Disclosure to Participants

- Notice of Requirements For Successful Completion
  - Please refer to learning goals and objectives
  - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
- Conflict of Interest (COI) and Financial Relationship Disclosures:
  - Presenter: Robert P. (Bob) Thompson, C.Ped., BOC Pedorthist – No COI/Financial Relationship to disclose
- Non-Endorsement of Products:
  - Accredited status does not imply endorsement by AADE, ANCC, ACPE or CDR of any commercial products displayed in conjunction with this educational activity
- Off-Label Use:
  - Participants will be notified by speakers to any product used for a purpose other than for which it was approved by the Food and Drug Administration.

The IPFH Mission

The Institute for Preventive Foot Health (IPFH) is a non-profit private foundation committed to raising awareness about the importance of caring for the feet. Through education, research and the identification of methods demonstrated by clinical research to prevent, treat and manage painful conditions and diseases affecting the feet, mobility, functional status and quality of life.

The Institute’s goal is to help individuals achieve more, more significant and more enthusiastic participation in life’s activities at every age... at home, at work or at play!

What’s a Pedorthist?

The textbook definition: a pedorthist is one who designs, manufactures, fits and/or modifies shoes and foot orthoses to alleviate foot problems caused by disease, overuse or injury.

- cannot diagnose, cannot prescribe, cannot perform surgery, cannot give injections
- consultant to medical doctors, surgeons and podiatrists

Robert P. (Bob) Thompson
C.Ped., BOC Pedorthist and Executive Director

“Foot Exams DO Tell A Tale – Do YOU Know The Story?!?”
Your Learning Objectives

Following this presentation you should be able to:

1. Explain 5 reasons why feet can, and so often do, easily fall into disrepair as they age (from use, misuse, abuse and disease).
2. Identify the 4 components of every person’s unique “Integrated Approach” to the proper selection and fitting of padded socks and shoes.
3. Recommend preventive foot health practices to others that will reduce the probability of them suffering foot pain and dysfunction.
4. Perform a quick, yet comprehensive, diabetic foot examination.

My Presentation Objective

To provide you with the knowledge, resources and tools that you can begin to use immediately to help your patients, your fellow workers, your friends, your neighbors – and even you, yourself, too – better care for their feet, resulting in the improvement of the quality of their lives!

Incidence of Foot Issues

Almost 80% of adult Americans have experienced a foot issue at some point in their life!

Top 5 Foot Issues (by age group)

Ankle sprains were the number one problem identified for all age groups. Foot issues vary by age.

- **21-34 Year Olds**
  1. Ankle sprain
  2. Calluses
  3. Foot fatigue or sore/achy feet
  4. Athlete’s foot
  5. Cracking of the skin on feet

- **35-49 Year Olds**
  1. Ankle sprain
  2. Foot fatigue or sore/achy feet
  3. Calluses
  4. Cracking of the skin on feet
  5. Blisters on heel area

- **50-64 Year Olds**
  1. Ankle sprain
  2. Foot fatigue or sore/achy feet
  3. Calluses
  4. Athlete’s foot
  5. Foot pain

- **65+ Year Olds**
  1. Ankle sprain
  2. Swelling of the ankles
  3. Calluses
  4. Ingrown toenails
  5. Athlete’s foot
Foot Health Assessment
Self-Reported Foot Health Declines With Age

Q.: How would you rate your overall foot health? (% rating “fair” or “poor”)

Foot Issues Create a Great Deal of Concern for Adults

Q.: How strongly do you agree or disagree with the following statement?

I worry that my foot conditions will get worse in the future.

Obesity and Foot Health

“Average Weight” Participants (BMI = 18.4-24.9) rate their feet as

Obesity and Foot Health

“Somewhat Overweight” Participants (BMI = 25.0-29.9) rate their feet as

Obesity and Foot Health

“Very Overweight” Participants (BMI = 30.0+)
rate their feet as

Obesity and Foot Health

The “Very Overweight” are steadily increasing in number through age 64; as BMI increases, foot health decreases.
Obesity and Foot Health

The “Very Overweight” reporting their feet condition as “fair” or “poor” also report:

25.3% 26.7% 26.7%

Respondents with Diseases that Affect the Feet

Osteoarthritis

Rheumatoid Arthritis

Diabetes

Huge Potential to Positively Impact Diabetic Patient Care

… just by having their feet properly evaluated and cared for

Q.: Which of the following statements apply to you?

I have regular foot screenings.

My feet are properly measured and fitted every time I buy new shoes.

46.2% 11.0%

Recent (April 2015) Google Survey Results

Q.: Does your primary care doctor examine your feet during a routine physical exam if you DON’T complain about a foot problem?
Recent (April 2015) Google Survey Results

Q.: Did your primary care doctor ever tell you that diabetes can put your feet at risk for problems and amputation?

