

Major Amputation Prevention; *a vascular surgeon's perspective?*

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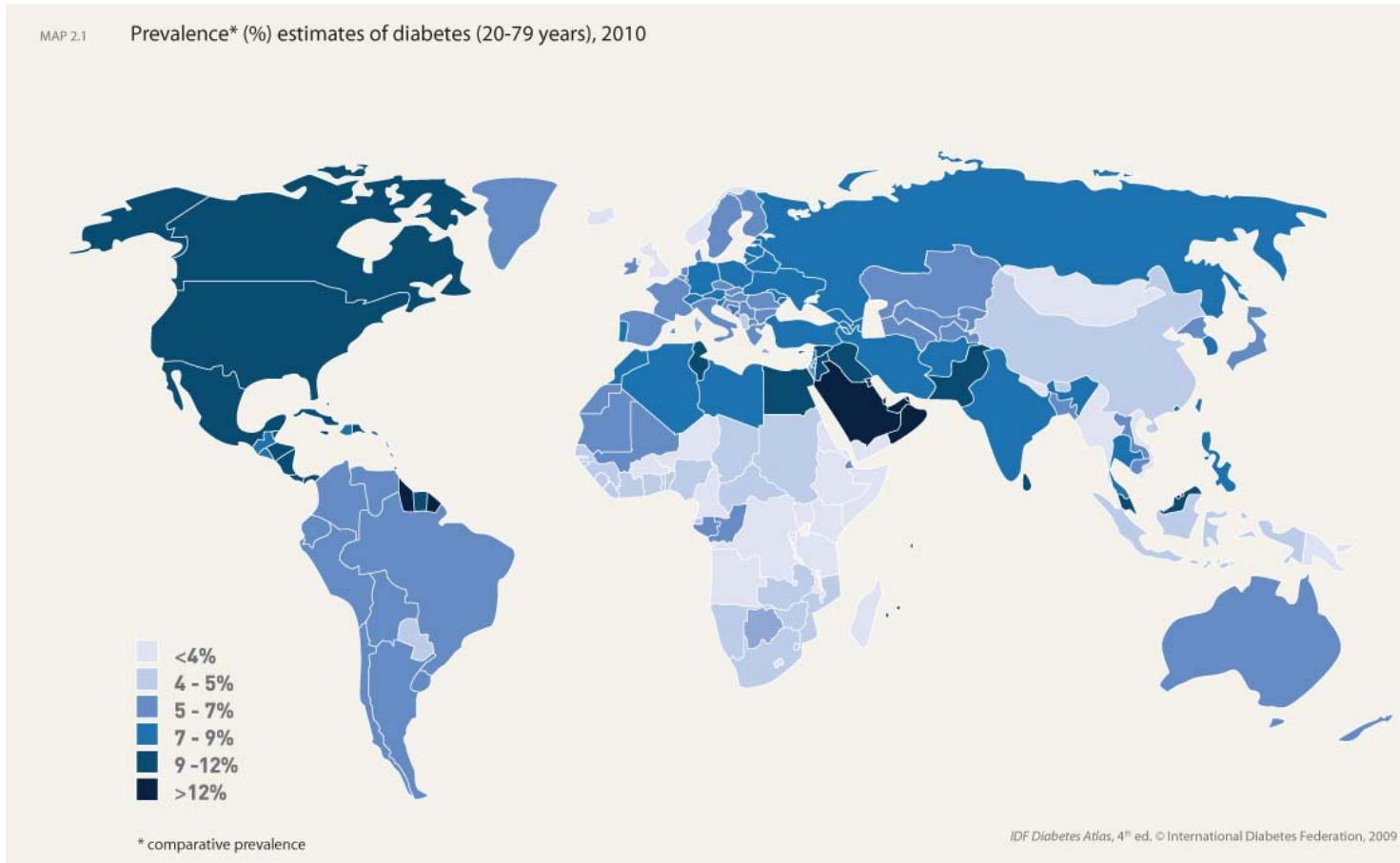
The Associate Parliamentary Limb Loss Group Meeting, London, November 2011

