

اصول ورزش قدرتی و نقش آن در کنترل وزن

دکتر هاله دادگستر
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دانشگاه علوم پزشکی ایران

Effects of Resistance training

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Review Article

**Evidence for Resistance Training as a Treatment
Therapy in Obesity**

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- ▶ Based on this review of the literature, there is a strong support for the notion that RT is at least as effective as AET in **reducing some major cardiovascular disease risk factor**
- ▶ Findings demonstrate that RT may be an effective alternative to improve **body composition and maintain reduced FM in obese patients after exercise training or energy intake restriction**
- ▶ Furthermore, it has been shown that **RT preferentially mobilizes the visceral and subcutaneous adipose tissue in the abdominal region**
- ▶ mass, **improved glycemic control** and **blood lipid profiles** are important for reducing microvascular and macrovascular complications in people with metabolic risk



Shouldn't I lose all the fat first, then start weight training later?

- ▶ If you diet without weight training, you're almost always going to lose muscles.
- ▶ If you lose muscle, your **resting metabolic rate** will decrease.

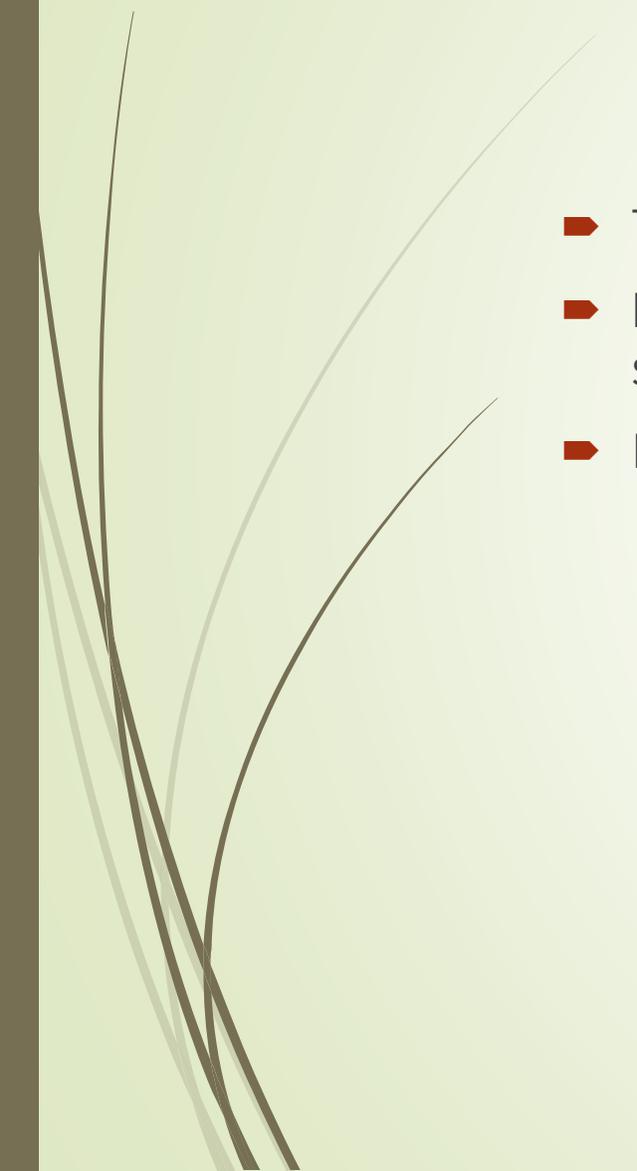


How often should I train?

- ▶ Your muscles don't grow *during the workouts*, they *grow after your workouts* – *but only if you allow them enough time to recover.*
- ▶ Endurance exercise: daily
- ▶ Weight training exercise: 2-3 days per week



How long should each workout last?

- ▶ The optimal workout duration: 45 min
 - ▶ If you add 30 minutes of cardio at the end, your total workout time for the session is 60 to 75 minutes.
 - ▶ Better schedule: two sessions a day
- 



Frequency guidelines:

- ▶ **Beginners:** Three workouts per week on nonconsecutive days, full body each workout
- ▶ **Intermediate:** Three or four workouts per week on two day split routine; half the body one day, half the next (each muscle group worked no more than twice per week)
- ▶ **Advanced:** Four or five days per week, on a three or four day split routine, each muscle group worked once every five to seven days.