Why Feet Fall Into Disrepair As They Age

5 Things That Cause Foot Problems

• Complex anatomy
• Footwear
• Natural biology
• Common foot conditions and biomechanical issues
• Diseases and injuries

Complex Anatomy

• 26 bones
• 33 joints
• 19 muscles
• 100+ tendons and ligaments
• A network of blood vessels and nerves
• 2 transverse and 2 longitudinal arches
• 125,000 sweat glands
Natural Biology
Feet undergo predictable changes
Plantar fat pads cushion and protect the dynamic foot.
They dissipate energy from biomechanical forces (pressure, impact and shearing).

From birth to age 29: Fat pads are thick, feet are strong and supple, mostly problem free.

From age 30 to 59: Feet undergo age-related changes as fat pad degradation occurs, muscles weaken and tendons and ligaments become less resilient; feet may ache at the end of the day, and are more susceptible to injury.

From age 60 and older: Active people may have lost 50% of fat pads, shoe size has increased, walking and running may produce discomfort, skin may dry out, and especially in women, bone density is an issue (osteoporosis), with increased vulnerability to stress fractures.

Diseases and Injuries
Many diseases affect foot health:
- Arthritis
- Muscular dystrophy
- Cystic fibrosis
- Multiple sclerosis
- Charcot-Marie-Tooth disease
- Peripheral vascular disease
- Hansen’s disease
- Diabetes
- Feet that have been injured – in accidents or simply from overuse or misuse – often require special attention for successful rehabilitation.

Common Foot Conditions and Biomechanical Issues
- Achilles Tendonitis
- Arch Pain
- Blisters
- Bunions/Bunionettes
- Callouses
- Flat Foot Atrophy
- Varus Torsos
- Metatarsalgesia
- Morton’s Neuromas
- Morton’s Torsos
- Overlapping Toes
- Haglund’s Deformity
- Plantar Fasciitis & Heel Spurs

Footwear
- Given the significant range of motion through which our feet progress during both walking and running, it is understandable that placing dynamic feet into the environment of static shoes inherently limits foot functionality.

- Feet were designed to walk barefooted on natural surfaces.
- Footwear was created to protect feet from “unfriendly, unnatural” surfaces.
- Poorly designed and fitted shoes compound the problem!

Preventive Foot Health Recommendations
- Use an integrated approach to sock/shoe selection and fitting
- Practice good foot hygiene
- Care for your toe nails properly
- Pay attention to minor issues and conduct visual inspections
- Take special precautions if you are a person with diabetes
An Integrated Approach to Sock/Shoe Selection and Fitting

Padded socks designed for the intended activity

Custom designed orthotics or "off-the-shelf" commercial inserts, as needed

The most appropriate, properly fitted pair of shoes or boots for the intended activity

Physical Foot Assessment, Measurement and Fitting

- Size determination – length and width of both feet; with and without padded socks engineered for the intended activity, weight-bearing and non-weight-bearing
- Physical observations and assessment
- Gait analysis
- Arch type
- All performed by a foot professional - a DPM, CFPS, FBC, ClPodiat., CP, CO, CPO

Characteristics of shoes that fit properly and can accommodate all components of an Integrated Approach to properly fitting footwear

- Provide first line of protection from the hazards of hard surfaces, sharp objects and other threats to the foot.
- Shape must fit the individual’s foot shape; extra-depth removable footbeds permit replacement with his/her inserts or custom orthotics
- Provides the "platform" for the shear-reducing properties of sock and insert.
- Helps promote skeletal alignment and proper weight distribution, in turn promoting overall postural integrity.
Foot Health Care Recommendations for Persons with Diabetes

- Inspect your feet twice daily; manually check for sores and blisters; check under your shoes!
- If you have insensitive feet (no feeling; neuropathy) be extra cautious.
- Wash your feet daily using lukewarm (not hot) water. Use your elbow to test the water temperature. Dry your feet carefully afterward.
- Refine sharp edges with an emery board.
- Avoid ingrown toenails; cut toe nails straight across.
- Avoid wearing socks made from natural fibers (cotton, wool and silk). Acrylic blends are best for the diabetic foot.
- Avoid temperature extremes.
- NEVER walk barefooted!
- Wear clean padded socks designed for the intended activity and change them at least daily. Avoid socks made from natural fibers (cotton, wool and silk). Acrylic blends are best for the diabetic foot.
- If you have insensate feet (no feeling; neuropathy) be extra cautious.
- Perform visual inspections of feet daily if possible; identify potential trouble spots.
- Foot flaws are not self-correcting.
- Use a mild soap and water to clean your feet and ankles.
- Stabilize neuropathic joints if pain is from shoes that are too tight, get a larger pair of shoes.
- Wash and thoroughly dry feet every day.
- Avoid temperature extremes.
- Perform visual inspections of feet daily if possible; identify potential trouble spots.

