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## Contacting GP surgeries over Christmas

### I will be in my surgery on Christmas Day if ministers and researchers are at work too

EDITOR—A more plausible interpretation of the data presented by Rouse is that his researcher did not allow the telephone to ring for sufficient time to allow a member of the practice staff to answer it.<sup>1</sup> The table shows that the researcher made around 270 telephone calls to the 91 practices in the three days before Christmas. This equates to an average of one call every 4 minutes. In reality, the researcher must have allowed the telephone to ring for much less time than this.

With regard to his exhortation to the health secretary to make me and my colleagues keep our doors open over Christmas, I would like to make Rouse an offer: I am willing to spend Christmas Day sitting at my desk in surgery if he will sit at his desk in his academic office and Frank Dobson at his desk in Westminster. Otherwise, unless I happen to be on call, I shall be spending Christmas Day with my family enjoying a break from the burgeoning public expectations being fuelled by politicians and epidemiologists in promoting a 24 hour a day “convenience store” mentality towards general practice.

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<sup>1</sup> Rouse A. GP surgeries were hard to contact over Christmas. *BMJ* 1999;318:1422. (22 May.)

### Several points need to be clarified

EDITOR—Rouse raises some interesting points,<sup>1</sup> which merit consideration before his letter is dismissed.

Undoubtedly it would have been difficult to get through to surgeries immediately before Christmas. As anyone working in primary care knows, this is a time of peak demand. This demand was exacerbated by an increase in cases of influenza. However, Rouse did not clarify several important points about how contact was attempted. Many surgeries now use different telephone lines for specific services. In my practice we have separate telephone lines for inquiries, prescriptions, emergencies, and appointments, and these are actively publicised to our patients. Not being registered with any of the practices, Rouse's researcher may not have been aware of this.

The most contentious point is that patients attended accident and emergency departments because they could not get

through to their general practitioners. This needs to be supported by evidence, and I am sure Rouse could add to his curriculum vitae by researching the reasons for attendance. In my experience, many patients attend accident and emergency departments because they have made erroneous assumptions about how to use the service.

Finally, I am saddened that, yet again, the medical profession is indulging in a form of mud slinging. All of us in primary and secondary care and academia need to work together to educate ourselves and the public on the best way to use shrinking resources. Letters like Rouse's do little to foster cooperation and understanding.

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### Study seems more like investigative journalism than public health research

EDITOR—At face value, Rouse raises serious cause for concern about patients' ability to contact general practitioner surgeries by telephone, with six attempts required in some cases to obtain an answer.<sup>1</sup> However, several questions need to be answered before this can be seen as public health research rather than investigative journalism.

- What telephone line was being used? Many practices have separate numbers for emergencies and routine calls, which are clearly designated for patients' convenience. I hope that Rouse's pharmacological research was conducted through practices' routine rather than urgent lines
- How many failures were the result of engaged signals, or were these discounted in his statistics?
- How many times did the telephone ring before the researcher deemed that there was no answer? Some answering tapes and call diversions may not be triggered until the telephone has rung 8-10 times.
- Did an answerphone count as a contact?

As presented, Rouse's letter raises doubts in a scientific journal in a rather unscientific way and may start a debate fuelled by anecdote rather than evidence.

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### Study was ill-considered and sensationalist

EDITOR—I was disappointed to see published in the *BMJ* the ill-considered and sensationalist pseudoscientific comments of Rouse in his letter about possible causes of the winter pressures last year.<sup>1</sup> Although I am all for provocation for provocation's sake, the nature of this study is so vague in its definition of methods—“attempt to contact ... by phone” being the most striking—as to render the assumptions merely that.

Was a failure to get through because of no answer or because of an engaged tone? Might an engaged tone show merely that demand on primary care services was higher than usual rather than that there was understaffing? I find it hard to believe that the failure to get through was because of no answer during normal working days, as were the days and times studied.

My experience and that of colleagues was not of keeping our doors closed, as Rouse surmises. Indeed, had individual general practitioners not been working at full pelt, I think that we in this country would feel less able to afford the luxury of university based academic departments of public health, drawing conclusions far more inflammatory than those of this letter. I hope that not too many people were driven to

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*We are now posting all direct submissions to our website within 24 hours of receipt and our intention is to post all other electronic submissions there as well. All responses will be eligible for publication in the paper journal.*

*Responses should be under 400 words and relate to articles published in the preceding month. They should include ≤ 5 references, in the Vancouver style, including one to the *BMJ* article to which they relate. We welcome illustrations.*

*Please supply each author's current appointment and full address, and a phone or fax number or email address for the corresponding author. We ask authors to declare any competing interest. Please send a stamped addressed envelope if you would like to know whether your letter has been accepted or rejected.*

*Letters will be edited and may be shortened.*

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attend accident and emergency departments while the researcher blocked already busy telephone lines.

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#### Author's reply

**EDITOR**—My letter was not a study report. It simply described and interpreted a set of data that had been gathered for another purpose. I would therefore be surprised if at least some of the methodological criticisms identified by the respondents were not justified.

Last January a telephone researcher spoke to me. She informed me that getting through to general practitioners' surgeries by telephone before Christmas had been much harder than after Christmas. The findings of her telephone log book are summarised in the letter. They show that some surgeries were easy to access both before and after Christmas, others were hard to access before Christmas but easy to access after Christmas, and some were always hard to access. She would have obtained similar results had she telephoned university departments, Mr Dobson's offices, garages, curry houses, or even the *BMJ*. About 20% of practices were able to be reached at the first attempt both before and after Christmas. The practices of Drs Tanner, McShane, and Houghton and Young are probably typical of these.

Interestingly, 40% of practices could not be reached at the first attempt before Christmas but were easily reached after Christmas. These practices may not have been able to meet patient demand. One general practitioner told me that his practice was "operating at breaking point" during this time, so getting through to such a surgery by telephone might well have been difficult, as suggested by McShane. As a consequence, some patients may have not attended their general practitioner but an acute hospital.

Alternatively, some practices may have been reduced to operating at breaking point because they were picking up excess work associated with the almost complete closing down of some acute hospitals. This transferred workload could have been so excessive that the practice was unable to answer the telephone in a timely way. Even if more general practitioners than usual were on duty some practices could have been overwhelmed.

If the respondents think it important to dismiss my findings I offer them my support. I suggest that they perform a substantive study of the availability of general practitioners by telephone over the forthcoming Christmas-Millennium period. I would be happy to help in its design.

Lastly, I quote from a letter from Young to me. With respect to the large email response to my letter he says, "It is gratifying

that the *BMJ* has such a wide general practice readership." I agree.

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#### Summary of electronic responses

We received rapid responses from 30 general practitioners who were more or less infuriated.<sup>1</sup> The main points of criticism are well summarised in the letters above.

