Peripheral arterial disease: still on the periphery?

EDITOR—Changes to the UK General Medical Services (GMS) quality and outcomes framework review include several new therapeutic areas.¹ However, although the GMS contract continues to emphasise risk factor management in patients with coronary heart disease, stroke, or transient ischaemic attack, it again omits peripheral arterial disease, even though this has largely the same underlying cause and association with cardiovascular events and mortality. This omission is even more noticeable given that policy makers and experts representing the Joint British Societies recognise the importance of tackling peripheral arterial disease to reduce the morbidity and mortality from vascular disease.¹

An estimated 27 million people in Europe and North America have peripheral arterial disease.² In the United Kingdom, more than 100 000 people are newly diagnosed with peripheral arterial disease each year.³ Patients with symptomatic peripheral arterial disease have reduced mobility and poor quality of life, equating to some cancers. Equally importantly, peripheral arterial disease is a major marker comparable to angina for future cardiovascular events. As a result, 60% of patients die from myocardial infarction and 12% from stroke.⁴ Efforts need to be directed towards modification of risk factors. Interventions include improved diet and exercise, smoking cessation programmes such as short term nicotine replacement therapy, drug therapy, and, where necessary, blood pressure and glucose regulation.

The GMS contract cannot continue to ignore a substantial subgroup of patients with atherothrombotic disease. Peripheral arterial disease needs to have an appropriate allocation of points from the 152 points currently given to cardiovascular conditions. A simple mechanism would be to change coronary heart disease to cardiovascular

disease, and patients with peripheral arterial disease would be included in the current assessment programme. We urge all those involved in the negotiation process to consider this alternative as a proposed, and probably successful, method of reducing cardiovascular mortality in line with government targets.

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Competing interests: The Target PAD group is supported by an educational grant from Sanofi-Aventis and Bristol-Myers Squibb.

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Pneumonia

Are we putting the CURB score into practice?

EDITOR—Hoare and Li suggest that patients with pneumonia should receive antibiotics intravenously if they have a CURB score of at least 3, or contraindications to oral treatment, which may include malabsorption, impaired consciousness, or risk of aspiration.¹ They also assert that intravenous antibiotics should be changed to oral treatment as soon as possible.

These two points are in accordance with current guidelines from the British Thoracic Society and are designed to limit the prescription of intravenous antibiotics when not indicated. This is because of their undesirable effect on microbial resistance, as well as their side effect profile and greater cost.

We recently audited the treatment of pneumonia in our district general hospital and found that antibiotics were prescribed intravenously to 54% of patients (28 out of 52) with a CURB score of 0 or 1. These patients do not qualify for intravenous antibiotics according to the current guidelines.

We surmise that this overprescription of intravenous antibiotics is partly because junior doctors, who are responsible for admitting such patients, are not officially taught the CURB score, which rarely features in either finals or membership examinations for the Royal College of Physicians. In only 1.6% of cases (2 out of 126) was the CURB score documented on the admission clerking.

Of all the well validated scoring systems used in clinical practice, the CURB score is probably the most memorable and simple to apply. Hence its inclusion in the guidelines for treating community acquired pneumonia. Despite this, it is not being put into practice. These findings illustrate the wider problem of transferring knowledge produced from academic research to the clinical shop floor.

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- 1 Hoare Z, Lim WS. Pneumonia: update on diagnosis and management. *BMJ* 2006;332:1077-9. (6 May.)

Macrolides or amoxicillin for community acquired pneumonia?

EDITOR—In their update of the management of community acquired pneumonia, Hoare and Lim reported the current recommendations of the British Thoracic Society for empirical antibiotic treatment of pneumonia.¹ In children as well as adults the recommendations for the antibiotic treatment of community acquired pneumonia are based on a low level of evidence in national guidelines and literature review.²⁻⁴

A critical issue, affecting adults and children older than 5 years of age, is that the use of macrolides as first line treatment of outpatients with community acquired pneumonia is not based on randomised

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controlled trials. We disagree with this indication because *Streptococcus pneumoniae* not only is the most common causative agent of pneumonia but also is associated with more severe diseases than other pathogens. The prevalence of macrolide resistance in patients with *S pneumoniae* infection continues to rise worldwide.⁴ The latest (2001) update of the Alexander project (www.Alexander-Network.com) indicated that in the United States the prevalence of pneumococcal macrolide resistance is 28.3%.

