burn Group of Hospitals for 10 years. The number of
cases investigated is over 1,000 a year.

In an illness which might possibly be the result of a
virus infection samples are taken on admission. As a
routine, throat swabs are inoculated into tissue cultures
which are incubated on the wards and paired specimens
of serum are collected. Other samples such as stools,
CSF etc., are collected when indicated. Thus respira-
tory infections, aseptic meningitis, exanthemata, and
other ‘infectious’ disease, gastro-enteritis, etc., are
included in the series.

The results 1962-69 inclusive are analysed. The
times of the year when the various illnesses occur is
clearly demonstrated. The types of illness caused by
various respiratory and enteroviruses are described and
the rashes which may occur are shown.

It has not been possible to investigate rhinoviruses
and certain other viruses, but between 200 and 300 cases per
annum with positive results have been obtained. A
positive result, however, is not necessarily the same as a
positive diagnosis of the illness.

L. HOHENAUER (Innsbruck). ‘Acute Bronchiolitis.’
To be published elsewhere.

W. B. DOIG introduced by PROFESSOR J. H. HUTCHISON
(Glasgow). ‘The Value of Blood Gas Analysis in Lower
Respiratory Tract Infection in Infancy.’

E. ZWEYMULLER (Wein). ‘The Insensible Loss of
Water of the Newborn Infant.’ The insensible water
loss through the lungs and the total body surface of
newborn babies has been measured for the first time
directly. The infant was placed in a specially adapted
incubator into which air of accurately adjustable relative
humidity and temperature was supplied at a given rate.
The increase in humidity in the incubator caused by the
infant was measured gravimetrically, enabling the mean
water loss of the infant during the measuring period of
10 minutes to be calculated. The following conclusions
resulted:

(1) The insensible water loss under basal conditions is
between 390-460 mg./kg. per hour, or between 6·36–
7·47 g./m.² body surface per hour.
(2) During the first 24 hours of life the water loss is
independent of age.
(3) Values for females are a little higher than for
males, but this is on the border of significance.
(4) The mode of sleep greatly influences the insen-
sible water loss, long-sleeping infants tending to lose
much less water than short-sleeping infants.
(5) The insensible water loss increases steeply with
increasing activity of the infant, by a factor of at least
1·7; in infants who cry intensively this increase is
probably much larger.

D. L. KENNAIRD introduced by PROFESSOR K. W. CROSS
(London). ‘Measurement of Oxygen Consumption and
Evaporative Water Loss in Infants with Congenital
Heart Disease.’ Metabolic rate + evaporative water
loss was estimated using a closed circuit apparatus on 60
infants suffering from various forms of congenital heart
disease. Their ages ranged from a few days to 10
months and their weight from 2 to 6 kg.

Metabolic rate + evaporative water loss was raised
in infants with large left-to-right shunts and in heart
failure. It was also raised in those infants with an
increased risk of heart failure, but not in overt failure at
the time of study. These infants had a much lower
limit to their neutral thermal environment than normal,
and if nursed at the upper limit of neutral thermal
environment they were found to have a raised metabolic
rate. This places an additional strain on an already
stressed infant.

Infants with the more severe forms of cyanotic heart
disease had a low metabolic rate, and a diminished or
even absent response to cold stress. Therefore these
infants have an increased susceptibility to cold and
should be nursed at the upper limit neutral thermal
environment or even above.

S. A. HAIDER introduced by DR. W. DICKSON (Bolton).
‘Investigation of Endemic Diarrhoea in the Special Care
Nursery’. For over 2 years cases of diarrhoea had
occurred intermittently in the Special Care Nursery of
the Bolton District General Hospital, for which no cause
was found on routine investigation. It was observed
that unless the cases were detected early and managed
properly some of them became seriously ill. This
prospective study was undertaken to evaluate the over-all
significance and to assess the clinical, pathological,
and therapeutic implications of the endemic diarrhoea.
During the observation period of 4 months, 209 babies
were admitted to the unit and 44 of them developed
diarrhoea. The unaffected babies of similar birthweight
and age over the same period served as a standard of
comparison.

Analysis of the results showed:
(1) The incidence of diarrhoea was proportionately
higher in the babies who had other neonatal illnesses.
Small-for-dates babies and male infants were signifi-
cantly more susceptible to the illness.
(2) Dietetic factors and disaccharide intolerance did
not appear to play a significant role in the pathogenesis.
(3) The epidemiological pattern and the clinical
features suggested an infective aetiology but no patho-
genic bacteria or viruses were cultured from the stools
by conventional laboratory techniques.
(4) The polymorphonuclear leucocytic count in the
affected cases was not significantly different from that of
the unaffected babies in the first 2 weeks of life.
(5) Rapid rise in the serum IgM and also the fall on
recovery suggested an infective cause for the diarrhoea.
(6) Rare or yet unknown strains of pathogenic Eisch.
coli or anaerobic pathogenic organisms might have been
responsible.
(7) Intestinal antibiotics like neomycin sulphate may
be useful in speeding the recovery and controlling the
spread of infection in certain situations.

S. HALVOREN and P. SKJELLAEN (Oslo). ‘Regulation
of Erythropoiesis by Stimulators and Inhibitors.
Circulating Inhibitors in Plasma from Newborn Infants’
(under consideration for Acta Paediatrica.)
The insensible loss of water of the newborn infant.

E Zweymüller

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