



# Preventative Foot Care and its Effects on Public Health: *Diabetes & Obesity*



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Preventative Foot care and its  
Effects on PH: Diabetes & Obesity

[www.podiatry-websites.co.uk](http://www.podiatry-websites.co.uk)

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An illustration of a person's legs and feet, rendered in a simple, cartoonish style. The legs are light yellow, and the feet are also light yellow. The background is a light blue color. A prominent crack is visible on the right leg, extending from the knee down towards the ankle. The text "What? So What? Now What?" is centered over the legs in a bold, dark teal font.

**What?  
So What?  
Now What?**



## 4 Systems Examined: Lower Extremity

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- Dermatology
  - Vascular
  - Orthopedic/Musculoskeletal
  - Neurology
- 
- Both diabetes and obesity affect these 4 systems
  - Multiple studies prove a strong correlation between obese persons and their predilection for developing diabetes mellitus type 2.



# Pathology: Dermatology

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- Diabetes Mellitus II
  - Calluses
  - Xerosis (dry skin)
  - Hyperpigmentation (darkened skin)
  - Tinea pedis (athlete's foot)
  - Brittle, thin skin, leading to open lesions
  - Onychomycosis (thick, fungal, discolored nails)
  - History of ulcerations
- Obesity:
  - Cellulitis
  - Acanthosis Nigricans (Also seen in DM II)
  - Intertrigo (bacterial and/or fungal)
  - Striae Distensae (stretch mark)
  - Plantar Hyperkeratosis
  - Thickening of the skin

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# Pathology: Vascular

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- Diabetes Mellitus II
  - Insufficient arterial and capillary blood flow
  - Cold limbs
  - Edema (swelling)
  - Tissue necrosis
  - Dry gangrene
  - Possible amputation
- Obesity
  - Venous stasis ulcer
  - Lymphedema
  - DVT Risk
  - Decrease capillary blood flow

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# Pathology: Orthopedic/Musculoskeletal

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- Diabetes Mellitus II
  - Tendon weakness
    - Posterior tibial
  - Ligamentous laxity
    - Pes planus (flat foot) leading to weight bearing changes
      - bunions, hammertoes
  - Charcot foot – bony prominence → ulcer → infection
  - Painful toe nails
  - Painful gait
- Obesity
  - Decrease Range of Motion
  - Heaviness Feeling in Lower Extremity
  - Weakness
  - Diffuse joint pain
  - Plantar Fasciitis/Heel Pain
  - Posterior Tibial Tendon Dysfunction
  - Osteoarthritis
  - Fracture Risk

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# Pathology: Neurology

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## ○ Diabetes Mellitus II

- Impaired protective threshold/gross sensation
- Charcot Foot → more prone to ulceration, deep infection, osteomyelitis
- Decreased
  - Light touch, proprioception, temperature, fine point discrimination, vibration sensations

## ○ Obesity

- Most neurological symptoms documented are associated with co-morbidities (DM, HTN, etc;)

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**SO WHAT?**

## Diabetes, Obesity & Public Health

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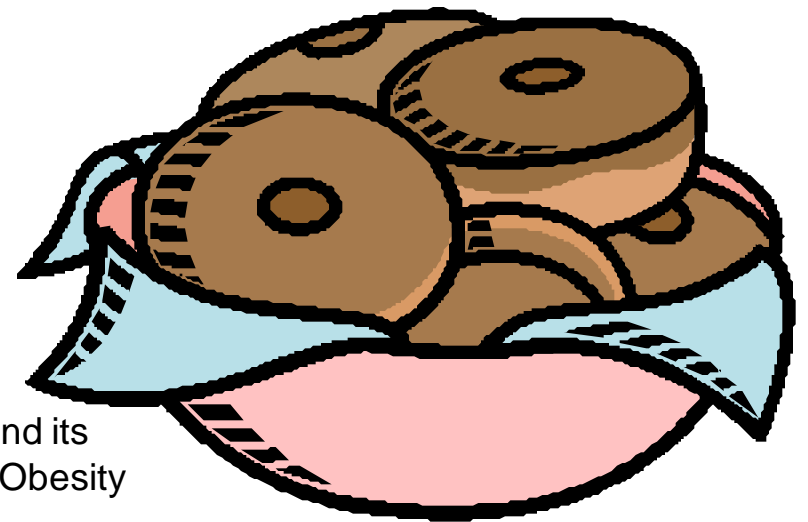


