

BOXING
FEDERATION OF
INDIA

भारतीय खेल
प्रधिकरण
sports
authority of
india

ZONAL DEVELOPMENT PROGRAM



Strength and Power training for boxers



Free weights or Fixed machines?



What kind of exercises are we looking for?

- Level 1: Isolated exercises on machine with varied resistance
- Level 2: Complex exercises on machine with varied resistance
- Level 3: Isolated exercises on machine
- Level 4: Complex exercises on machine
- Level 5: Isolated exercises with free weights
- **Level 6: Complex exercises with free weights**

When to start with Strength training?



Strength training for Children

- Strength training can have **injury-prevention** effects and **stimulate bone structure**. Increased strength also **facilitates motor learning**.
- Exercise load should be **adapted to the child's conditions** and degree of maturity. Strength training for children should not be limited to weight training at a gym, but that type of weight training should also not be excluded.
- Strength training 2-3 times a week for children and adolescents leads to significant increases in strength.
- It is not primarily the increase in muscle mass in children that is behind the increases in strength but a neuromuscular adaptation to the strength training

Strength training for Children

When and how to start?

- Depending on individual development level but **around 7-8 years** old can be seen as a benchmark if they have good control of their body and can follow instructions.
- Initially **1-2 strength training sessions / week** should be applied. The strength portion of the session should preferably be 20-40 minutes long.
- **Keep it light.** Kids can lift light weights with a high number of repetitions. In most cases, one or two sets of 10 to 15 repetitions are enough. 8-12 exercises with focus on the major muscle groups. Resistance doesn't have to come from weights, mix with body-weight and other exercises. From 12 years it is advantageous to include a greater proportion of plyometric strength exercises.

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Strength training for Children

- **Proper warm up and cool down.**
- **Emphasize proper technique.** It's better to do the exercise correctly than to do more repetitions or to take on more resistance.
- **Focus on Large muscle groups.** The content should be varied and combined with exercises for the development of coordination, balance and fitness.
- **Supervise.**
- **Rest between workouts.** At least one day off between two strength sessions.
- **Keep it fun.**

Strength Training for High Performance

- Neuromuscular capacity to overcome an external resistance.
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- Types of strength in sports:
- **Maximum strength:** The greatest force that a contracting muscle can produce (1 max. repetition)
- **Explosive strength:** Power – Maximum force in shortest period of time. Combination of speed of contraction and speed of movement.
- **Strength Endurance:** Capacity to continue to exert force while increasing fatigue.

Complex exercises with free weights

- **Training strength in movements rather than specific muscles.**
- Strength is trained between 70-100% in correct choice of exercise
- Power is trained between 70-90% in correct choice of exercise like
” hand-foot coordination”

What physical qualities are you looking for?

- Maximum strength
 - Power strength
 - Speed strength
-
- -strength exercise should not exceed 35 reps in one session (+- 3)
 - -power exercise should not exceed 25 reps in one session (+-3)
 - -minimum 12 reps per exercise in one session to get a training-effect

Strength exercises

- -between 10-12 reps per set -
hypertrophy training
- -between 6-8 reps per set- **strength-
and hypertrophy training**
- -between 1-3 reps per set- **strength
training**



Power exercises

- -between 4-5 reps per set -
explosive-technical training
- -between 1-3 reps per set -
**explosive strength/ maximum
load**



Speed strength

- No more reps than you can keep the speed and technique
- (most common between 4-10 reps, 10-40 % 1RPM)



Intensity

- up to 65 % - warm-up
- 65-70% - preparing the nervous and musculoskeletal system
- 70-80% - develop strength and speed strength qualities
- 80-90% - further develop the strength qualities and explosives abilities
- 90-100 (+100)% - develop both psychological and strength qualities, recruits all muscle fibers

Complete daily program should include following:

- **lower extremity strength including core, i.e. squats**
- **lower extremity power including core, i.e. power cleans, power snatch, snatch, cleans**
- **upper body strength and power including core, i.e. push-press, bench-press, jerk, split jerk**
- **lower back, i.e. good morning, deadlift or variations**

Periodization system

Function/ Technique	Basic Strength	Max. Strength	Explosive Strength	Speed Strength
Power Endurance/Circuit training				

Example Training Session

1.	Warm up					
2.	Technical drill					
3.	Strength/Power					
4.	Strength/Power					
5.	Complementary Exercises/Sport Specific-Power-Speed					
6.	Complementary Exercises/Sport Specific-Gymnastic					
7.	Complementary Exercises/Sport Specific-Upper Body					

Example Training Session

Session 2	Mixed	Zone 0	Zone 1	Zone 2	Zone 3	Set
		< 70%	70-79%	80-89%	90-97%	
1. Complex Exercise						2
		6+6+6+6+6				
2. Snatch drill			3			4
From hip+from knee		2+2	2+2			
3. Clean & Jerk No stop			2			4
		3	2			
4. Squat+Pushpress			2			3
		4+4	4+0	3+0		
5. 1 Upper body						4
Pull-Ups, Shoulders, Dumbbell Floor Press, etc)		6-8				
6. 1 Jump Exercise						
(Deep start-High land, Box Jump, Hurdles, etc)		4-6				4