practice, though once the patient is euthermic and has re-established an adequate peripheral blow flow venous samples are satisfactory for all follow-up studies other than blood gas analysis and acid-base assessment.

The wide scatter of results for the amylase and glucose levels in our series (29 December 1973, p. 757) probably reflects a major modifying influence of the underlying illnesses on those effects which can be attributed to the hypothermia alone. None the less, as we mentioned, the effects of hypothermia on blood amylase and glucose levels are well established, and our serial studies, like those of others[1-3] confirmed that abnormal results quickly revert to normal after the patient becomes euthermic. The comment of Professor J. Malins and Dr. C. H. Walsh (26 January, p. 159) that elevated blood amylase levels may occur in subjects with uncontrolled diabetes mellitus without any evidence of pancreatic disease, while correct, scarcely applies to accidental hypothermia, as more than 80% of cases coming to necropsy have evidence of gross pancreatic damage.[4]

Our diagnosis of ketoacidosis as a part cause for the metabolic acidosis noted in all our hyperglycaemic patients whom we considered for insulin therapy was based on the presence of ketones both in the breath and in the urine. We also found that, irrespective of whether or not ketoacidosis was present, organic acids such as lactic and pyruvic acid certainly contributed to the severity of the metabolic acidosis.

Dr. Sloan surely intended to comment that acid-base calculations made from arterial samples can be misleading unless they are corrected from their value at electrode temperature to what they would be at the patient's (that is, hypothermic) temperature. The question of therapy to correct acid-base disturbances is a controversial matter. Our practice during these investigations has been to avoid medical intervention, as during the slow spontaneous rewarming of our patients the severity of the metabolic acidosis usually gradually lessened and seldom increased. Presumably the slowness of the rewarming process allows the capacity of the liver to metabolize organic acids to increase in pace with their increase rate of "wash-out" from the muscles into the circulation. "Corrected" blood gas and acid-base values can certainly be successfully used to guide therapy in these patients,[5] but whether it is necessary to use such values is debatable.[6] Moreover, even "uncorrected" values can be shown to correlate with other serum enzyme evidence of tissue damage in these patients,[7] though of course this does not imply that the relationship is necessarily a causal one.—We are, etc.,

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Sensitivity of Haemophilus influenzae to Cephalosporins

SIR,—Like Dr. S. Selwyn (2 March, p. 388) we also have been interested in the antibacterial activity of cephradine against *Haemophilus influenzae*, particularly in comparison with other cephalosporins. The results we have obtained for the minimum inhibitory concentration (M.I.C.) of seven cephalosporins for 36 strains of *H. influenzae* are shown in the table. From these results, none of the cephalosporins could be said to be very active against *H. influenzae*. The activities of the two orally administered derivatives, cephalexin and cephradine, are very similar and they are the least active. These findings are similar to those reported by Williams and Geddes.[1] We used an inoculum of 10^3-10^4 organisms and though the strains were not typed they were all isolated from the sputum of patients with exacerbations of chronic bronchitis or post-operative chest infections and therefore presumably 95% were non-capsulated.[2] We have not estimated M.I.C.s for *H. influenzae* known to be Pittman type band so cannot dispute the data of Dr. Selwyn. However, the most common indication for antimicrobial treatment of *H. influenzae* in clinical practice in Britain is chronic bronchitis, and non-capsulated strains are important here. Clinical cases involving *H. influenzae* outside the respiratory tract are much less common and it is doubtful if any cephalosporin could be recommended with confidence to treat, for example, *H. influenzae* meningitis.

Dr. Selwyn suggests that an inoculum of approximately 10^5 organisms should be used for testing *H. influenzae*. We have found that the M.I.C.s of all cephalosporins for *H. influenzae* are susceptible to inoculum size, and increasing the inoculum markedly increases the M.I.C. It is not unusual to find that a 100-fold increase in inoculum results in a 10-fold increase in the M.I.C. We cannot of course speculate on the relevance of this finding in the clinical context, but it must make comparison of results from different laboratories extremely difficult.

Though our in vitro results would suggest that cephradine would be an unsuitable drug with which to treat *H. influenzae* infection, the ultimate arbiter must be the clinical results, which are notoriously difficult to assess in chronic bronchitis. The only published work[3] we can find on the use of cephradine in respiratory infection reported a fair or poor response in two of three patients with pneumonia and a poor response in one of three patients with bronchitis. The in vitro activity of cephradine closely parallels that of cephalexin, and Pines[4] reported poor clinical results with cephalexin in chronic bronchitis, so it is difficult to take an optimistic view of cephradine.

We would therefore agree with Dr. J. D. Williams and Mrs. J. Andrews (26 January, p. 134) that "oral cephalosporins are not indicated" in haemophilus infection.—We are, etc.,

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Antibiotic Sensitivity of 36 Strains of H. influenzae to Seven Cephalosporins

Cephalosporin	Minimum Inhibitory Concentration (μg/ml)										
	25	12·5	6·25	3·12	1·56	0·78	0·39	0·19	0·09	0·04	0·02
Cefamandole	—	—	1	—	1	1	12	7	8	3	3
Cefazolin	—	1	3	2	8	10	3	2	3	2	2
Cephalothin	—	—	—	3	3	7	11	6	—	—	6
Cephaloridine	—	—	—	7	10	8	5	—	1	—	5
Cephacetrile	1	10	1	2	8	4	2	5	2	—	1
Cephalexin	2	7	11	8	4	2	2	—	—	—	—
Cephradine	7	6	10	3	2	4	3	—	—	—	1

Serological Tests for Amoebiasis

SIR,—Too much emphasis can be placed upon serological tests for amoebiasis (22 December 1973, p. 746). At the best serology can assist in diagnosis but certainly cannot replace the microscope. In Saskatchewan, using the indirect haemagglutination (I.H.A.) test, we have found that there is no full correlation between serological reactions and the presence or absence of parasites in the stools.[1] We have seen several children with negative serological results and *Entamoeba histolytica* parasites in the stools. Dr. G. R. Healy, of the U.S. Department of Health Education and Welfare,[2] suggests a correlation of 85%. Dr. Healy has performed I.H.A. tests on sera from this area of Canada since 1964 and has found several cases in which sera taken from children during the acute and convalescent stages of intestinal amoebiasis have given negative reactions.[3]

More success has been had with an intradermal reaction,[4] where we have had 100% correlation with active intestinal amoebiasis and have shown it to be a reasonable indicator to the prevalence of disease in a community.[1] However, it has been found that, in its turn, the intradermal reaction tends to increase the I.H.A. titre at a subsequent test.[5]

Both intradermal and serological reactions have been investigated as a possible escape from the drudgery of the microscope, but I feel that both should be used with caution, maybe to select patients from whom stools should be examined. If there are any grounds for clinical suspicion, however, then a negative intradermal or serological reaction should be ignored and repeated stools examined. So far we have found the most successful treatment regimen to be a