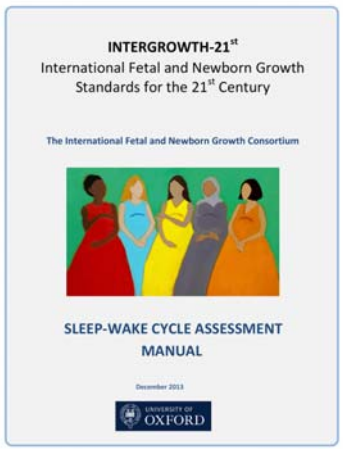
Voronezh N.N. Burdenko State Medical University

Department of Hospital and Polyclinic Pediatrics

Department of Foreign Languages

ENGLISH-AIDED INTEGRATION IN THE BEST WORLD NEONATAL PRACTICE



Postgraduate student, Kubyskina A. V.

Candidate of Philological Sciences, Medvedeva A. V.

Evaluating a newborn’s physical development is one of the key objectives of a neonatologist.

An adequate evaluation of weight and height measurements allows understanding the **metabolic state** of a fetus and developing a **program suitable for a newborn's nutrition**.

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[Foetal prograr

Table 1 Standardised mortality ratios for coronary heart disease in 3,302 Finnish men during 1924–33

Birthweight kg [lb]	SMR (No. of deaths)
≤2.5 [5.5]	84 (11)
–3.0 [6.6]	83 (44)
–3.5 [7.7]	99 (124)
–4.0 [8.8]	76 (80)
>4.0 [8.8]	66 (27)
All	85 (286)
P value for trend	0.09
Term babies only	
Ponderal index at birth (kg/m³)	**SMR (No. of deaths)**
≤25.0	
–27.0	
–29.0	
>29.0	
All	
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Public Health Nutrition: 4(2B), 611–624

Fetal programming c

Keith M Godfrey* and Davi
MRC Environmental Epidemiology U
Southampton, SO16 6YD, UK

Abstract

Low birthweight is now known to be associated
heart disease and the related disorders stroke
dependent diabetes. These associations have beer
in different countries and are not the result of co
across the normal range of birthweight and depen
to the duration of gestation rather than the
associations are thought to be consequences of 'p
or insult at a critical, sensitive period of early life h
physiology and metabolism. Programming of the
invoked when the materno-placental nutrient supp
demand. Although the influences that impair fe
adult cardiovascular disease remain to be define
importance of maternal body composition and di