How long should I rest between sets?

- ▶ One minute between sets
 - ▶ You might need slightly longer (90 to 120 seconds) for large muscle groups (legs, back) in order to recover and catch your breath.
- 



FIRST TWO WEEKS

- ▶ During the first two weeks of exercise, the weights should be kept to a **minimal level so that patients learn the exercise techniques.**
- ▶ A minimal weight allows muscles to adapt to the training and prevents muscle soreness



FROM THE THIRD WEEK

- ▶ The objective of the training is hypertrophy.
 - ▶ Participants should start with **three sets per muscle group per week**
 - ▶ on 3 nonconsecutive days of the week.
 - ▶ One set should consist of 10– 15 repetitions, without interruption, until severe fatigue occurs and completion of further repetitions is impossible
-
- ▶ The training load should be systematically increased to keep the maximum possible repetitions between 10 to 15 per set.
 - ▶ A repetition maximum of 10 to 15 repetitions corresponds with 60–70% 1-RM



Progressive training

- ▶ The number of sets for each muscle per week should be increased progressively every four weeks by one set
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Top 5 list

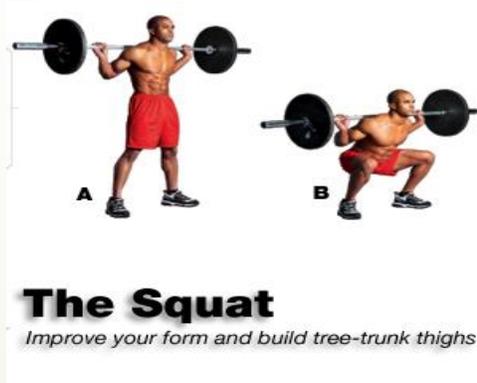
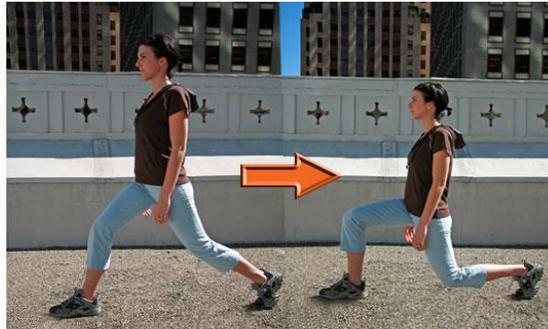
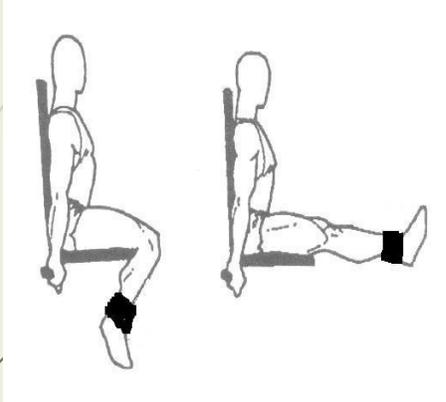
Here is “Tom’s Top 5 List:”

Quads	Hamstrings	Calves	Abs	Back
Squats	Lying leg curl	Standing calf raise	Crunch	Barbell rows
Leg Press	Stiff leg deadlift	Seated calf raise	Reverse crunch	Dumbbell rows
Lunges	Seated leg curl	Calf press	Hip lift	Chin ups
Hack Squat	Single leg curl	Donkey calf raise	Hanging knee-up	Pulldowns
Leg Extension	Hyper extension	One leg calf raise	Cable Crunch	Cable rows

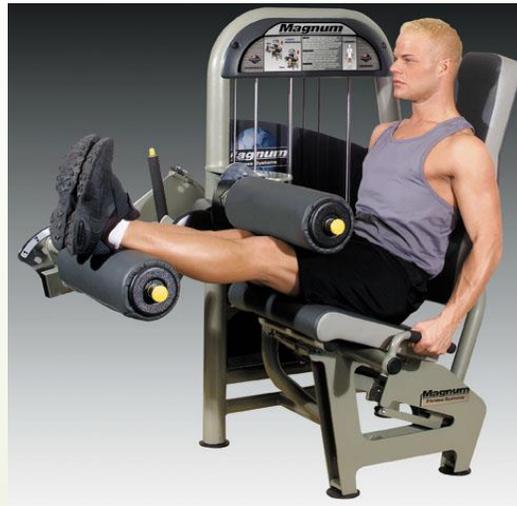
Chest	Shoulders	Biceps	Triceps	Forearms
BB bench press	Military BB Press	Barbell Curl	Lying Tricep Ext.	Barbell wrist curl
DB bench press	Dumbbell Press	Dumbbell Curl	Close Grip Bench	Reverse wrist curl
DB flyes	Dumbbell Laterals	Preacher Curl	Tricep Pushdown	Reverse Curl
Wide Grip Dips	DB rear laterals	Concentration curl	Parallel Bar Dips	Hammer Curl
Cable Crossovers	DB front raise	Cable/mach. curl	French Press	DB wrist curl

