



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

STRENGTH DEVELOPMENT II.

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Practical realization of strength training:

7 points

1. Needs analysis
2. Exercise selection
3. Training frequency
4. Exercise order
5. Training loads and repetitions
6. Volume
7. Rest periods

1. Needs analysis

Evaluation of the Sports :

- Body and limb movement patterns and muscular involvement (movement analysis)
- Strength, power, hypertrophy, and muscular endurance priorities (physiological analysis)
- Common sites for joint and muscle injury and causative factors (injury analysis)

Training status of the Athlete:

- type of training program (sprint, plyometric, resistance, etc.)
- length of recent regular participation in previous training program(s)
- level of intensity involved in previous training program(s)
- degree of **exercise technique experience**

RESISTANCE TRAINING BACKGROUND

Resistance status	training	Current program	Training age	Frequency (per week)	Training stress	Technique experience and skill
Beginner (untrained)		Not training or just began training	<2 months	$\leq 1-2$	None or low	None or minimal
Intermediate (moderately resistance-trained)		Currently training	2-6 months	$\leq 2-3$	Medium	Basic
Advanced (well resistance-trained)		Currently training	≥ 1 years	$\geq 3-4$	High	High

Example of General Training Priorities by Sport Season

PRIORITY GIVEN TO			
Sport season	Sport practice	Resistance training	Resistance training goal
Off-season	Low	High	Hypertrophy and muscular endurance (initially); strength and power (later)
Preseason	Medium	Medium	Sport and movement specific (i.e., strength, power, or muscular endurance, depending on the sport)
In-season	High	Low	Maintenance of preseason training goal
Postseason (active rest)	Variable	Variable	Not specific (may include activities other than sport skill or resistance training)

2. Exercise Selection

Core exercises recruit one or more large muscle areas (i.e., chest, shoulder, back, hip, or thigh), involve two or more primary joints (**multijoint exercises**)

Assistance exercises usually recruit smaller muscle areas (i.e., upper arm, abdominals, calf, neck, forearm, lower back, or anterior lower leg), involve only one primary joint (**single-joint exercise**)

3. Training Frequency

Training frequency refers to the number of training sessions completed in a given time period. For a resistance training program, a common time period is one week.

Training status	Frequency guidelines (session per week)
Beginner	2-3
Intermediate	3-4
Advanced	4-7

Split routine:

1.day: Chest, shoulders, triceps

2.day: Lower body

3.day: Back, trapezius, biceps

Resistance Training Frequency Based on the Sport Season

Sport season	Frequency guidelines (session per week)
Off-season	4-6
Preseason	3-4
In-season	1-3
Postseason (active rest)	0-3

4. Exercise order

Exercise order refers to a sequence of resistance exercises performed during one training session.

- **Power, Other Core, Then Assistance Exercises**
- **Upper and Lower Body Exercises (Alternated)**
- **"Push" and "Pull" Exercises (Alternated)**
- **Supersets and Compound Sets**

5. Training Load and Repetition

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

6. Volume

Volume is to the total amount of weight lifted in a training session

Repetition-volume is the total number of repetitions performed during a workout session

Training goal	Goal repetitions	Sets
Strength	<6	2-6
Power: Single-effort event	1-2	3-5
Power: Multiple-effort event	3-5	3-5
Hypertrophy	6-12	3-6
Muscular endurance	>12	2-3

7. Rest Period

Training goal	Rest period length
Strength	2-5 minutes
Power: Single-effort event	2-5 minutes
Power: Multiple-effort event	2-5 minutes
Hypertrophy	30 seconds-1.5 minutes
Muscular endurance	≤ 30 seconds



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Thank you for your attention