# Correspondence

## Temporary pacing lead insertion in Lanarkshire hospitals between 2005-2007

Dear Sirs,

The retrospective study recently reported by Yassin *et al*. (*Br J Cardiol* 2010;**17**:34-5) has some potential confounding factors not reported by the authors. In addition, there is a complete absence of data from their questionnaires, with any appropriate analysis.

The study looks at procedures performed between 2005 and 2007. During this timeframe the numbers of doctors in training were being reduced and doctors in more junior grades did not always possess the same procedural experience as would have been previously expected, related to the impact of foundation training. This is not an indictment of the individual, but more symptomatic of modern training programmes. The timing of thequestionnaire survey is crucial to this. Data collection for the pacing lead insertions was from 30th April 2005 to 30th April 2007.

One would assume the questionnaire survey followed this period – during the changeover to the new framework for training. The dates of the data collection from the survey, however, are not provided. Neither are any data on how many questionnaires were sent out or returned. The authors state that an independent sample t-test was carried out: this is used to compare the mean score of two groups for a given variable – a parametric test. They also state that the questionnaire was formulated to assess competency – this is non-parametric assessment. Furthermore, neither the questionnaire has been provided nor any raw data to support their conclusions. No appropriate statistical test has been performed to support their findings.

The reported data in the text is at odds with their figure with the text stating there was loss of capture in 24 patients with their figure totaling only 20. From the data they have provided and using Fisher's exact test, there is, in fact, no difference in the rates of loss of capture or wires requiring repositioning. Using Fisher's exact test, there is, however, a difference in the total rate of complications between the two groups – consultants and non-consultants, and this would be expected and is unsurprising.

In summary, the conclusion from the authors, whilst perhaps being correct in terms of the variety of experience, is completely wrong with regards to any difference in the loss of capture.

**Yours faithfully**
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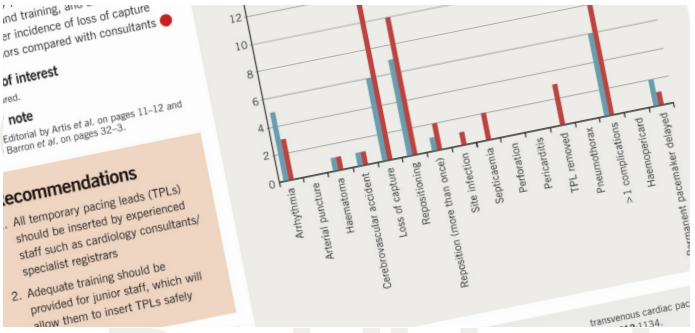


## The author replies

*The questionnaires were circulated in 2008 to 40 junior doctors all participating in the on-call rota for Acute Medicine in Lanarkshire. Trainees were asked three questions relating to experience in temporary pacing line (TPL) insertion, previous (if any) training in temporary pacing and whether they felt such training would be worthwhile. We received 38 completed questionnaires with the majority (33 of 38) having no prior involvement in a TPL procedure. None of the respondents had received any formal instruction and all agreed there is a need for training if TPL insertion is to remain the responsibility of on-call general physicians.*

*We did not perform any further statistical analysis of this data nor do we believe there is any need to do so.*

*Dr Cameron has recognised that this study spanned a period when junior doctor numbers were being reduced. In actual fact, since the implementation of the European Working Time Directive (EWTD) junior doctor exposure to emergency procedures has certainly not improved and, accordingly, we have no reason to suspect the high complication rates observed would be any less today.*

*He has also highlighted an error in figure 1 with regard to number of loss of capture episodes after junior doctor procedures. The total number of episodes is as stated in the text; 24 (18 junior doctor vs. 6 consultant) and this difference is statistically significant (p=0.034).*

*We believe our retrospective study has clear objectives and appropriate conclusions. There was a higher incidence of loss of capture when TPLs were inserted by non-consultant grades and there was unanimous agreement amongst junior doctors that training is lacking in this area. Predictable or otherwise, these findings remain extremely valuable when so many district hospitals in the United Kingdom continue to rely on junior and non-cardiology staff for emergency pacing procedures.*

