



国家卫生和计划生育委员会“十二五”规划教材
全国高等医药教材建设研究会“十二五”规划教材

全国高等学校教材

供临床医学儿科学专业（方向）用

Pediatrics

主编◎申昆玲 陈超



人民卫生出版社
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全国高等学校普通高等教育儿科专业国家级规划教材自 20 世纪 80 年代第一轮出版至今已有 30 余年的历史。最初原卫生部教材办公室组织编写的儿科专业教材只有《小儿内科学》和《小儿外科学》两本,第二轮修订时增加《小儿传染病学》,第三轮修订时将《小儿内科学》中有关儿童保健的内容独立为《儿童保健学》。20 世纪 90 年代后期,由于教育体制改革取消了儿科学专业,本套教材再版工作一度停滞。21 世纪后,各高等医药院校又纷纷开办临床医学专业儿科专业方向的本科教育,为满足这一教学实际需求,2008 年进行了本套教材的第四轮修订。

随着社会的不断发展,人们越来越关注儿童的成长与健康,为满足儿科医生培养的需要,完善学科建设,更新学科知识,在广泛调研和征求意见基础上,经全国高等医药教材建设研究会、人民卫生出版社共同研究决定,在 2013 年 9 月启动儿科专业国家级规划教材第五轮的修订工作。

第五轮教材的修订原则是积极贯彻落实教育部、卫生计生委(原卫生部)《关于实施临床医学教育综合改革的若干意见》,努力优化人才培养结构,坚持以需求为导向;改革课程体系、教学内容、教学方法和评价考核办法;将医德教育贯穿于医学教育的全过程,强化临床实践教学,采取多种措施,切实落实好“早临床、多临床、反复临床”的要求,提高医学生的临床实践能力。

在全国医学教育综合改革精神的鼓舞下和老一辈医学家奉献精神的感召下,全国一大批优秀的中青年专家以严谨治学的科学态度和无私奉献的敬业精神,积极参与了第五轮教材的修订和建设,紧密结合儿科专业本科培养目标、高等医学教育教学改革的需要和医药卫生行业人才的需求,借鉴国内外医学教育教学的经验和成果,不断创新编写思路和编写模式,不断完善表达形式和内容,不断提升编写水平和质量,使第五轮教材更加成熟、完善和科学。

其修订和编写特点如下:

1. **明确培养目标,满足行业要求。**本套教材的编写工作是根据教育部的培养目标、卫生计生委行业要求、社会用人需求,在全国进行科学调研的基础上,借鉴国内外医学人才培养模式和教材建设经验,充分研究论证本专业人才素质要求、学科体系构成、课程体系设计和教材体系规划后,科学进行的。

2. **内容广度和深度具有广泛的代表性和适用性。**在全国广泛、深入调研基础上,总结和汲取了第四轮教材的编写经验和成果,尤其是对一些不足之处进行了大量的修改和完善,并在充分体现科学性、权威性的基础上,考虑其全国范围的代表性和适用性。

3. **适应教学改革要求。**本套教材在编写中着力对教材体系和教材内容进行创新,坚持学科整合课程、淡化学科意识、实现整体优化、注重系统科学、保证点面结合。坚持“三基、五性、三特定”的教材编写原则,以确保教材质量。

4. **实现教材的网络增值服务。**在纸质版教材的基础上,提供网络教学资料,拓宽了教材的内容,方便老师和学生自主学习。

5. **满足双语教学需要。**本轮教材新增儿科学双语版教材《Pediatrics》,以适应儿科专业与国际接轨的形式,更好地满足双语教学的需要。

本套教材出版后,希望全国各广大院校在使用过程中能够多提供宝贵意见,反馈使用信息,以逐步完善教材内容,提高教材质量,为下一轮教材的修订工作建言献策。

第五轮教材共有 7 种,其中新增 3 种,即《儿科人文与医患沟通》、《Pediatrics》、《儿科实习手册》。全套教材于 2014 年 7 月始由人民卫生出版社陆续出版。

第五轮规划教材目录

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前 言

随着儿科医学的不断发展及社会对儿科医师需求的不断增加,加强儿科医师队伍的培养意义重大。作为临床医学儿科专业(方向)的系列教材之一,《Pediatrics》是医学生儿科的重要参考书。