Amputations Facts

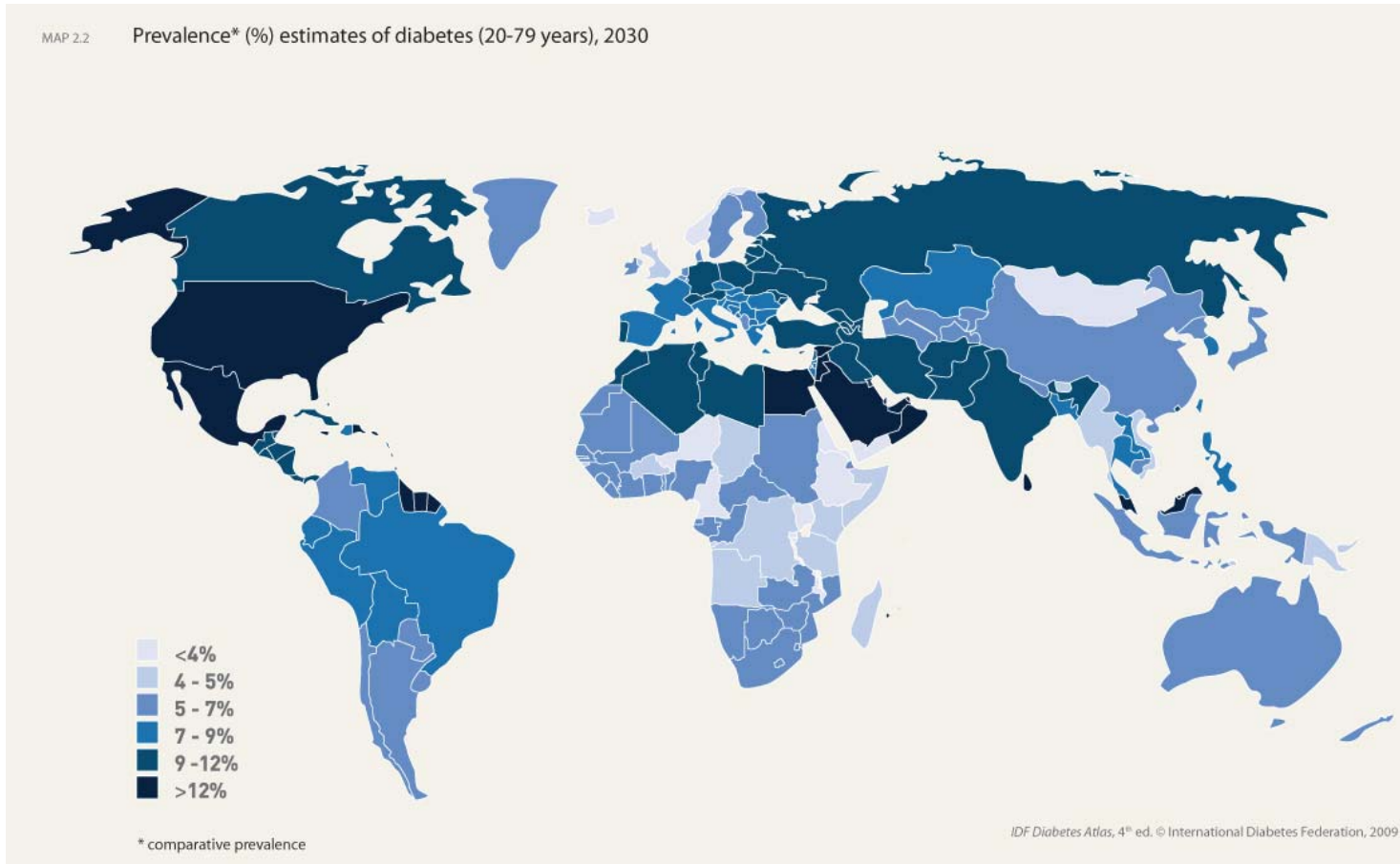
- Diabetes is the most common cause of leg amputations¹
- 1:20 diabetic patients will develop foot ulcer²
- 1:10 foot ulcers result in the amputation of foot or leg³
- Major amputations in diabetic patients is 15 times higher than non-diabetic⁴

1. Amputee Statistical Database for the United Kingdom (2007)
2. Abbott CA et al (1998). *Diabetes Care* 21 (7); 1071–1075
3. National Diabetes Support Team (2006). *Diabetic foot guide*
4. Williams, G & Pickup, JC (2004). *Handbook of diabetes*