# 'Obesity and Diabetes Partners in Crime'

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*In a recent article published in the APMA (American Podiatric Medical Association) News much attention is given to obesity and diabetes, as well as their effects on public health.*

APMA News September 2007; Volume 28; Number 8; 12-14.



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# Diabetes, Obesity & Public Health

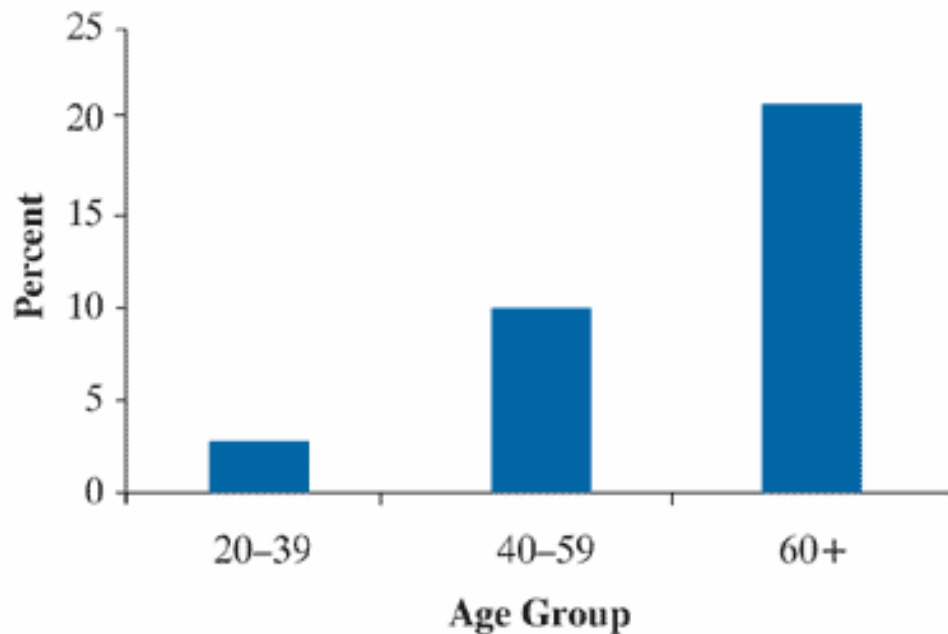
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- According to the ***APMA News*** article by Aimee Condayan:
  - Studies from the North American Association for the Study of Obesity (NAASO)/The Obesity Society show that approx. 90% of ppl who are obese also suffer from DM II.
  - Studies also show that there has been a steady and rapid increase in the number of diabetic and obese persons
  - These increases have moved diabetes and obesity into the public health arena, as more and more people are being affected

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# Population Statistics: Diabetes

**Estimated total prevalence of diabetes in people aged 20 years or older, by age group—United States, 2005**



Source: 1999–2002 National Health and Nutrition Examination Survey estimates of total prevalence (both diagnosed and undiagnosed) were projected to year 2005.

