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Early treatment Options in Diabetes: Foot Care.

Presentation and Workshop

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and Peter Roberts**

*Senior Lecturers
in Podiatry*

“The tidal wave of Diabetes
Prevention vs. Complications”

6th Nov 2013

FERA Lakeside conference centre, York.



Inspiring tomorrow's professionals

- The diabetic foot – what do we know?
- Foot **morphology**
- Discuss determinants of **gait**
- What are the **gait changes** for people with diabetes?
- Treatments to **prevent and manage** active foot ulcers.
- Practical session on manufacturing **orthotics**.

- DH (NICE clinical guidelines) Cg10 basic foot check should include assessment of:

- Vascular
- Neurological
- Foot Deformity
- Footwear





- Flat foot
- High arched foot
- Toe deformities
- Hallux abducto valgus
- Insert images

- What should the foot do in walking (gait) ?
- How does it do it?
- Why does it do it?

<http://www.youtube.com/watch?v=GV6CAZiv5Zo>

<http://www.youtube.com/watch?v=9ZIBUqIE6Hc>

- Normal determinants of gait
- Pelvic tilt, rotation, knee flexion, ankle mechanism, foot mechanisms.

Are there gait changes in diabetes?

.....Yes,

- Peripheral Neurological changes
- Muscle atrophy
- Joint immobility

- Gait and balance are altered in diabetic patients increasing falls risk. Exercises can help improve co-ordination and increase strength. Allett (2009)

Are there foot changes in diabetes?

- Yes
- Formosa (2013) recently highlighted the importance of biomechanical assessment of foot deformity and joint mobility in TD2.
- Foot deformities are predictive of **foot ulcerations** in the diabetic foot due to increased pressure areas.

Is it just deformity that creates abnormal pressure?

How can we
reduce
the pressure
here?



Inspiring tomorrow's professionals

How can we shift the pressure off the foot?Simple as 1,2,3

1) Maciejewski et al (2004) therapeutic footwear reduces reulceration events compared with own footwear.

2) Offloading pressure – Armstrong (2005) removable and irremovable cast walkers to heal DFU

3) Orthotics – Mueller (2006)

Demonstrated how orthotics can reduce Pressure over the metatarsal heads.



foot wear, offloading and orthotics



Inspiring tomorrow's professionals

The person

- i. Foot Morphology**
- ii. Gait**
- iii. Deformity**
- iv. Footwear**

The orthotic

(material property)

- i. Decelerate pressure
(cushion)**
- ii. Redistribute pressure
(offload)**
- iii. Functional correction
(change the gait)**

Let's Create an insole

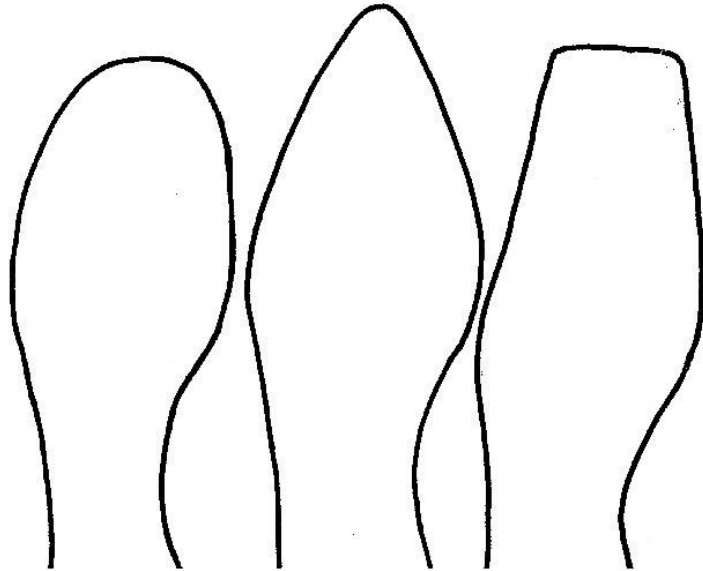
Groups of 4/5

Minimum 1 volunteer

Take an insole

Fit to a shoe

- Add some materials.
- Put it in your shoe.
- Walk!



Checklist of Trigger factors for offloading treatment

- History of foot ulceration
- Foot Morphology creating a risk
- Gait disturbances
- Deformity creating a risk
- Footwear not fit for purpose

If the answer is yes....Consider referral to a podiatrist for offloading treatment.

- Armstrong, D. et al (2005). Evaluation of Removable and Irremovable Cast Walkers in the Healing of Diabetic Foot Wounds. A randomized controlled trial. *Diabetes Care* 28:3: pp551-554.
Available at: <http://care.diabetesjournals.org/content/28/3/551>. doi: 10.2337. Date of access 20/10/13.
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<http://care.diabetesjournals.org/content/27/7/1774>. doi: 10.2337 date of access 20/10/13