charge of the inhaler must coincide with the start of a deep inspiration.[2] The importance of teaching patients the correct technique of using these inhalers has been stressed.[2-4]

The Autohaler consists of a plastic case incorporating a spring-loaded-dose release mechanism which is triggered by the negative pressure of inspiration. This mechanism operates a renewable cartridge consisting of a conventional pressurized aerosol vial and a washable mouthpiece. It is claimed that the new device ensures that the dose is released automatically within the first 5% of inspiration and that the breath-activated "trigger mechanism" is capable of being operated by an inspiratory effort equivalent to a flow as low as 20 l./minute. The possibility that a patient with considerable respiratory disability may not be able to trigger the firing mechanism was investigated.

Twenty-six patients who all had severe degrees of airways obstruction with a forced expiratory volume in one second (FEV_1) of less than 1 litre were instructed how to use the Autohaler. They were then asked to take at least two puffs from an Autohaler containing placebo only and their ability to operate the mechanism was assessed (Table). In addition, if the patient had used a conventional inhaler in the past, he was asked to compare the Autohaler with this previous inhaler—*as a device only*—and his preference was recorded. The results of this simple evaluation of Autohaler are shown in the table.

Patient	FEV_1	Ease of "Triggering"*	Preference†
1	350	A	3
2	900	A	3
3	500	A	3
4	700	A	2
5	700	A	3
6	850	A	3
7	600	A	3
8	650	A	0
9	750	A	3
10	900	A	3
11	550	A	2
12	600	A	3
13	450	A	0
14	850	A	0
15	950	A	3
16	900	A	3
17	400	A	3
18	600	A	3
19	450	B	0
20	750	A	1
21	750	A	0
22	450	B	1
23	650	A	3
24	450	A	3
25	950	A	3
26	650	A	0

*A Without any difficulty
B Difficult
†0 No previous experience
1 Not as good
2 As good
3 Better than ordinary inhaler

This new breath-activated device would seem to offer a number of advantages over conventional pressurized bronchodilator inhalers. It is capable of being operated by patients with considerable respiratory disability and appears to overcome the problem of synchronizing release of the drug with the beginning of inspiration. The manufacturers also claim that as it cannot be "test fired" it should prove economical in use. However, this new inhaler could have its dangers, simply because it provides an easier and probably more efficient way of administering potentially dangerous sympathomimetic amines and propellant gases.[5] Its simplicity may persuade the unwary doctor to prescribe this, or similar devices, for patients previously regarded as being not intelligent enough, or more important, not old enough to use a conventional inhaler, and it is in these groups—the unintelligent and the very young—that excessive use of pressurized aerosols may be expected.—I am, etc.,

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Ampicillin Rashes in Glandular Fever

SIR,—Dr. T. Pastor (24 April, p. 222) has raised several questions regarding the occurrence of rashes in almost all patients with glandular fever who are given ampicillin. Reports of this intriguing phenomenon first appeared in 1967,[1-3] and there have been several reports since, almost all referring to only one or two cases. The cause of this phenomenon is quite unknown and it is not even certain whether the eruption is an allergic or a toxic manifestation. Glandular fever is characterized by production of abnormal antibodies and abnormal lymphocytes, and since both antibodies and lymphocytes are concerned in allergic responses it is tempting to assume such a reponse to ampicillin. On the other hand, there is almost invariably some impairment of liver function in patients with glandular fever[4] and it has been suggested that this may lead to production of toxic metabolites of ampicillin such as penicillamine, which is said to cause similar rashes.[5] However, if this latter were the case, one would expect a high incidence of ampicillin rashes in patients with infective hepatitis treated with this drug. Although many patients must be given ampicillin during the prodromal phase of infective hepatitis a high incidence of ampicillin rashes has not been reported in this condition as far as I am aware.

Whether the "hypersensitivity" to ampicillin in patients with glandular fever is permanent or temporary is, likewise, not known. There is, quite rightly, a reluctance deliberately to expose patients to the risk of a recurrence of what is usually an extremely florid skin reaction associated almost invariably with fever. There is, too, the spectre of sudden death due to anaphylaxis, though anaphylactic reactions to ampicillin have only rarely been reported. Ampicillin has on at least two occasions been continued for several days after patients with glandular fever developed what were almost certainly rashes due to the ampicillin and the rash has cleared in each case before the ampicillin was discontinued.[2,6] This, of course, may have been because of the development of a temporary latency with regard to "hypersensitivity"—a well-known phenomenon of true penicillin allergy—and must not be taken to indicate that ampicillin may be given subsequently with impunity. One of the patients included in my own series of patients with glandular fever and ampicillin rashes was inadvertently given ampicillin a year later and, within a day or two, developed another florid maculopapular eruption.