These high rates are comparable to those found in Spain (26.4%) and Italy (35.9%), though not as high as those in France (56.4%). Although the prevalence in the United Kingdom and Germany remains comparatively low (11.5% and 7.5%, respectively), the trend is growing. Moreover, treatment failure in patients with pneumococcal pneumonia as a result of macrolide use in outpatient clinics seems to be increasing.^{4,5} In general practice the risk of lack of efficacy of macrolides in pneumonia caused by *S pneumoniae* should be taken into account.

For this reason we believe that the first line empirical antibiotic treatment in patients with clinical signs suggestive of pneumococcal pneumonia should be amoxicillin. However, further randomised controlled trials are needed to compare the costs and benefits of β lactam agents and macrolides, both in adults and in children aged 5 or older who are affected by community acquired pneumonia.

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Be alert to underlying malignancy in follow up of pneumonia ...

EDITOR—Hoare and Lim recommend a repeat chest radiograph at six weeks for patients with pneumonia.¹ However several studies have shown a high rate (5-13%) of underlying malignancy in heavy smokers who are older than 50 but do not have obvious pointers to a neoplasm.^{2,3} Consideration

of early bronchoscopy in this group may avoid the delay in diagnosis that is inherent in waiting for six weeks.

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... and to tuberculosis as differential diagnosis in community acquired pneumonia

EDITOR—One more disease should be added to the differential diagnosis of community acquired pneumonia¹: pulmonary tuberculosis. Active tuberculosis often presents clinical features on radiology that are indistinguishable from those of pneumonia.² Patients with active tuberculosis are not rare in community settings.

Many people worldwide have latent tuberculosis, with the potential of reactivation,³ and those who were born in an area where tuberculosis is endemic have increased incidences of active tuberculosis.⁴

Warnings have been issued about a resurgence of active tuberculosis among people infected with HIV.⁵

Patients with active tuberculosis should be managed promptly and treated appropriately. Tuberculosis should always be borne in mind when seeing patients with signs suggestive of community acquired pneumonia, and active diagnostic procedures such as sputum examination are encouraged whenever the disease cannot be ruled out.

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Let's avoid confusion of secondary and primary care issues in pneumonia

EDITOR—The editorial by Goossens and Little takes issue with several recommendations offered in our article on diagnosis and management of pneumonia.^{1,2}

Our article was commissioned as a BMJ Learning module for junior doctors managing patients admitted to hospital and, consequently, does not attempt to tackle the diagnosis and management of community acquired pneumonia in primary care. In particular, as regards microbiological diagnostic testing, we discussed only the tests recommended for patients admitted with pneumonia.

We uphold that the management of community acquired pneumonia in hospital and of lower respiratory tract infections in primary care are different. The primary care issues raised by Goossens and Little are important and deserve research attention. Equally, a number of areas relating to the diagnosis and management of pneumonia in admitted patients remain open for debate, including the optimal empirical antibiotic choice. More hospital based research in lower respiratory tract infections and community acquired pneumonia is also warranted.

This pair of articles highlights the need to avoid confusing primary and secondary care issues when discussing the subject. "Community acquired pneumonia" is not "community managed" pneumonia.

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How should we rate research?

Counting number of publications may be best research performance measure

EDITOR—The debate about how to replace the UK research assessment exercise is confused.¹ For example, the numbers of publications and citations are research output measures while research council funding and numbers of academic and research staff are input measures.

Non-transparency and lack of objectivity dog the research assessment exercise through the unmeasurable role of subjective opinion. The same criticism applies to research council decisions. Therefore, it would be a mistake for future funding systems to try to replicate the results of the current exercise: we can do better.

A system of research evaluation based on fundamental output metrics such as publications or citations, or both, is (like any simple measure) inevitably incomplete and imperfect, but it has the great advantage that these deficiencies are not concealed. A league table of English and Scottish university publications and citations accumulated in the ISI Web of Science for 2000-4 gives plausible and consistent results (table).

Rank order of publications and citations of English and Scottish universities accumulated in ISI Web of Science, 2000-4

Publications	Citations	University
1	1	Cambridge
2	2	Oxford
3	4	Imperial College, London
4	3	University College, London
5	6	Manchester
6	5	Edinburgh
7	7	Bristol
8	8	Birmingham
9	9	Glasgow
10	10	King's College, London
11	12	Leeds
12	11	Sheffield

Since the rank order of publications and citations is so similar, the measurement of each university's annual publications may be exactly the simple, sensitive, objective, and transparent research performance measure that is needed. It may also be superior to the complex, slow, subjective, and methodologically obscure evaluations of the research assessment exercise.