编写《Pediatrics》教材的主要目的是便于学习儿科专业英语,随着儿科国际交流的广泛开展,熟练掌握儿科专业英语非常重要,应该在本科阶段打好扎实的专业英语基础。

本教材根据儿科学各章节内容的基本要求,编写儿科各系统常见疾病的英语阅读材料,内容都是儿科专业英语最基本、最常见的问题。每个疾病的内容力求简明扼要,包括病例报告(Clinical Example)、学习重点(Study Highlights)、要点提示(Hint)、自测题(Self Assessment)等。将常用的专业英语词汇包含其中,并提供中文释义。内容突出科学性、准确性、实用性和指导性。

本书根据全国高等学校普通高等教育儿科专业“十二五”本科规划教材的编写精神和要求,由来自全国十二所知名大学附属儿童专科医院和附属医院儿科长期从事儿科临床工作、具备深厚学术造诣和丰富临床教学经验的12位专家集体编写。

虽经全体编写专家的共同努力,几经修改和审校,但书中难免存在疏漏和错误,敬请读者不吝指正。

主 编

2015年2月

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Chapter 1

Growth, Development and Health Care

1.1. Overview of Child Growth and Development

Introduction

All of the pediatricians need to understand normal growth, development and behavior in order to monitor children's progress, identify delays or abnormalities in development, counsel parents. Child *growth and development* (生长发育) is affected by biologic and social forces which interact within the parent-child relationship, within the family, and between the family and the larger society. Growth is one of important indicators of overall well-being, status of chronic disease, and interpersonal and psychologic stress. The interrelationships between physical growth and cognitive, motor, and emotional development can be observed by monitoring children over time.

Study Highlights

- *Physical growth* (体格生长): Growth is process rather than a static quality. A child at the 5th percentile of weight for age may be growing normally, may be *failing to thrive* (FTT, 生长不良), or may be recovering from severe growth failure. So it is very important to monitor the trajectory of child's growth curve other than one time evaluation of weight and height. The analysis of growth patterns and the detection of aberrant growth patterns provide critical information for the detection of pathologic conditions.

Hint

Monitoring growth measures by age allows the pediatricians to determine how the child compares to others of the same age and gender. These measures can be used to signal abnormal growth patterns.

- *Body proportions* (身体比例): Body proportions follow a predictable sequence of changes with development. The head and trunk are relatively large at birth, with progressive lengthening of the limbs throughout development, particularly during puberty.
- *Skeletal maturation*: Skeletal maturation is linked more closely to sexual maturity rating

than to chronological age and it can be estimated by bone age. Bone age is correlated well with stage of pubertal development and can be helpful in predicting adult height in adolescents.

- **Dental development:** dental development includes mineralization, eruption and exfoliation. The timing of dental development is poorly correlated with other growth processes or maturation. *Delayed eruption* (萌牙延迟) is usually considered when there are no teeth by approximately 13 mo of age, and the common causes include hypothyroid, hypoparathyroid, familial or idiopathic (the most common).
- **Structural growth:** Every organ and physiologic process undergoes a predictable sequence of structural or functional changes, or both, during development.
- **Influences on Development:**
 - **Environmental influences:** Many environmental factors influence development, including nutritional factors, presence of toxins, and factors such as noise, light, and availability of appropriate toys, etc.
 - **Familial influences:** Families have a profound impact on their children's development, especially in the areas of cognition and language, although other areas of development can also be influenced by family environment.
 - **Societal influences:** child's development can also be influenced by social institutions, such as child daycares, kindergartens and schools. Recent years, extensive researches show the results of the impact of media on child development.
 - **Chronic Illness:** The impact of chronic illness on child development is dependent on multiple, complex factors. For example children with hearing problem will not be able to develop spoken language until the problem is corrected.
 - **Stress:** healthy child development can be derailed by excessive or prolonged activation of stress response systems in the body and the brain, with damaging effects on learning, behavior, and health across the lifespan.

Hint

Early Experiences Shape Brain Architecture

Critical aspects of brain architecture begin to be shaped by experience before and soon after birth, and many fundamental aspects of that architecture are established well before a child enters school. Experiences during sensitive periods of development play an exceptionally important role in shaping the capacities of the brain.

Self Assessment

1. What's the pattern of body proportions change with development?

2. Describe the possible influences on child development.
3. What's definition of delayed eruption and what's the common cause?

