treat local swelling with oral antihistamines. A patient with *any* systemic manifestations should be given a Medihaler-Epi as well as antihistamine tablets, although it is doubtful if any medication will be absorbed by the gastric mucosa after a sting.

Although there may be few actual fatalities from insect stings, the number of near-fatalities and of incidents terrifying to patients and their relatives must, to judge by the number seen at our clinic, be high. Some attempt should therefore be made to protect acutely sensitive patients. The best method available at present is hyposensitisation and the pure venom extracts mentioned in your article should become available in a few weeks.

M A GANDERTON

Allergy Clinic,
St Mary's Hospital,
London W2 1NY

[1] Lawrence, D R, *Clinical Pharmacology*, 4th edn, pp 6 and 59. Edinburgh, Churchill Livingstone, 1973.

Back pain—what can we offer?

SIR,—Your leading article Back pain—what can we offer? (17 March, p 706) points out that since routine lumbar radiographs are not helpful in evaluating spinal disease in the absence of clinical pointers of serious causes many thousands of pounds would be saved by the NHS weekly if such investigation were avoided. Few would disagree.

It therefore seems strange that in the same editorial you suggest that certain laboratory screening tests are justified at the initial assessment of any patient with back pain. You include the erythrocyte sedimentation rate, serum calcium, phosphate, alkaline phosphatase, and acid phosphatase as well as plasma proteins, with electrophoresis. The many thousands of pounds that you claim that the NHS would save by not doing routine radiological evaluation would quickly be spent on this large battery of "screening tests."

In the absence of a formal study to demonstrate the clinical usefulness of these tests, it seems appropriate to recommend that patients should be so evaluated only if symptoms persist despite appropriate management, or a more sinister disease is suggested by the history and examination.

A CALIN

Department of Medicine,
Stanford University School
of Medicine,
Stanford,
California 94305, USA

Amitriptyline plasma concentration and clinical response

SIR,—The letter of T R Norman and others (31 March, p 894) raises the recurrent problem of correlating plasma tricyclic antidepressant levels with clinical response. They suggest that one source of variation between studies of this relationship may be the method of analysis used for drug estimations.

This department has initiated an antidepressant external quality control scheme[1] similar to its established anticonvulsant quality control scheme.[2] Spiked serum samples containing amitriptyline and nortriptyline or imipramine and desipramine (in concentrations of 50-200 ng/ml) are sent to participating laboratories. The methods of analysis used are gas liquid chromatography, radioimmunoassay, thin-layer chromatography, high-pressure liquid chromatography, and gas chromatography-mass spectroscopy.

The coefficient of variation of returned results has ranged from 10% to 34%, larger than the coefficients of variation reported for the different methods of analysis (usually $<10\%$). One measure of the quality of performance of an individual laboratory is the variation index (VI).[3] A tenfold difference in VI was found between laboratories using similar or different methods of analysis. Those laboratories known to assay routinely these drugs tended to have low VIs, indicating a better quality of performance.

The scheme indicates that the skill of the analyst is an important factor in the precision and accuracy of determinations of antidepressant plasma levels and may partly explain the diverse findings of several groups concerned with plasma levels and clinical response. We shall be pleased to hear from others who wish to participate in the antidepressant external quality control scheme.

S JONES
PAT TURNER

Department of Clinical Pharmacology,
St Bartholomew's Hospital,
London EC1A 7BE

[1] Jones, S, *et al*, to be published.
[2] Richens, A, *British Journal of Clinical Pharmacology*, 1978, **5**, 285.
[3] Whitehead, T P, *et al*, *Journal of Clinical Pathology*, 1973, **26**, 435.

The drug of choice for major seizures?

SIR,—The following two statements about the treatment of major generalised seizures have appeared in recent issues of the *BMJ*: "Sodium valproate is the first choice in new patients" (leading article, 3 March, p 576), and "Phenytoin is now generally regarded as the anticonvulsant of first choice" (Drs D F Smith and J C Mucklow, 14 April, p 1000). My own first choice is carbamazepine.[1]

The only conclusion to be drawn must be that any statement to the effect that drug X is generally regarded as the drug of first choice in major generalised seizures should be generally regarded as being wrong.