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1 Hobbs FDR, Stewart PM. How should we rate research? *BMJ* 2006;332:983-4. (29 April)

Cost of research should be disclosed publicly

EDITOR—Public disclosure of the cost of research published in biomedical journals may enhance assessment of research quality.¹

The prospective, universal registration of all studies at their inception has been proposed to reduce duplication of work, inequitable funding of research, and neglected diseases; avoid research on irrelevant issues or measurement of irrelevant outcomes; and improve ethical issues and transparency.^{2,3}

However, disclosure of the cost of research (numerical data) and what portion of that cost comes from public funding has never formally been published in biomedical journals. Financial support should be disclosed, including the costs of the work, provisions for the recovery of those costs, the numbers of research students, and the ownership of intellectual property.

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Pedigree: paternity and progeny

EDITOR—What is meant by quality in health research?^{1,2} For social scientists, the Economic and Social Research Council detailed multiple problems with American metrics.³ It introduced the concept of esteem: something dynamic and cumulative (not just sitting on public committees). Pondering what is admirable, I propose two assessments, both stemming from encountering the health scientist I most "esteemed": Peter Medawar.⁴ These same qualities were detectable in other Nobel laureates I met.⁵ There is a pedigree of ideas (seeking the origin in originality) and of influence (shaping the shapers).

What seminal ideas gave paternity to a widely growing family tree of research (such as Medawar's immunology)? This is not the same as the most cited papers, which may in reality be derivative and technical. It needs a mapping exercise (sometimes called data mining in disciplines such as patents) to identify seminal work. In many health disciplines these family trees are not hard to map (consider diagnostic magnetic resonance: that forest is roughly 30 years old with perhaps three original seeds).

All the laureates I pondered nurtured teams or networks, from which new research leaders emerged. Mathematicians, in relation to the Fields Medal (equivalent of the Nobel prize), predict that working with one paradigm shifter shapes other trail blazers. In the fledgling Institute of Psychiatry, Aubrey Lewis had extraordinary influence, promoting academic careers and charting challenges for mental health research.⁵ This influence lasted at least 60 years (at the Maudsley Hospital in the 1990s one could still trace Lewis's progeny) and spanned the British Commonwealth.

Lewis's fecundity can be measured by the amazing quantity and variety of research still produced by one small institute, but even more so by measuring the international collaborations that have nurtured research leaders far beyond the United Kingdom. Now that is a legacy of quality.

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Self harm in Goth youth subculture

Study merely reinforces popular stereotypes

EDITOR—While Goth subculture is the focus of Young et al's study, they cite only two references, only one academic.¹ The authors have not consulted other pertinent studies^{2,3} and have not framed the results with respect to existing knowledge. For example, while Young et al show a prevalence of young men (about 2:1) in the "Goth" category, Hodgkinson, whom they cite as reference 5, clearly states that the Goth subculture comprises equal numbers of male and female followers.

In addition, whereas Young et al find young women at risk of attempted suicide, the suicide rate for the 15-19 years age group in 2000 was 4:1 with respect to young men. Hence the results directly contradict what is logically expected.

Furthermore, members of the Goth subculture practise self harm almost exclusively by means of cutting, scratching, and scoring and not through more extreme methods such as punching or self poisoning. While the authors seek to link cutting, scratching, and scoring to depression, attempted suicide, and psychiatric illness, these techniques can be practised for a range of reasons. For example, in some subcultural contexts, they are used to induce fine scarring in decorative patterns on the body, much like tattooing or body piercing. Without an understanding of context, it is impossible to determine whether this is the case for the Goth subculture. However, the tendency for medical and mental health discourse systematically to misrecognise body modification as self mutilation or self harm has been noted elsewhere.⁴

Studies such as Young et al's with an epidemiological approach to assessing traits in subgroups habitually seem to support prevailing popular stereotypes. Perhaps this explains the ready acceptance and promulgation of the findings, while disregarding the lack of substantiation and generalisability, as well as the serious methodological flaws.

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- 1 Young R, Sweeting H, West P. Prevalence of deliberate self-harm and attempted suicide within contemporary Goth youth subculture: longitudinal cohort study. *BMJ* 2006;332:1058-61. (6 May)

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Conclusion relates only to small sample

EDITOR—Young et al claim to find a strong association between Goth subculture and deliberate self-harm before and after adjusting for confounders.¹ Importantly, they do not distinguish that the Goth subculture is not easily defined or categorised, spans several continents, and has evolved to include a wide range of musical and clothing styles. This contemporaneously includes Mallgoths in the United States, Gogans in Australia, Dark in Latin America, Cuervos in Spain, and Spooky Kids and Neogoths in the United Kingdom.^{2,3} Young et al should have made it clear in their discussion that any conclusion only relates to a small sample of gothic youth in the central Clydeside conurbation. One cannot assume that Goth youths' subcultural trends, icons, and ideals would be similar in other geosocial regions.

