its mother so modest maternal fevers may lead to fetal temperatures approaching 40°C, which could be dangerous for the baby.² In addition, maternal raised body temperature leads to fetal tachycardia which may be misinterpreted as fetal distress, leading to intervention.² Unlike normal labour rooms (usually kept at 26-28°C), birthing pools are close to body temperature and can therefore prevent the normal loss of heat that is necessary to maintain maternal isothermia.

In our unit the protocol for use of the pool originally suggested keeping the water at 37-38°C. In the light of our audit, we now recommend maintaining the temperature at 36-37°C, with hourly monitoring. Prospective research is urgently needed to determine the optimum water temperature for safe use of the birthing pool. This is particularly important in the light of the surprising length of time some women spend in the pool.

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Treatment in the air

Patient might not have survived return to airport

EDITOR,—D R Farquhar-Thomson and T Skinner question aspects of the management of the tension pneumothorax that occurred on a flight from Hong Kong, when Professor Wallace and Dr Wong used equipment from the British Airways medical kit, together with some ingenious improvisation.¹ They query the decision not to land the aircraft or to decrease its altitude from 10 000 m. At cruising altitude the cabin altitude is maintained by the pressurisation system at the order of 1830 m. Further reduction in cabin altitude is limited by structural considerations: to achieve a cabin pressure equivalent to the pressure at sea level it would be necessary for the aircraft to descend to 3000 m. This was not possible at the time of the incident because of high ground and because of constraints imposed by air traffic control, but it would have increased the ambient air pressure by only 20%, which would have been of little significance in a tension pneumothorax. A return to Hong Kong was considered, but the passenger is unlikely to have survived the time that this would have taken.

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Strategy of descent is not without risk

EDITOR,—Some practical issues need to be considered in the debate on how best to treat a tension pneumothorax occurring during an aircraft flight.¹ The altitude at which the pneumothorax occurred

is not stated. Although the aircraft was cruising at 10 000 m, D R Farquhar-Thomson and T Skinner fail to note that the cabin pressure there is the equivalent of the pressure at only 1500 m above sea level. Increasing the cabin pressure to that at sea level would reduce a static pneumothorax by only 20%. The aircraft might have had to descend from 10 000 m to achieve this, thus increasing the risk of encountering adverse weather conditions and navigation hazards. Re-expansion of a punctured lung often increases the leak, thus eliminating the beneficial effects of the change in pressure. Aircraft travelling from Hong Kong to London fly over the Himalayas. At the time that the incident occurred it might not have been possible to descend to a safe altitude for repressurisation of the cabin to the pressure at sea level. After take off a large aircraft is heavily laden with fuel and above its maximum landing weight, so the aircraft would not have been able to land until fuel had been dumped. It might have taken a few hours to divert to the nearest airport, and the safety of the other passengers needs to be considered.

The limited information available makes it difficult to comment on the exact management in this case. I admire Professor Wallace and Dr Wong for the ingenuity they showed. Given the condition of the patient, I am sure that they and the captain of the aircraft acted in the best interests of the patient without unduly compromising the safety of the other passengers and crew.

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Non-steroidal anti-inflammatory drugs in elderly people

Treat mild chronic pain with paracetamol initially

EDITOR,—In their editorial on the use of anti-inflammatory drugs in elderly patients D N Bateman and J G Kennedy conclude that an alternative should be regular paracetamol or co-codamol.¹ Even at the low concentration of 8 mg codeine phosphate may produce important adverse drug reactions or undesirable effects such as anorexia, constipation, and drowsiness in elderly people. Paracetamol and co-codamol should not be considered analogous, and initial treatment for mild chronic pain should be paracetamol alone.

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Enteric coated aspirin may reduce risk

EDITOR,—D N Bateman and J G Kennedy fail to mention enteric coated aspirin in their editorial on non-steroidal anti-inflammatory drugs and elderly patients.¹ Evidence indicates that enteric coated aspirin is not accompanied by the high risk of adverse effects found with plain aspirin or the much more expensive anti-inflammatory drugs.² While some patients may obtain better relief from the newer anti-inflammatory drugs than from aspirin, a recent study has confirmed the effectiveness of enteric coated aspirin with little

risk of gastrointestinal complications.³ In the same issue of the *BMJ* as the editorial, John Weil and colleagues report that they found no risk of peptic ulcer bleeding with enteric coated aspirin.⁴ Their three references to possible small bowel problems with aspirin failed to show any such problems with enteric coated aspirin, although the possibility exists.

