Physical fitness

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Objectives

- Core Strength
- Push-ups
- Running
  - Running Form
- Shoes
- Stretching
- Extra Notes
Core Strength

- Important for all 3 parts of the PFA
- Tons of different exercises
- For the PFA, focus on:
  - Crunches/Sit-up’s
  - Planks (i.e. front leaning rest)
Push-ups

✦ PROPER FORM

✦ Find the best hand position for you

✦ The best way to improve your push-ups… is to do more push-ups

✦ Vary your training sets

✦ Weights, Fitness Ball, hand position, clapping
Running Form

- Straight back
- Arm position
- Lean forward, basically just falling and catching yourself
- Cadence: 180 steps per minute
- No bouncing
- Vertical movement = wasted energy
## Heel vs. Forefoot Strike

<table>
<thead>
<tr>
<th></th>
<th>Effective Mass at Impact</th>
<th>Impact Transient Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heel Strike</td>
<td>6.8%</td>
<td>1.5x to 3x</td>
</tr>
<tr>
<td>Forefoot Strike</td>
<td>1.7%</td>
<td>none</td>
</tr>
</tbody>
</table>
Shoes

- Marine Corps Study

- Nike, “Our current approach of prescribing in-shoe pronation control systems on the basis of foot type is overly simplistic and potentially injurious.”

- What to look for in shoes?

  - No built up heel (Nike shox…)
  - Low drop from heel to forefoot
  - Soft, flexible sole
Stretching

- Rubber band analogy

- Dynamic vs. Static: “Static flexibility improves static flexibility and dynamic flexibility improves dynamic flexibility”

- Butt kicks and high knees

- Static stretching causes an immediate decrease in strength

- Dynamic stretching “involves moving parts of your body and gradually increasing reach, speed of movement, or both.”
Extra

Nutrition

- If you don’t fuel your body correctly, your time working out is wasted.

- Eat something within 30 minutes of working out.

- Every cell in your body is replaced every 6 months, what do you want those cells to be made of? Potato chips or fruit and vegetables?

Breathing: standing up vs. bent over
Sources


- **Chris McDougall Talk** - [http://www.youtube.com/watch?v=w3XTHhevPXDY&feature=player_embedded](http://www.youtube.com/watch?v=w3XTHhevPXDY&feature=player_embedded)

- **His Homepage** - [http://www.chrismcdougall.com](http://www.chrismcdougall.com)


- **Barefoot Running Study** - [http://www.barefootrunning.fas.harvard.edu](http://www.barefootrunning.fas.harvard.edu)