http://www.youtube.com/watch?v=uGZ_pi22a98

- Milwaukee Lakefront Marathon 2011
The Importance of Resistance Training

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MS Kinesiology Program
What is Resistance Training?
Why Resistance Train?
Forms of Resistance Training
How Much Should I Do?
Combined Programs
Future Talks
Resistance training is a form of physical activity that is designed to improve muscular fitness by exercising a muscle or muscle group.
Why Resistance Train?

- When fatigue occurs, form starts to deteriorate
- Prevents loss of strength and bone density
- Injury Prevention
- Eliminates muscle imbalances
- Increases running economy
Recommendations

- Keep intensity light if just starting
- 2-4 sets of each exercise
  - 8-12 reps for strength & power
  - 10-15 reps for strength in middle/older age
  - 15-20 reps for muscular endurance
- Adults should wait at least 48 hrs between sessions

Recommendations (cont.)

• Principle of Overload
  • Stimulus must be large
  • Keep stimulus changing

• Can be tailored to the individual
  • Do what works for you!

• Rest (1-2 days/week)
  • Allow time for body to heal/recover
  • Muscle soreness
Targeted Muscle Groups

- Lower Body
  - Bridge/Leg Curl
  - Squats/Lunges
  - Calf Raises

- Upper Body
  - Bench Press
  - Bicep Curl/Press

- Core
  - Planks
Forms of Resistance Training

• Weight Machines
• Free Weights
• Body Weight Training
  » Push-Ups
  » Squats
  » Lunges
• Resistance Bands
**Basic Resistance Training Program**

<table>
<thead>
<tr>
<th>Targeted Muscle Group</th>
<th>Machine Exercises</th>
<th>Free Weight Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quads, hamstrings, gluts</td>
<td>Leg Press</td>
<td>Barbell or Dumbbell Squat</td>
</tr>
<tr>
<td>Gastrocnemius, soleus</td>
<td>Heel Raise</td>
<td>Barbell or Dumbbell Heel Raise</td>
</tr>
<tr>
<td>Pectoralis major</td>
<td>Chest Crossover</td>
<td>Barbell or Dumbbell Bench</td>
</tr>
<tr>
<td>Latissimus dorsi</td>
<td>Pullover</td>
<td>Dumbbell one-arm row</td>
</tr>
<tr>
<td>Deltoids</td>
<td>Lateral Raise</td>
<td>Barbell Seated Press</td>
</tr>
<tr>
<td>Biceps</td>
<td>Biceps Curl</td>
<td>Barbell or Dumbbell Curl</td>
</tr>
<tr>
<td>Triceps</td>
<td>Triceps Extension</td>
<td>Dumbbell Lying Triceps Extension</td>
</tr>
<tr>
<td>Erector spinae</td>
<td>Low Back Extension</td>
<td>Body Weight Trunk Extension</td>
</tr>
<tr>
<td>Rectus abdominis</td>
<td>Abdominal Flexion</td>
<td>Twisting Trunk Curl</td>
</tr>
</tbody>
</table>

-Don’t have to do all of these, alternate and focus on diff. groups on diff. days!
**Complimentary Resistance Training Program**

<table>
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<th>Targeted Muscle Group</th>
<th>Machine Exercises</th>
<th>Free Weight Exercises</th>
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</thead>
<tbody>
<tr>
<td>Quadriceps</td>
<td>Leg Extension</td>
<td>Dumbbell Lunge</td>
</tr>
<tr>
<td>Hamstrings</td>
<td>Leg Curl</td>
<td>Barbell Quarter Squat</td>
</tr>
<tr>
<td>Pectoralis major, Triceps</td>
<td>Weight-Assisted Bar Dip</td>
<td>Body-Weight Dip</td>
</tr>
<tr>
<td>Latissimus dorsi, Biceps</td>
<td>Weight-Assisted Chin-Up</td>
<td>Body-Weight Chin Up</td>
</tr>
<tr>
<td>Internal and External Obliques</td>
<td>Rotary Torso</td>
<td>Twisting Trunk Curl</td>
</tr>
<tr>
<td>Sternocleidomastoids and Upper trapezius</td>
<td>Neck Flexion and Extension</td>
<td>Manual Resistance Neck Flexion and Extension</td>
</tr>
<tr>
<td>Anterior tibialis</td>
<td></td>
<td>Weighted Toe Raise</td>
</tr>
</tbody>
</table>

-These are good exercises to alternate/integrate into your basic program
Benefits of Combining Resistance with Endurance Training

• Best results
  • Done on separate days
  • Fatigue
  • Rest

• Results depend on:
  • Training state
  • Volume/Frequency
Future Talks

• April 15\textsuperscript{th}: Proper Attire for Runners
• April 22\textsuperscript{nd}: How Weather Impacts Performance: Hot and Cold
• April 29\textsuperscript{th}: Optimal Marathon Fueling
Questions??