Changing Paradigms for Patients with Vascular Disease

Traditional Surgery is Obsolete

*Matt Thompson, London, UK*
Introduction national AAA screening programme

- Adoption minimally invasive techniques

- Guidelines for treatment PAD / diabetic foot

- Change in commissioning arrangements

- Reconfiguration of service provision

- 2012 - separate specialty
National AAA Screening Programme 2008
Single ultrasound scan for all men age 65

Community based programme

Negative scan: - reassurance, no follow up

Positive scan: - counselling, lifestyle advice etc

3-4.4cm - annual rescan

4.5-5.4cm - 3 month scan

>5.5cm referral to surgeon
Southwest London Population: 1,565,000

- Now screening for >3 years
- >15,000 invites
- Uptake 68-85%
- 190 positive scans - repaired or in surveillance
- No aneurysm related deaths in screened population
Endovascular vs Open Surgery AAA

<table>
<thead>
<tr>
<th>Study</th>
<th>OR (95% CI)</th>
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<tbody>
<tr>
<td>OVER</td>
<td>0.15 (0.02–0.66)</td>
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<tr>
<td>EVAR-1</td>
<td>0.37 (0.18–0.71)</td>
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<tr>
<td>DREAM</td>
<td>0.25 (0.03–1.27)</td>
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<tr>
<td>ACE</td>
<td>2.00 (0.10–118.8)</td>
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<tr>
<td>Combined</td>
<td>0.33 (0.17–0.64)</td>
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Endovascular Surgery AAA

- Lessen physiological stress
- Applicable to 90% AAA
- Lower mortality / morbidity rates
- Reduced hospital stay (average 3 days)
- Long term durability good (10% re-intervention)
- NICE approved Feb 2009
• Screening should reduce incidence of AAA rupture
  
  • May have to change programme:
    
    - Female smokers
    
    - Smaller aorta
    
    - Targeted screening
  
  • Prevalence of AAA is dropping (?smoking)
  
  • EVAR is much safer than open repair
QOF 2012-2013

- Register of people with PAD
  - BP <150/90 in last 15m
  - Cholesterol <5mmol/mol in last 15m
- Overlap with other QOF targets
• Claudication
• Slow healing sores and ulcers
• Pain at night or at rest
• Change in colour (blueness) or Temperature (coolness)
• 20% with mild PAD = Asymptomatic
• ?ABPI <0.9 as screening tool
Diagnosis PVD = CV Risk

- Diet
  - Weight management and exercise
    - Smoking cessation
  - Management of diabetes
  - Management of high blood pressure
  - Lipid Modification and Statin therapy
    - Antiplatelet therapy
Information:
All patients with PAD should be offered oral + written info about:

- The condition itself
- How to prevent disease progression
- Risk factor modification

Four qualitative studies = High Quality Data
All patients with IC should be offered a supervised exercise programme:

- 2 hours a week for a 3-month period
- Exercise to the point of maximal pain

Moderate to low quality evidence - 12 RCTs supervised vs unsupervised
All patients with PAD should be prescribed a statin unless contraindicated

• Start simvastatin 40 mg
• If not tolerated, consider lower dose / pravastatin

• Target: total chol < 4 and LDL < 2

• Heart Protection Study (2002): CV patients with total chol >3.5 took simvastatin = 17.6% reduction in cardiovascular events and 12% all cause mortality
• Independent of cholesterol
Anti-Platelet Therapy

- Use clopidogrel as first line option to prevent occlusive vascular events

- Dual therapy not generally recommended in simple PAD, but may be beneficial for patients with prosthetic bypass (CASPAR 2009)
Consider Vascular Referral???