REVIEW ARTICLE

Prenatal Hypoxia and Cardiac Programming

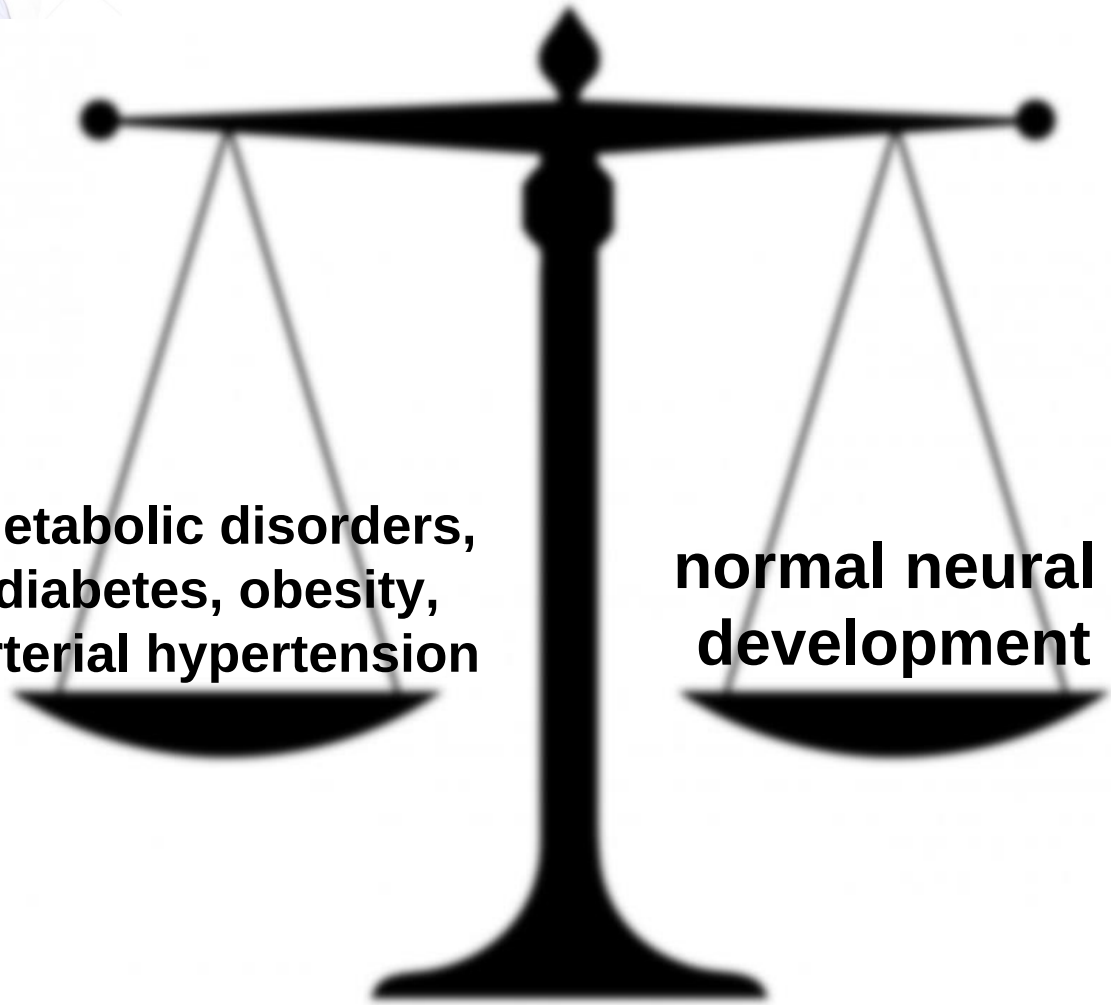
Lubo Zhang, PhD

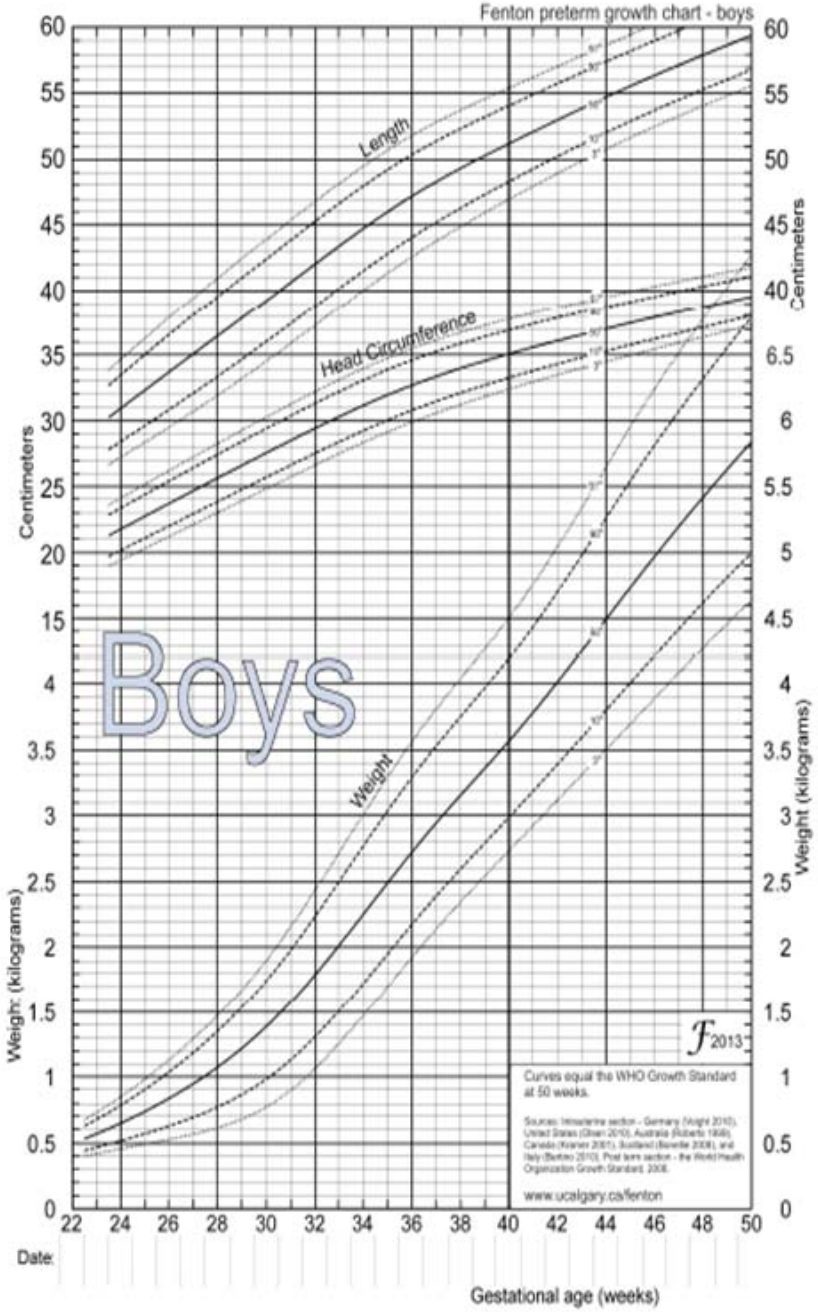
Epidemiologic studies have shown a clear association of adverse intrauterine environment and an increased risk of hypertension and coronary heart disease in the adult. Many studies have been focused on the effects of maternal undernutrition and fetal glucocorticoid exposure on fetal programming and later adult disease. Although it is relatively less clear, there is evidence that fetal exposure to hypoxia, alcohol, tobacco smoking, and cocaine may also cause in utero programming leading to an increased risk of adult disease. Chronic hypoxia during the course of pregnancy is thought to result in fetal intrauterine growth retardation. Among other effects, chronic hypoxia suppresses fetal cardiac function, alters cardiac gene expression, increases myocyte apoptosis, and results in a premature exit of the cell cycle of cardiomyocytes and myocyte hypertrophy. This review discusses recent evidence of an association of prenatal hypoxic exposure with an increased vulnerability of adult heart disease, and the possible mechanisms involved. (J Soc Gynecol Investig 2005;12: 2–13)

