ideas that may well develop from this attempt to catalogue existing systems.

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Treating renal calculi

We should like to comment on several criticisms raised by Mr Hugh N Whitfield, Mr Clive Charig and others, and Mr J E A Wickham and others (24 September, p 794) in response to our paper on methods of treating renal calculi (23 July, p 253).

The end point of stone free chosen for the study is a standard means of assessing outcome after renal surgery used in many other studies. It was also essential in a multicentre study to have a means of assessing the efficacy of treatment that was truly comparable and in which there would be as little likelihood as possible of interobserver variation in the assessment of stone destruction. It was a notable drawback of the earlier comparative study by Charig *et al* that different end points were used to assess outcome for open surgery, percutaneous nephrolithotomy, and lithotripsy.¹ We will be reporting results for stone free rates at 12 and 24 months to add to the three month stone free rates reported in our paper. It was made clear in the paper that the clinical results on stone clearance after lithotripsy, though giving pause for thought, should be considered in conjunction with data on patients' perceptions of benefit and cost when these are available for publication.

In response to the criticism that we failed simultaneously to relate the size and the position of single stones to stone free rates in our analysis we would point out that this was taken into account in the logistic regression in which we adjusted the outcomes of treatment between the two groups for patient age, stone size, and stone position. The likelihood of being stone free at three months was significantly higher in the group treated by nephrolithotomy than that treated by lithotripsy. For information we include the numbers stone free in each cell for the subgroups based on stone size and position (tables I and II). These were not presented for reasons of space in our original paper.

TABLE I—Proportions of patients with single stones who were free of stones three months after lithotripsy by position and size of stone

Location of stone	Diameter (mm)			Unknown	Total
	<5	5-20	>20		
Upper calix	3/4	17/39	3/7	2/3	25/53
Middle calix	4/8	29/53	3/6	0/1	36/68
Lower calix	1/5	59/111	2/8	5/6	67/130
Renal pelvis	4/4	48/85	7/21	1/1	60/111
Pelviureteral junction	1/1	19/22	1/1	1/1	22/25
Ureter	3/3	38/46	1/1	1/2	43/52
Total	16/25	210/356	17/44	10/14	253/439

TABLE II—Proportions of patients with single stones who were free of stones three months after percutaneous nephrolithotomy by position and size of stone

Location of stone	Diameter (mm)			Unknown	Total
	<5	5-20	>20		
Upper calix		1/1	0/1	1/1	2/3
Middle calix		4/5			4/5
Lower calix	1/1	25/28	1/3	1/2	28/34
Renal pelvis		19/21	3/5	2/3	24/29
Pelviureteral junction	1/1	6/6			7/7
Ureter	2/2	13/13		1/1	16/16
Total	4/4	68/74	4/9	5/7	81/94

We fully accept that the data we were able to collect were not ideal. The possibility of selection bias was made clear in the paper. The limitations on data and method were, however, dictated by the opposition of urologists to a randomised controlled trial when the St Thomas's lithotripter was first installed, despite our recommendation to the Department of Health that such a trial would be the optimum means of assessment. Mr Wickham was one of the strongest opponents at that time of the best form of scientific assessment.² None the less, the data in our study represent the first contemporaneous comparison in Europe of lithotripsy and percutaneous nephrolithotomy in similar groups of patients.

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Screening for Down's syndrome

To detect 60% of fetuses with Down's syndrome with an amniocentesis rate of only 5% is a real advance in antenatal diagnosis (Professor Nicholas J Wald and others, 8 October, p 883). Once the method has been validated in different populations such a strategy is likely to become standard practice where it can be afforded, although Drs Dian Donnai and Tony Andrews (p 876) suggest that it might be reserved for mothers under 38 with those of 38 or more being offered chorionic villus sampling. Until some system is established, however, parents will continue to request amniocentesis on the grounds of maternal age. As Drs Donnai and Andrews mention, this currently is offered in many centres to those of 35 or more, although it is unclear whether this is the age at conception, at the time of amniocentesis, or at the estimated delivery date. But is 35 the correct age? The balance of risks between amniocentesis and Down's syndrome suggests that it might not be, and there are other relevant factors. Although these may be made redundant by this new advance, similar consider-

ations may well become relevant to chorionic villus sampling as the data become available.

