possible in such patients and a precise diagnosis may or
may not be achieved, even in retrospect. The patho-
physiological processes operating in a proportion of
infants with protracted diarrhoeal states remain a
challenging area for future research, and we look forward
to reading the publication which Dr. Branski and col-
leagues have in press.

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Limitations of the sweat test

Sir,

We are in agreement with Schwarz et al. (Archives, 1977
52, 870) when they state that the sweat test has some
limitations in the diagnosis of cystic fibrosis (CF) and
that the diagnosis is not justified on the basis of an
abnormal sweat test unless there is other supporting
evidence of the disease. We also agree that there is a
‘grey area’ of sweat Na and Cl levels which we would
class as between 50 and 70 mmol/l (50, 70 mEq/l). How-
ever, there are some aspects of their paper which cause us
concern.

We feel the summary at the beginning of the paper is
somewhat misleading, especially to those who do not
carefully read beyond. From the text, one sees that the
30 patients referred to in the summary as giving equivocal
sweat Na concentrations represent only 1-5% of patients
tested in their laboratory, the total being some 2000.
As the remaining 98.5% of patients did not give rise to
diagnostic difficulty, it is clear that the ‘sweat test’ is still
highly discriminatory, probably to the degree of any such
test.

In our experience a much greater problem of sweat
test accuracy occurs in hospitals where the test is carried
out on a very much smaller number of patients and where
the laboratory has a much lesser degree of experience than
that of the authors. We have had a significant number
of patients referred to our regional children’s hospital who
have had abnormal sweat electrolyte measure-
ments elsewhere, but unequivocally normal measure-
ments when repeated by a laboratory carrying out a large
number of tests. Anderson and Goodchild (1976), in their
recent monograph, stress the difficulties of carrying out
an accurate test and describe some of the errors of
 technique which on inquiry we still find to be common
practice, e.g. inexperienced house officers carrying out
the collection of sweat rather than experienced laboratory
or nursing personnel. We agree with the authors that
factors other than technique may affect sweat electrolyte
levels but feel that these are not significant when compared
with the variation produced by errors in performance of
the test.

We have not needed to go to the extent of serial
collections of sweat and of giving spironolactone as
have the authors. If we obtain a test within the ‘grey
area’ on repeated occasions, we carefully seek other
evidence of the disease, particularly evidence of pancreatic
disease. This may be obvious from the presence of
steatorrhoea of pancreatic type as described by Anderson
and Goodchild (1976), but if steatorrhoea is not present
(about 10-15% of cases) we should then carry out detailed
pancreatic function studies with pancreozymin and
secretin stimulation. Hadorn et al. (1968) and others
have shown that, although enzyme secretion may be
sufficient to prevent steatorrhoea in some patients, the
volume of duodenal fluid and its bicarbonate content are
always low and neither increases to a normal extent after
injection of secretin. This investigation, together with a
detailed and critical clinical appraisal, has invariably
clarified the diagnosis in our patients with equivocal
sweat Na and Cl levels. We do not see evidence that
Schwarz et al. have investigated pancreatic function in
such detail although they may have done in some of their
‘equivocal’ patients. We wonder whether in Cases 14 and
26 detailed studies might not show some abnormalities.
Case 12, where sweat Na is repeatedly raised, is stated to
have normal pancreatic function but no details of the
method of assessing this are given. We also wonder why
Cases 23, 24, and 25 are included in Table 2 as they
seem to have good criteria for the diagnosis of CF at
present and even when first seen.

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Pancreozymin-secretin test of exocrine pancreatic function
in cystic fibrosis and the significance of the result for the
pathogenesis of the disease. Canadian Medical Association

Dr. Schwarz and co-authors comment:

We agree with Professor Anderson and co-work-
ers that the sweat test is as good a diagnostic test for CF as any,
or better. We also concur with their restatement of the
well-known fact that the sweat test is badly performed in
many hospitals, so yielding far more unreliable results
than those due to uncertainties inherent in the test and
discussed in our paper.

We do not advocate the general use of spironolactone;
the merit of this drug in our experiments on certain
patients was merely to support our suspicion of temporary
hypercortisolism, a condition which might have led to