

performed at our hospital showed the mean waiting time from referral to surgery was 78 days and that two patients had major strokes between referral and surgery. Following these findings, we introduced changes that brought down the waiting time to a mean of 23 days by 'fast tracking' patients both for duplex scans and endarterectomy. No patients have since had a stroke between referral and surgery. Apart from being a personal tragedy for the patient, a stroke has considerable social and financial implications for society at large. A stroke occurring during the wait for investigation or surgery is an eminently preventable event that 'fast tracking' can prevent.

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**Correspondence to:** Mr MH Lewis, Department of Surgery, Royal Glamorgan Hospital, Llantrisant CF72 8XR, UK

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## Letter 2

M Stahnke

*Depart of Surgery, New Cross Hospital, Wolverhampton, UK*

The authors ought to be congratulated for their efforts in reducing the waiting times for patients awaiting carotid duplex scans. However, the paper also served as a useful reminder of what to expect when the logical sequence of history, examination and investigations is ignored. The pick up rate for carotid artery disease from indiscriminate duplex scan is low.<sup>1,2</sup> In this audit, 95.2% of all patients scanned did not benefit from the fast track service. This can hardly be regarded as cost-effective, especially when the resources available for vascular investigations are limited.

The number of carotid endarterectomies performed over the 3.5 years was small. The authors gave no indications as to whether there was any peri-operative strokes, or whether any of the patients who had successful endarterectomies had strokes in the follow up period. These will obviously have some bearing on the overall cost.

Stroke is a significant cause of death and disability in the UK. Efforts to reduce stroke should include not only early identification of patients with surgically correctable lesions, but also assessment of all patients at risk of stroke, with a view to treat treatable causes and in adjusting modifiable risk factors. Referring patients back and forth between general practitioners and hospital based specialists add more to the delay in treating at risk patients.

## References

1. Perkins JM, Collin J, Walton J, Hands LJ, Morris PJ. Carotid

duplex scanning: patterns of referral and outcome. *Eur J Vasc Endovasc Surg* 1995; **10**: 486–8.

2. Holdsworth RJ, Bryce JS, McCollum PT. Audit of the effect of introducing local guidelines for referral for carotid duplex scanning. *Scott Med J* 1999; **42**: 60–2.
3. Oxfordshire Community Stroke Project. Incidence of stroke in Oxfordshire. First year experience of a Community Stroke Project. *BMJ* 1983; **287**: 713–6.

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**Correspondence to:** Mr M Stahnke, Department of Surgery, New Cross Hospital, Wolverhampton WV10 0QP, UK

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## Response from the authors

S Kumar, IS Osman, CJ Woolard, AEP Cameron

*Department of Surgery, Ipswich Hospital NHS Trust, Ipswich, UK*

*Letter 1 (R Dawson, AA Warsi, KF Gomez, MH Lewis)*

I am glad to see that our experience has been mirrored in other parts of the country and entirely agree that a stroke during the wait for investigation or surgery is an eminently preventable event.

*Letter 2 (M Stahnke)*

I agree that fast track scanning reverses the logical sequence of history, examination and investigation. I agree that the pick-up rate is very low. However, it is the sheer volume of numbers which makes investigation in out-patients unnecessarily time consuming and adds delay. I fear that Mr Stahnke has missed the point of the paper which is precisely to identify high risk patients with minimum delay.

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**Correspondence to:** Mr AEP Cameron, Department of Surgery, Ipswich Hospital NHS Trust, Heath Road, Ipswich, Suffolk IP4 5PD, UK

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*Response to paper by J Kim et al on:*

## Clinical examination of varicose veins – a validation study

*Ann R Coll Surg Engl* 2000; **82**: 171–5

JF Thompson, WB Campbell

*Directorate of Surgery 1, Royal Devon & Exeter Hospital (Wonford), Exeter, UK*

The authors have reported the results of a study comparing clinical examination, tourniquet testing and hand-held Doppler with duplex scanning which was essentially a duplication of our previously published work;<sup>1</sup> the Leeds group studied half as many patients and came to similar conclusions. We were somewhat surprised that their literature search failed to identify our study – it would have been a useful complement to their discussion.