International Diabetes Federation Data



International Diabetes Federation Data



Demographic Facts

- 2.6 million people diagnosed with diabetes in the UK (2009)
- By 2025 more than 4 million people will be diagnosed with diabetes
- In 2008; 145,000 patients newly diagnosed

This is equivalent to:

- 400 people every day
- 17 people every hour
- 3 people every ten minutes

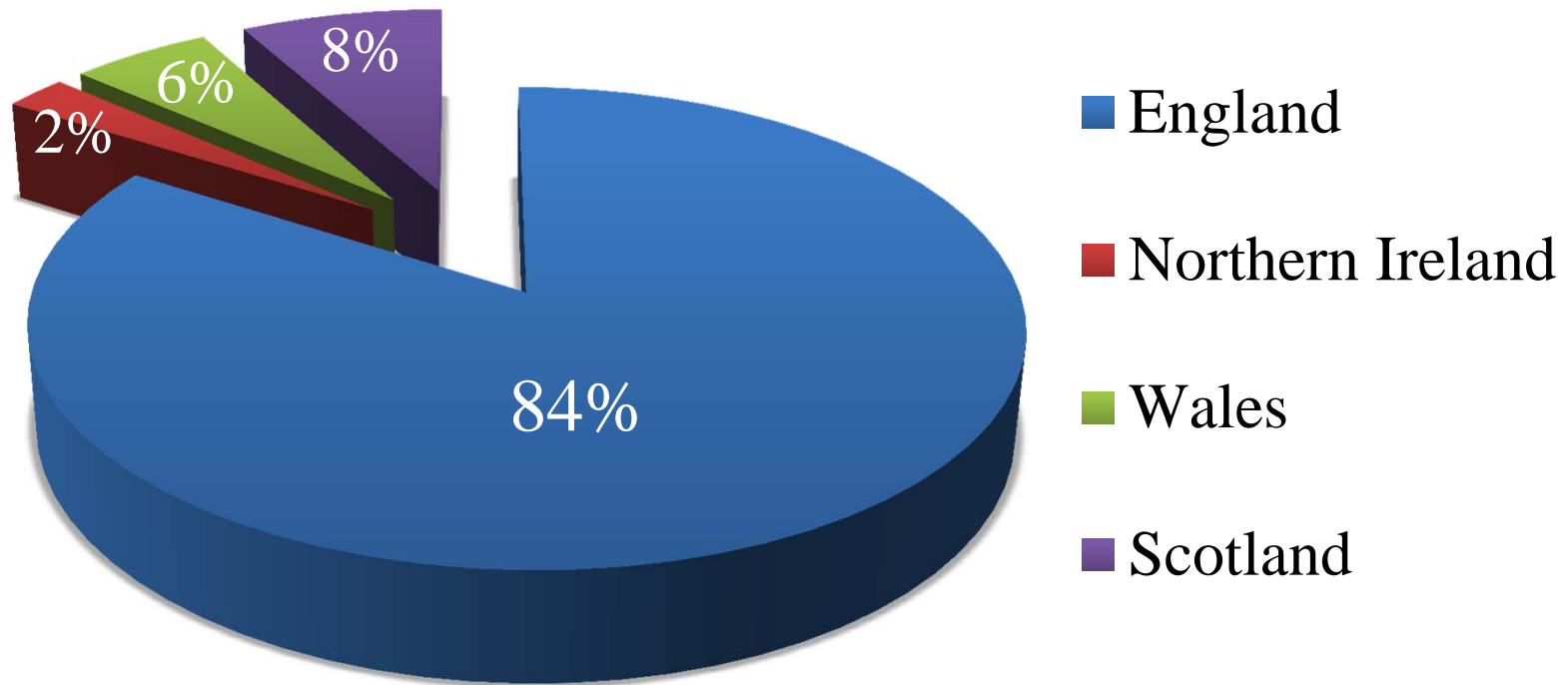
(Quality and outcomes framework (QOF) 2008 and 2009)

Prevalence of Diabetes Across UK

	Prevalence	Diabetic Population
England	5.1%	2,213,138
Northern Ireland	4.5%	65,066
Wales	4.6%	146,173
Scotland	3.9%	209,886

