LETTERS TO THE EDITOR

Screening for growth: towards 2000

EDITOR,—Jefferson and Forster devote 15

column inches to the virtues of growth

monitoring but offer just four lines of

‘results’.1 Perhaps we might introduce a

protocol that refers any child with a growth

velocity below the 25th or above the 75th

centile can ‘generate appropriate referrals and

not swap the system’. We would have

thought that by definition 50% of children

would grow outside these centile limits.

The issues raised by growth monitoring are

not simple, however much we may wish them
to be so. Children cannot be relied upon to
grow along the centile lines on the standard

growth charts—they deviate from them both

up and down.

This can be illustrated by examination of a

commonly quoted reason for monitoring

height in prepubertal schoolchildren—the

identification of girls with Turner’s syn-
drome. The figure shows the growth curves

for these girls2 superimposed on the 1990

nine centile chart. Note that between the ages

of 5 and 9 the curve for the taller girls (those

who would not be identified by a single

measurement) crosses less than one centile channel (0.67 SDs on these charts). At least one

normal girl in every 50 will cross one complete

centile channel over this time span (calculated

by Cole from French and English longitudinal data3 4). Turner’s syndrome has been

reported to occur in one girl in every 2000,

and probably at least half of these are identi-

fied at birth or in the preschool years. There

is therefore perhaps one undetected case of

Turner’s syndrome in every 4000 girls at 5

years of age and it follows that at least 80

normal girls must be referred for every case

of Turner’s syndrome discovered.

Dr Jefferson comments:

Dr Cole and Professor Hall have ‘imperially’

measured our column inches accurately;

would that the profession measured children

metrically, regularly, and as diligently.

The use of height velocity in most height

monitoring programmes is over two year

periods which lessens the effect of measure-

ment inaccuracy and year to year variation.

The probability of two successive yearly veloc-

ities in a normal child falling below the 25th

centile is only around 0.25% (0.25 × 0.25 =

0.0625), that is, only 6.25% of healthy children

will grow that slowly over a whole two year period.1

It is the experience of paediatricians measuring children regularly that normal children
do not deviate from their centile lines and sequential measurements are highly corre-
lated as is shown by the original Turner data.

The illustrated Turner normal data super-

imposes ‘old’ Turner’s syndrome data on the

new 1990 normal charts and may not take

account of secular trend in the Turner’s syn-
drome group but it does show that at least

50% of girls with Turner’s syndrome are not

identifiable by height or height velocity alone

before the age of 5 years. Therefore continual

monitoring (as outlined in our letter) is

necessary to detect these individuals and, just

as importantly, others with non-endoctrine

chronic disease/deprivation not identifiable by

the same means.

We and many of our colleagues would

strongly support a less invasive, multicentre system-

atic study to look at the benefits of growth

monitoring before the measurements at 7 and

9 years are deleted from the child health

surveillance protocol.

1 Brooke CGD, Hindmarsh PC, Healy MJR. A better


Transient gluten intolerance

EDITOR,—In a recent paper Meuli et al1
described genetic differences in HLA-DR

phenotypes between children with coeliac
disease and those who presented with a clin-
ic presentation consistent with coeliac dis-

ease accompanied by hyperplastic villous

atrophy followed by recovery on a gluten-free diet.2 The latter children have a normal

small intestinal mucosa after gluten challenge.3

There were 16 of these children and they

continued on a normal gluten containing diet

for a period of five to 15 years with the small

intestine mucosa remaining normal. They

were described as having transitory gluten

intolerance. It seems a pity to introduce yet

another name for the syndrome called tem-

porary in the classic paper of McNichol et al7

but in all ESPGAN reports has been referred to

as transient gluten intolerance.3 5

Establishment of a firm diagnosis of

transient gluten intolerance is central to this

process.