Two further points were made:

- "The NHS is cash limited and a rationed service. General practice is no different from the rest of the NHS in that resources are limited" (J Sharvill)
- "A similar survey of the hospitals and ambulance service phone systems would have revealed the same delays" (D Macready).

<sup>1</sup> Electronic responses. GP surgeries were hard to contact over Christmas. *eBMJ* 1999;318. ([www.bmj.com/cgi/content/full/318/7195/1422/b#responses](http://www.bmj.com/cgi/content/full/318/7195/1422/b#responses))

### Hyponatraemia after orthopaedic surgery

#### Failsafe system is needed

**EDITOR**—There are errors and omissions in Lane and Allen's editorial about hyponatraemia<sup>1</sup> and the subsequent responses in the *eBMJ*.<sup>2</sup> The assumption that orthopaedic patients are badly managed has been robustly criticised by those who are insulted about allegations of poor care in this specialty.

What is it about the patients that may put them at risk? Firstly, orthopaedic patients probably represent the largest group of elderly patients undergoing major and emergency surgery. Secondly, many take non-steroidal anti-inflammatory drugs. Thirdly, the use of spinal anaesthesia may result in too much intravenous fluid being given to counteract the effects of sympathetic block. The discussion about the role of the angiotensin-renin system, though interesting, is not relevant to the pathogenesis of hyponatraemia in these circumstances. An old patient who takes non-steroidal anti-inflammatory drugs and receives too much free water while the adrenal axis is affected by a spinal block will probably have problems with sodium balance. The tragedy is that it takes a clinical disaster and an editorial to spell this out.

The adverse outcome that prompted the editorial was an example of a failed system. There are always several steps in a critical incident that lead to adverse outcomes. The solution is to have a failsafe system. We believe that protocols in fluid management have a role, and unless the junior medical staff understand fluid management (and recent changes in training can only make this harder to obtain) the job could be done by specialist nurses acting under the authority of senior medical staff. The issue then is

which specialty these senior medical staff should be in: surgical, anaesthetic, or geriatric medicine?

Frail old women are nursed on busy surgical wards. They have their broken hips mended late in the evening and return to the wards when many of the nurses have gone home and the ones who remain are busy with high dependency nursing interventions on fitter patients having more radical surgery. Signs of hyponatraemia in such patients may be mistaken for postoperative confusion.

Notwithstanding its limitations and the expected criticism, we are pleased that the editorial has alerted the profession to the problem, even though we believe that the proposed solution is inappropriate. A system that fails to prevent progressive symptomatic hyponatraemia should not be further challenged by the use of hypertonic infusions but should be replaced.

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<sup>1</sup> Lane N, Allen K. Hyponatraemia after orthopaedic surgery. *BMJ* 1999;318:1363-4. (22 May)

<sup>2</sup> Electronic responses. Hyponatraemia after orthopaedic surgery. *eBMJ* 1999;318. ([www.bmj.com/cgi/content/full/318/7195/1363#responses](http://www.bmj.com/cgi/content/full/318/7195/1363#responses))

#### General journals must not alienate particular specialties

**EDITOR**—Lane and Allen report the case of an elderly friend who suffered brain damage after developing hyponatraemia; she had been given (inappropriately) 6 litres of hypotonic dextrose solution over 48 hours after total knee replacement surgery.<sup>1</sup> Solely from the evidence of this anecdote the authors leap to the conclusion that "too many orthopaedic surgeons seem unaware of the dangers of hyponatraemia."

Would it be too much to ask that the authors justify this conclusion with even one reference, or any evidence at all, other than the anecdotal history they describe? None of the references cited supports this conclusion. Only their last reference refers to a series of cases. Arief collected details of 16 surgical patients over 10 years<sup>2</sup>; just two had undergone orthopaedic surgery.

Given that the management of fluid and electrolyte homeostasis is core knowledge for every basic surgical trainee, surely it is not within the remit of the Royal College of Surgeons or the British Orthopaedic Association to publish guidelines on such a basic subject. It is surely impossible to pass the FRCS examination without thorough understanding of the principles of intravenous fluid replacement in surgical patients. Do the authors seriously suggest that some surgeons do not realise that giving 6 litres of 5% dextrose saline over 48 hours in a patient with frequent vomiting will lead to severe electrolyte imbalance?

I agree with the authors that iatrogenic hyponatraemia is inexcusable, and it is commendable that they should highlight the incompetent management in the case described. They should not, though, make assumptions about orthopaedic surgeons in general because of the failings of an individual.

If the *BMJ* is directed towards a general readership (as readers are often told), might I suggest that the editor ensures that it does not alienate a particular specialty. The editorial appeared on the first page of the issue, and on the last page (in *Minerva*) we read: "Humans—and some orthopaedic surgeons—are characterised by their ability to do more than one thing at once..."<sup>3</sup>

Such a joke might be acceptable in the give and take of day to day conversation, but seeing it in print is unacceptable. To me, at least, it appears gratuitously insulting.

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- 1 Lane N, Allen K. Hyponatraemia after orthopaedic surgery. *BMJ* 1999;318:1363-4. (22 May.)
- 2 Arief AL. Hyponatremia convulsions, respiratory arrest, and permanent brain damage after elective surgery in healthy women. *N Engl J Med* 1986;314:1529-35.
- 3 *Minerva*. *BMJ* 1999;318:1430. (22 May.)

### Rigorous audit and introduction of guidelines decreased hospital's figures

**EDITOR**—We sympathise with the unfortunate and possibly avoidable experience that Lane and Allen's elderly friend suffered.<sup>1</sup> In their editorial the authors warn against the dangers of isotonic dextrose and hypotonic solutions. We think it important to emphasise that dextrose saline is a putatively isotonic but in reality hypotonic solution, which can be harmful in elderly postoperative patients.

The audit by Tolias highlighting the potential problem in orthopaedic patients,<sup>2</sup> cited in the editorial, was carried out at our hospital. After the initial study the audit cycle has so far been completed twice (table). Initially junior orthopaedic staff were given guidelines at the start of their six month job to exercise caution in prescribing any fluids containing dextrose.

After the first audit cycle we found that the use of such fluids had fallen, as had the incidence of iatrogenically caused or exacerbated hyponatraemia. Moreover, the associated mortality in these hyponatraemic patients had fallen. Continued "routine" postoperative prescribing of dextrose saline in theatres before the patients returned to their ward was, however, identified as a factor still contributing to the problem. It was decided to stop using dextrose saline in our hospital altogether, in an attempt to

force clinicians (both anaesthetists and orthopaedic trainees) to justify the indication for prescribing any dextrose. Although this decision met with some resistance, when completing the second audit cycle we found that use of infusions containing dextrose had fallen further, as had the incidence of iatrogenic hyponatraemia and its associated mortality.