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Gastrointestinal bleeding is common

EDITOR,—In their editorial on non-steroidal anti-inflammatory drugs and elderly patients D N Bateman and J G Kennedy erroneously quote an incidence of upper gastrointestinal bleeding of 210 cases per million people over 60 compared with 35 per million under 60,¹ from a study carried out in our department.² In fact, the annual incidences in our study were 10 times these—that is, 2100 and 350 per million people over 60 and under 60, respectively. Although these rates may show wide international variability, they emphasise the public health impact of gastrointestinal bleeding compared with that of other severe diseases of which analgesics and non-steroidal anti-inflammatory drugs are potential causes.

The annual incidence of end stage renal disease, another possible adverse effect of prolonged exposure to analgesics and non-steroidal anti-inflammatory drugs, is of the order of 100 per million people,³ and, according to the data from two case-control studies, analgesic drugs account for 11-13% of all these cases.^{4,5} The annual incidence of agranulocytosis (excluding patients receiving antineoplastic chemotherapy or radiotherapy) is 4.7 per million people, and that of aplastic anaemia (same criteria) is 2.0 per million.⁶ According to a study carried out in the Netherlands, the incidence of severe anaphylaxis from all causes is 13.5 per million per year; drugs in general account for 42% of these cases, and analgesic and anti-inflammatory drugs in particular account for 26% of all cases.⁷ Preliminary data from a study being carried out in Barcelona suggest that the annual incidence of severe non-viral hepatitis is 5-10 cases per million people.

At least a quarter of all episodes of upper gastrointestinal bleeding are attributable to non-steroidal anti-inflammatory drugs.¹ The figures we quote show that upper gastrointestinal bleeding is by far the most common potential adverse effect of analgesics and non-steroidal anti-inflammatory drugs. Therefore, the risk of gastrointestinal bleeding associated with each of these drugs should be one of the main factors determining which drug to use.

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Mefenamic acid is more dangerous than most

EDITOR,—We are particularly concerned about the continued use of mefenamic acid in elderly patients.¹ Despite its apparent popularity this drug can provoke frank colitis in patients with no known predisposing factors² and is neurotoxic in overdose. Reports of acute renal failure due to mefenamic acid, mainly affecting elderly people, have appeared steadily over the past 15 years.^{3,4} Most patients presented with abdominal pain and diarrhoea and were not oliguric; not all cases were reversible.

We have recently seen five patients with non-oliguric renal failure. The table gives their clinical histories. Diarrhoea was a feature in only two patients, the rest presenting non-specifically with immobility and falls, though all were clinically dehydrated. One patient (case 1) had a history of renal calculi but had had normal renal function documented previously; no other patient had a history of renal disease. In all cases, mefenamic acid was stopped and fluid replacement and antibiotic treatment given. All patients improved clinically and biochemically initially; three recovered fully, but two died subsequently (one (case 1) of bronchopneumonia and the other (case 2) of cardiac failure).

Intrarenal prostaglandins play an important part in maintaining renal perfusion and hence the glomerular filtration rate when the renin-angiotensin system is activated—for example, in salt and water loss, diuretic treatment, or heart failure. This autoregulatory mechanism can be abolished by non-steroidal anti-inflammatory drugs, which therefore have the potential to cause clinically important renal impairment as well as fluid retention and hypertension. Elderly people seem particularly susceptible to these effects. In our series of patients four were receiving diuretic treatment, all five had evidence of urinary tract infection potentially leading to fluid depletion, and two presented with diarrhoea. Thus all had reason to be susceptible to the nephrotoxic effects of mefenamic acid. The indication for mefenamic acid in these patients was in all cases musculo-skeletal pain, which was due to degenerative rather than inflammatory disease and for which, in our opinion, safer and more appropriate treatments (both pharmacological and physical) exist.

An authoritative pharmacological text recently stated: "It has been argued for more than a decade that, since a wide range of effective and less toxic drugs are available, there seems no reason for

continuing to prescribe mefenamic acid."⁵ It is time that this advice was heeded.