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# Audit of AF management at a district general hospital

Dear Sirs,

The recently published audit by Lim *et al*. identifies the potential and significant areas of weakness in the management of atrial fibrillation (AF).[1] Certainly, AF is the commonest sustained cardiac arrhythmia encountered in clinical practice with a prevalence well exceeding 10% in the population aged over 80 years.[2] Of particular importance, AF is associated with significant morbidity and mortality and much of this is attributed to a five-fold increased risk of stroke.[3] By stratifying risk, patients with AF can be prescribed antithrombotic therapy appropriately and this has been shown to reduce the risk of stroke by up to 64%.[4] Lim *et al.* found only 51% of patients with longstanding AF to have been prescribed *appropriate* antithrombotic therapy in concordance with the National Institute for Health and Clinical Excellence (NICE) guidelines.[5] These findings are consistent with previous results such as those from the ATRIA study. A cross-sectional analysis performed by the ATRIA investigators estimated only 55% of patients to be prescribed appropriate anticoagulation.[6] Thus, it has long been recognised that the prescription of anticoagulation is underutilised in AF patients but emphasis needs to be placed on the mechanisms behind this. Lim *et al*. did not provide information into the characteristics of patients on 'inappropriate therapy', such as age, the presence of co-morbidities and use of concomitant medical therapy. It is well recognised that a major factor leading to the underutilisation of anticoagulation therapy is the risk of bleeding complications and physicians have a tendency to overestimate this risk.[7,8] As for the stroke risk stratification schemata, the risk of haemorrhagic complications are not uniform for all patients with AF and factors increasing the risk of bleeding include:

- Increasing age (particularly age > 75 years)
- Concomitant treatment with antiplatelets or non-steroidal anti-inflammatory drugs
- Concomitant treatment with other multiple drug therapies
- Poorly controlled hypertension
- Poorly controlled (previous or current) anticoagulation therapy (particularly INRs > 4.0)
- Past history of bleeding problems (peptic ulcer disease or cerebral haemorrhage).

By not including the presence (or absence) of relevant patient factors, Lim *et al*. are unable to determine whether their observations are a true reflection of inappropriate practice, or whether physicians have informally assessed the risk of treatment and adjusted practice accordingly.

The prescription of anticoagulation should always be based upon the careful balance of benefits and risks of therapy, but in well-selected patients with AF it is safe[9] and one of the most effective interventions at our disposal. It is well recognised that anticoagulation remains underutilised and careful attention is required to improve this pattern of behaviour. Perhaps introducing schemata aimed at assessing the risk of bleeding alongside those used to determine stroke risk may help to routinely formalise this decision making process, and thereby improve the use of appropriate antithrombotic therapy.

**Yours faithfully**
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## The authors' reply

*For each case audited, we recorded the presence or absence of each of the following potential contraindications to warfarin: haemorrhage, peptic ulcer disease, severe hypertension, drug interactions, dementia, falls, allergy, other. Potential contraindications to aspirin recorded were: haemorrhage, peptic ulcer disease, drug interactions, allergy, other. Any patient who was not on the appropriate thromboprophylactic agent (as determined by the NICE criteria) in the absence of one of these contraindications to that agent was deemed to be on 'inappropriate thromboprophylaxis'. Cases where a decision could potentially be justified either in favour of or against thromboprophylaxis were labelled 'difficult clinical decisions' and were not counted as 'inappropriate thromboprophylaxis'.*

*Clearly there may have been some instances where the GP had previously attempted anticoagulation that proved unsuccessful due to a reason not listed above and not apparent from the hospital notes. However, we felt that the majority of potential contraindications were covered by the above and hence that the results did, indeed, reflect inappropriate practice.*