■ Answer

1. Body proportions follow a predictable sequence of changes with development. The head and trunk are relatively large at birth, with progressive lengthening of the limbs throughout development, particularly during puberty.

2. See "Influences on Development" in study highlight.

3. Delayed eruption is usually considered when there are no teeth by approximately 13 mo of age, and the common causes include hypothyroid, hypoparathyroid, familial or idiopathic (the most common).

(江 帆)

1.2. Child Growth

Clinical Example

A 4-month old girl comes with her mother to the clinic for her scheduled well baby checkup. She was born at 38-6/7 weeks' gestation by normal spontaneous vaginal delivery without any complications. At birth, her weight was 3856 g, length 51 cm, head circumference 35cm. She has been breast-fed since birth, although her mother started to also use formula between one to two months of age. She is now being breast-fed once a day, given pumped breast milk in a bottle two to three times a day, and formula the rest of the time. She has 2 to 3 bowel movements a day with many wet diapers. Her past medical history is otherwise significant for a vibratory heart murmur heard from the second week of life, which was thought to be innocent. Parents have no concerns.

PE: vital signs are normal. Weight 7.4kg, length 63cm, head circumference 43cm. She is a robust, active and healthy appearing infant. Hear heart murmur has resolved and the rest of her examination is otherwise normal.

Study Highlights

- The monitoring of a child's growth is probably the most important job for a pediatrician. It is not only essential for the general pediatrician, but for the other subspecialties as well. *Growth deviations* (生长偏离) may be nonspecific or may be important indicators of serious and chronic medical disorders. The growth of the child is often used in conjunction with other signs and symptom, to help the physician determine what the problem might be.
- An accurate measurement of length/height, weight, and *head circumference* (头围) should be obtained at every *health supervision visit* (健康体检).

● Several benchmarks to evaluate normal growth:

— WEIGHT

- Weight loss in first few days: 5-10% of birth weight
- Return to birth weight: 7-10 days of age; Double birth weight: 4-5 mo; Triple birth weight: 1 yr; Quadruple birth weight: 2 yr
- 3-12 mo: $\text{Weight (kg)} = [\text{Age (mo)} + 9] / 2$
- 1-6yr: $\text{Weight (kg)} = \text{age (yr)} \times 2 + 8$
- 7-12yr: $\text{Weight (kg)} = \text{age (yr)} \times 3 + 2$

— HEIGHT

- Average length: 50cm at birth; 75cm at 1 yr; At age 2 yr, the average child is 85cm tall;
- 2-6yr: $\text{Height (cm)} = \text{age} \times 7 + 75$
- 7-10yr: $\text{Height (cm)} = \text{age} \times 6 + 80$

— HEAD CIRCUMFERENCE (HC)

- Average HC: 35 cm at birth (13.5 in)
- HC increases: 1 cm/mo for first yr (2 cm/mo for first 3 mo, then slower); 10 cm for rest of life

Hint

The most important tool for assessing and monitoring a child's growth is the growth chart which plots height (length), weight and head circumference. There are different growth charts for boys and girls. There are two age groups specific growth charts, one for children from birth to 36 months of age, and another from 2 years to 20 years of age. See figure 1-1 and figure 1-2 for the examples of WHO and Chinese *growth chart* (生长曲线) respectively.

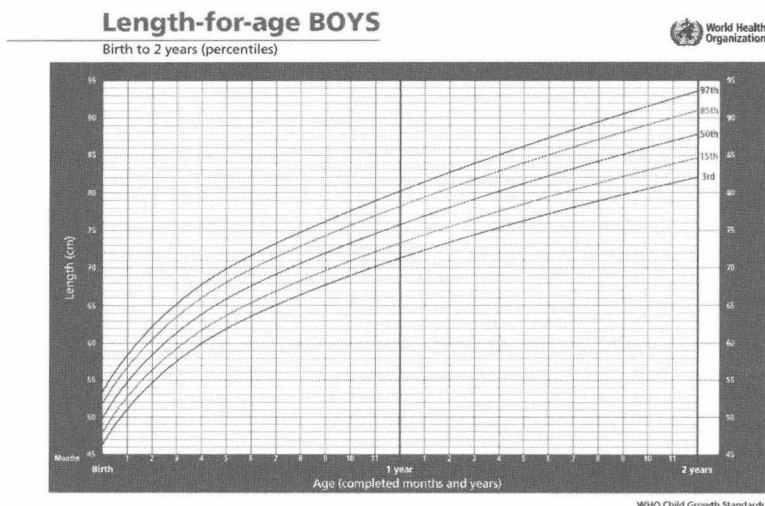


Figure 1-1. WHO growth chart of length for age, BOYS (Birth to 2 years)

