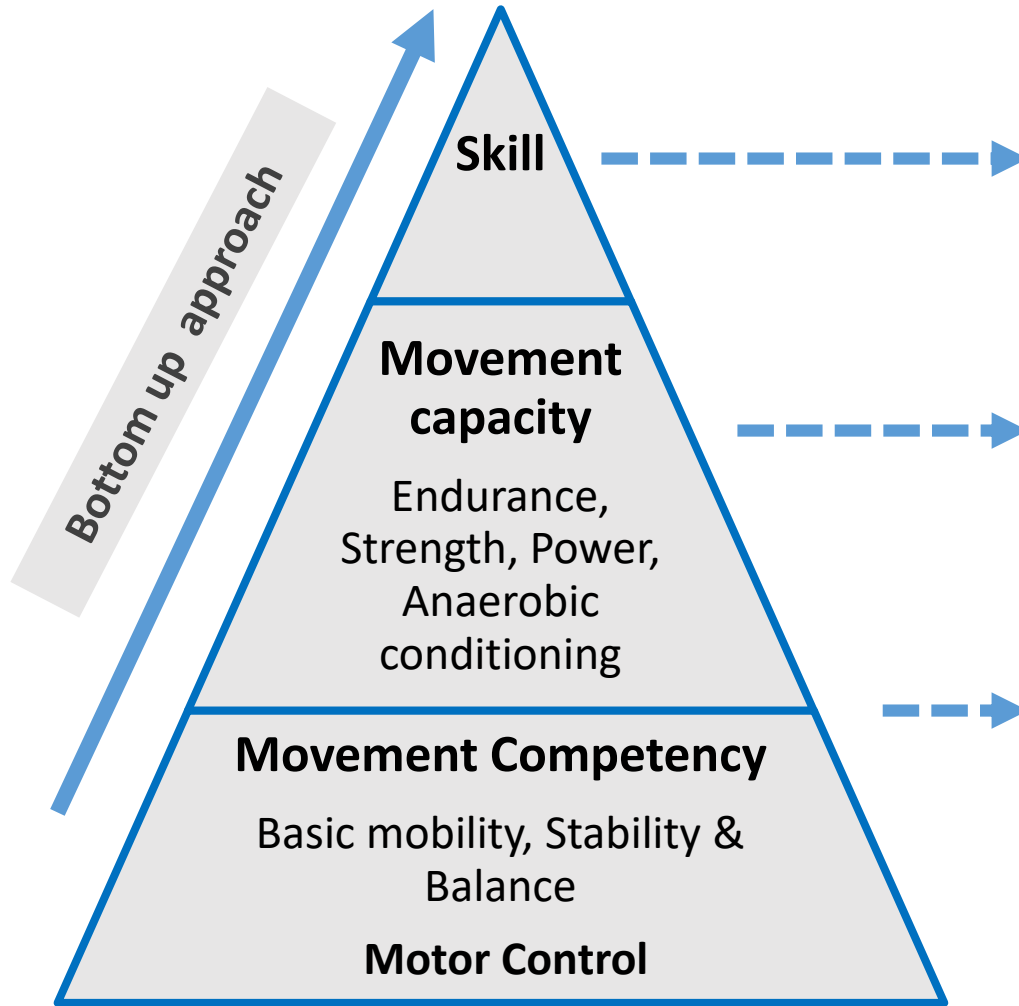
S&C includes all the different activities that help improve sports performance – improving balance, increasing strength, power speed and agility as well as Aerobic and anearobic capacity of the athlete.



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Movement Pyramid

Movement / Performance Pyramid



Whether we choose to run, swim, lift weights or play a sport like boxing, a basic level of skill and technique is required to perform these activities safely

Having basic movement capacity, on top of a solid movement foundation, enhances our resilience against injuries.

These qualities are strongly correlated with our bodies' durability. We are more resilient and less likely to miss training or competition because of a non-impact injury

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Aspects of Strength and Conditioning