While one cannot, because of lack of evidence, say whether one should assume patients with glandular fever who develop ampicillin rashes to be subsequently allergic to ampicillin there is, to my mind, convincing evidence that one need not consider such a patient to be allergic to penicillin G or penicillin V. Thus patients with glandular fever given penicillin G or penicillin V do not have a higher incidence of rashes than untreated patients,[7] and several patients who developed rashes due to ampicillin during an episode of glandular fever have subsequently been given penicillin without ill effect (personal observation). Knudsen[8] gives good reasons for believing that the maculopapular erythemas most commonly associated with ampicillin therapy in general are not true penicillin rashes and I would certainly support this view. In fact, my experience with glandular fever had led me earlier to make the suggestion that many rashes due to ampicillin and, probably, other post-1959 semisynthetic penicillins are not true 6-aminopenicillanic acid hypersensitivity reactions.[7]—I am, etc.,

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Henoch-Schönlein Nephritis

SIR,—May I be allowed to comment on your leading article (15 May, p. 352) on "Henoch-Schönlein Purpura and the Kidneys"? The paper by Dr. S. R. Meadow and his colleagues (of whom I am one), to which you referred several times, has not yet been published and the majority of your readers—save those few who heard an abbreviated version presented before the British Paediatric Association last month—are not in a position to judge the accuracy of your statements or the soundness of your opinions.

The mortality of Henoch-Schönlein nephritis is compared in adults and children: "This relatively high mortality rate is in strong contrast to the situation found in children; only two of Meadow's 87 cases with renal disease died." Actually three out of 88 have died; moreover, no mention is made of four additional children with active nephritis and declining renal function, two of whom are already in early chronic renal failure two and five years after onset. This appreciably modifies the view that one must take of the ultimate mortality in children, which is probably not very different from that reported in adulthood. Progressive glomerulonephritis of any kind is a relatively infrequent occurrence in children but Henoch-Schönlein purpura is nevertheless one of the commoner individual causes.

Secondly, you state that we have "recorded several striking successes" with cyclophosphamide therapy in severely affected children. This is untrue; our results fail to reveal any definite advantage for either cyclophosphamide or azathioprine over con-

servative management. Admittedly, you conclude your article with a reminder of the need for a controlled trial, but much of the conviction and finality of this message is unfortunately removed by your having preceded it with such an aggressive phrase as "striking success", which must surely have left the more permanent imprint on the mind of the uninvolved reader.

While there is little doubt about the value of cyclophosphamide in the steroid-dependent nephrotic child, its effect in other forms of glomerulonephritis is not proved and requires evaluation in controlled therapeutic trials. Meanwhile, it should only be used after very carefully weighing its known immediate toxicity and its uncertain long-term effects on immature gonads against the individual child's prognosis. The treatment is easy but it is the assessment of prognosis which may present the greater difficulty, even to skilled and experienced physicians.—I am, etc.,

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Haemorrhage Mimicking Intravascular Haemolysis

SIR,—I have seen two patients with a ruptured ectopic pregnancy mimicking intravascular haemolysis. The presentation and laboratory findings were similar in both cases and the second one only is briefly described.

She was a 28-year-old English woman who had a bloodstained vaginal discharge and mild hypogastric pain, which had started one week before her expected period and lasted for 23 days until admission. Seven days before admission she also had an episode of severe abdominal pain with sweating lasting a few hours. During the two weeks before admission, she had attended the V.D. Clinic and was treated as a possible case of salpingitis with tetracycline. Serological tests and cultures were negative. On her last visit to this clinic she was noted to be pale and tired and was referred for a blood count.

She was admitted as an emergency when her haemoglobin was found to be 7·4 g/100 ml with 9·2% reticulocytes and the plasma was noted to be brown with a strongly positive Schumm's test. Her urine had been dark for about a week. She was pale, but neither looked nor felt ill. Her pulse and blood pressure were normal and the abdomen soft and without tenderness. Investigations on admission were negative for G-6-PD deficiency, autoantibodies including Donath-Landsteiner antibody, paroxymal nocturnal haemoglobinuria, and Heinz bodies. Blood cultures yielded no growth; the white cells and platelets counts and the blood urea were normal. The urine showed excess urobilinogen and haemosiderin granules, demonstrated by Perl staining of the deposit. Serum lactic dehydrogenase was markedly raised at 1100 units, alanine transaminase raised to 60 units, and aspartate transaminase raised to 43 units.