We noted that these hyponatraemic patients tended to be frail and elderly—on average in their early 80s. The high mortality was not just related to hyponatraemia but reflected a high prevalence of comorbidity such as heart failure, ischaemic heart disease, and chest infection.

The dangers of hyponatraemia have been well documented, but perhaps the message has not been so well disseminated. At our hospital rigorous audit and the introduction of guidelines for junior medical staff were followed by a reduction in the incidence of and associated mortality from this postoperative complication.

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- 1 Lane N, Allen K. Hyponatraemia after orthopaedic surgery. *BMJ* 1999;318:1364-5. (22 May.)
- 2 Tolias CM. Severe hyponatraemia in elderly patients: cause for concern. *Ann R Coll Surg Engl* 1995;77:346-8.

### Laboratory must play a part in patients' management

**EDITOR**—I have read the wounded response of the orthopaedic surgeons, the "I told you so" response of the anaesthetists, the lone voice of a chemical pathologist, and the responses of others<sup>1</sup> to Lane and Allen's reminder of the dangers of postoperative hyponatraemia.<sup>2</sup> It is not surprising that nobody mentioned the role of the hospital laboratory, and only one respondent remembered his clinical pathology teacher.

In my practice as a consultant chemical pathologist any patient with a serum sodium concentration below 125 mmol/l gets a visit from me or one of my resident doctors; at worst, a direct telephone call is made to one of the doctors managing the patient. During the visit or telephone call, possible causes, further investigations, and further management are often discussed. Although the responses of the clinicians vary from outright resentment to cynicism and occasional gratitude (usually from very junior doctors), the advice given is rarely ignored.

Lane and Allen did not elaborate on the role (if any) of the hospital laboratory, but

problems of postoperative fluid balance and hyponatraemia are quite common; a multidisciplinary approach to teaching (of medical students and junior doctors) and management of patients is best. Those "experts" who ignore this approach are the ones mainly responsible for fatal iatrogenic hyponatraemia.

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- 1 Electronic responses. Hyponatraemia after orthopaedic surgery. *BMJ* 1999;318. ([www.bmj.com/cgi/content/full/318/7195/1363#responses](http://www.bmj.com/cgi/content/full/318/7195/1363#responses))
- 2 Lane N, Allen K. Hyponatraemia after orthopaedic surgery. *BMJ* 1999;318:1363-4. (22 May.)

### Hypotonic solutions should be used infrequently

**EDITOR**—Lane and Allen bemoan the scatter of articles on postoperative hyponatraemia and say that it contributes to continuing ignorance about the frequency and seriousness of postoperative hyponatraemia.<sup>1</sup> Colleagues and I published a prospective study of severe hyponatraemia in hospital inpatients 21 years ago.<sup>2</sup> Ten of 44 cases of plasma sodium concentration below 125 mmol/l were due to postoperative administration of intravenous 5% dextrose, with five of these patients also taking diuretics.<sup>3</sup>

Rather than opt for publications for each surgical and anaesthetic specialty, we need to address the two misconceptions that, in my view, drive the seemingly unending epidemic of postoperative hyponatraemia. The first misconception is the long established and overstated fear of inducing fluid overload by using physiological saline. I believe that fluid overload is unlikely to occur when saline is given with care in patients well enough to undergo surgery.

The second misconception is the invocation of the syndrome of inappropriate secretion of antidiuretic hormone; this diagnosis should only be made in euvoelaemic patients. Not only are patients likely to have a volume deficit postoperatively but they also may have high levels of antidiuretic hormone as a consequence of nausea, stress, and drugs. It is unhelpful conceptually, as well as almost always inaccurate, to make this diagnosis. In these circumstances the fault lies not in our patient's hypothalamus or posterior pituitary but in ourselves.

I agree with Ayus and Arief that hypotonic solutions should be used infrequently and reserved for suspected free water deficits (and perhaps carry a government health warning).<sup>3</sup>

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- 2 Kennedy PGE, Mitchell DM, Hoffbrand BI. Severe hyponatraemia in hospital inpatients. *BMJ* 1978;ii:1251-3.
- 3 Ayus JC, Arief AL. Brain damage and postoperative hyponatremia: the role of gender. *Neurology* 1996; 46:323-8.

Summary table of audit data on orthopaedic patients who developed hyponatraemia\*

	1991-2	1995-6	1996-7
No of orthopaedic patients admitted/year	2785	2966	3335
No (%) of patients with hyponatraemia	30 (1.1)	23 (0.77)	10 (0.3)
Patients with hyponatraemia given mainly dextrose or dextrose saline (%)	87	67	60
Mortality of patients with hyponatraemia (%)	33	27	20

\*Sodium concentration <125 mmol/l.

**Authors' reply**

EDITOR—We are pleased that our editorial has stimulated debate about this important issue. We did not set out to wound orthopaedic surgeons or cause gratuitous offence; but for space limitations, we might easily have addressed other specialties. Nevertheless, as Severn and Dodds point out, orthopaedic patients are the largest group of frail elderly people undergoing surgery and as such are at high risk of hyponatraemia. Regardless of the exact mechanisms, water retention is probable and insensitive perioperative fluid management may have serious consequences.

Most orthopaedic patients do not become hyponatraemic after surgery. Perhaps the low incidence of hyponatraemia persuades Harrington and others to question whether there is a problem. The audit figures reported by Marino et al are revealing. In the first cycle about 1% of their patients developed postoperative hyponatraemia, after infusions of dextrose saline in a majority of cases. A third of these patients died. In other words, the condition is relatively uncommon, but when it does occur the consequences are often catastrophic. The estimate we cited of 10 000-15 000 cases a year is based on very similar figures: a 1-2% risk of postoperative hyponatraemia, with a fifth of symptomatic patients dying or developing permanent brain damage.<sup>1</sup> The large number of people at risk reflects the high throughput of orthopaedic patients.

We agree with Severn and Dodds that fundamentally the system is at fault. Specialist nurses may well be in the best position to supervise perioperative infusions. At present, perioperative fluid management is barely mentioned in medical schools' curriculums. House staff learn on the job, usually without the benefit of formal protocols, before moving on. No specialty claims overall responsibility. We would support an overhaul of this failing system, but we maintain that junior staff would benefit from formal, multi-disciplinary training or at least simple guidelines. Mojiminiyi is right to remind us that false pride can prove fatal.

The audits of Marino et al show the utility of guidelines. The figures cited in their second and third audit cycles show substantial reductions in the number of patients developing hyponatraemia and in the associated mortality. The reluctance of clinicians in their hospital to give up infusing dextrose saline is symptomatic of entrenched practices and shows how much needs to be done to change attitudes. Increased awareness and vigilance are a useful start.

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1 Fraser CL, Arief AI. Epidemiology, pathophysiology and management of hyponatremic encephalopathy. *Am J Med* 1997;102:67-77.