Quadriceps

Squat, leg press, Lunges, Hack Squat, Leg extension

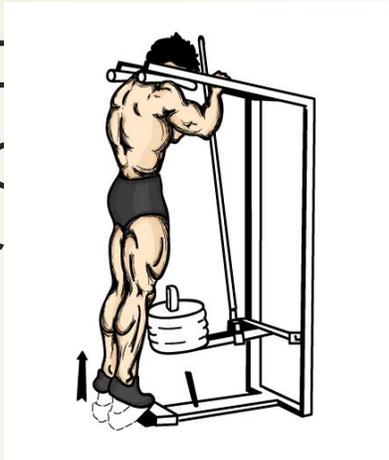


Hamstring
lying leg curl, stiff leg deadlift,
seated leg curl, single leg curl,
Hyper extension





co
sto
pr



alf raise, seated



e, calf



Abdomen
crunch , reverse crunch, hip lift, hanging
knee up,



Back

Barbell rows, Dumbbell rows, Chin ups, Pull downs, Cable



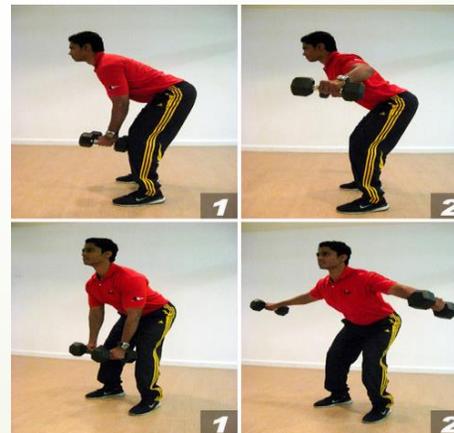
Chest

BB bench press, DB bench press, DB flyes, Wide Grip Dips,



Shoulder

Military BB Press, Dumbbell Press, DB rear laterals, Dumbbell
Lateral Raise



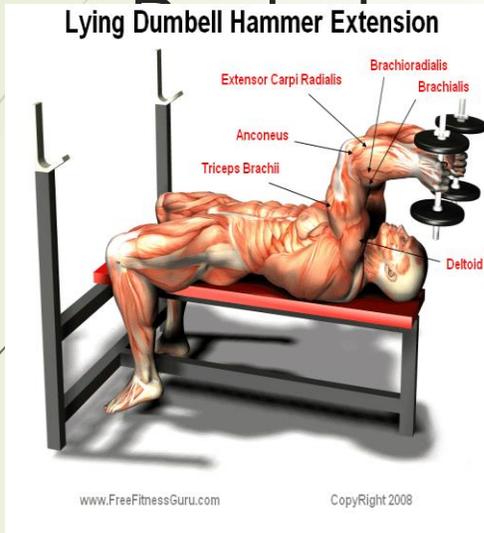
Biceps

Barbell Curl, Dumbbell Curl, Preacher Curl, Concentration curl, Cable/mach. curl



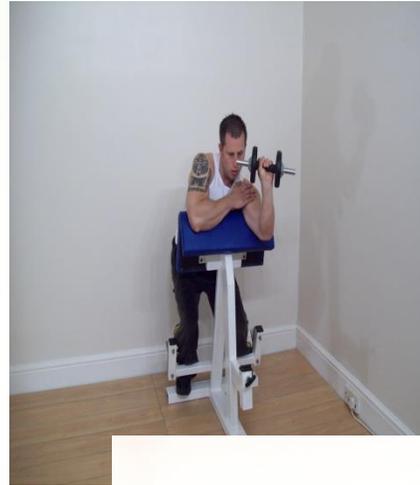
Triceps

Lying Tricep Ext, Close Grip Bench, Tricep



Forearm

Barbell wrist curl, Reverse wrist curl, Reverse Curl, Hammer Curl, DB wrist curl





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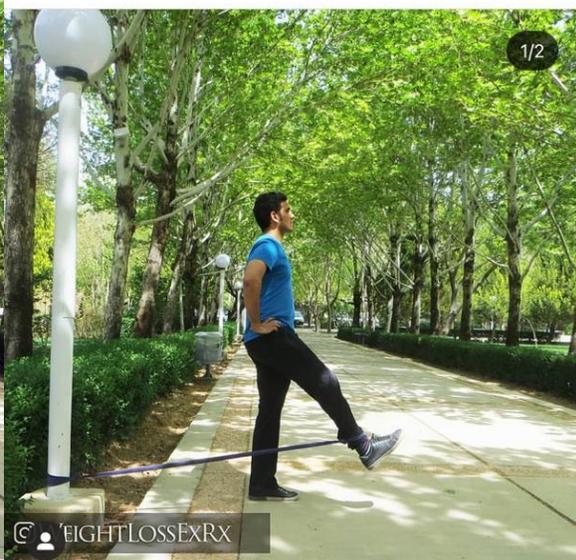
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Weight training program

- ▶ individualization to accommodate the **body type and genetics** is just as important for training as it is for nutrition.
 - ▶ **No single program** could possibly be ideal for everyone. cautious when you read books or programs that recommend the same thing for everyone.
- 



What is the solution?

- ▶ Split routines
 - ▶ split routine allows you to perform multiple exercises on each body part without spending all day in the gym.
- 

The beginners workout (Level 1)

The full body workout

Beginners Workout, Variant 1: Three days per week (more aggressive)

Mon	Tues	Wed	Thur	Fri	Sat	Sun
Full body weights	Off	Full body weights	Off	Full body weights	Off	Off



Beginner's workout, Variant 2

Two days per week (more conservative)

Mon	Tues	Wed	Thur	Fri	Sat	Sun
Off	Full body weights	Off	Off	Full body weights	Off	Off

Intermediate workout

two day split: body part groupings

Variant 1: Four day routine (more aggressive)