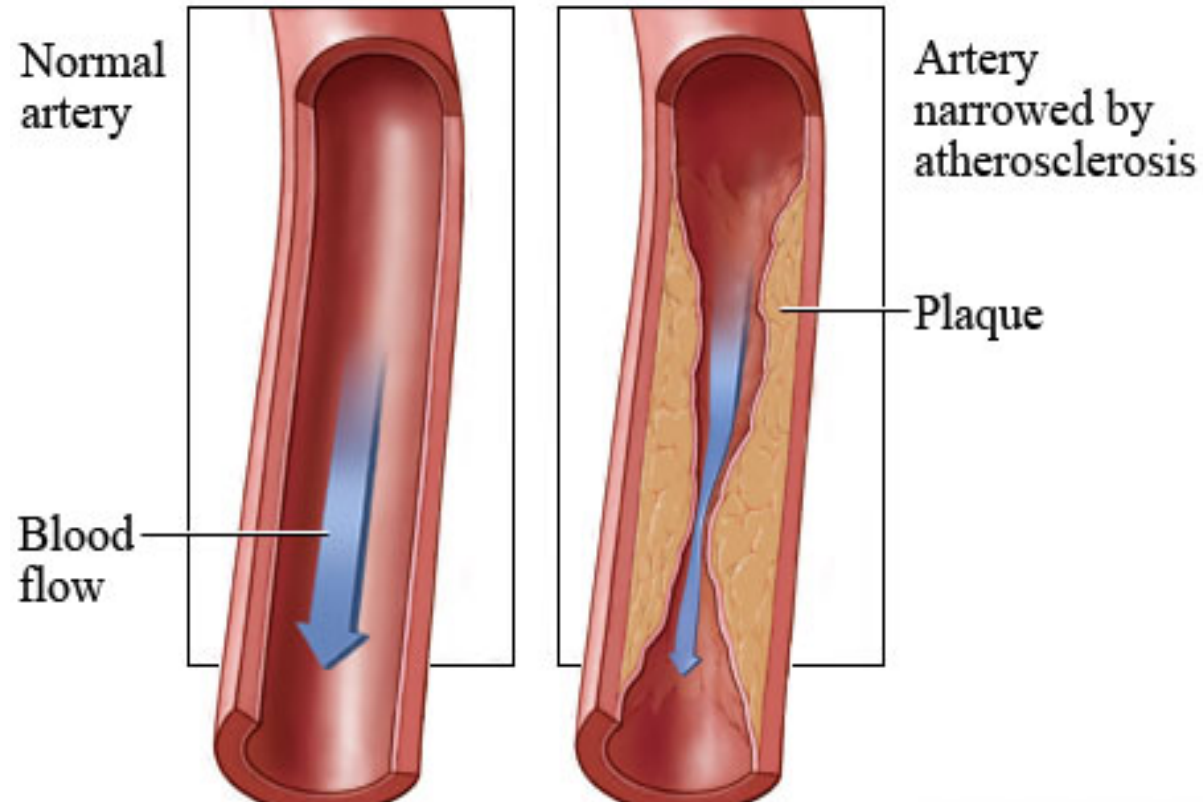
(Quality and outcomes framework (QOF) 2009)

Diabetes Population



(Quality and outcomes framework (QOF) 2009)

Peripheral Vascular Disease “blocked arteries”