**Summary of electronic responses**

The editorial by Lane and Allen<sup>1</sup> evoked an emotional response.<sup>2</sup> Of the 24 electronic responses received, nine authors were upset by the attack on orthopaedic surgeons. Six of these were orthopaedic surgeons, but the feeling was shared by other specialists.

1 Lane N, Allen K. Hyponatraemia after orthopaedic surgery. *BMJ* 1999;318:1363-4. (22 May.)

2 Electronic responses. Hyponatraemia after orthopaedic surgery. *eBMJ* 1999;318. ([www.bmj.com/cgi/content/full/318/7195/1363#responses](http://www.bmj.com/cgi/content/full/318/7195/1363#responses)) [Accessed 30 July 1999]

**Intensive care is not expensive compared with other treatments**

EDITOR—The article by Bennett and Bion in the ABC of Intensive Care contains one statement that should not go unchallenged—that “intensive care is expensive.”<sup>1</sup> This is true only at the most simple level unless comparisons are made with other treatments.

The internal evidence of Bennett and Bion's review is that an absolute risk reduction of 50% is possible, at least in polio, when comparing intensive care with isolated “iron lung” treatment. Such an absolute risk reduction means that only two patients had to be treated to get a survivor who would otherwise have died.

No randomised controlled trials have been done to show the advantage of intensive care versus non-intensive care treatment in the United Kingdom for severe illness.<sup>2</sup> There seems to be a consensus that it does work and that such trials would be unethical.

If we guess that modern intensive care can produce only a 20% absolute risk reduction, use the higher figure of £1800 a day in intensive care, and take an average stay of five days rather than the median of two given in the article then the cost per extra survivor is £45 000.

A trial of the prevention of coronary heart disease with pravastatin in men with hypercholesterolaemia showed that 200 men would have to take the drug for five years for one additional life to be saved.<sup>3</sup> Taking the price of a typical statin at its lowest dose as advertised in the *BMJ*, this would cost £226 560 per additional survivor. Proof of effect of controlling hypertension on mortality is also rare. One five year trial showed a number needed to treat for five years of 774<sup>4</sup>; if enalapril is chosen as the treatment the cost per life saved is £36 300, not very different from that for intensive care.

Thus intensive care compares well with other treatments in the United Kingdom.

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1 Bennett D, Bion J. ABC of Intensive Care: Organisation of intensive care. *BMJ* 1999;318:1468-70. (29 May.)

2 Bennett D, Treasure T. Reducing the risk of major elective surgery. *BMJ* 1999;318:1087-8. (24 April.)

3 Shepherd J, Cobbe SM, Ford I, Isles CG, Lorimer AR, MacFarlane PW, et al. Prevention of coronary heart disease

with pravastatin in men with hypercholesterolemia. *N Engl J Med* 1995;333:1301-7.

4 Hypertension Detection and Follow up Program Co-operative Group. Reduction in mortality of persons with high blood pressure. *JAMA* 1977;242:2562-77.

**Orbital trauma****Antibiotic prophylaxis needs to be given only in certain circumstances**

EDITOR—In their lesson of the week Shuttleworth et al suggest that all patients with fractures involving the orbit should receive prophylactic antibiotics.<sup>1</sup> These fractures are largely managed in maxillofacial surgery units, and the prescription of prophylactic antibiotics for all such cases is not routine.<sup>2</sup> At least 500 patients with periorbital fractures are seen in our units in a year. Many more patients with undisplaced fractures of the periorbital region do not present to any medical practitioner, the fractures being self diagnosed as a bad black eye. In the past 25 years we have seen only two cases of orbital cellulitis following nose blowing after orbital fracture. This would give a maximum incidence of 1:6250. The true incidence will be lower.

Our practice is to give prophylactic antibiotics in only four circumstances: for fractures only compound to skin; when surgical emphysema is present; when open reduction and internal fixation is performed; and in orbital grafting. Patients having conservative treatment or closed or indirect reductions of periorbital fractures are not prescribed antibiotics. The overuse of antibiotics has implications for adverse effects in individual patients and increasing antimicrobial resistance within the community.

Orbital cellulitis is serious but rare. The possible gains to the individual of antibiotic prophylaxis must be balanced against the potential losses, both to the individual and to the community. We believe that it is difficult to justify the routine prescription of prophylactic antibiotics but would agree that patients with diagnosed or suspected periorbital fractures should be advised about nose blowing and seeking help if signs of infection develop.

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1 Shuttleworth GN, David DB, Potts MJ, Bell CN, Guest PG. Orbital trauma: do not blow your nose. *BMJ* 1999;318:1054-5. (17 April.)

2 Williams JL. *Rowe and Williams' maxillofacial injuries*. 2nd ed. London: Churchill Livingstone, 1994.

**Authors' reply**

EDITOR—We hoped to raise the awareness of medical staff dealing with orbital trauma of the potential sequelae of injuries such as the one we reported.

The incidence of orbital cellulitis after orbital trauma is unknown, and the figures provided by Newlands et al are interesting.

In our experience, however, the incidence of orbital cellulitis after orbital trauma is considerably higher than the maximum incidence quoted (we have seen at least four cases in the past five years). In a retrospective review over 14 years Silver et al reported that a tenth (3/30) of all severe post-septal orbital infections occurred after orbital fractures from blunt trauma.<sup>1</sup> These variations in incidence and clinical experience may in part relate to the prevalence of coexisting sinus disease in different communities as sinus disease will predispose to orbital infection in the presence of a fracture.

The absence of randomised control data means that it is difficult to balance the risks (both to the individual and to the community) associated with prophylactic antibiotic treatment against the risks and sequelae of infection. However, orbital trauma is uncommon, and the effects of orbital infection may be disastrous.

The use of prophylactic antibiotics after trauma to the orbit is controversial,<sup>2,3</sup> but the potentially devastating nature of orbital infections has led several authors to suggest that they may be appropriate.<sup>4,5</sup> In our experience orbital fractures usually result in a pathological communication between the paranasal sinuses and the orbit and should be regarded as compound fractures.

We conclude that the potential benefits of prophylactic treatment justify the risks and recommend that anyone sustaining orbital trauma with suspected fracture of the orbit and sinuses should receive prophylactic antibiotics.

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1 Silver HS, Fucci MJ, Flanagan JC. Severe orbital infection as a complication of orbital fracture. *Arch Otolaryngol Head Neck Surg* 1992;118:845-8.