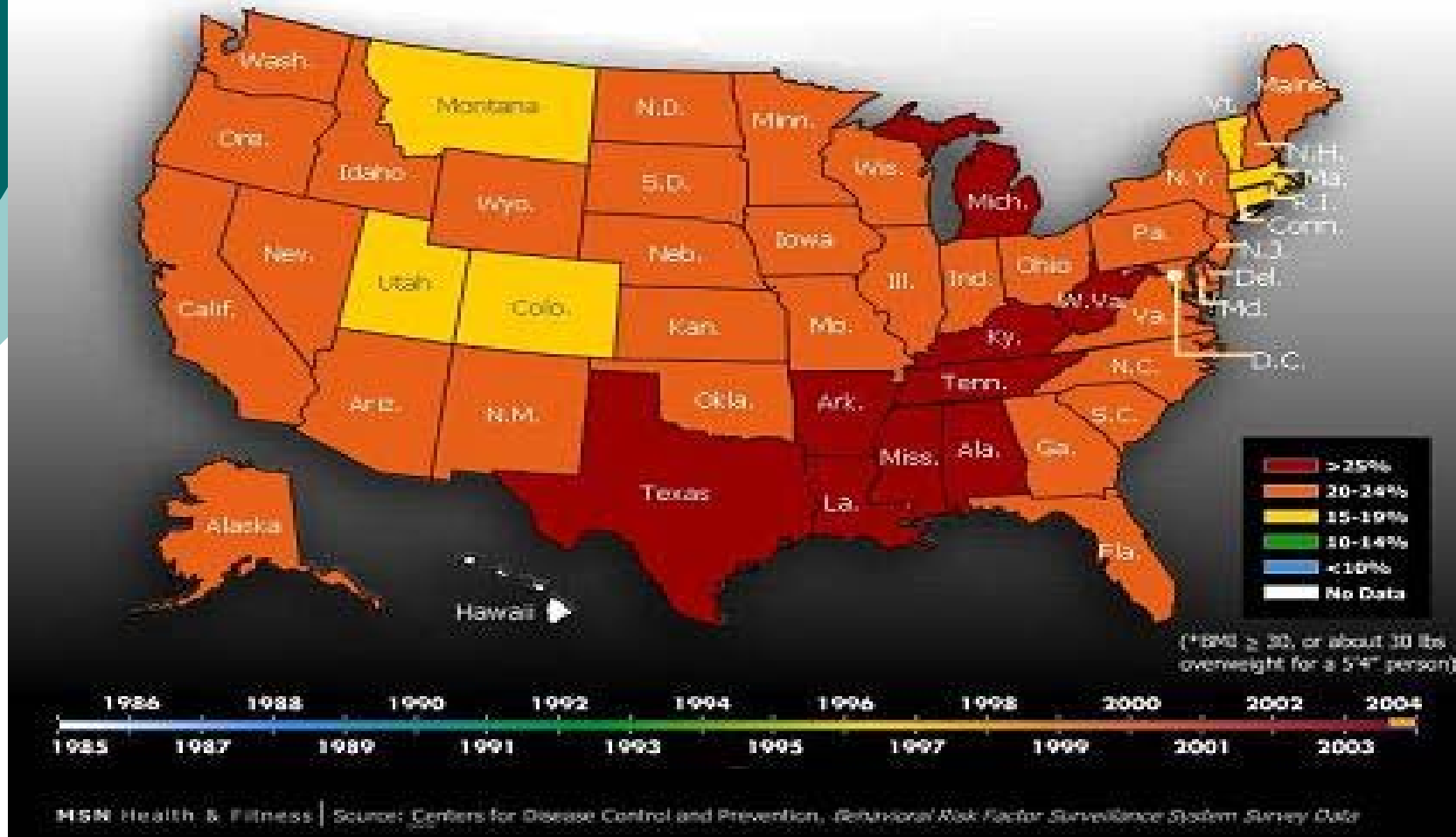
**Total Prevalence of Diabetes Among People Aged 20 Years or Older, United States, 2005**

<b>20 - 60 yrs</b>	9.6 percent of all people in this age group have diabetes ( <b>20.6mill</b> )
<b>60+ Yrs</b>	20.9 percent of all people in this age group have diabetes ( <b>10.3mill</b> )

