Correspondence

Dr Forsythe comments:

It is difficult to give a general reply to your questions as four types of seizures were involved:

1. **Astatic myoclonic seizures** (18 children)
   - Atypical absences four to five per day
   - Tonic clonic one alternate day to four per day
   - Astatic one alternate day to 10 per day
   - Eight of the patients had recurrent attacks of status—
     that is, atypical absences, astatic, and tonic clonic seizures.

2. **Petit mal** (seven children)
   - Four to 10 per day
   - One to 30 or more per week
   - Complex partial (eight children)
   - One to four per day.

3. **Astatic myoclonic**
   - Of the 18 children included in the study, there are now
     four who have had a complete remission of seizures for
     two years. A fifth child who had a previous remission for
     six months, then refused the diet, is now back on the diet
     and has been seizure free for three months. All five
     children obtained a complete remission of seizures by
     the 15th day that is, two to four days' starvation plus 14
     days' diet (about 50%). When the remaining 13 reached
     50-60% diet they were allowed home for two weeks; if
     no improvement occurred sodium valproate or later
     nitrazepam was tried. If these drugs failed to produce a
     greater than 50% reduction of seizure frequency they
     were withdrawn. If the diet had not reduced seizures by
     50% it was discontinued (see later).
   - The same rules applied to absences, tonic clonic, and
     complex partial seizures.

4. **Careful records** were kept daily of all seizure types and
   recorded on special record cards as long as they were on
   the diet. They were seen regularly after withdrawal of
   the diet.

5. **In most cases** where we were certain of compliance, we
   knew within two months if the diet was of value. We
   were not interested in a 50% or less reduction in the
   frequency or severity of seizures, or both. If the parents
   wanted to continue the diet, we allowed them to do so.

‘New’ fontanometer for estimation of intracranial pressure in the newborn

Sir,

The article by Rochefort, Rolfe, and Wilkinson is seriously
misleading. The device described is not new. It was shown
in the Physiological Society in November 1982 by Dr A G
Whitelaw and myself. The only difference between their
device and mine is that theirs uses two separate tubes
while mine uses concentric tubes, which is more conven-
ient. Later, I decided that a separate tube for measuring
pressure was not essential, provided that the air flow
was constant and the zero was checked from time to time—as it
should always be. A model of the original design, made
and used by Cowan and Thoresen, gave clinically
satisfactory results. The present design is in use in a
number of centres, and Kaiser and Whitelaw have re-
ported satisfactory correlations with direct intracranial or
cerebrospinal fluid measurements.

Dr Rolfe wrote to me in March 1985 describing his
modification and I replied, pointing out that he was merely
reverting to my original design and explaining why I
thought a second tube was unnecessary. I showed the
original device to him some time before it was published,
and I was present when it was first put on a baby in Oxford.
Rowena Oozeer suggested sticking it on with the collodion
used for EEG electrodes. It worked beautifully and the use
of collodion is now standard practice.

The present model has been in use at Northwick Park
Hospital for two years, and we hope to publish our results
shortly. We have delayed publication so far, because we
are still developing our technique and the device is not yet
commercially available.

References

1. Whitelaw AGL, Wright BM. A pneumatic planimeter for
2. Cowan F, Thoresen M. Changes in superior sinus velocities due
to postural alterations and pressure on the head of the newborn
   pressure—fact or fancy? Dev Med Child Neurol 1987;29 (in press).

B M WRIGHT
Clinical Research Centre,
Wavford Road,
Harrow, Middlesex
HA1 3UJ

Drs Rochefort, Rolfe, and Wilkinson comment:

It has been recognised for a long time that the design of
some fontanometers leads to problems relating to the
offset calibration, and errors resulting from the applica-
tion force. All these problems were present with Dr
Wright’s device. Discussion, development, and experi-
ment took place to overcome these problems. Our
previous experience with fontanometers and in the 1970s
of devices to measure intraocular, intrauterine, and
intravenous pressures non-invasively had given consider-
able insight into these difficulties. Modifications to design
have produced a device that ensures the use of applica-
 tion principles, incorporating a guard ring and flow inde-
pendent pressure measurement. At a time when continuous
EEG recording was being developed in Oxford the use of
collodion was routine and since then has become more
widely used.

Our data presented previously (at the Annual Meeting
of the British Paediatric Association) and in our paper,
when compared with the results from other devices,
support our view that the differences in design are crucial
to the validity of non-invasive intracranial pressure values.
At best, previous devices have reflected only trends in
intracranial pressure. Accuracy is of course vital if a
non-invasive method is to be relied on to assess the efficacy
of various therapeutic manoeuvres safely and reliably.

References

1. Kaiser AM, Whitelaw AGL, Besag FMC. An evaluation of
   physiological measurements. London: Butterworths 1986:
   167-73.
   measuring intracranial pressure in normal newborn infants. Dev