In contrast to the studies cited by Kim *et al.*, we provided an explicit description of the methods used in clinical and hand-held Doppler examination which are used in our busy practice. As a consequence, we have abandoned tourniquet and tap testing because of the high incidence of false positive results.

We have now modified our Doppler examination of the long saphenous vein, placing increased reliance on insonation of the long saphenous trunk in the lower thigh, in order to detect reflux which originates below the groin.

Finally, we consider duplex scanning to be essential in all cases of suspected short saphenous reflux because of the poor specificity of hand-held Doppler examination at this site. This is an important medicolegal aspect of varicose vein surgery which compromises the lion's share of claims against surgeons. Our Clinical Measurement Department provides us with a written report and the co-ordinates of the saphenopopliteal junction in relation to the midline and principal skin crease (*e.g.* 1 cm lateral, 3.5 cm above) which obviates the need for a second scan immediately pre-operatively.

## Reference

1. Campbell WS, Niblett PG, Ridler BMF, Peters AS, Thompson JF. Hand held Doppler as a screening test in primary varicose veins. *Br J Surg* 1997; **84**: 1541–3.

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**Correspondence to:** Mr JF Thompson, Consultant Surgeon, Directorate of Surgery 1, Royal Devon & Exeter Hospital (Wonford), Barrack Road, Exeter EX2 5DW, UK

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## Response from the authors

J Kim, S Richards, PJ Kent

*Department of Vascular and Endovascular Surgery, St James's University Hospital, Leeds, UK*

I would like to thank Messrs Thompson and Campbell for their interest in our paper.<sup>1</sup> I am aware of the study published by Campbell *et al.* having cited it in previous

work.<sup>2</sup> However, it never ceases to amaze me, the discrepancy that arises between what people write and what they think that they have written.

Far from being a duplication of their work, Campbell *et al.* did not perform clinical tests as part of their study.<sup>3</sup> The stated aim of their study was 'to evaluate different hand-held Doppler techniques in the out-patient clinic'. They assessed hand-held Doppler in an out-patient setting and used a tourniquet and 'tapping' in conjunction with hand-held Doppler. The result of their study demonstrated that 'there were no statistically significant differences between these tests in detecting or excluding reflux'. They have subsequently abandoned tourniquet testing in conjunction with hand-held Doppler because 'it adds little to other tests', not because of a high incidence of false positive results.

In my opinion their study was deficient because the duplex scan to which the hand-held Doppler assessment was compared, was carried out at another unspecified time.<sup>4</sup> The type(s) of hand-held Doppler used was not specified. There may also have been an element of interobserver error in the study. The positive and negative predictive values (from which one can estimate the accuracy of a test) were not calculated. A large part of their discussion had to do with the duration of reflux and its significance.

I am delighted that they have modified their Doppler examination of the LSV, assessing reflux in the lower thigh, although this decision cannot be supported by the results of their study. In fact, the sensitivity, specificity, positive and negative values of this examination are satisfactory.<sup>1,2</sup>

I agree entirely with their assertion that duplex scanning is essential in suspected cases of saphenopopliteal reflux, not because of the poor specificity of hand-held Doppler assessment (which in both their study and our study was an acceptable 90%) but because of its poor positive predictive value.<sup>1,2</sup>

In conclusion, Messrs Thompson and Campbell do not appear to be familiar with the aims, methods or results of our study. I would suggest that a perusal of reference 3 should clarify the situation for interested readers.

## References

1. Kim J, Richards S, Kent PJ. Clinical examination of varicose veins – a validation study. *Ann R Coll Surg Engl* 2000; **82**: 171–5.
2. Kent PJ, Weston MJ. Duplex scanning may be used selectively in patients with varicose veins. *Ann R Coll Surg Engl* 1998; **80**: 388–93.
3. Campbell WS, Niblett PG, Ridler BMF, Peters AS, Thompson