**Total of 30.9mill ppl diagnosed as of 2005 (20-60yrs)**

<http://diabetes.niddk.nih.gov/>

# Obesity Epidemic



Source: Centers for Disease Control and Prevention  
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# Obesity Statistics

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## ○ Adult Population

- Prevalence rate has increase from 15.0% to 32.9% in the years 1978-1980 and 2003-2004, respectively.
- Sex = No Difference
- Disproportionately affect ethnic minority population
  - 10.3% African American compared to 6.2% Non-Hispanic white ([www.aafp.org](http://www.aafp.org))

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# Now What????

## Preventative Foot Care

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### Begins with the

# 3 E'S



[www.howstuffworks.com](http://www.howstuffworks.com)



[www.medem.com](http://www.medem.com)



# The 3 E's...

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- Goals of Preventative Foot Care:

**Empower!**

**Educate!**

**Enforce!**

- *3 Target Groups:*
  - *Patients & Families*
  - *Healthcare providers*
  - *Public Health Officials/Administrators*

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# Patient *Empowerment* = *Education*: Diabetes

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○ Diabetic patients and their families need to be informed of the ***power*** they have to prevent deleterious foot pathologies:

- **General Lifestyle Modifications**

- Weight loss
- Exercise
- Dietary monitoring
- Checking daily blood sugar levels

- **Podiatric Lifestyle Modifications**

- See a podiatrist regularly
- Daily foot checks
  - Lesions
  - Infections
  - Open wounds
  - Puncture sites, etc;

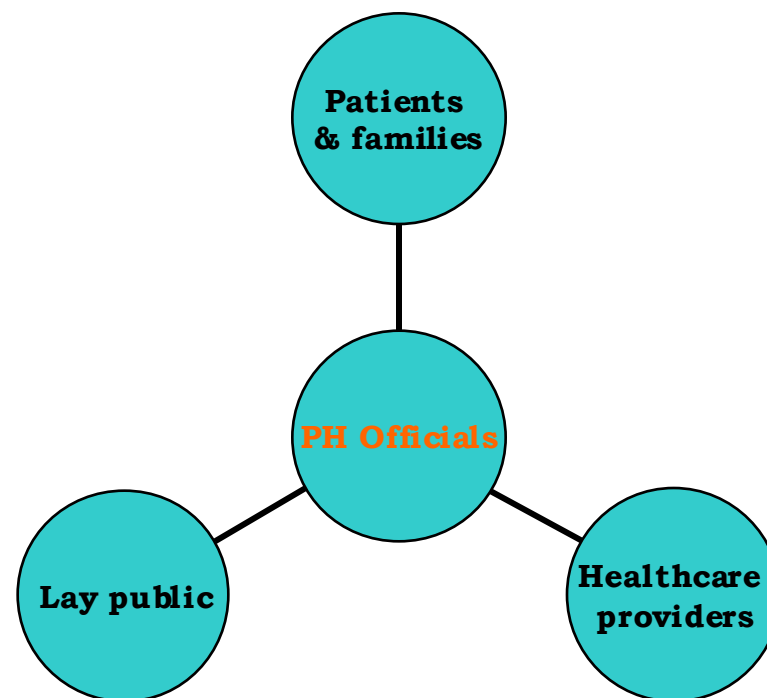
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# Healthcare Provider & PH Official Empowerment = Education

- Healthcare providers
  - Comprehensive Diabetes Foot Examination Form <sup>(7)</sup>
  - Diabetes Foot Examination Guide <sup>(7)</sup>
  - Pharmaceutical Treatment Algorithms
    - Hyperglycemia, Dyslipidemia, Hypertension <sup>(2)</sup>
  - Multidisciplinary treatment
    - Podiatry + Vascular <sup>(5)</sup>

- PH Officials



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# Enforcement & Reinforcement

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- Programs
  - Sponsored by the
    - APMA (KYSO Campaign), NDEP, ADA
- Diagnosis with follow up visits
  - Subjective and Objective documentation
  - Remind pts and family members of their role in preventative diabetic foot care!

