FIRST Shoe Clinic

Today’s Agenda

• Numbers
• Running Mechanics
• Anatomy of Footwear
• Rules of Buying Running Shoes
• Apparel Basics

Sponsored by:

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Numbers

26 bones in each foot
Connected by 104 tendons and ligaments
Over 25% of all the bones in your body are in your feet
Numbers

• Feet strike the ground ~1,700 times per mile
• 1700 x 26.2 miles = 44,540
• Feet strike the ground with 3x bodyweight
• 150 lbs = 450 lbs per footstrike
• 450 lbs = 765,000 lbs per mile
• 765,000 lbs x 26.2 = 20,042,000 lbs
• This is why proper footwear is important!
Numbers

- #1 cause of injury in running is:

RUNNING
Numbers

• Running too much
• Running too fast
• Running too soon
Running Mechanics

Lateral (outside) heel strike
Running Mechanics

Lateral (outside) heel strike

Midstance (pronation) phase
Running Mechanics

Lateral (outside) heel strike

Midstance (pronation) phase

Toe Off (propulsion) phase
Running Mechanics

• Pronation
  – Natural inward roll of the foot
  – Body’s natural way of absorbing shock
  – Everybody pronates
  – Degree of pronation determines footwear
Running Mechanics

• Types of pronation
Running Mechanics

Under pronation (supination)

• Lands lateral and stays lateral
• “Generally” high arched, curved footshape and/or bow-legged athletes, rigid immobile feet
• Flexible shoes
  • Allows foot to pronate as much as possible
Running Mechanics

Neutral pronation (biomechanically blessed)

- Lands lateral and rolls to the middle
- “Generally” not high or low arches but with a little straighter footshape, more flexible
- Cushioned or neutral shoes
  - Disperses as much shock as possible
Running Mechanics

Over pronation

• Lands lateral and rolls past middle
• “Generally” lower arches, to a flatter foot with a little straighter footshape and more flexible
• Stable shoes
  – Slows down the rate of pronation
Running Mechanics

Severe over pronation

- Lands lateral and rolls past middle
- “Generally” flatter arches with a very straight footshape, much more flexible and mobile feet
- Motion control shoes
  - Controls footstrike
Right Foot, Rear View

SUPINATED

NEUTRAL

PRONATED
RIGHT FOOT, REAR VIEW
Supination

Pronation

RIGHT FOOT, REAR VIEW
Running Mechanics

This is why we watch you run
What to expect from a shoe

• Protect your feet from the running surface
• Provide shock absorption
• Accommodate / control the wearer’s biomechanics
• Compliment your running style
What a shoe will NOT do

• Make you faster
• Cure your injuries
Anatomy of Footwear

• Outsole
  – Traction
  – Durability

• Midsole
  – Most important part of the shoe
  – Provides cushioning & flexibility
  – Provides stability & control

• Upper
  – Comfort/ Fit
  – Support/ Breathability
Rate of Loss of Shock Absorption

- 25% after 50 miles
- 33% after 100 – 150 miles
- 50% after 250 miles
- 70% after 500 miles
- Most runners can expect foot discomfort after a shoe loses 70% of its cushioning ability
- If you run 25 miles/week you can expect the shoe to last 4.5 to 5 months.
Rules of Buying Athletic Shoes

• You cannot buy running shoes by the color
• You cannot buy running shoes by the number
• Do not believe everything that you see and read
• Make sure the person selling you the shoe can explain why
Proper Shoe Fit

• Salesperson should ask about your running
• Inspect your feet
• Measure both feet, weighted and unweighted
• Check for proper size
Apparel

• Avoid COTTON!!!

• Cotton
  – absorbs up to 10x its own weight in water
  – Increase chafing
  – Hot in summer and cold in winter
Apparel

• The Benefits of Technical Fabrics
• Capillary action of the fiber transports moisture away (wicking) from your body
• Keeps you drier
• Reduces chafing
Socks

• Cotton retains 14 times the moisture of CoolMax
• Cotton stretches and loses shape when it gets wet inside the shoe
• Wash socks inside out to wash out dead skin
THANKS!

QUESTIONS?
COMMENTS?
CONCERNS?

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