Benefits of weight training

- Increases lean muscle mass, which in turn boosts the body’s metabolic rate, which is one of the ways to a leaner body
- Increases bone mineral density, which can decrease osteoporosis
- Increases overall body strength, which can improve balance and reduce the chance on injury
- Improves overall mood and sense of well being
- Improves body image and self confidence
- Improves sleep and energy levels
- Improves many health issues such as, diabetes, hypertension (blood pressure), high cholesterol levels, etc

Different phases of effects on the body when referring to the alarm phase, the adaptation phase, and the exhaust phase (overtraining or stale phase)

Alarm Phase
During the alarm phase the body says, “What the heck is this!??” This occurs when you begin a new training program. During this phase:
- Soreness is usually the greatest
- Movements and exercises can be awkward
- Tolerance to that “burning sensation” in your muscles is low

Adaptation Phase
During the adaptation phase, the body begins to recognize the repeated stress that it is being subjected to from your exercise program. At this time:
- Your body becomes stronger and more efficient.
• Movements become smoother
• Soreness decreases
• Lactate threshold increases (increased tolerance to that “burning sensation”).

**Exhaust Phase**

There are two reasons why the body may enter an exhaust phase. First, the body may become so familiar with the stress that it no longer needs to improve. This occurs when your program has grown stale, therefore halting your progress. Secondly, the body may not be receiving enough time to recover and/or adapt. This is when overtraining can set in.

**Symptoms of over-training** – to name a few

• Decreased performance (strength, power, muscle endurance, cardiovascular endurance)
• Decreased training tolerance and increased recovery requirements
• Chronic fatigue
• Sleep and eating disorders
• Menstrual disruptions
• Headaches, gastrointestinal distress
• Chronic muscle soreness and damage
• Increased resting heart rate
• Decreased self-esteem
• Decreased ability to concentrate

If you feel any of these symptoms on a regular basis, take a week off before resuming your training. However, the best prevention is to avoid over-training all together.

Structure your program to have easy, medium, and hard workouts that rotate either daily, weekly, monthly, etc to constantly stay between the alarm phase and adaptation phase. This way you won’t get stale and you’ll avoid over-training.

An exercise program should have some consistency so your body can adapt, but have enough variety to keep it guessing a little bit. Then, completely change your program after 8-12 weeks, depending on goals, individualism, training background, etc.
Exercises to be taught by first quiz:
Db= dumbbell   BB =barbell

**Chest:**  db chest press, db fly, BB bench press, Chest press machine

**Back:**  db bent over row, lat pull down, seated cable row, row machine

**Deltoids (shoulders):**  db shoulder press, db lateral raise, shoulder press machine

**Legs:** angled leg press and leg press machine (hamstrings, quadriceps, and glutes), leg extension (quadriceps), seated leg curl and single leg standing leg curl (hamstrings), Romanian Deadlifts (aka RDL’s, or stiff leg deadlifts) (hamstrings, glutes, low back), Split squats and lunges (quadriceps, hamstrings, glutes)

**Calves:** Calf extension on angled leg press

**Biceps:** standing BB curl, seated (or standing) db alternate curl

**Triceps:** db overhead extension, tricep press down

We’ll continue to add to this list during the quarter.
Sample programs for beginners

Notes: These programs can be made more difficult very quickly. If you are an individual with these needs, start with a basic program and let me help you enhance it. Feel free to print these or copy and paste the one(s) you want to start with and bring to class (to fill out your card properly).

When an exercise reads 3x10, this means 3 sets of 10 repetitions. So 2-3x8-12 would mean two or three sets of eight to twelve repetitions. 8-12 is a rep-range, meaning; if you can very easily do 12, increase the weight. If 8 reps were extremely difficult – decrease the weight (for now).

If you see an “*” next to a repetition, this means an additional, lighter warm up set or two is needed before starting your work-sets (regular sets). Example: 3x10* - means 1 or 2 additional stets will take place before the 3x10 starts.

For now, rest about 1 minute between sets. This will change in time depending on goals, intensity, etc. See me with questions if you have any before we discuss this in greater detail.

If you are substituting in or changing a few exercises – (or changing the order of exercises to a certain degree because of availability or individual needs) - please remember “big to small” – meaning large muscle groups, or multi-joint exercises must be trained before small muscle groups, or single-joint exercises for optimum development. Example: Don’t do dumbbell curls before lat pull down, or tricep press downs before db chest press.