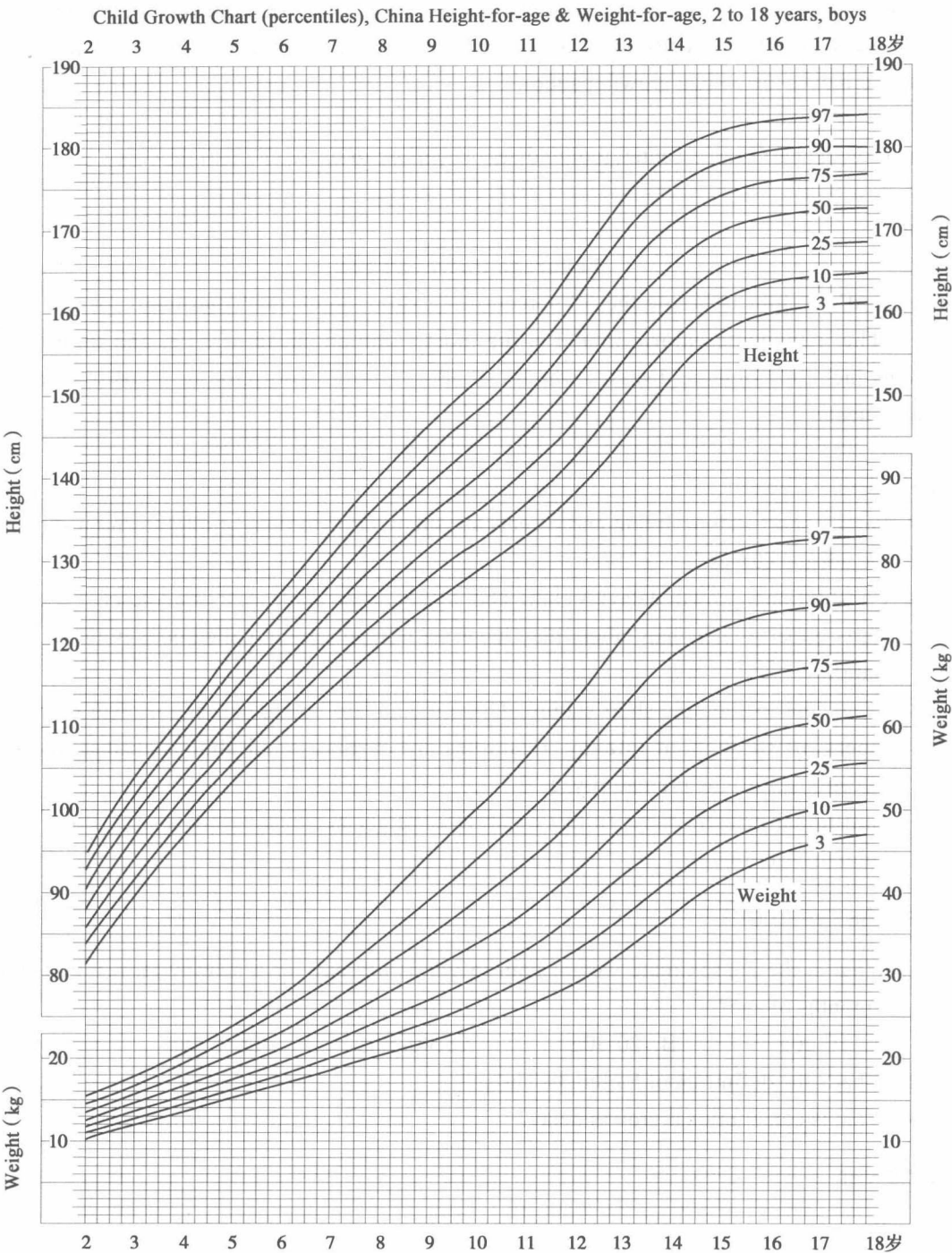


Figure 1-2. Chinese growth chart of Height for age, BOYS (2 to 18 years)

From Nine provinces/cities children's physical development survey data, 2005, China. Reference: Chin J Pediatr. 2009, 7.