

Muscular Fitness is an individual's combination of:

- Muscular Strength
- Muscular Endurance
- Flexibility

Video Example

What is the definition of muscular strength?

- ✓ A. The maximum force that can be generated by a specific muscle or muscle group.
- ✗ B. The amount of power a muscle can produce over time.
- ✗ C. The length of time a muscle can keep working after overload.

Muscular Strength:

The maximum force that can be generated by a specific muscle or muscle group.



Muscular Endurance:

The ability of a muscle group to execute repeated contractions (perform work) over a sufficient time period to cause muscular fatigue.



Benefits of Muscular Fitness

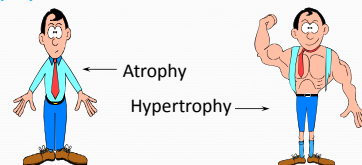
- Ability to do more strenuous work (strength)
- Ability to do more work over a longer period of time (endurance)
- Less susceptible to muscular fatigue (strength & endurance)
- Less injury prone
- Improved appearance
- Athletic performance

The Law of Use

That which is used develops and that which is not used wastes away!

Hypertrophy- Muscle becomes larger/stronger

Atrophy- Muscle becomes smaller/weaker



Pre-Question: When strength training, which combination would be used for muscular strength?

- A. Heavier weight – 10-15 repetitions
- B. Lighter weight – 10-15 repetitions
- C. Heavier weight – 6-8 repetitions
- D. Lighter weight – 6-8 repetitions

WHAT ARE YOUR GOALS?

STRENGTH AND SIZE

3 SETS OF 6-8 REPS

WEIGHTS (wt.) ↑

MUSCULAR ENDURANCE & TONING

2-3 SETS OF 10-15 REPS

WEIGHTS (wt.) ↓

Which of the following would be lifting for muscular endurance?

- A. Heavier weight – 10-15 repetitions
- B. Lighter weight – 10-15 repetitions
- C. Heavier weight – 6-8 repetitions
- D. Lighter weight – 6-8 repetitions

Which of the following would give you larger sized muscles?

- A. Heavier weight – 10-15 repetitions
- B. Lighter weight – 10-15 repetitions
- C. Lighter weight – 6-8 repetitions
- D. Heavier weight – 6-8 repetitions

Estimating 1 Rep Max

1 rep max – is the maximum amount of weight one can lift in a single repetition for a given exercise.

Can be used to determine the desired "load" for an exercise (as a percentage of the 1RM).

6 reps at 50 lbs. = 60 lbs.
(estimated 1RM)

60% of 1RM - Endurance
80% of 1RM - Strength

Weight lifted	Repetitions						
	1	2	3	4	5	6	7
9	9	8	7	6	5	4	3
10	11	11	11	11	12	12	12
15	16	17	17	18	18	19	19
20	21	22	23	23	24	25	26
25	27	28	29	29	30	31	31
30	32	33	34	34	36	36	37
35	37	38	39	40	41	41	43
40	43	44	45	47	47	48	49
45	46	48	49	51	51	52	54
50	51	52	53	55	55	56	58
55	56	57	58	60	60	61	63

REST AND RECOVERY

48 hours

Monday 12:00
Wednesday 12:00
Friday 12:00

Why should preteens and teens be careful when lifting a heavy amount of weight?

- A. Increases the amount of testosterone
- B. Oversized muscle
- C. May break a bone or damage growth plate
- D. Must buy new clothes due to tone body

- They may break a bone or do damage to the growth center of the bone.
- Bones are not yet fully formed.



What are some myths about strength training?

Myth: Strength training makes females look more masculine

Fact: Female hormones prevent overdevelopment

Myth: Strength training makes you “muscle bound”

Fact: Proper training, including flexibility exercises, improves functioning

Why is proper technique important??

Get desired results
&
Avoid injuries

What is proper technique??

- Warm-up
- Full Range of Motion
- Proper Amount of Weight
- Controlled Smooth Movements
- Use a spotter
- Adjust machine



Your muscles will get stronger when you work them more than they are used to.

- A. True
- B. False

OVERLOAD PRINCIPLE

The body will respond by getting stronger when increased demands are placed upon it.



Is it okay to start off lifting heavy weights so that you get a good workout.

- A. Yes
- B. No

PRINCIPLE OF PROGRESSION

Start out slowly with lighter weights and easier workouts.

Increase the weights and intensity as the body gets stronger.



PRINCIPLE OF SPECIFICITY

The body adapts "specifically" to the demands placed upon it.

Force

Speed

Angle



Muscle Actions

CONCENTRIC - MUSCLE SHORTENS
(force is greater than resistance)

ECCENTRIC - MUSCLE LENGTHENS
(force is less than resistance)

ISOMETRIC - MUSCLE LENGTH DOES NOT CHANGE
(force = resistance)

WHY WARM-UP?

- Muscles can contract faster and more forcefully
- ligaments and tendons are more pliable (less prone to injury)
- less stress on the heart
- nerve impulses move faster
- psychological readiness



MUSCLE FIBER TYPES

FAST TWITCH

- Fast Contraction
- High Power
- Low Endurance
- Less Oxygen Dependent

SLOW TWITCH

- Slow Contraction
- Low Power
- High Endurance
- Uses Oxygen