Calling all  
Public  
Health  
Officials!

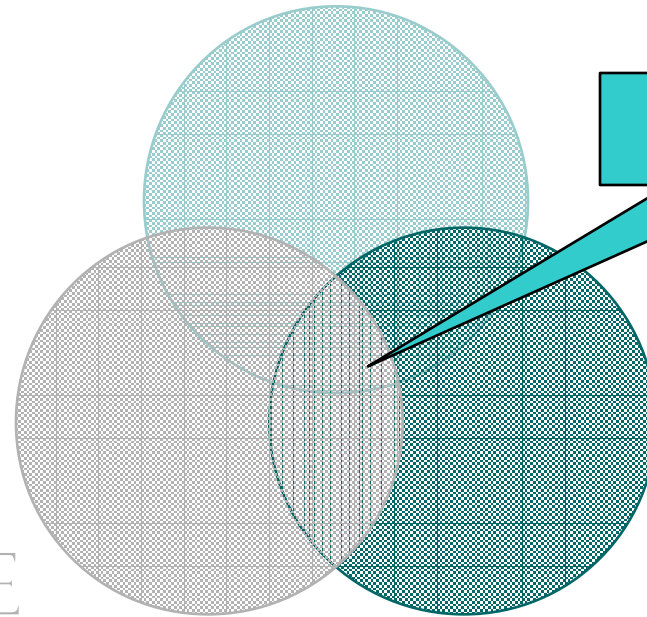
**CALLING ALL  
HEALTHCARE  
PROVIDERS!**

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EMPOWER



**Prevention**

ENFORCE

EDUCATE

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# “Moment of Truth”: Obesity

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- Monitoring Nutritional Status For Weight-loss Management
- Behavioral changes
- Make community facilities available for physical activity for all people, including on the weekends.
- Create more opportunities for physical activity at work sites.
- Change the perception of obesity so that health becomes the chief concern, not personal appearance.
- Translate research into practice
- Referrals- dietitians, exercise and physical therapist, behavioral scientists

[www.surgeongeneral.gov/topics/obesity](http://www.surgeongeneral.gov/topics/obesity).

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*Communities can help when it comes to health promotion and disease prevention*

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Surgeon General Satcher stated,

"When there are no safe places for children to play, or for adults to walk, jog, or ride a bike, that's a community responsibility, the same goes to when school lunchrooms or workplace cafeterias don't offer healthy and appealing food choices, that too is a community responsibility."

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[www.surgeongeneral.gov/topics/obesity](http://www.surgeongeneral.gov/topics/obesity).



# Enforcement: Obesity

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- Enforce, Enforce, Enforce and Reinforce
  - March-National Nutrition Month
  - Walk for Obesity
  - Commercial, Pamphlets, Conferences in school, work and health care settings
  - Health Officials and Public Health
    - Congratulations on improvements
    - Nothing wrong with being redundant
- Programs
- DOH, AOA, Silver Sneakers, Mobile Market

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# Diabetes, Obesity & Podiatry

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“When we start dealing with the problems associated with **diabetes**, such as peripheral neuropathy, **weight is a factor** because it’s been studied that patients who are obese have a harder time dealing with diabetes”

*Dr. Yaron Raducanu, DPM, of Virginia Beach, VA.  
Statement given in APMA News September 2007*

# Conclusion



“.....It Takes a Village To Fight Obesity.....”

[www.healthnews-stat.com](http://www.healthnews-stat.com)

Before

- Include 5 minute warm up
- Check blood sugar



After

- Include 5 minute cool down
- Check blood sugar

 ADAM.

And to fight Diabetes...

[www.static.howstuffworks.com](http://www.static.howstuffworks.com)

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