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## Twins and the fetal origins hypothesis

### Many variables differ between twins and singleton infants

EDITOR—Williams and Poulton report that their 22 adolescent twins had lower blood pressure than singletons.<sup>1</sup> They interpret their data as being contrary to the fetal origins hypothesis because they presume that twins, being small at birth, would tend to have higher rather than lower blood pressure in later life. As twins have different

patterns of fetal growth from singletons, however, they were specifically excluded from the fetal origins hypothesis.<sup>2</sup>

There are several reasons why the low birth weight of twins may not have the same significance as intrauterine growth retardation in singleton births. Ultrasound evidence suggests that twins down regulate their growth rate early in gestation, possibly during the first trimester.<sup>3</sup> Studies in fetal lambs suggest that early down regulation of fetal growth protects against growth retardation induced by undernutrition in later gestation.<sup>4</sup> Finally, the metabolic and endocrine changes associated with growth retardation in singleton infants, including hypoinsulinaemia, are not observed in twins.<sup>5</sup>

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1 Williams S, Poulton R. Twins and maternal smoking: ordeals for the fetal origins hypothesis? A cohort study. *BMJ* 1999;318:897-900. (3 April)

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### Patterns of growth retardation differ in twins and singletons

EDITOR—Williams and Poulton<sup>1</sup> and an accompanying editorial by Susser and Levin<sup>2</sup> challenged the fetal origins hypothesis with some vigour. Both articles emphasise the finding that twins had lower blood pressure than singletons. They argue that this provides crucial evidence against the fetal origins hypothesis as it would predict the opposite effect given that twins have slower growth rates in utero than singletons and are lighter at birth.

Although we applaud the intention to test the hypothesis rigorously, the line of argument is unconvincing. Firstly, the conclusion rests on 22 twins only. Moreover, these may not be representative of all twins in the population. Indeed, examination of the distribution of birth weight in these twins indicates that there may be missing individuals at very low birth weight (<1500 g). Secondly, the data as a whole (singletons and twins combined) show a negative association between birth weight and blood pressure at age 9 years and thus support the fetal origins hypothesis. This is given far less prominence than the twin finding. Thirdly, and most importantly, the notion that growth impairment in twins is similar to other forms of fetal growth impairment is questionable. Divergence in fetal growth rates between twins and singletons occurs very early in gestation.<sup>3,4</sup> Reduced size at birth in the population as a whole results primarily from growth faltering in late gestation, as the rapidly increasing nutritional demands of the fetus exceed

supply. If it is this later type of growth impairment that is associated with programming blood pressure and cardiovascular disease, then the early reduction of growth rate in twins may not be associated with increases in blood pressure.

Given the weight of evidence in support of a negative association between birth weight and blood pressure,<sup>5</sup> twins may be interesting exceptions to the rule. As such, studying why they are different from singletons may help to reveal the mechanisms underlying fetal programming of later blood pressure.

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### Fetal insult may cause vascular changes and growth retardation

EDITOR—Williams and Poulton's study of twins shows that low birthweight babies are not necessarily predestined to develop hypertension.<sup>1</sup> This contrasts with other studies reporting just such a reciprocal relation, and it has been postulated that fetal adaptation to malnourishment may include vascular changes that predispose to hypertension in adult life.<sup>2-4</sup>

These apparently conflicting results can be reconciled by a different hypothesis in which cause and effect are simply reversed. It may be that a fetal insult, such as maternal smoking, primarily causes changes to fetal vasculature and thus secondary growth retardation.

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1 Williams S, Poulton R. Twins and maternal smoking: ordeals for the fetal origins hypothesis? A cohort study. *BMJ* 1999;318:897-900. (3 April)

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### Authors' reply

EDITOR—Barker has presented a framework for the fetal origins hypothesis which links coronary heart disease to undernutrition in the second and third trimesters of pregnancy.<sup>1</sup> Despite the assertion of Phillips and Osmond, it is not clear that twins are exempt, as "A group of twins might have low or high rates of coronary heart disease depending on whether they had been predominantly proportionately or disproportionately small babies."<sup>1</sup> This heterogeneity may explain the

results of studies which show the rate of heart disease in twins to be similar to that of other adults.<sup>2</sup> In contrast, Barker writes that "Persisting raised blood pressure seems to be associated with interference with growth at any stage of gestation."<sup>1</sup> Phillips and Osmond and Doyle et al cite studies which show that twins' growth may be retarded in early pregnancy. However, in Barker's framework down regulation of growth in the first trimester is specifically linked to later raised blood pressure.

Our study, using a birth cohort born in 1972-3, included 22 of 26 twins and showed that their blood pressure was more than 4 mm Hg lower than that of the remainder of the sample at both ages 9 and 18. As the mean birth weight of the excluded twins was 2.97 (range 2.31 to 4.13) kg compared with 2.53 (1.45 to 3.24) kg for those included, our study did not omit twins of very low birth weight as suggested by Doyle et al. If the consequences of particular forms of growth delay were hidden because of heterogeneity it might be argued that the blood pressure measurements for twins should be more variable. That was not the case. If an operational definition of the forms of disproportion likely to apply to twins were available this could be explored in more detail.<sup>3</sup> Meanwhile, we believe that our results challenge the fetal origins hypothesis.

However, there is no doubt that experiences in fetal life are important, as shown by the effects of maternal smoking. Several explanations for this relation exist, including that proposed by Ross. Although birth weight was inversely related to blood pressure in our study, the effect was weaker than that reported elsewhere.<sup>4</sup> This was because the effect was modified by taking into account the positive indirect effect operating through current height and body mass index. Studies which control for current height and body weight, without recognising their role in the causal pathway, will continue to find exaggerated estimates of the relation between birth weight and blood pressure.

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## Hand washing

### Why I don't wash my hands between each patient contact

**EDITOR**—The editorial on hand washing calls for all hospital staff to start regularly washing their hands between each patient contact.<sup>1</sup> If, as the authors claim, there is

such compelling evidence for the need to wash hands between each patient contact then why do I and the vast majority of my colleagues not do it?

Firstly, I have never seen any convincing evidence that hand washing between each patient contact reduces infection rates. The Handwashing Liaison Group assumes that we all know that hand washing is beneficial and therefore fails to put forward any evidence for it. It seems self evident that hand washing should be beneficial before and after a person has performed any procedures, examined wounds, or dealt with specifically high risk patients, but I have never seen any evidence for it in other situations. I shake hands with patients when I see them in hospital. Should I not do this, or should I wash my hands before and after each contact? Should patients be discouraged from social contacts with each other? Where is the evidence?

Secondly, I have maybe 60 "touch" contacts with patients each day, and many more with relatives. Washing hands between each contact (at 1-2 minutes per wash) would take on average 1-2 hours. Where will this time come from, and who will fund it?

If hand washing is to be performed between every patient contact then it would have major resource implications. For this it needs to be shown to be effective and worth the 15% extra staffing that would be needed to cover the extra time.