Proper Toe Nail Care

- Avoid ingrown toenails; cut toe nails straight across.
- Refine sharp edges with an emery board.
- Do not cut toe nails too close to the skin.
- Do not ask older adults to attempt cutting their own toe nails if they have trouble reaching them. If possible, have them visit a podiatrist or foot care nurse for that service.
- Seek medical attention for discolored toe nails (especially those that show deep yellow, gold, brown, thick white or blue color). Healthy toe nails are clear where they are attached.

Conduct Visual Inspections – Pay Attention to Minor Issues

- Pay attention to pain and try to discover the source.
- Identify any source of pain and correct it (example: If pain is from shoes that are too tight, get a larger pair of shoes).
- If the pain source is NOT identifiable, or if pain does not go away on its own, consult a physician or foot care specialist.
- Perform visual inspections of feet daily if possible; identify potential trouble spots.
- Minor issues can become major issues if left alone and unresolved.

Pay attention to pain and try to discover the source. The most typical diabetic foot problems are caused by the combination of loss of feeling (neuropathy), compromised blood flow (vascular insufficiency) and changes in the lower legs that reduce mobility in the feet and ankles.

Diabetes

9.3% of Americans of all ages have diabetes; 21.0 million have been diagnosed; another 8.1 million have the disease but have not yet been formally diagnosed.

An estimated 86 million adult Americans have prediabetes!

The diabetic foot is characterized by a progressive, degenerative pathway:

- Neuropathy
- Foot Deformities
- Collapsed Joints
- Motor Weakness
- Insensitivity
- Ulcers
- Gangrene
- Amputation

The most typical diabetic foot problems are caused by the combination of loss of feeling (neuropathy), compromised blood flow (vascular insufficiency) and changes in the lower legs that reduce mobility in the feet and ankles.
Diabetic Foot Examination

Why bother examining the feet of patients with diabetes in the first place?

The purpose of a diabetic foot examination is to assess the patient’s risk of developing a diabetic foot ulcer.

If a person already has a diabetic foot ulcer, the danger is clearly already present.

It is a different type of challenge to identify the potential for foot ulcers before they have actually developed in order that we might provide patients with appropriate future follow-up and foot care education.

Generally, the potential for diabetic foot ulcer development is higher if:

1. Neuropathy is more severe (because more sensation is lost);
2. Peripheral vascular disease is more severe (because there is less circulation to bring enough oxygen to repair tissue damage);
3. There are coexisting abnormalities of the shape of the foot which make the local effects of neuropathy or vascular disease more severe (because it increases local pressure and callus);
4. The patient is unable to practice reasonable self care to maintain the condition of his/her feet and to prevent trauma (because there are more chances of damaging the feet);
5. The diabetic disease control is poor (because of susceptibility to infection and poor wound healing); and
6. There is a past history of foot ulceration due to diabetes (because the above factors often persist).

Be on the lookout for:

- redness
- maceration
- dryness
- tinea
- callusing
- blisters

Testing for Neuropathy

Pin prick
Cotton wool
Tuning fork
Monofilament

To order, go to: http://ask.hrsa.gov/detail_materials.cfm?ProdID=346500

10-pack 10gm monofilament packs are available FREE from the Health Resources and Services Administration’s Lower Extremity Amputation Prevention (LEAP) Program.
IPFH Educational Resources Available To You

Research studies and several other resources are available to you at no charge from the IPFH Web site at www.IPFH.org.

- National Foot Health Assessment Study Summary Reports
- "Quality of Life..." DVD
- "Foot Health Recommendations for Persons with Diabetes" Handout
- "An Integrated Approach to Properly Fitting Footwear" Handout
- Peer-Reviewed Published Research
- Foot Owner’s Manual

Let’s Review

5 Things That Cause Foot Problems

- Complex anatomy
- Footwear
- Natural biology
- Common foot conditions and biomechanical issues
- Diseases and injuries

An Integrated Approach to Sock/Shoe Selection and Fitting

- Physical foot assessment, measurement, and fitting
- Padded socks designed for the intended activity
- Custom designed orthotics or "off-the-shelf" commercial inserts, as needed
- The most appropriate, properly fitted pair of shoes or boots for the intended activity

References

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- Impact foot health assessment survey. Results. conducted by NPD Group for the Institute for Prevention Foot Health ©2012.

Thank You

Visit www.IPFH.org for more information.

Comments / Questions / Suggestions?

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