Mobility



Joints & muscles to *move freely* without any restrictions

Stability



Structure *maintaining a position* despite external force

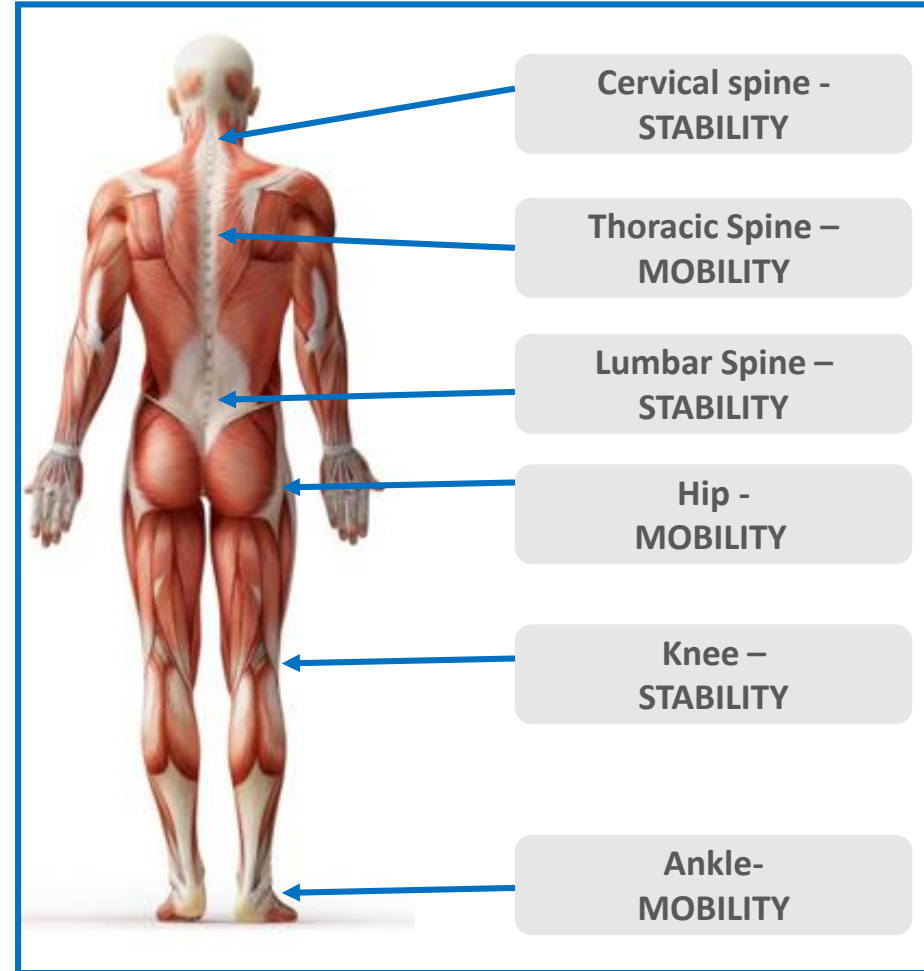
Mobility and Stability (2/2)

Joint by Joint Approach

Movements around specific joints most used in the individual activity or sport

Dysfunction usually seen *above or below the immobile/ unstable joint*

For example, if an athlete has poor wrist mobility, the elbow might become more mobile instead of stable and this might lead to pain in the shoulder, elbow or wrist because of compensatory movements



Balance is an ability to maintain the line of gravity of a body within the base of support with minimal postural sway.



Dodging a punch



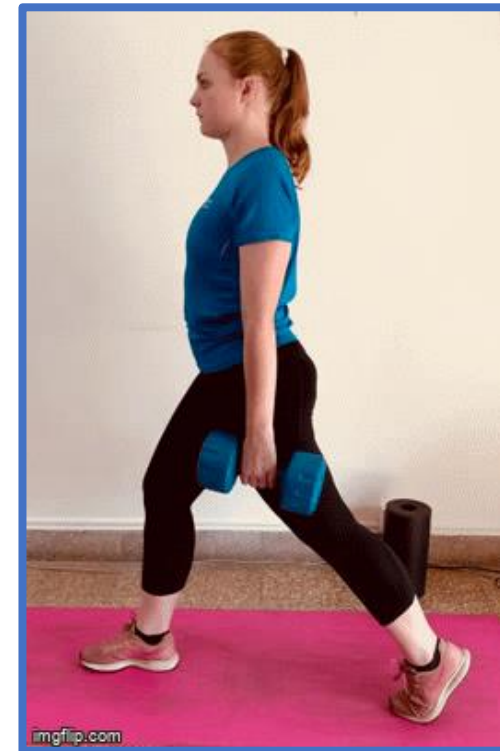
Single Leg Balance

Strength

Strength is the maximal force you can apply against a load



Hard Punch



Split Squat

Power

The ability to exert a maximal force in as short a time as possible



Fast knockout Punch



Medicine ball Lateral Throw

Anaerobic Power and Aerobic Capacity

Anaerobic Power

High Intensity

Short Duration (few seconds)

Without presence of Oxygen

Examples – Sprints

Aerobic Capacity

Low Intensity

Long Duration (few minutes)

With the presence of Oxygen

Example – Jogging

Anaerobic Power

Power used in high-intensity bouts of exercise lasting fewer than ten seconds

Full Body Circuit Training

Target HR 83-93% of max HR

Higher amounts of energy and for energy to be available quickly



Aerobic Capacity

We need oxygen to produce energy. In order to produce energy



Maintain repetitive high-intensity actions

Accelerates the recovery process

keep the boxer fit until the last round and/or match

Training the body to tolerate the demands of the sport

16:1

Activity to Rest Ratio

CYCLING - TIME INTERVALS - 20:20 SEC
6 sets - Record distance completed in 00:00:20

PR: N/A

Rest between sets: 20 secs.