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### Healthcare workers washed their hands on only a third of occasions

**EDITOR**—We agree with the Handwashing Liaison Group that an explicit standard for hand washing needs to be set and that hand washing should be regarded as part of the normal duty of care.<sup>1</sup> The group states that "it has even been suggested that patients should be encouraged to ask carers to wash their hands." We carried out a handwashing study on a busy general surgical ward in which patients were specifically requested to do this.

After studying an information sheet and giving written consent each patient was given a yellow card; they were asked to show this to healthcare workers if they had not seen them wash their hands before approaching them. The card read: "Please wash or disinfect your hands before and after contact with me or my environment." The ward was visited regularly and the frequency of hand washing and disinfection observed. Over six weeks the infection control team spent roughly 16 hours on the ward. Altogether 160 staff-patient interactions were observed, giving 320 opportunities for hand washing before and after the interaction. The overall frequency of hand washing by all healthcare workers was 37% (118 occasions).

Patients were reluctant to show the cards to healthcare workers, and we had to pin them above the bed head to remind staff about the need for hand washing and disinfection. Some patients were quite "macho" when discussing using the card among themselves but nevertheless did not show it to the relevant members of the healthcare team. During the observation period the infection control team did not observe the yellow card being shown on a single occasion, although many occasions when it would have been appropriate occurred. Staff on the ward reported that they had not been shown the card.

By contrast, a study by McGuckin in hospitals in New Jersey found that 57% of patients on medical and surgical wards had asked their healthcare workers "Did you wash your hands?" at least once during their inpatient stay, and 68% of these said that they felt comfortable doing so. These patients had been told that "your healthcare workers will expect you to ask them about handwashing" and had been given supportive literature on the importance of hand washing.<sup>2</sup>

Further work is needed to find out the best way to empower patients in the United Kingdom to ask the question "Have you washed your hands?" Meanwhile we will have to rely on self motivated staff to improve compliance with hand washing.

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1 Handwashing Liaison Group. Hand washing. *BMJ* 1999;318:686. (13 March.)

2 Boodman SG. Medicine's dirty little secret. *Washington Post* 1997 Sept 30.

### Handwashing facilities are inadequate

**EDITOR**—The editorial by the Handwashing Liaison Group does not fully address staff's reasons for not washing hands.<sup>1</sup> In a study of nursing staff, lack of proper handwashing facilities and possible damage to the skin caused by hand cleansing were mentioned as reasons for not washing the hands.<sup>2</sup>

Colleagues and I studied the adequacy of handwashing facilities at 264 sinks on 19 elderly care wards in seven hospitals in the United Kingdom and found many deficiencies.<sup>3</sup> Twenty nine sinks were simply inaccessible, often being blocked by ward equipment such as hoists or trolleys, or were placed badly (for example, behind beds, curtains, or doors). Cleansing agents were absent from 32 ward sinks. Antiseptic agents such as chlorhexidine were absent from 246 ward sinks. Fifteen of 19 sinks in treatment room also did not have an antiseptic agent. Only six sinks had hand cream.

I recommend the implementation of a standard checklist for hospital handwashing facilities.

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### Alcohol hand rubs are better than soap and water

EDITOR—The editorial on hand washing by the Handwashing Liaison Group advocates a culture change in hand decontamination, with management and consultants showing a greater commitment and setting an example to trainees.<sup>1</sup>

Alcohol hand rubs are a rapid, effective alternative to soap and water washes.<sup>2,3</sup> We use alcohol gel dispensers on acute surgical wards and prefer them. One press dispenses enough gel to cover the hands. It's quick and easy, doesn't dry skin, and is not as messy as soap and water.

The key is to have alcohol gel dispensers readily available: on three Nightingale acute surgical wards we have installed 25 dispensers for 72 patients. Every bed therefore has one within easy reach. If these were more commonly available they would be used and repeated exhortations to wash hands with soap and water would be unnecessary.<sup>1</sup>

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### Hand washing is more common among healthcare workers than the public

EDITOR—The Handwashing Liaison Group has written about the need for healthcare staff to wash their hands.<sup>1</sup> To increase rates of hand washing in a healthcare setting is a challenge to everyone concerned with implementing infection control procedures. Poor hand hygiene in hospitals and lack of understanding of its importance in preventing infection and the spread of antibiotic resistance may reflect poor practice and attitudes in the community.

Frustrated by our attempts to improve compliance with hand washing and to make staff appreciate its importance, we performed an observational study of the handwashing behaviour of 200 healthcare staff in a personal setting. Members of the infection control team unobtrusively observed 100 female and 100 male healthcare workers (predominantly nurses, doctors, caterers, and nursing and medical students) using the toilets in the medical education centre; they counted the number who washed their hands after using the toilets. To compare their handwashing rates with those of members of the public, the same study was performed in public toilets in a railway station. We found

that 59 of the male healthcare workers and 83 of the female healthcare workers washed their hands after using the toilet, compared with 34 of 100 male members of the public and 56 of 100 female members of the public.

The apparent difference in handwashing rates between men and women may account for the differences in handwashing behaviour that some observers have reported for nurses and doctors, among whom one or other sex predominates.<sup>2</sup> If these results are representative of our community as a whole then improving handwashing rates on the wards will continue to challenge us.

Everyone needs to appreciate the importance of washing their hands. In addition to the recommendations made by the Hand Washing Liaison Group, we recommend that basic hygiene should be taught in schools as part of the curriculum; public health information campaigns in the media should direct the public's attention to the potentially lifesaving practice of washing one's hands.

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- 2 Dorsey ST, Cydulka RK, Eberman CL. Is hand washing teachable? Failure to improve hand washing behaviour in an urban emergency department. *Acad Emerg Med* 1996;3:360-5.

### Dermatitis associated with frequent hand washing should have been mentioned

EDITOR—I do not disagree with anything in the editorial about hand washing, but it should have acknowledged the problem of dermatitis associated with frequent hand washing.<sup>1,2</sup> This condition causes considerable discomfort to a large proportion of healthcare workers, most of whom suffer in silence. A definition of what constitutes a patient contact requiring hand washing would have been helpful. I regularly have contact with over 50 patients in a day and dread to think how red, dry, and cracked my hands would be if I washed after every contact. In a recent survey of intensive care staff the prevalence of occupational hand dermatitis was 55.6%, rising to 69.7% in those washing more than 35 times per shift.<sup>3</sup>

No mention was made in the editorial of the appropriate solutions with which to wash. Certain solutions are kind to hands, while others are notorious for producing dermatitis.<sup>2</sup> The newly introduced handwashing solution in wards in my hospital is harsh to hands, and anecdotal reports suggest that nurses may be avoiding washing their hands because of this. The free provision of hand moisturisers could be of value in preventing dermatitis.

The role of gloves in preventing cross infection was surely worth a mention. For those staff not allergic to glove components this may be more acceptable than frequent hand washing.

Many patient contacts are not essential (for example, a handshake, routine daily

inspection of wounds). Advice on the avoidance of non-essential patient contacts would have been useful.