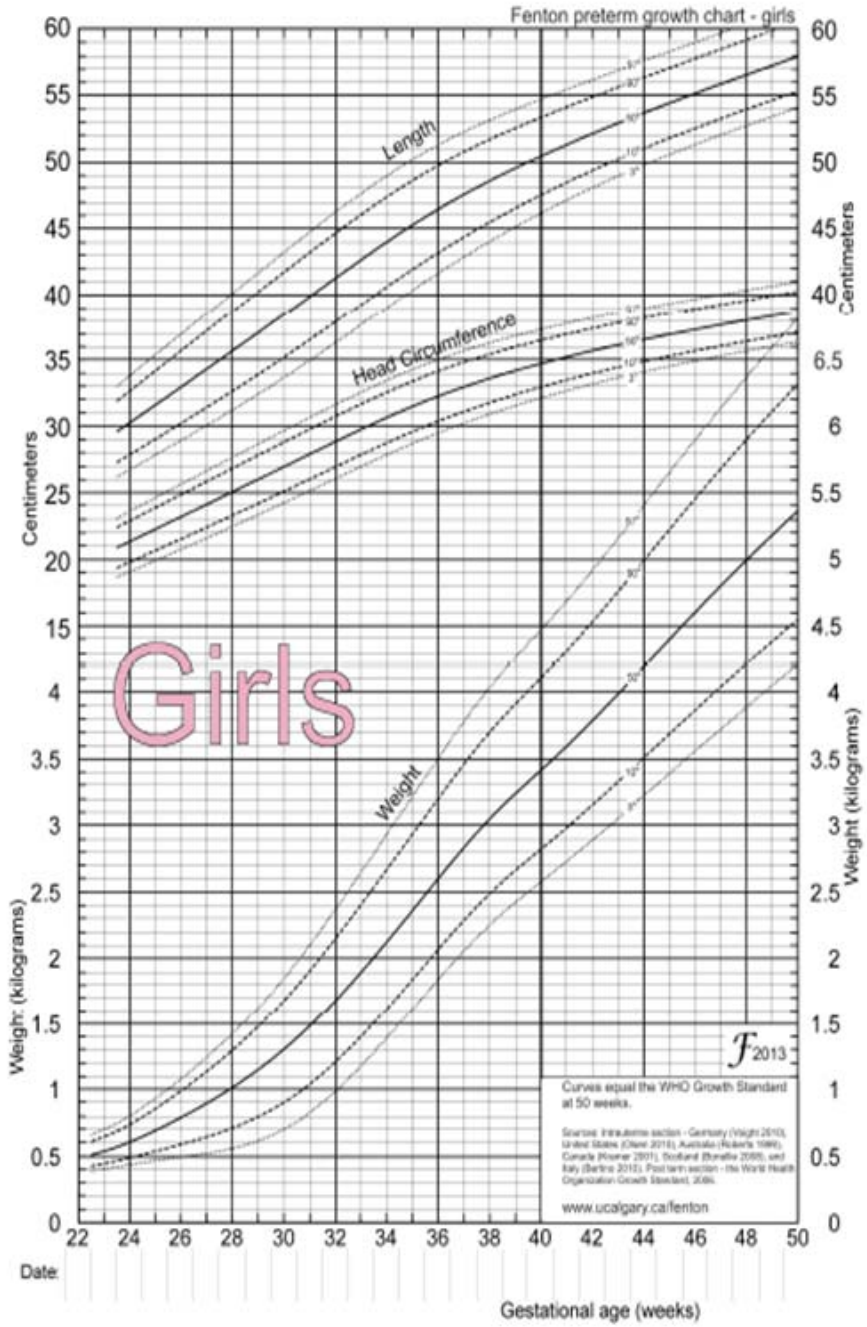
Catch-Up Growth

=

Excess consumption of protein at an earlier age




Fenton preterm growth chart - boys
Length
Head Circumference
Weight
Boys
Centimeters
Weight (kilograms)
Gestational age (weeks)
Date:
Curves equal the WHO Growth Standard at 50 weeks.
www.ucalgary.ca/fenton
2013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Girls
Centimeters
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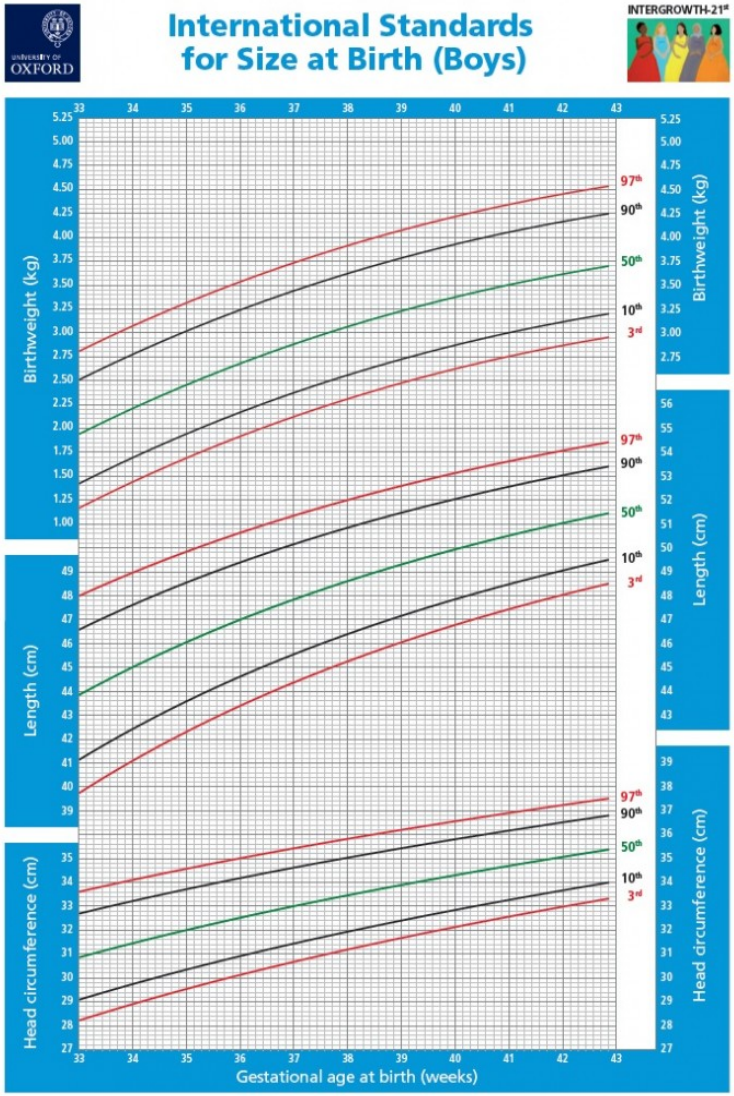