105% of MAS, Target 172 m in 20 sec

#	Meters
1	180
2	230
3	280
4	250
5	280

Sample training program



Change of
Direction/position in
response to a stimulus

Reactive Component

Visual processing
Timing
Reaction time
Perception
Anticipation

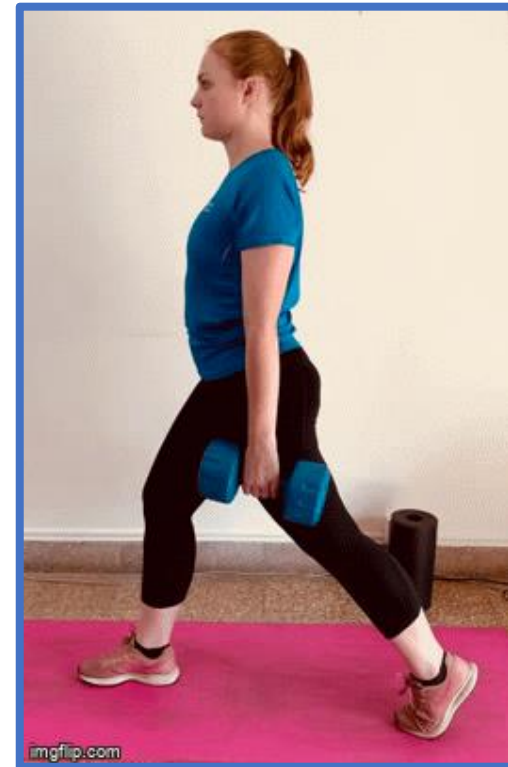
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Training Principles for Strength Training

Single Leg Squat



Split Squat



Deadlift



Romanian Deadlift



Hip Thrusts



Upper Body Pull Exercise

Bent Over Rows



Three Point Dumbbell Row



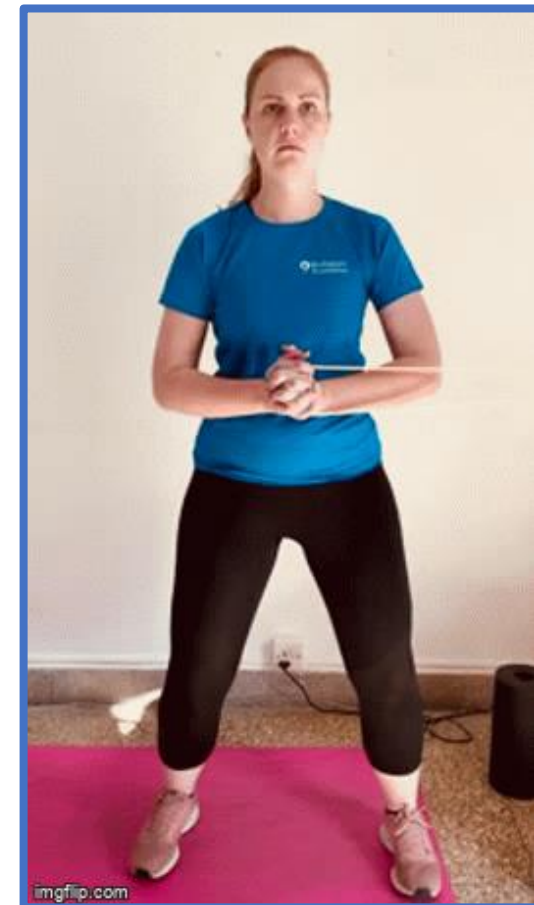
Shoulder Press



Kneeling
Woodchop



Pallof
Press



Thread the Needle



Squat Jumps



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S&C Myths v/s Science

Myths vs Science

MYTH:

Weight training makes you slow

FACT:

Lifting weight with proper technique and ROM is key

MYTH

Messes up punching mechanics

FACT:

Proper weight training will improve velocity & force in ROM

MYTH

Conditioning only boxing

FACT:

Efficient with energy outputs. Controlled environment leads to sustained result



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