These cases do not fulfil the very strict
criteria for this syndrome as described by

McNichol et al and cited by the authors.2 There

was no initial proof of gluten intolerance by
early gluten challenge, as McNichol et al advocated. However, they are consistent with the less strict practical criteria

that I have published,6 which leave some
doubt about a firm diagnosis. Furthermore

the authors do not allude to the observations

of Polanco and Larrauri who have pointed out

the difficulty of ever certainly excluding the
diagnosis of coeliac disease in such patients.6

They have described five children who took

two to nine years to relapse after return to a

normal gluten containing diet. Thus for

reasons unknown, delay in relapse may take

several years, after the reintroduction of

glutens to the diet. While it is possible, that

the children described did have transient

gluten intolerance, it is also possible some in

time will prove to have coeliac disease.

Although the evidence that there is a genetic
difference in HLA phenotype between

the two groups of children argues in favour of a

distinction from coeliac disease. It is yet

possible that the 16 children are a heteroge-

neous group. Some indeed may have coeliac

disease for example those who had the

DR3/DR7 phenotype and will eventually

relapse.

The authors do not tell us whether all 16

children were under the age of 2 years at pre-

sentation. This is of some importance for the

validity of the revised ESPGAN criteria for

celiac disease.3 If there were any children
diagnosed as having transient gluten intoler-

cence aged more than 2 years at the onset of

symptoms, yet who have not relapsed after

many years of gluten ingestion, this exam-

ination would challenge the validity of the

present criteria. Such a finding does not appear
to have been published before.

1 Meuli R, Pichler WJ, Gasperini L, Lentzer M. Genetic

difference in HLA-DR phenotypes between coeliac
disease and transitory gluten intolerance. Arch Dis


2 McNichol AS, Rolles CJ, Arthur LIH. Criteria for the
diagnosis of temporary gluten intolerance. Arch Dis


3 Meuwese GW. Diagnostic criteria in coeliac disease.


4 McNichol AS, Harmes K, Rey J, Sheringer DH, 

Vinkepot J, Walker-Smith JA. Re-evaluation of

99.6 98

91 75

50

10

3

97.5 75 50 25 10 3

Years

90

120

120

160

160

Height (cm)

183

ARCHIVES OF DISEASE IN CHILDHOOD 1996; 74: 183

Curves for girls with Turner’s syndrome

superimposed on the 1990 nine centile height

charts.

Growth monitoring, like many other

aspects of child health surveillance, involves a

search for needled in haystacks. That does

not necessitate we would like to know—but

with so many other areas of medical

care, common sense choices do not always

work out so well in practice. The downside of

ineffective monitoring and screening is not

only economic—but more important the

worry generated, the waste of scarce profes-
sional expertise and, not least, the waste of

parents’ time. What we need from our
edocrinology colleagues is not emotive plea

but a multicentre systematic study of the con-

tribution made by growth monitoring to the

earlier detection of growth disorders.

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1 Jefferson IG, Forster L. Screening for growth:

2 Lyon AJ, Preece MA, Grant DB. Growth curve

for girls with Turner’s syndrome. Arch Dis Child

1985; 60: 932-5.

3 Cole TJ. Growth charts for both cross-sectional

and longitudinal data. Stat Med 1994; 13:

2477-92.

4 Bailey BJR. Monitoring the heights of pre-puber-


* The SD of the change in height SD score between

two ages is given by the formula r × the corre-

lation between height SD score at the two ages. For

ages 5 and 9 years this correlation is about 0.94.4

1

so the SD of the change in height SD score between

5 and 9 years is 0.35, and the 95% confidence inter-

val is 2×0.35=±0.7 units. This is about one

channel width (0.67 units on the charts) so

2-3% of children can be expected to fail (and an

equal proportion to rise) by more than one channel

width between 5 and 9 years.

1 Meuli R, Pichler WJ, Gasperini L, Lentzer M. Genetic
difference in HLA-DR phenotypes between coeliac
disease and transitory gluten intolerance. Arch Dis


2 McNichol AS, Rolles CJ, Arthur LIH. Criteria for the
diagnosis of temporary gluten intolerance. Arch Dis


3 Meuwese GW. Diagnostic criteria in coeliac disease.


4 McNichol AS, Harmes K, Rey J, Sheringer DH, 

Vinkepot J, Walker-Smith JA. Re-evaluation of

T J Cole and D M Hall

Arch Dis Child 1996 74: 183
doi: 10.1136/adc.74.2.183

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