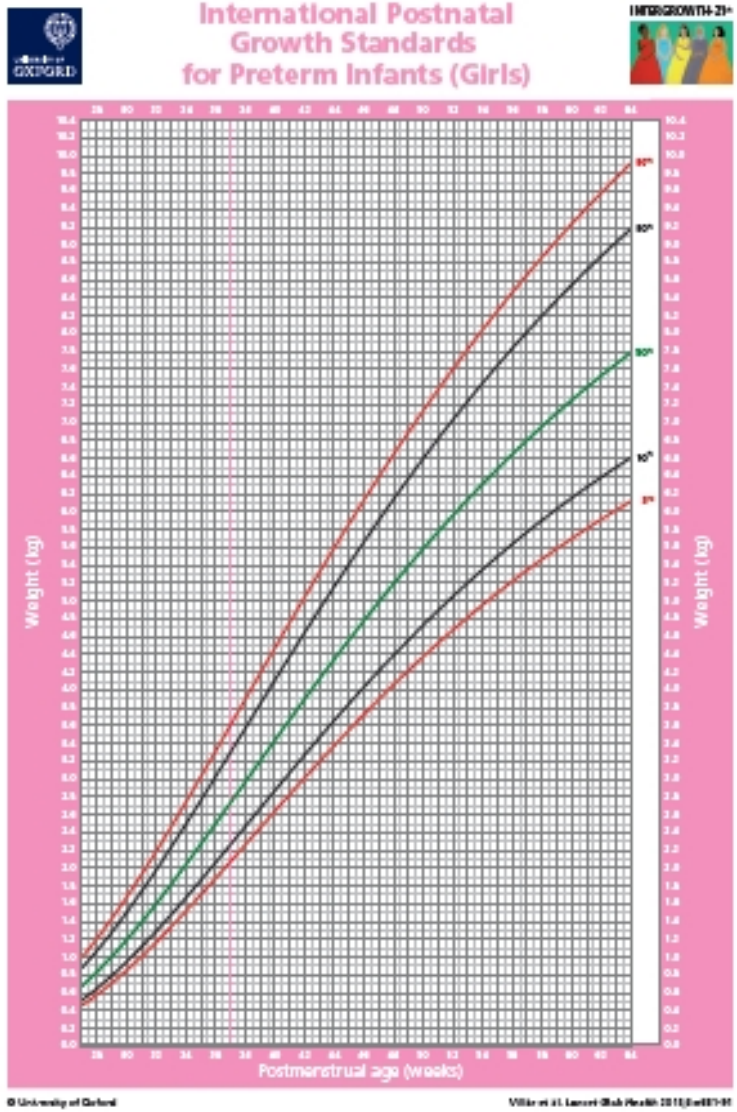
INTERGROWTH-21st
International Fetal and Newborn Growth Standards for the 21st Century

The International Fetal and Newborn Growth Consortium

SLEEP-WAKE CYCLE ASSESSMENT MANUAL

December 2013

UNIVERSITY OF OXFORD



Materials and methods

A retrospective evaluating of physical development **of 315 newborns** has been performed using Fenton growth charts and INTERGROWTH standards of growth. Gestational age of newborns was **34-36 weeks**.

Results

gestational age, week	Weight ±SD, g	Body length m±SD, cm	Head circumference m±SD, cm
34	2071,9±393,6	44,9±2,8	30,8±1,46
35	2353,3±319,2	46,3±1,8	31,6±1,58
36	2496,6±363,4	48,5±2,2	31,6±1,58

Weight

	appropriate for the gestational age	low birth weight	very low birth weight	high birth weight	very high birth weight
INTERGROWTH-21	50%	19%	8%	9%	14%
Fenton growth charts	63%	24%	6%	6%	1%

Length

	appropriate for the gestational age	low birth length	very low birth length	high birth length	very high birth length
INTERGROWTH-21	51%	2%	17%	20%	10%
Fenton growth charts	69%	6%	16%	9%	0%

Head circumference

	appropriate for the gestational age	low birth head circumference	very low birth head circumference	high birth head circumference	very high birth head circumference
INTERGROWTH-21	57%	19%	10%	11%	3%
Fenton growth charts	61%	22%	2%	13%	2%

Conclusions

- As we can see in the data provided above there are **significant differences** in the results of evaluating anthropometric indicators using these methods.
- Given that unlike **Fenton growth charts**, that have been developed based on **retrospective analysis**, **INTERGROWTH21** standards of growth are based on **prospective studies**, in which the technique of evaluating anthropometric indicators is completely standardized and evaluating a **newborn's growth** rate is a continuation of studying **fetal growth**.
- Taking into account the differences in standards of growth provided in various methods, it is necessary to adopt common standards for evaluating physical development.
- In our opinion, **INTERGROWTH21** standards of growth is more beneficial, because the research as a result of which they have been developed, has a more high quality design