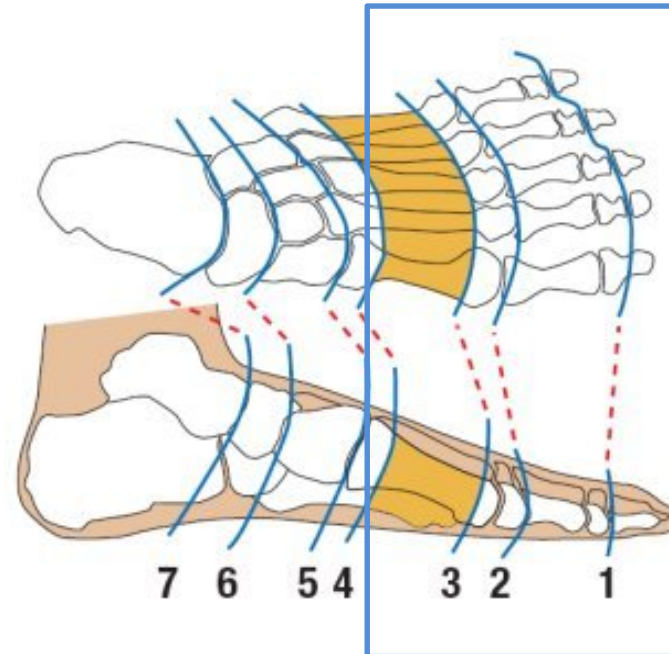
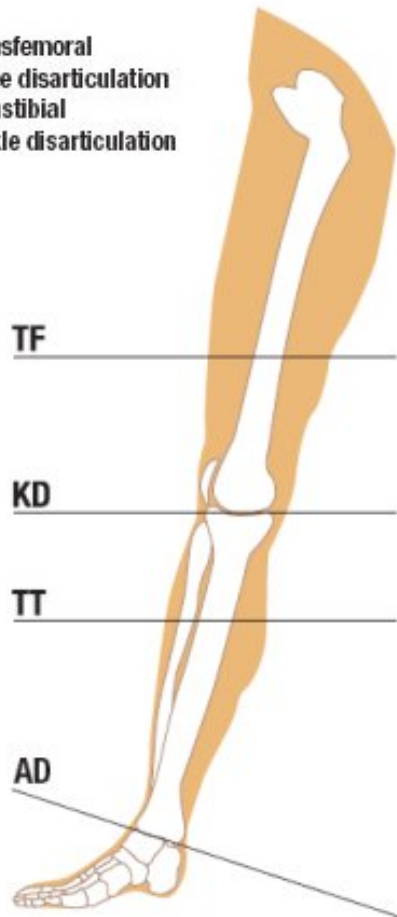


Treatment Options

- Major amputation
- Revascularisation

Types of Amputations

TF = Transfemoral
 KD = Knee disarticulation
 TT = Transtibial
 AD = Ankle disarticulation



- 1 Toe amputation
- 2 Toe disarticulation
- 3 Distal transmetatarsal amputation
- 4 Proximal transmetatarsal amputation
- 5 Tarso metatarsal disarticulation
- 6 Midtarsal disarticulation
- 7 Intertarsal disarticulation