This was a missed opportunity to give practical advice that might increase compliance with hand washing. Each member of the Handwashing Liaison Group should state how many patient contacts requiring hand washing he or she has each day.

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### Stethoscopes and white coats are sources of nosocomial infection

EDITOR—The Handwashing Liaison Group recommends that hands should be decontaminated before patient contact.<sup>1</sup> Two other sources of infection are often overlooked.

The white coat has long been a symbol of the medical professional, and about half of patients still prefer their doctor to wear one.<sup>2</sup> This might not be the case if they realised that white coats harbour potential pathogens and are thereby a source of cross infection, especially in surgical areas.<sup>3</sup> White coats are often left during rest periods in places that are not clean; in addition, some doctors use their white coats as overcoats, which increases potential risks. Even though it has been recommended that white coats are removed and a plastic apron put on before examining wounds,<sup>3</sup> this rarely happens, particularly during surgical ward rounds. Many trusts now insist that junior doctors in particular wear a white coat as part of a mandatory dress code; this ruling needs to be reviewed.

Another source of potential pathogens is the diaphragm piece of the stethoscope. Auscultation of the abdomen is an essential part of examining surgical patients, and on a typical ward round regular use is made of the house surgeon's stethoscope. In a recent study 11 genera and species of bacteria were isolated from the stethoscope diaphragm, the main pathogens being coagulase negative staphylococcus and *Staphylococcus aureus*.<sup>4</sup> The risk of cross infection could be greatly reduced by simply cleaning the diaphragm with an alcoholic wipe between examining patients.

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**Muslim teaching gives rules for when hands must be washed**

EDITOR—As a practising Muslim doctor I was interested in the editorial on hand washing.<sup>1</sup> I thought it would be useful for doctors to know our Islamic teachings in connection with hand washing, and especially to remind the many thousands of Muslim doctors who work in our clinics and hospitals today.

The last Prophet Muhammad ordered us to wash our hands many times and in connection with these occasions:

- on waking from sleep;
- when coming out of the toilet;
- before and after eating any food;
- after touching our genital or anal area or that of others (as in a doctor's examination);
- after touching a dead body;
- after touching any dirty or suspicious thing;
- when a dog is touched, to wash our hands seven times (one of them in the sand);
- in ablution before the five daily prayers, when the hands are washed three times on every occasion (plus washing the face, throat, nose, ears, arms, and feet and rubbing the hairs with water).

These frequent hand washings are done by every practising Muslim, whatever his or her job. They are more than enough for the hygiene and protection of every one of us, especially doctors.

I appeal to Muslim doctors to adhere to Islamic teachings, at least to prevent infections from patients, especially after examination.

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<sup>1</sup> Handwashing Liaison Group. Hand washing. *BMJ* 1999;318:686. (13 March.)

**“Black boxing:” response by editor of *Hospital Doctor***

EDITOR—I found the *BMJ*'s condemnation<sup>1 2</sup> of the editorial in *Hospital Doctor* on “black boxing”<sup>3</sup> a typically entertaining read, but I should like to correct a few inaccuracies.

According to you, we at *Hospital Doctor* argued “in a portentous editorial” that the *BMJ* “is putting money ahead of principle.” Actually, we didn't.

Our editorial expressed no view on the rights and wrongs of black boxing non-standard posts. It criticised the failure of the BMA to act on the democratic wishes of its members.

You assert that we selected the issue of black boxing for our editorial comment because we spotted the chance of “a fast buck.” Not true.

We selected the topic because 1998's annual representative meeting in Cardiff was a rare occasion when the membership overruled BMA Council on an issue and ordered it to implement black boxing. This year, representatives heard the council offer some rather unconvincing arguments about why it would have been impractical

to do what it had been told. For the second year running, the representatives at the meeting disagreed with council on the issue and passed a motion deploring the failure to follow the membership's clear directions. This refusal to follow the explicit instructions of the people whose subscriptions fund the BMA—and who also happen to be our readers—was an entirely legitimate subject for us to comment on.

Perhaps I could raise two further points.

Firstly, *Hospital Doctor* is the leading weekly newspaper for hospital doctors, so of course it would carry a story on a “small earthquake in Penge,”<sup>2</sup> but only if doctors were affected in a professional capacity. I challenge you to find a news story in *Hospital Doctor* in which there were “no doctors involved.”

Secondly, *Hospital Doctor* may indeed be a “throwaway newspaper,” but I'm delighted to say that it is printed on recycled newsprint and around 70% of consultants read it every week en route to the waste paper bin.

Which leaves us with your question of whether the *BMJ* is “putting money ahead of principle.” You may say that; I could not possibly comment.

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Competing interests: *Hospital Doctor* is a rival to the *BMJ* for recruitment advertising.

<sup>1</sup> Smith R. The *BMJ* and “black boxing.” *eBMJ* 1999;319 ([www.bmj.com/cgi/content/full/319/7204/0/a/DC1](http://www.bmj.com/cgi/content/full/319/7204/0/a/DC1))  
<sup>2</sup> Editor's choice. Brain gum, CME, and keeping up to date. *BMJ* 1999;319 (7204). (24 July.)  
<sup>3</sup> Anonymous. BMA leaders must bow to democracy. *Hospital Doctor* 1999 July 15:12.

**Referral to intensive care units should not be limited to consultants**

EDITOR—In their article in the ABC of Intensive Care on criteria for admission, Smith and Nielsen state that early referral improves the chances of recovery.<sup>1</sup> They later state that patients should be referred by the most senior member of staff responsible for the patient (that is, the consultant) and that this job should be delegated to more junior medical staff only if clear guidelines exist.

Pursuing this policy leads to patients being managed on wards by junior medical staff (usually preregistration house officers or senior house officers well beyond their competence, especially at night and the weekend). Junior staff generally do not wish to disturb their consultants at 3 am. This leads to the physiological deterioration of patients, so that when they are referred the next day their prospect of recovery is decreased and their stay in the intensive care unit prolonged.

Cardiac arrest teams are not called solely by the consultant responsible for the patient, and the situation of referring critically ill patients to the intensive care unit

is surely analogous. A presentation at a meeting held by the Intensive Care Society offered an alternative to this traditional model of referral (K Hillman, Intensive Care Society's state of the art meeting, London, 18 Dec 1998).

When a patient fulfilled set criteria the medical emergency team was called. The team consists of the intensive care unit's registrar, a medical registrar, and an intensive care unit nurse. They assess the patient on the ward and discuss with the patient's consultant the appropriate further management. The important aspect is that, as with a cardiac arrest team, the medical emergency team can be called by anyone, either medical or nursing staff. Patients who are deteriorating therefore receive earlier organ support. As Smith and Nielsen state, if referral is delayed until the patient's life is clearly at risk the chances of full recovery are jeopardised.