Works each muscle once every three to four days

Mon	Tues	Wed	Thur	Fri	Sat	Sun
Chest	Legs	Off	Chest	Off	Legs	Off
Shoulders	Back		Shoulders		Back	
Triceps	Biceps		Triceps		Biceps	
Abs	calves		Abs		calves	

Intermediate workout (level II)

two day split: body part groupings

Variant 2: Three day routine (more conservative)

Works each muscle once every four to five days

Mon	Tues	Wed	Thur	Fri	Sat	Sun
Chest Shoulders Triceps Abs	Off	Legs Back Biceps calves	Off	Chest Shoulders Triceps Abs	Off	Off



The advanced workout (Level III)

Three day split body part groupings

**Variant 1: Two days on one day off
(more aggressive)**

Mon	Tues	Wed	Thur	Fri	Sat	Sun
Back Chest Abs	Quads Hams Calves	Off	Shoulders Triceps Biceps	Back Chest Abs	Off	Quads Hams Calves



Take home message

- ▶ It is well understood that when **performed regularly** and with **sufficient intensity**, RT stimulates skeletal muscle **to synthesize new muscle proteins (hypertrophy)**.
- ▶ However, the effective amount of RT to promote muscle growth in relatively sedentary diseased or aged individuals is an area in need of further investigation.
- ▶ It is believed that **1 to 2 sets of 8 to 12 repetitions** per set with an intensity greater than **60% of 1-repetition maximum** (1RM—the maximum load that can be lifted once only throughout a complete range of motion), with 8 to 10 exercises per session **and 2 to 3 sessions per week**, are likely to be beneficial for maximising the health effects of increased skeletal muscle mass

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- ▶ A more recent review demonstrated that there was no difference in mean rates of in **whole muscle cross-sectional area between two and three RT sessions per week** crease in the for longer periods of training
 - ▶ **It seems that no apparent association between RT frequency and glycemic control**, but indicate a trend to a negative correlation for some outcomes of lipid profile in patients with abnormal glucose regulation



Thanks for your attention