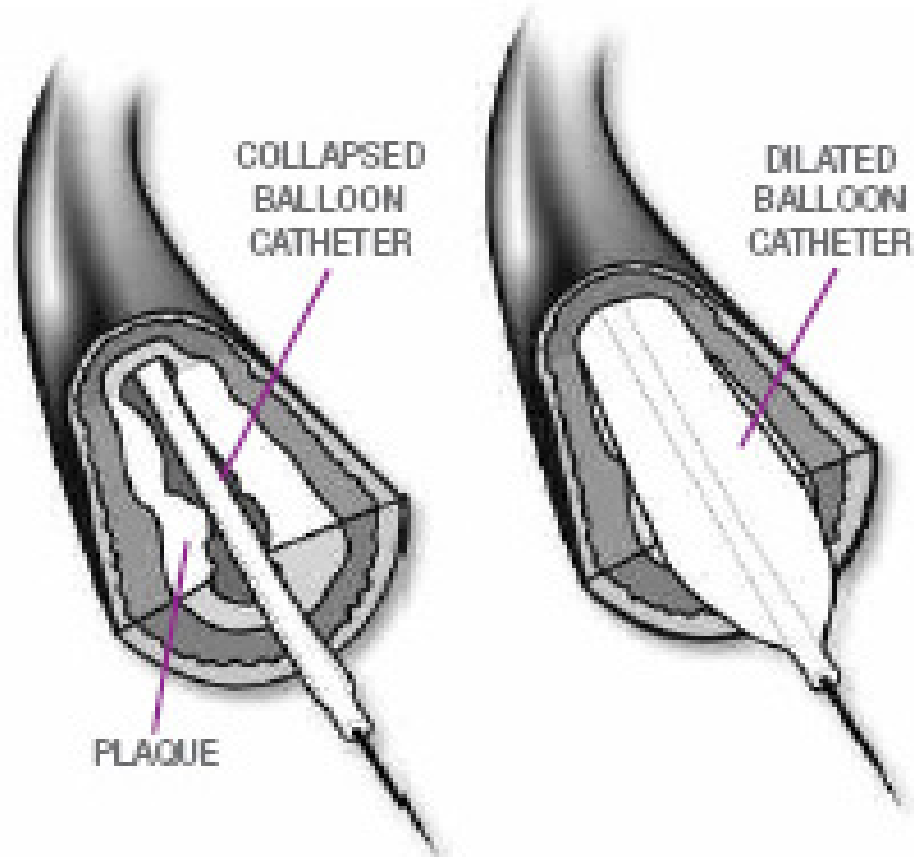
Source; IDF

Major Amputation



Operating Room; St. Thomas Hospital, 1775

Angioplasty



Bypass Surgery



The Cost

About 10% of the NHS budget is spent on diabetes (around £9 billion a year based on 2007/2008 budget)

- £173 million/week
- £25 million/day
- £1 million/hour
- £17,000/minute
- £286/second

NHS Confederation (2007a). Key statistics on the NHS London

Major amputation; the facts

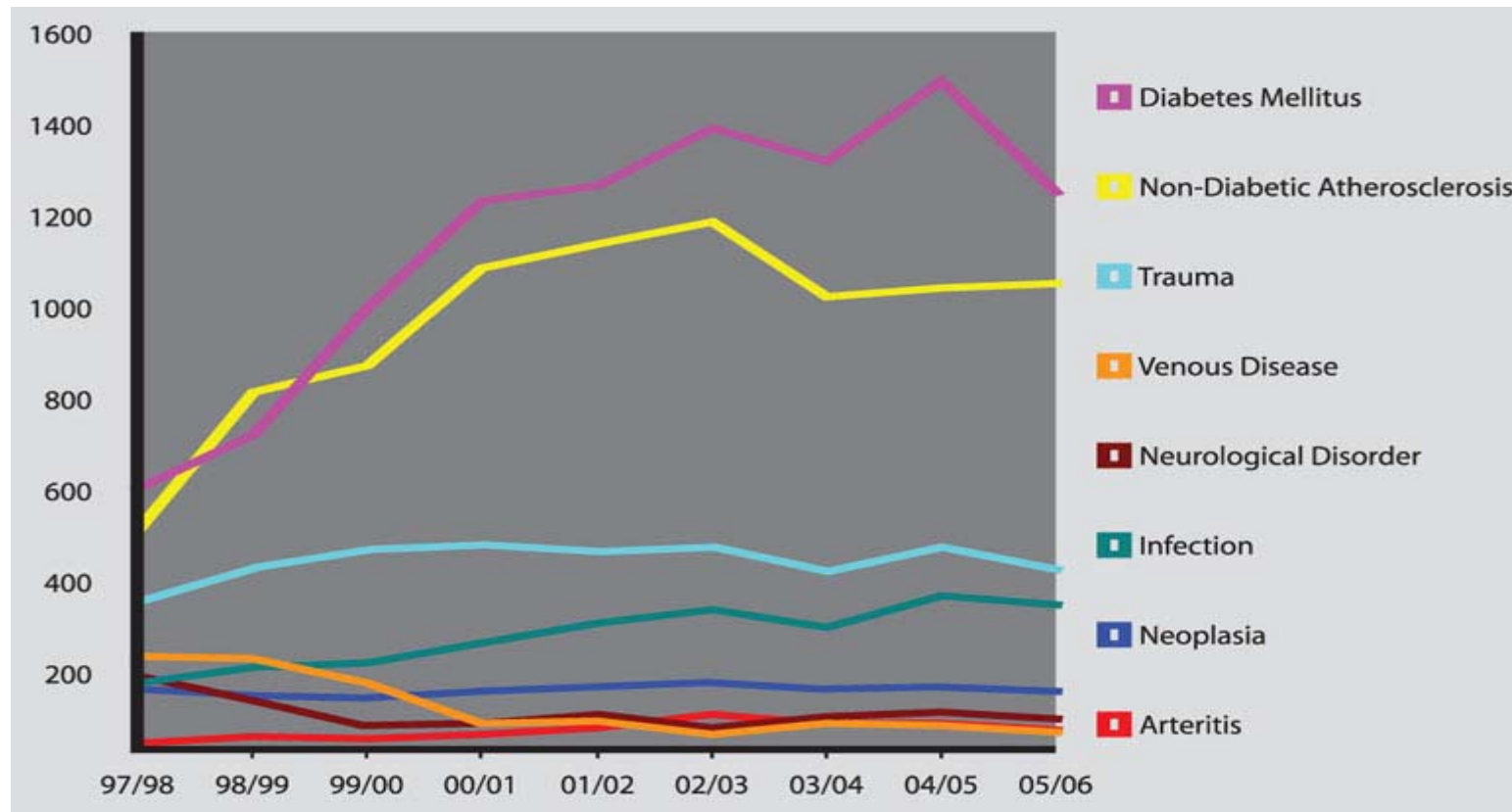
- Up to 20% of diabetes budget is spent on treating diabetic foot problems
- **£252m spent on amputation**