As the history was reminiscent of the first case a gynaecologist's opinion was sought. He made a clinical diagnosis of ruptured ectopic pregnancy, which was confirmed at operation. A sample of the 750 ml of blood found in the peritoneal cavity had a P.C.V. of 80% and the serum was dark brown with a strong red tinge. It was assumed that reabsorption into the circulation of this lysed old blood over 8 days or more was responsible for the heavy methaemalbuminaemia, haemosiderinuria, and the very high serum lactic dehydrogenase level. The patient made an uneventful recovery and the methaemalbuminaemia disappeared over the next four days.

I feel these cases are worth reporting as both were initially thought to have anaemia due to intravascular haemolysis rather than haemorrhage. Severe abdominal pain and shock can occur during episodes of acute haemolysis and some standard medical and haematological text books do not mention reabsorption of lysed blood as a cause of methaemalbuminaemia and haemosiderinuria. Cecil and Loeb[1] states that "its occurence [methaemalbuminaemia] is pathognomonic for intravascular hemolysis even in the absence of free hemoglobin in the plasma or urine." Reference to methaemalbuminaemia following extravasation of large amounts of blood into epithelial-lined spaces was found in Cantarow and Trumper's *Clinical Biochemistry*[2] and it has been described following reabsorption of massive deep haematomata.—I am, etc.,

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Diverticular Disease of the Colon

SIR,—In view of the extreme rarity of diverticular disease of the colon in Africans, as discussed by Mr. N. S. Painter and Mr. D. P. Burkitt in their article last week (22 May, p. 450), I should like to report a case of diverticulitis occurring in Malawi.

The patient, a Bantu woman of around 40 years of age, was sent to Zomba General Hospital in August 1970 from a rural dispensary with a history of severe lower abdominal pain of two days' duration. A tentative diagnosis of ruptured ectopic pregnancy had been made.

When I first saw her, she was thin, dehydrated and shocked with marked tenderness and guarding over the lower abdomen, absent bowel sounds, and tenderness in the pouch of Douglas. After resuscitating her with intravenous fluids and blood, laparotomy was performed.

The findings were of faecal peritonitis, with the loops of the intestine matted together and covered with a greenish exudate. Multiple diverticula were found on the large bowel, two of which on the transverse colon had perforated giving rise to the peritonitis. The appendix was normal. The perforations were closed, caecostomy performed, and a drain inserted, but, despite blood transfusion, intravenous fluids, and high doses of antibiotics, the patient died five days after operation.

This was the only case of diverticulitis I saw in two and a half years as a medical officer in Malawi. However, since the only routine examination carried out on patients with symptoms referable to the large bowel was microscopic examination of the stool and barium enemas were only rarely performed, it is possible that cases of diverticular disease were missed. In addition, very few postmortems were carried out for other than medicolegal reasons and so, little information is available from that source.—I am, etc.,

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Token Therapy

SIR,—I was interested to read the article by Dr. I. M. Marks and others on "Operant Therapy for an Abnormal Personality" (20 March, p. 647).

We had a similar case of a hysterical psychopathic female aged 20, whose behaviour was characterized by impulsive, unpredictable, destructive outbursts against property or herself. All forms of medication and supportive treatment had been tried but her calm periods never lasted longer than a few days. Eventually we tried a system of giving her so many tokens for each half-day of good behaviour; a certain number of tokens thus earning her more freedom and a chance to return from the closed ward to the admission ward. Her behaviour improved considerably for some three months, until we got to the stage where we tried to find her suitable work. Unfortunately, the two jobs she tried failed to provide the right milieu for this patient and therapy was brought to a sudden end by her incarceration in prison, following an outburst of anti-social behaviour in the town.

Although the outcome in this case was not successful, there is no doubt in my mind that token therapy has an important part to play in treating this sort of case where immediate tangible rewards can satisfy such immature personalities.—I am, etc.,

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Silicone for Osteoarthritic Joints

SIR,—I was astonished by the high incidence of reactions to intra-articular silicone in the small series reported by Professor V. Wright and others (15 May, p. 370). This was not the experience of Corbett *et al.*[1] nor indeed my own.[2] A relevant factor may be that in both these studies the silicone was obtained from a different source and, incidentally, was of a different viscosity. No fewer than three out of the 20 patients in the present report had reaction to their silicone injections. This, I feel, throws suspicion on the material used and so on the results obtained.

As I have said previously,[3] a lubricant is unlikely to be effective where there is gross bony incongruity such as in advanced osteoarthrosis, except where the disease is mainly patello-femoral, when it can help by floating the patella off the femoral condyles. The main indication for its use is in dry rheumatoid joints where a bony contour is often maintained.

In normal joints moving slowly under load viscosities can rise to 10,000 centipoise; in the presence of rough surfaces, logically, a much higher viscosity is needed. We are at present using a silicone of 100,000 centistoke viscosity and this seems to be acting more effectively and is also retained in the joints for a much longer period.

I am surprised by the observation that in