Also, if making changes to the programs below, a good rule of thumb/starting point for beginners is to train each muscle group 2-3 times a week. Doing 1-3 exercises of 2-4 sets for large muscle groups (chest, back, legs), and 1-2 exercises of 2-3 sets for small muscle groups (arms, calves, shoulders, etc). For starting out, keep your reps between 10-15.
Remember to **breathe out** when you lift the weight, or during the “hard part”. Or in technical terms, when the target muscle group you are training is shortening.

**Programs:**

**Example 1: Full body, 3x a week**

**Monday**
- Leg press –or- hack squat 2-3x10-15*
- db bent over row 2x12-15*
- db chest press 2x12-15*
- 45 degree calf raise 2-3x12-15
- db lateral raise 2x10-12
- tricep press down 2x10-12

**Wednesday**
- lat pull down 2-3x12-15*
- db shoulder press 2-3x10-12*
- leg extension 2x12-15*
- seated leg curl 2x12-15*
- standing BB curl 2x10-12
- db overhead extension 2x10-12

**Friday**
- db chest press 2-3x12-15*
- db fly 2x10-12
- db bent over row 2-3x12-15*
- leg press – or – hack squat 3x12-15*
- standing leg curl 2x12-15
- 45 degree calf 2-3x12-15
Example 2: Upper Body, Lower Body, Upper Body (MWF), and then Lower, Upper, Lower the following week. This is a little more advanced because of the volume.

Week 1
Monday – upper body
Db bent over row 2-3x10-12*
Lat pull down 2x10-12
Db chest press 2-3x10-12*
Db lateral raise 2x10-12
Tricep press down 2-3x10-12
Standing BB curl 2-3x 10-12

Wednesday – lower body
Leg press 2-3x10-15*
Hack squat 2x10-12
Leg extension 2-3x10-12
Lying leg curl 2x10-12
Standing leg curl 1x12-15
45 degree calf 3x12-15

Friday – upper body
Db shoulder press 3x12-15*
Db fly 2-3x10-12*
Lat pull down (narrow reverse grip) 3x10-12*
Db overhead extension 2-3x10-12
Seated alternate db curl 2-3x10-12
Week 2

Monday – lower body
Leg press 3x10-15*
Leg extension 2-3x10-12
Seated leg curl 2-3x10-12
Adduction/abduction hip machines 2x12-15
45 degree calf 3x12-15

Wednesday – upper body
Db bent over row 2-3x10-12*
Lat pull down 2x10-12
Db chest press 2-3x10-12*
Db shoulder press 2x10-12
Tricep press down 2-3x10-12
Standing BB curl 2-3x 10-12

Friday – lower body
Hack squat 3x10-12*
45 degree calf –or-seated calf raises 2-3x12-15*
Standing leg curl 2-3x12-15
Seated leg curl 1-2x10-12
Leg extension 2-3x12-15
Additional Lecture Notes

Definitions of muscle adaptations via resistance training

**Muscular Endurance** - The ability of the muscle to perform repetitive contractions over a prolonged period of time.

**Muscle Strength** - The ability of the muscle to generate the maximum amount of force, usually in the form of one repetition.

**Muscle Hypertrophy** – Increase in muscle cell/fiber size (girth)

**Muscle Hyperplasia** – Increase in muscle cell/fiber number – can happen to certain animals, but has not been fully shown to take place in humans. However, fat cells can increase in number when current fat cells become full. Watch that diet!

Rep ranges & Rest Intervals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Repetitions</th>
<th>Rest Intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength</td>
<td>1-6</td>
<td>3-5 min.</td>
</tr>
<tr>
<td>Hypertrophy</td>
<td>8-12</td>
<td>1-3 min.</td>
</tr>
<tr>
<td>Endurance</td>
<td>15+</td>
<td>&lt; 1 min.</td>
</tr>
</tbody>
</table>

This is a very general chart. Goals can be somewhat blended within different rep ranges. For example: One can still gain strength in a hypertrophy range, and one can still gain size (hypertrophy) in the lower end of endurance training, and so on.

No matter what range you are working in or the goal you have mind in, **intensity** is the key to success!

**Difference between strength and power**: - The first thing to remember is that everything is power. In other words, “strength” is a form of power. Power is basically a continuum. See below.
Power Continuum

“Slow Power” ←-----------------------------------------------→“Fast Power”

Again, everything is power- it just depends on where your training falls on this continuum that determines if you’re doing what some would call “strength training” - (where the weight is very heavy and therefore moving very slowly), or if you’re training for “explosive power”, (where the weight is lighter and therefore can be moved very quickly if desired).

It is okay to use the terms “strength” and “power”, as long as you understand that it’s all power, it’s just the speed that can be changed along with the weight for a desired effect.