Referral to the intensive care unit should not be limited to consultants.

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<sup>1</sup> Smith G, Nielsen M. ABC of intensive care: Criteria for admission. *BMJ* 1999;318:1544-7. (5 June.)

**Shakespeare knew the layered clothing sign of schizophrenia**

EDITOR—Besides having intrinsic and historical interest, study of a disease throughout history can sometimes yield clues about its aetiology. For example, studies of written records, paintings, and skeletons suggest that rheumatoid arthritis is a relatively new disease in Europe, not appearing there until after the return of explorers from the New World at the end of the 15th century, but having existed in North America for many thousands of years.<sup>1</sup> This raises the possibility that some infectious agent from the New World has a role in its pathogenesis.

Few unambiguous descriptions of schizophrenia before 1800 exist,<sup>2</sup> although some people argue that the disease has been known for many thousands of years.<sup>3</sup> Bark has proposed that in Shakespeare's *King Lear*, Edgar, in his guise as Poor Tom, had chronic schizophrenia.<sup>4</sup> He had longstanding delusions, hallucinations, and disorganised speech and thought; his socioeconomic status had deteriorated; and he did not have a mood disorder, substance abuse or dependence, or an adverse general medical condition. Thus schizophrenia was in existence around 1600 and known to Shakespeare and his audience. In support of this diagnosis, in addition to having the above mentioned criteria Poor Tom shows the redundant clothing sign, which is fairly specific for schizophrenia.<sup>5</sup>

Schizophrenic patients often wear redundant or multiple layers of clothing, with no clear correlation to the ambient



temperature or other weather conditions. In a study of patients arriving at a psychiatric emergency room Arnold et al found that 18 of 25 patients wearing redundant clothing (for example, multiple shirts, belts, or skirts) had a schizophrenic diagnosis; this finding was significant.<sup>5</sup> Why schizophrenic patients wear multiple layers of clothing is not well understood. Arnold et al suggest three possibilities: subtle hypothalamic (or autonomic) dysfunction, wearing layers to achieve a sense of security, or motor or cognitive dysfunction during dressing.

Gloster and Edgar (Poor Tom) have the following conversation in *King Lear*.<sup>6</sup>

Gloster: What are you there? Your names?

Edgar: Poor Tom, that eats the swimming frog, the toad, the tadpole, the wallnewt, and the water; that in the fury of his heart, when the foul fiend rages, eats cow dung for sallets, swallows the old rat and the ditch-dog; drinks the green mantle of the standing pool; who is whipped from tithing to tithing, and stock-punish'd, and imprisoned; who hath had three suits to his back and six shirts to his body . . .

As with so many other aspects of medicine and human relations, the Bard's description of the wearing of layered clothing by schizophrenic patients is correct, insightful, and most poetic.

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## Evaluation of NHS direct

### Too early to draw conclusions

EDITOR—Florin and Rosen's observations about the limitations of the data published on the performance of NHS Direct were well made.<sup>1</sup> Because the sites are still being established it will probably be another year before meaningful data can be produced for analysis.

The variability in the advice given by the different sites is inevitable given that NHS Direct uses three totally different triage systems. Certain key ingredients are needed for consistency of outcome and demand management which are not present in all of the current systems in use. These features must be included in the national specification given to suppliers.

The consistent outcomes produced over 15 years in the United States by the system used in Hampshire and Newcastle (Personal Health Advisor, Access Health UK) gives confidence that a correctly designed tool, properly applied, does manage demand. It also produces consistency in clinical standards and delivers 24 hour access to services at levels that are appropriate and not demand led. Will NHS Direct do the same? By next year we will have the answer. Until then we can only speculate. Until our site has its full staff complement and is taking over 150 000 calls a year interim evaluation, although interesting, is of limited value.

The authors' suggestion that NHS Direct must develop strong relations with general practice cooperatives and primary care in general is welcome, but they are wrong to assert that current models of clinical triage<sup>2</sup> without decision support systems are safe. Unless aided by a correctly designed support programme, telephone triage by doctors<sup>3</sup> or nurses<sup>4</sup> is inconsistent and will drive up both risk and use.

NHS Direct can bring together health professionals in a way never before possible. The partnership between our site and the general practitioner cooperatives in Northumberland and Durham is doing just that. For the first time a coordinated out of hours service exists involving general practitioners, social services, dentistry, health information, drug information, district nursing, etc. Far from "cutting across" services, the system brings together and is being shaped by all the partners.

If we are to have a needs driven service which is affordable and in harmony with what the population is seeking, tools are required that are new to us all. NHS Direct is one of those tools. It is being evaluated, but so is our professional ability to cope with the changing world about us. Let us hope that both are up to scratch.

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### Integration with primary care is essential

EDITOR—The National Association of General Practice Cooperatives has been arguing since the beginning of NHS Direct for close integration with primary care. We therefore welcome Florin and Rosen's comment that developments in easy access primary care should build on existing systems.<sup>1</sup>

We have achieved considerable change. The early sites were "owned" by single organisations with, on the whole, minimal primary care involvement. Now the importance of working with primary care has begun to be recognised; the fourth wave of sites has considerable cooperative involvement, following the success of earlier sites with close ties with primary care. However, the government still seems set on rapid production of a new and separate service. This could be a mistake.

Primary care professionals were not involved in the early development of NHS Direct, resulting in an emphasis on call centre management to the detriment of clinical integration. NHS Direct nurses will be arriving at differential diagnoses. This is mostly primary care type work. Urgent phone contact with general practice has increased by about 300% over the past decade, but the underlying incidence of serious disease has not changed. The large percentage increase in calls about non-serious conditions has led to a "triage gap," where much of the work can be safely delegated to nurses. This has been proved by the many nurse-fronted cooperatives, where nurses work alongside doctors.

NHS Direct is different. It has great potential, even if it is not the best use of public funds, but to fully realise that potential the clinical work needs to be integrated into the NHS at cooperative, accident and emergency, or even primary care group level. Teams of nurses working to national standards could be placed alongside doctors, with calls sent to them from the call centre. This could lead to useful coworking and the production of mutual understanding which would in turn facilitate the proposed "out calling" by NHS Direct, for instance to elderly people at risk. Working alongside doctors would allow nurses to refer to doctors personally and quickly when appropriate, which it will be in 50% of cases. It would also avoid clinical isolation and insulation from the rest of the NHS.

Different models of NHS Direct will be appropriate in different parts of the country. NHS Direct should build on the achievements of existing high quality doctor or nurse triage systems. Where existing services are less successful NHS Direct might take the lead. An NHS Direct with more integrated, smaller clinical units working closely with existing providers of care would provide the best chance of alleviating pressure on existing services and delivering good quality clinical care.

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## Rapid responses



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