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Authors' reply

EDITOR,—Adrian Hopper correctly draws attention to the adverse effects of codeine, to which we alluded. In practice, however, many patients have self administered paracetamol before their consultation, and the combined products we mentioned are an alternative in such situations, although we endorse paracetamol as a first line treatment for most patients. Low doses of codeine may cause adverse reactions of the type Hopper mentions, but in our experience this is uncommon and may be minimised if patients are given advice during the consultation.

Charles M Grossman mentions enteric coated aspirin. We limited our article to the management of aches and pains in elderly people and therefore evaluated aspirin as an analgesic rather than as prophylaxis against vascular disease. The doses of aspirin used to attain analgesia are far larger than those used for vascular prophylaxis. While it is true that several studies suggest that enteric coated forms of aspirin and other non-steroidal anti-inflammatory drugs carry a reduced risk of adverse effects,^{1,4} there have been criticisms of the small size of such studies and the possible presence of confounding factors; in addition, the doses of aspirin used were generally less than those required for analgesia, and several studies involved endoscopic or radiological evaluation of healthy young volunteers after short courses of aspirin. The study by John Weil and colleagues mentioned by Grossman examined prophylactic aspirin rather than analgesic doses.⁴ Furthermore, the authors cautioned that substituting low dose enteric coated aspirin is unlikely to eliminate risk in view of evidence that non-steroidal anti-inflammatory drugs exert their adverse effects at least partially by systemic distribution. Therefore we would advise extreme caution in treating elderly patients with analgesic doses of aspirin even if an enteric coated formulation is used. The effect of enteric coated aspirin in older patients in the general population taking analgesic doses is unclear and requires further study.⁵

We apologise to Joan-Ramon Laporte and colleagues for inadvertently misquoting their work. They reported an incidence of upper gastrointestinal bleeding of 210 cases per 100 000 people, rather than per million people over 60 as we stated. This, however, strengthens our comment that non-steroidal anti-inflammatory drugs are best

avoided in patients over 60, since the incidence is 10 times higher and the difference between young and old people remains pronounced (2100 per million over 60; 350 per million under 60). Their figure emphasises even more the public health impact of iatrogenic disease caused by inappropriate use of non-steroidal anti-inflammatory drugs in elderly people.

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Rethinking consultants

EDITOR,—A spate of recent publications¹⁻⁴ and the Rethinking Consultants series in the *BMJ*,⁵ propose timely challenging suggestions for post-graduate clinical career progress and subsequent practice. Although the general philosophies are exciting, large problems are identified but left largely unresolved.

I believe that both the inadequacy of consultant members and the gap at the end of specialist training can be overcome in one step by replacing the emotive but anachronous term consultant with specialist.

Each newly certificated possessor of the "certificate of completion of specialist training" would be appointed immediately as a specialist within a major clinical specialty. Each would be a clinician carrying full independent clinical but clearly defined responsibility compatible with his or her level of training within the specialty; he or she would not be a junior or assistant consultant by another name.

The proposals of the Specialist Advisory Committee in Surgery that various levels of precertification training would allow some of the newly certificated specialists to practise as super-specialists within a narrow field is unacceptable because of their lack of experience at this stage.³

Each specialist would be paired with a senior specialist as a team (rather than working under the senior specialist). Specialists would have responsibility for clearly defined general clinical activities in their chosen field, including emergency duties out of hours, and would have the opportunity to "find their feet," as suggested by Graham Winyard,⁶ in a somewhat protected environment.

Trusts alone or in association with others will determine the number of specialists each needs for

Clinical histories of patients with non-oliguric renal failure during treatment with mefenamic acid

Case No	Age (years)	Sex	Diagnoses	Treatment with diuretics	Presentation	Urea (mmol/l)	Creatinine (μmol/l)	Bicarbonate (mmol/l)	Finding on urine culture
1	86	F	Cerebrovascular accident, polymyalgia, renal calculus	Yes	Immobility, falls	51.1	1206	15	<i>Escherichia coli</i>
2	85	F	Congestive cardiac failure, old deep vein thrombosis	Yes	Diarrhoea, anorexia	41.1	764	6	<i>Escherichia coli</i>
3	79	F	Chronic back pain	Yes	Immobility, falls	30.4	421	17	<i>Escherichia coli</i>
4	90	F	Congestive cardiac failure	Yes	Falls, abdominal pain	39.8	229	20	Mixed
5	83	M	Parkinson's disease, osteoarthritic spine, ulcerative colitis, prostatism	No	Diarrhoea, nausea	31.7	522	10	<i>Escherichia coli</i>