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## References

1. Lim JCES, Suri A, Sornalingham S, Chua TP. *Br J Cardiol* 2010;**17**:89-92.
2. Fitzmaurice DA, Hobbs FDR, Jowett J *et al*. *BMJ* 2007;**335**:383-6.
3. Lip GY, Lim HS. *Lancet Neurol* 2007;**6**:981-93.
4. Hart RG, Pearce LA, Aguilar MI. *Ann Intern Med* 2007;**146**:857-67.
5. National Collaborating Centre for Chronic Conditions. *Atrial fibrillation: national clinical guideline for management in primary and secondary care.* London: Royal College of Physicians, 2006
6. Go AS, Hylek EM, Borowsky LH *et al. Ann Intern Med* 1999;**131**:927-34.
7. Bungard TJ, Ghali WA, Teo KK, McAlister FA, Tsuyuki RT. *Arch Intern Med* 2000;**160**:41-6.
8. Derevereaux PJ, Anderson DR, Gardner MJ *et al*. *BMJ* 2001;**323**:1-7.
9. Mant J, Hobbs FD, Fletcher K *et al*; BAFTA investigators; Midland Research Practices Network (MidReC). *Lancet* 2007;**11**;370:493-503.

# Routine cardioversion for patients with atrial fibrillation

Dear Sirs,

I have been interested in cardioversion for some time – it is often done very poorly in the UK.

I read the recent articles by Fitzmaurice and Sandler (*Br J Cardiol* 2010;**17**:55-6 and 88-6). We know that cardioversion success is much greater if patients are prepared for one to three months with amiodarone, (best drug by far for this short-term purpose), as well as warfarin. We know that patch-positioning should be antero-posterior (AP). We know that energies should be 200-300 J, and with a biphasic waveform. We know that it is quite safe for nurses to deliver both sedation and the shock, and we know that the electrophysiology of the atrial myocardium remains 'hot' for a period of weeks/months after restoration of sinus rhythm, during which patients should continue amiodarone as well as warfarin, following which there should be a cogent plan for maintenance of sinus rhythm. We also know which patients to cardiovert, with those having impaired left ventricular function, and/or left atrial enlargement, and/or other structural heart disease, being least likely to convert or to stay in sinus rhythm after conversion.

And yet....patients are not selected or prepared properly, the left nipple often receives the bulk of the delivered energy, (I hope this never happens to me), general anaesthetic is used creating much greater costs, great inertia and reluctance to cardiovert patients, and antiarrhythmic drugs are often stopped immediately after sinus rhythm is restored. In other circumstances 'internal cardioversion' is deployed after inadequate external cardioversion has failed, creating a small risk for patients, when external cardioversion might have been effective.

It is also important to remember that AFFIRM showed equivalence in mortality for rate and rhythm control. This was demonstrated in quite elderly patients, (mean 77 years), in established atrial fibrillation (AF), and was therefore a study of geriatric cardiology and largely 'end-stage' atria. The slightly increased mortality trend in rhythm control was easily explained because warfarin was stopped far too soon after sinus rhythm was restored. Unfortunately, as tends to happen with much publicised trials, the message has gone out that patients with AF should be abandoned to their fate. This fate includes a doubling of mortality risk at all ages, up to a 20-fold increase in healthcare costs, and approximately 40% reduction in quality of life across all SF-36 measures. I have seen patients in their 40s with paroxysmal AF who have been told that treatment for their AF will make no difference, citing AFFIRM.

We don't stent everyone with a coronary stenosis, we assess it alongside all the other data and arrive at the best treatment option by individualising care. Established AF can be cardioverted, if circumstances suggest that there is a good chance of long-term sinus rhythm, and if cardioversion is prescribed, then conditions should be optimised before, during and afterwards. External cardioversion in the NHS is too often costly and poor quality.

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## The author replies

*Many thanks for your comments, and I think we agree more than it seems. My argument is that cardioversion needs to be considered in light of the patient experience and evidence for its effectiveness rather than being a routine part of the patient journey. I have never argued that cardioversion should not be utilised, just that some thought should be given to its utilisation. We often have patients undergoing multiple attempts at DC version with no justification. You obviously think through your patient selection and preparation which is admirable and a practice which should be encouraged in more units.*

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