Source: Diabetes UK

Do we have a problem?

- There are >70 major amputations/week (3640/year) carried out on type 2 diabetes patients in England. It is thought 80% of amputations are potentially preventable
- "The existing situation around foot care and amputations is shocking, given the fact that the majority of amputations can be prevented." *Baroness Young, CEO, Diabetes UK*
- "If performance across the NHS can be brought up to the level achieved by the best, then much of the pressure on local NHS budgets can be relieved without having to cut services for patients." *Professor Chris Ham, CEO, King's Fund*

Prevalence of Major Amputations



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Thousands of needless amputations and deaths 'could be prevented'

Diabetics and those with circulation problems are unnecessarily losing limbs and being exposed to further health risks

By Nina Lakhani

Sunday, 7 March 2010

Thousands of people are needlessly having legs, feet and toes amputated because of a failure to treat foot diseases properly. More than 11,000 people in England suffered amputation of a lower limb because of disease last year – a 7 per cent rise since 2004/05. Half of these amputees die within two years because of circulation problems that lead to heart attacks or stroke. At least half of amputations caused by diabetes and peripheral arterial disease (PAD) could be avoided if patients were seen by foot specialists more quickly, according to research.

Yet a new audit presented at a conference last

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Roger Lewis had his lower leg amputated after getting peripheral arterial disease



25 November 2010 Last updated at 01:33



Variation in amputation rate 'shocking'

By Branwen Jeffreys
Health correspondent, BBC News

Variations in the amputation rates in diabetes patients in England have been described as shocking by a charity.

Department of Health data reveals the rate of major amputations in the South West, at three in 1,000, is almost twice the rate in the South East.

The Diabetes UK charity says the majority could be prevented.

The government says it is publishing the information, which also covers other conditions and has been dubbed an "atlas of care", to help improve care.



Seventy amputations a week take place on diabetic patients in England

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Word-of-mouth

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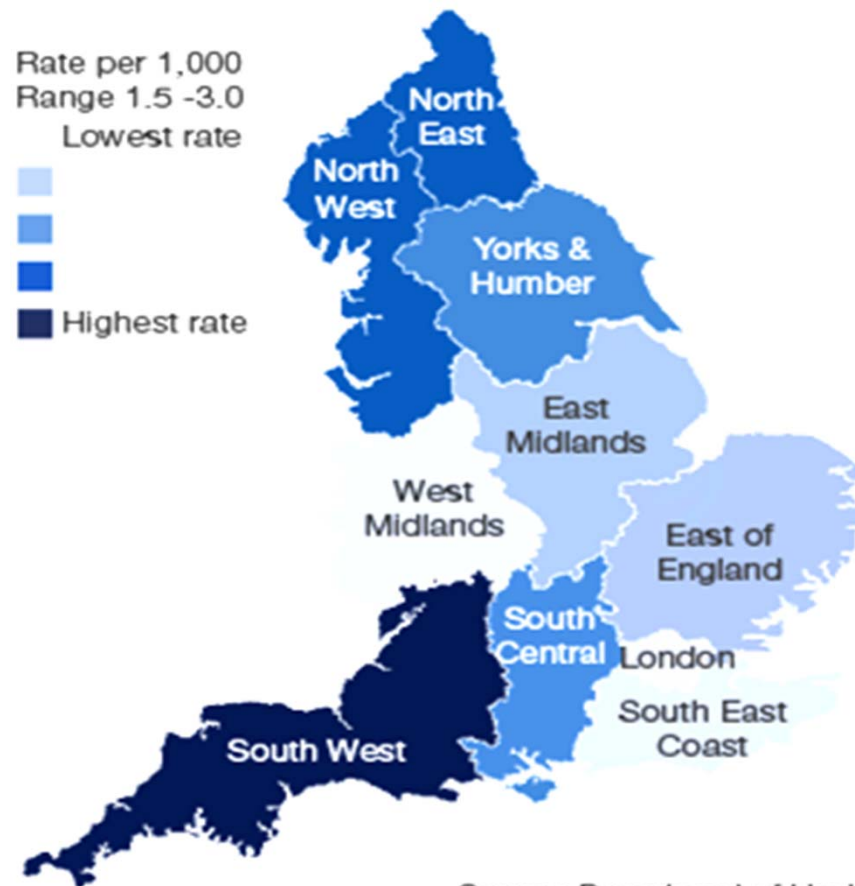