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Rectal quinine for malaria

Risk of hypoglycaemia may be higher by rectal route

EDITOR—The study by Barennes et al shows that quinine given by the rectal route has an acceptable safety profile and could be used in the early management of moderately severe malaria in children.¹ But hypoglycaemia is a common side effect of quinine therapy, especially in children. The risk of hypoglycaemia is theoretically higher in patients receiving rectal quinine as the drug concentrations may be higher in the portal circulation, stimulating pancreatic β cell insulin secretion directly.

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- 1 Barennes H, Balima-Koussoubé T, Nagot N, Charpentier JC, Pussard E. Safety and efficacy of rectal compared with intramuscular quinine for the early treatment of moderately severe malaria in children: randomised clinical trial. *BMJ* 2006;332:1055-9. (6 May).

Authors' reply

EDITOR—Hypoglycaemia resulting from quinine induced hyperinsulinaemia is indeed a side effect of quinine treatment. We assumed that the risk of hypoglycaemia is similar after rectal or intramuscular quinine

because rectal administration of doses of 16 or 20 mg/kg of body weight led to similar concentration profiles to those for 12 mg/kg intramuscularly.¹

During the study parents were asked to report any side effects occurring after quinine administration. None of the parents in either group reported any signs that could be related to hypoglycaemia, such as sudden intense sweating, dizziness, or confusion, after quinine administration. This confirms previous observations of the field studies and the hospital based studies with rectal quinine conducted in Congo, Niger, Burkina Faso, Madagascar, Senegal, and Mali (more than 3000 patients).

Symptomatic hypoglycaemia may be relatively rare in children with moderately severe malaria, as recently shown by Ladhani et al and Woodrow et al.^{2,3} The occurrence of hypoglycaemia during quinine treatment might be prevented by appropriate replenishment of glucose either orally in conscious children or sublingually in children unable to swallow, as recently shown in moderately hypoglycaemic children.⁴

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New term may be needed for data categorisation

EDITOR—Altman and Royston have done a great service in discouraging the categorisation of continuous data in health research.¹

A particularly bad case of this is the tendency of researchers (and indeed public statistical agencies) to use often broad age

categories for data that originally had a single year of age. In addition to the serious statistical disadvantages of this practice, there has come to be a habit of believing that certain age cut-off points matter. The evidence is clear that being older than 65 has little relevance in terms of disease or healthcare costs, and the patterns found are of continuous twice differentiable curves.

Perhaps we should encourage use of a new term such as "evidence destruction" in place of the more neutral "data categorisation."

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- 1 Altman DG, Royston P. The cost of dichotomising continuous variables. *BMJ* 2006;332:1080. (6 May).

Time for evidence based rewards?

EDITOR—Spence hints at a hugely ignored problem for all professions, but especially medicine.¹ Social psychology experiments from the 1970s and 1980s clearly show that common sense conclusions about motivation and reward are not always correct. For boring tasks, at least, financial reward decreased the perceived worth of the task.² Some, usually commercial, companies have begun to recognise this and the fact that people respond to different incentives in offering a negotiable package of rewards.

The public's perception of professionals is likely to be influenced by the rewards they are seen to receive. The public are likely to engage in a "reward calculus," whereby increased tangible rewards result in a decrease in intangible rewards such as respect or deference. Could this partly lie behind the increase in assaults on healthcare professionals?

As the lives of doctors, especially trainees, changed in the 20th century, benefits such as free or cheap housing and specially prepared food were removed. Provision of services was especially rewarding for doctors, partly because they were time poor and partly because they spent much of their time serving others. Rapid rises in pay have partly been driven by the need to compensate for these losses but with often undesirable knock-on effects. In addition, doctors' contentment and happiness seem not to have improved, despite earning substantial and guaranteed incomes.

Is it time for a radical, evidence based review of rewards for all health professionals? And should all consultants be required to "benchmark" their jobs with others at the same level of financial reward?

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- 1 Spence D. Money for nothing, and your kicks for free. *BMJ* 2006;332:1096. (6 May).
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