- Short distance claudication
  - \(< 150 \text{ meters}\)
  - Lifestyle dependant
- Rest pain
- Tissue loss
- Diabetics with neuropathy
Diabetic foot problems
Inpatient management of diabetic foot problems

Issue date: March 2011

NICE clinical guideline 119
Developed by the Centre for Clinical Practice at NICE

Type 2 diabetes
Prevention and management of foot problems*

* Update of the guideline entitled Clinical Guidelines and Evidence Review for Type 2 Diabetes: Prevention and Management of Foot Problems published by the Royal College of General Practitioners in 2000

Clinical Guideline 10
January 2004
Developed by the National Collaborating Centre for Primary Care

Putting feet first
Commissioning specialist services for the management and prevention of diabetic foot disease in hospitals

In partnership with
NHS Diabetes

This report is supported by:
Association of British Clinical Diabetologists
Foot in Diabetes UK
Joint British Diabetes Societies Inpatient Working Group
National Diabetes Inpatient Specialist Nurse Group
Primary Care Diabetes Society
Scottish Diabetes Foot Action Group
Society of Chiropodists and Podiatrists
The Vascular Society of Great Britain and Ireland
Welsh Endocrine and Diabetes Society

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NICE Foot care Guideline (Revision): Algorithm

On diagnosis of type 2 diabetes, and at annual review thereafter:
- examine patient's feet and lower legs to detect risk factors
- includes:
  - testing of foot sensation using 10 g monofilament or vibration
  - palpation of foot pulses
  - inspection for any foot deformity
  - inspection of footwear

Is person at low current risk of foot ulcer? (normal sensation, palpable pulses)

No

Yes

- Agree management plan including foot care education
- Arrange recall and annual review as part of ongoing care

Does the individual have a foot ulcer?

No

Refer to foot protection team for classification

Yes

Refer urgently to multidisciplinary foot care team

after ulcer heals

Is person at high risk of foot ulcer? (risk factor + deformity or skin changes or previous ulcer)

No

Yes

- Management and frequent review (1-3 monthly) by foot protection team
  - At each review
    - inspect patient's feet
    - review need for vascular assessment
    - evaluate provision of and provide appropriate
      - intensified foot care education
      - specialist footwear and insoles
      - skin and nail care
  - Ensure special arrangements for access to foot protection team for those people with disabilities or immobility

Is person at increased risk of foot ulcer? (neuropathy or absent pulses or other risk factor)

No

Yes

- Management by foot protection team
- Inspect patients' feet 3-6 monthly
  - review need for vascular assessment
  - evaluate footwear
  - enhance foot care education

- Promptly refer patients who may benefit from revascularisation
- Wound management:
  - closely monitor wounds and change dressings regularly
  - carefully remove dead tissue from foot ulcers (unless revascularisation is required)
  - use intensive systemic antibiotic therapy for non-healing or progressive ulcers with clinical signs of active infection
  - Consider total contact casting (unless there is severe ischaemia)
  - Try to achieve optimal glucose levels and control of risk factors for cardiovascular disease
  - Manage as 'at high risk' when ulcer is healed

IF NEW
- ulcer (wound)
- swelling
- discoloration
THEN REFER TO
- multidisciplinary foot care team within 24 hours

IF SUSPECTED CHARCOT OSTEOPATHY REFER TO:
- multidisciplinary foot care team immediately for immobilisation of the affected joint and long-term management of offloading to prevent ulceration

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Summary PVD

- QOF for 2012-13
- Key issues are early detection and risk factor modification (for overall CV risk)
  - Statins and anti-platelets
  - Diabetic and blood pressure control
- Need to provide exercise classes
- Diabetics need MDT assessment including podiatry
- Surgical/radiological intervention reserved for critical ischaemia or severe claudication
Delivery Vascular Surgery is Changing

- Demographics of population
- Increasing cost of healthcare
- Evidence of health inequality - differential outcomes
Vascular Surgery and Contemporary Challenges

- Increasingly elderly population with significant co-morbidity

- Rapid pace of innovation and technological advancement

  - Requirement for multi-disciplinary working

- Evolution of vascular surgery as a monospeciality

- Provision of contemporary emergency services
Vascular Surgery and Centralisation