While the prevalence of Down's syndrome certainly begins to rise at 35 the risk of amniocentesis at this age producing an abortion is greater. Even with experts using ultrasound control the risk is 0.3-0.8%.^{1,2} Risks differ from centre to centre, and there may be differences in the prevalence of Down's syndrome related to ethnic group, geography, and social variables.

The prevalence of Down's syndrome is not constant through gestation at any maternal age. It falls as pregnancy progresses: 20-30% of Down's fetuses are spontaneously aborted in the middle trimester.^{3,4} This is consistent between the ages of 35 and 45 (see figure). Not shown in the figure are

Top: Fetuses with Down's syndrome are consistently more frequent at amniocentesis than at live birth. (After Ferguson Smith¹ and Hook and Lindsjö.²) Bottom: All chromosome anomalies are more frequent at amniocentesis than at live birth. (After Ferguson Smith¹ and Hook *et al*.)

the Down's fetuses that are stillborn. Published data suggest that these are a small proportion of all perinatal deaths caused by Down's syndrome but they may be underreported because they are difficult to recognise or to diagnose in stillbirths. The major losses are, however, included in the data on the incidence of Down's syndrome at amniocentesis and the incidence in the liveborn. At amniocentesis the incidence of Down's syndrome is 0.5% in mothers aged 36,⁴ but in the liveborn it does not reach this level until 37-38. If parents can be told that the risk of amniocentesis precipitating an abortion is about 1 in 200 which risk of Down's syndrome should they be given: that at amniocentesis or that at delivery, or both? Even this is not the whole answer since other chromosome anomalies may be discovered by amniocentesis and the possibility is one parents should be aware of.

The incidence of all chromosome anomalies discovered at amniocentesis exceeds 0.5% in women of 35 and in live births at 36 (figure); but is the question as clear cut as this? Many chromosome anomalies are not associated with important problems in the child. Some parents, however, request antenatal diagnosis to ensure that they have as perfect a child as possible. They might well consider XXX or XXY to be a contraindication to allowing the pregnancy to continue, but others may not. The problem will become more complex as chorionic villus sampling becomes more widely available. The risk of chorionic villus sampling will become apparent, as will the incidence of all chromosome anomalies at 10 weeks, with wider experience. These additional data will then have to be discussed with the parents. Also, fragile X is

rarely fatal and currently not routinely looked for: in future this and other anomalies may be part of general screening and will be relevant to decisions about termination of pregnancy.

At present most laboratories can cope with the demand by mothers of 37 and over for antenatal diagnosis on grounds of their age, although probably only half those who might do so actually request the investigation.⁷ This may change with wider availability of chorionic villus sampling since mothers who would not contemplate a termination at 19-20 weeks may accept one at 12 weeks. For correct counselling we need more knowledge of regional and ethnic variation in the incidence of chromosome anomalies. We also should know the risk of amniocentesis in our own units. It would be well if the indications for amniocentesis on grounds of maternal age were clarified to simplify the reappraisal required by the advent of chorionic villus sampling. Since this is likely to increase the number of requests for antenatal diagnosis it has implications for the overall costs of antenatal diagnosis as well as for the correct advice we should give.

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Hepatitis B and Down's syndrome

In view of the recent national publicity about the possibility of contracting hepatitis B from residents in mental handicap institutions I should like to raise an issue of concern for discussion in your correspondence columns.

A survey carried out in Leeds in 1984 in a long stay mental handicap hospital showed that one quarter of the residents had markers of past or present hepatitis B infection.¹ Fourteen out of 436 residents (3.2%) were carriers of hepatitis B surface antigen, and four of these were also carriers of hepatitis B e antigen and were considered to be highly infectious. Patients with Down's syndrome were not more likely to have markers of infection than the other residents but were six times more likely to remain positive for hepatitis B surface antigen after infection.

