plasma and urine testosterone incremental changes after
4 days of HCG for all patients, suggesting either urine or
plasma testosterone measurements under these
conditions are suitable indices of testicular function.
Basal levels of urine testosterone were no direct guide as
expected response to 4 days of HCG.
Eight children with normal pubertal development on
follow-up and 3 children with constitutional delayed
puberty had base-line plasma testosterone and 4-hour levels after a single injection of HCG (1500 units),
directly proportional to their maturational status
(Tanner I-V). The less mature (Tanner I-II) had very
low basal plasma testosterone levels which did not change
significantly at 4 hours. Good responses 24 to 48 hours
after the single injection of HCG were, however, shown.
This may be a useful alternative test of gonadal function
to the 4-day stimulation test.

**Congenital postural scoliosis.** P. M. Dunn.
University of Bristol, Department of Child Health,
Southmead Hospital, Bristol.
Between 1960 and 1966, 19 infants were observed to
have a smooth persistent, lateral curvature of the spine
without bony malformation soon after birth (Dunn, 1969).
9 (47%) of these infants presented by breech at
delivery. 2 infants, both born to women with marked
oligohydramnios, died shortly after birth; their spines
were examined closely at necropsy and the presence of
scoliosis without malformation was confirmed.
Of the 19 cases of scoliosis, 9 were noted during a
personal study of 6756 infants born consecutively in
hospital during a 3-year period (Dunn, 1972), giving an
incidence of approximately 1/1000. (The true incidence
may be only half as great, as this was a selected hospital
population.) 8 of these 9 infants (all without terato-
logical malformation) had associated postural deformities
(P <0·0001) including plagiocephaly (P <0·0001),
facial deformities (P =0·0002), contracture of the
sternomastoid muscle (P <0·0001), congenital dis-
location of the hip (P <0·0001), and congenital
deformities of the feet (P =0·0025). In 2 cases there
was unilateral dislocation of the hip on the side of the
convexity of the curve. These facts, taken together
with other clinical observations regarding these cases,
and the well known high rate at which spontaneous
resolution takes place during the first 3 years of life
strongly support the frequently challenged belief of the
late Sir Denis Browne (1965) that scoliosis may be
cased by mechanical factors responsible for persistent
lateral curvature of the spine during intrauterine life.

**REFERENCES**
Journal, 2, 565.
Dunn, P. M. (1972). Congenital postural deformities: perinatal
associations. Proceedings of the Royal Society of Medicine, 65,
735.

**Renal function studies in first week of life.** B. J.
N. Z. Danesh and I. B. Houston. Department of Child
Health, St. Mary’s Hospital, Manchester.
Accurately timed specimens of urine were collected
from newborn infants by a new technique. Collection
was done continuously during the first 3 days and the 7th
day of life, and blood samples were taken on the 1st, 2nd,
3rd, 5th, and 7th days; infants were studied only after an
explanation to the parents and confirmation of their
unqualified approval was obtained.
Renal function was studied in 23 babies, 8 term (39–41
weeks’ gestation), 8 small-for-dates (37–39 weeks’
gestation), and 7 prematures (33–36 weeks’ gestation).
The three groups showed maximum clearance of
creatinine and urinary excretion rate (UV) of solutes
(creatinine, urea, sodium, and chloride) within the first
12 hours of life, falling considerably during the next 60
hours and partially recovering by the 7th day of life.
Urine flow rate and urinary sodium excretion expressed
as a percentage of filtered load (%ENa) also showed a
similar pattern. Though there was a marked variation
in creatinine clearance, excretion rate, and %ENa in
individual infants, statistical analysis did not reveal a
significant difference between the three groups.
In the infants studied there was a linear relation
between %ENa and PCV, suggesting that the degree of
sodium excretion is related to the size of placenta-fetal
transfusion which occurs immediately after delivery.
The rapid initial fall in %ENa may be a reflection of the
postnatal need to conserve sodium as opposed to the
probable intrauterine need for a large urine flow rate
(and %ENa) to maintain amniotic fluid volume.

**Development of mammalian fast muscle: dynamic
and biochemical properties correlated.**
D. M. Johnston introduced by L. Tizard. Department of
Child Health, the Children’s Hospital, Sheffield.

**Relation between granulocyte phenylalanine
content and degree of neuropsychiatric disability
in phenylketonuria.** T. M. Andrews, R. O.
McKeran, K. McPherson, and R. W. E. Watts
introduced by H. B. Vaiman. Divisions of Metabolism
and of Computing and Statistics, Medical Research
Council Clinical Research Centre, Watford Road, Harrow.

The exact cause of brain damage in phenylketonuria
is not understood, and we are unable to distinguish clearly
in neonates between classical phenylketonuria and
variant forms in which persistent hyperphenylala-
ninaemia does not result in neurological injury. This
makes it difficult to assess the value of dietary treatment
(Birch and Tizard, 1967), to identify those infants
requiring strict control of blood phenylalanine levels,
and to decide when dietary control can safely be relaxed.
It has been shown (Aoki and Siegal, 1970; Swaiman,
Hosfield, and Lemieux, 1968) that experimental hyper-
phenylalaninaemia impairs ribosomal protein synthetic
activity in the developing brain of neonatal rats. This
suggested to us that intracellular levels of phenylalanine
might be of more direct pathophysiologial significance
than extracellular concentrations, and might correlate
more closely with the degree of brain damage in
phenylketonuria than do plasma levels.