- Vascular surgery traditionally organised in a large number of relatively small units (general surgery based)

- Documented variation in outcome at individual, hospital and geographic level

- Evidence of poor uptake of technology

- Evidence of inability to provide adequate emergency service
Peri-operative mortality
Supra-renal aneurysm repair
Outcomes after Elective Repair of Infra-renal Abdominal Aortic Aneurysm

A report from The Vascular Society

March 2012

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Elective Aneurysm Mortality (2007/8) - Effect of Caseload

Increasing caseload

Mortality (%)

Q1: 10
Q2: 14
Q3: 22
Q4: 37
Q5: 65


Holt Circ Cardiovasc Qual Out 2009; 2: 624
Palliation Rates Ruptured AAA

Increasing caseload

Holt et al BJS 2010; 97: 496
How to Achieve Best Outcome for Patients

- Centralize vascular surgery in high volume dedicated centers
  - Constant vascular and endovascular emergency availability
  - Sub-specialisation within vascular surgeons (aortic / peripheral teams)
  - Co-location with cardiovascular services (cardiology / cardiac surgery)
London health region

8-12 million
London Vascular Surgery Reconfiguration

- 24 hour vascular surgery and endovascular cover (6+)

- Minimum threshold case numbers (50+ AAA)

- Defined governance pathways

- Vascular surgery in 5/6 centers - co-located CVS services
Specialised services core responsibility of NHS Commissioning Board (NHSCB) - April 2013

- Significant challenges in moving to single commissioning structure for specialised services

- National Programme Plan - National Transition Project Team for Specialised Services

- Aim to establish a single national function with consistency, equity and excellence as core values
Clinical Reference Groups

- Specialised services CRG established (82 CRG)
  - 10% NHS budget (£11.8 billion)
    - CRG delivery mechanism for products that are required for contracting process during 2013 and beyond
    - Commissioning delivered through 10 local area teams (NHS CB)
Service Specification

- Centralisation of arterial intervention - “hub and spoke network”

- All arterial surgery in hub - 800,000

- 24/7 vascular surgery and interventional radiology service

- Defined local protocols for services in spokes
Modern Management of Varicose Veins

- Improved diagnostics
- Patient selection:
  - Evidence re natural history
- Improved treatment options:
  - Endovenous surgery
  - Ambulatory surgery
- Evidence based practice
Current Restrictions in UK

- 6 months failed/intolerance to compression:
  - ‘Intractable’ ulceration
  - Persistent/worsening skin changes
  - Haemorrhage requiring transfusion/admission
  - 2 episodes of thrombophlebitis
  - Severe symptoms affecting daily life/work

- But ‘postcode lottery’
Varicose Veins Disease Spectrum

Clinical, aEtiological, Anatomical and Pathophysiological criteria
Symptoms are Independent of Severity

• Symptoms bear no relationship to:
  - CEAP score (clinical, etiological, anatomic and pathological)

• Advanced disease/ulceration associated with:
  - Larger veins
  - Older age
  - Poorer quality of life
Treatment Options - Compression

- Class II full length hosiery
- 4-layer compression for ulcers
- Stockings replaced 3 monthly
- Cost: £30-60/pair
- Compliance: only 21%
Treatment Options - High Tie and Strip

- 15% complications
- Recovery 6 weeks
- Recurrence/Satisfaction
  - 30% none
  - 44% a few
  - 26% as bad as before surgery
  - 20% require re-operation
  - 34% NOT HAPPY!
Treatment Options - Thermal Ablation

- LA
- Complications 1%
- Recovery rapid
- Recurrence <5%
- Cost effective
Restrictions for intervention should be evidence based - NEED MORE EVIDENCE

Patients should undergo duplex imaging prior to any intervention

- Intervene for all skin changes/large veins
- Conservative treatments are poorly tolerated
- Endovenous techniques produce better outcomes