Subsequently in a further study hepatitis B vaccine was given to the 29 residents with Down's syndrome at the hospital, whose serum samples contained less than 50 IU hepatitis B surface antibody/I (J B Green, unpublished data). Ages ranged from 22 to 61 years, and the results showed that adults with Down's syndrome respond to vaccination against hepatitis B in a similar fashion to those without the syndrome, with those showing the poorest serological response being in the older age groups. There was no difference in response between the sexes. Although the numbers in this study were small, other studies have shown similar results.²⁻⁶

Although today's children with Down's syndrome are more likely to live at home and to attend mainstream schools than were their predecessors, they are still likely to spend part of their lives in some kind of institutional setting, such as school or sheltered workplace and later possibly some form of residential care. Immunisation of people with Down's syndrome before the age at which they are likely to be at risk from the disease is therefore likely to be beneficial to the people themselves and to the institutional community as a whole.

It seems rational to vaccinate those with Down's syndrome at an early age, when response to vaccination is likely to be good,⁷ and I suggest that hepatitis B vaccination is offered to children with Down's syndrome before they start school. Numbers requiring this are likely to be small: there are only about 900 children with Down's syndrome born each year in the United Kingdom so the task for the general practitioner should not be too onerous or the cost prohibitive.

Periodic checks on values of hepatitis B surface antibody would be necessary and booster doses as appropriate. Perhaps the Joint Committee on Vaccination and Immunisation could offer guidance on this point.

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Increased cardiovascular risk and diabetes in Indians

The increased frequency of cardiovascular diseases and diabetes in Indians living in the United Kingdom (Dr P M McKeigue and Professor M G Marmot, 8 October, p 903) and south India (Dr A Ramachandran and others, 3 September, p 587) may only partly be related to their intake of saturated fat and alcohol.¹ Another explanation, not discussed in detail, may be the fact that boiled, blanched rice is their staple food, not only in India but also in England.

When raw rice (brown rice) is stripped of its shell it is also stripped of potassium (by 70%), phosphate (55%), magnesium (70%), and other important minerals and vitamins (50 to 90%). When this blanched rice is boiled in too much water the contents of these minerals and vitamins fall to below 10-20% of their original value in the raw rice (table).

In northern Europe potatoes and vegetables are

also usually boiled in salt water, which produces important changes in both salt and potassium concentrations (and other minerals as well) that do not occur when the vegetables are steamed.² Since potatoes are our staple food and their content of potassium is twice as high as that in raw rice (and six times that of blanched rice), a relative deficiency in potassium is less likely to occur unless the potatoes are cooked completely wrongly in a large surplus of water with a small mass:volume ratio.

The role of potassium, magnesium, and other important ions in resistance against cardiovascular diseases and diabetes is still being evaluated³ but even a small deficit in body potassium may induce abnormal glucose tolerance⁴ and the retention of sodium chloride.⁵

It would be of interest to know whether larger, well performed investigations have been made of the intake and excretion of potassium, magnesium, phosphate, and other important ions in Indians living in the United Kingdom and in India. In such a comparison some new clues may be found that might help to prevent the excess mortality from cardiovascular disease. It may be difficult to change food habits, but the quality of the food could be much better and methods of preparation could easily change—for example, from boiling to steaming.

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Seeing the body after death

Fiona Cathcart concludes that relatives should be encouraged to view the body after death (22 October, p 997) as this may be helpful in providing a physical image of death and give a chance to say goodbye. She rightly points out the lack of attention that has been devoted to this subject, but there is another situation that has been given little thought—that of the ward patients who witness a death in hospital.

"Witness" is probably an inappropriate term since most hospitals conspire to prevent patients seeing anything at all. Patients who have been in hospital for any length of time, particularly on a medical or geriatric ward, may well have established relationships with each other and it is understandably stressful when a member of the ward group dies. Too often curtains are drawn around all the beds as porters wheel the mortuary trolley into the ward. A few minutes later the curtains are drawn back to reveal the stark sight of the empty bed. Some patients may not wish to see a body after death and this wish can easily be accommodated on the ward without subjecting everyone to a blanket screening.

Amounts of potassium, magnesium, phosphate, and sodium in rice and potatoes prepared in different ways

Food	Potassium (mmol/kg)	Magnesium (mmol/kg)	Phosphate (mmol/kg)	Sodium (mmol/kg)
Raw rice	67	48	78	0
Polished or blanched rice	21	15	34	0
Polished rice boiled	7	5	11	0 to 200
Raw potatoes	120	10	14	1
Potatoes boiled in water	80	8	10	90
Potatoes steamed	115	10	13	1