Jedi Master

Why Star Wars should be left to the fans

'Let love rule'

Major amputation rate in diabetic patients (2004-2009)



Source: Department of Health

“Epidemiological study of lower limb amputation in England between 2003-2008”

- Major amputation rate: **5.1/100,000** population
- 30-day Mortality rate: 16.8%
(21.4% for above-knee and 11.6% for below-knee amputation)
- **39.4% had diabetes mellitus**

Moxey PW et al, BJS, 2010, Sep;97(9):1348-53

Major amputation; the facts

- 30-day Mortality rate: 10-30%
- 2-years survival: 40-50%
- 5-years survival: 30-40%
- 2-years loss of other leg: 15-20%

Cutson, J Am Geriatr Soc. 1997, 45(8):1033

KHP Distal Bypass Outcome

- 230 distal bypasses
- Median age: 75 years
- 65% had diabetes mellitus
- 30% had chronic renal failure
- **30-day mortality: 1.7%**
- **One-year major amputation: 3.4%**

H Slim et al, EJVES, July 2011

Work-load and outcome

“Systematic review and meta-analysis of the relationship between hospital volume and outcome for lower limb arterial surgery”

Conclusion: Higher-volume hospitals were associated with reduced amputation and mortality rates after lower limb vascular surgery

Awopetu et al, Br J Surg. 2010 Jun;97(6):797-803

NICE Guidelines, March 2011

- Each hospital should have a multidisciplinary foot care team and care pathway
- The team should have access to other specialist services
- Care should be offered within 24 hours of a patient being admitted to hospital, or the detection of diabetic foot problems

<http://www.nice.org.uk/nicemedia/live/13416/53558/53558.pdf>

The Diabetic Foot Team

- Podiatrist
- Orthotist
- Nurse specialist
- Rehabilitation physiotherapist
- Diabetologist
- Radiologist
- Orthopaedic surgeon
- Vascular surgeon

Vascular Society Questionnaire 2010

- Questionnaire sent to 430 vascular consultants (vascular society)
- 116 replies representing 86 out of 125 vascular units across the UK

Service Availability

- 88% had podiatrist
- 88% had nurse specialist
- 76% had orthotics service
- **70% dedicated foot diabetologist**
- **71% dedicated diabetic foot clinic**
- **15% dedicated diabetic foot ward round**

Diabetic Foot Networks

- “Hub & spoke” model
- Centre of excellence
- Satellite foot clinics
- Defined pathways
- Fast tracking urgent cases



Surgical Accountability

- Leg revascularisation successful
outcome: *healed painless functional limb*
- High accountability in carotid & aortic surgery
- No accountability in leg revascularisation

Before Proceeding with Major Amputation

- Check local expertise
- Second opinion from a centre of excellence
- Patient's choice should be encouraged and respected

Amputate!



Don't Amputate; revascularise!



Conclusions

- Majority of major amputations is a failure!
- Revascularisation should be always offered
- Centres of excellence (comprehensive service)
- Second opinion prior to major amputation