D P ADDY

Birmingham B13 9QZ

[1] Addy, D P, *British Medical Journal*, 1978, **2**, 811.

Difficulties in diagnosing meningococcal meningitis

SIR,—Drs V A Spagna and R B Prior (7 April, p 953) make bold but unrealistic claims for the limulus assay. The assay requires a scrupulously endotoxin-free system (I have found strongly positive gelation with distilled water). Ambient temperature, agitation, and time all affect the end-point. In practice, Gram-positive infection is not distinguished from Gram-negative.[1]

When one suspects meningitis, the finding of a cloudy cerebrospinal fluid is confirmatory, subject to microscopy. Specific diagnosis once required Gram stain and culture, but counter-immunoelectrophoresis (CIE) has the many advantages pointed out by Drs L G Evans-Jones and Anthony Bryceson (31 March, p 892). Limulus gelation gives no useful information.

Problems arise when one finds a clear CSF, and indeed this carries a poorer prognosis in meningococcal disease.[2] In the ABU Hospital, Zaria, Nigeria (lacking many facilities found in district general hospitals of the overdeveloped world), specific diagnoses are made confidently at a rate of 20 or more per day during epidemics.[3] A rapid slide latex agglutination test (akin to the familiar pregnancy test) distinguishes pneumococcus, *H influenzae*, and group A and group C meningococcus in three minutes, pending the more sensitive CIE in one hour. Limulus assay added no useful information in patients with confirmed acute meningococcaemia and clear CSF.[2] Contrast this with the specificity, sensitivity in spite of antibiotics, and prognostic value of CIE, which enables specific treatment and also specific vaccination or prophylaxis when indicated. No test is infallible. But CIE on serum can rapidly diagnose those patients with meningococcaemia[2] (groups A and C at least) who would not survive long enough for CSF changes to occur.

L S LEWIS

The Health Centre,
Narberth, Dyfed

[1] Stumacher, R J, Kovnat, M J, and McCabe, W R, *New England Journal of Medicine*, 1973, **288**, 1261.
[2] Lewis, L S, *Archives of Disease in Childhood*, 1979, **54**, 44.
[3] Greenwood, B M, Whittle, H C, and Dominic-Rajkovic, O, *Lancet*, 1971, **52**, 320.

Saxophonist's diverticulosis

SIR,—The letters on occupational hazards (7 October, p 1023; 4 November, p 1295) prompt me to write of an interesting patient.

An 18-year-old saxophonist in the college band presented with a sudden onset of cramping abdominal pain and haematochezia. Sigmoidoscopy, colonoscopy, barium meal with follow-through, and technetium scan revealed no source for the bleeding. Barium enema indicated extensive diverticulosis coli. The patient noted that he could generate oral pressures of 5·6 kgf/cm^2 (80 lbf/in^2) while playing his saxophone. We thus assumed that the extensive diverticulosis was due to the increase in intraluminal and intra-abdominal pressures generated from horn playing.

Incidentally, he has also required several root canals—a further complication of his avocation.

MICHAEL J SHEA

Department of Internal Medicine,
University of Michigan Medical School,
Ann Arbor,
Michigan 48109, USA

Paget's disease in a treadle machine operator

SIR,—We were interested to read Dr L R Soloman's recent short report (7 April, p 931) of Paget's disease occurring in the fingers of a billiard player. We would like to describe a similar case where Paget's disease may well be related to previous repetitive localised physical exercise.

In 1966 a 73-year-old lady presented with pain in the right leg and on examination was found to have classical Paget's disease of the right tibia with anterior bowing. Radiology revealed osteitis deformans of the right innominate bone, lower end of the right femur, and the uppermost two-thirds of the right tibia. The left leg was normal and there was no radiological evidence of disease in the left side of the pelvis.

Since 1915 she had had a part-time occupation making the wrist bands for gloves, a well-known local industry. The work entailed using a treadle