



**Normal Development and Assessment
of Early Cognitive, Motor, and Speech and
Language Milestones**

早期智力，肢体运动，语音和语言
的发育发展及检测

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Introduction

简介

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Introduction 简介

6 Case Studies 6 个病例

- diagnosis 病理诊断
 - 18 month old, male, repaired lip, unrepaired palate 18 个月, 男, 唇裂已修补, 腭裂未修补
- words/gestures 单词或手势
- comprehension 领悟力
- motor skills 肢体运动能力

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Introduction 简介

Child #1 (poster case): Bao Bao 宝宝

- no words / gesturing 无单词, 做手势
- demonstrating frustration 表露内心的沮丧
- good comprehension and motor skills
领悟能力及肢体运动能力较好

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Introduction 简介

Child #2: Long Long 龙龙

- gesturing, ~20 intelligible words, 7 two-word combinations 做手势, 约20个可理解的单词, 7个双字词组
- 5 consistent consonants
5个经常使用的辅音
- good comprehension and motor skills
领悟能力及肢体运动能力较好

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Introduction 简介

Child #3: Tao Tao 涛涛

- gesturing, ~5 intelligible words
做手势, 约5个可理解的单词
- 3 consistent consonants
3个经常使用的辅音
- good comprehension and motor skills
领悟能力及肢体运动能力较好

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Introduction 简介

Child #4: Di Di 弟弟

- no words, no gesturing 无单词, 无手势
- no communicative intents except crying
无交流的意识, 只有哭声
- poor comprehension and motor skills
领悟能力及肢体运动能力差

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Introduction 简介

Child #5: Zhuang Zhuang 壮壮

- Spastic Cerebral Palsy 痉挛性脑瘫
- no words, awkward gesturing
无单词，做笨拙的手势
- unable to walk or crawl, unable to reach for objects
无法行走或爬行，无法伸手够东西
- good comprehension
领悟能力较好

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Introduction 简介

Child #6: Jian Jian 健健

- Down's Syndrome 唐氏综合症
- no words, a few gestures
无单词，做几个手势
- mental retarded, poor comprehension
低智商，领悟能力差
- delayed motor skills
肢体运动能力发育迟缓

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Introduction 简介

Question? 请问?

- Who has overall normal development?
谁的全面发育发展是正常的?

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Normal Development 正常的发展发育

- Long Long and Tao Tao
龙龙和涛涛
- Range between Long Long and Tao Tao
涛涛和龙龙之间存在一定距离
- Both children are within normal range
两个孩子都属于正常范围之内

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Normal Development 正常的发展发育

Normal development is:
正常的发展发育是：

- Average condition 平均水平的状况
- Generally expected natural progression
一般预期的自然进展
- Individual variation --- Normal range
个人的差别--- 正常的范围

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Normal Development 正常的发展发育

We need to know about normal development,
because:

我们需要了解正常的发展发育，因为：

1. Early identification and intervention
早期鉴定及防治

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Normal Development 正常的发展发育

2. Delayed or disrupted acquisition sequence can signal an impairment

迟缓的或中止的成长次序能够显示某种生长障碍

3. Motor and cognitive development affects speech and language

肢体运动和智力的发展会影响语音及语言的发展

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Speech vs. Language 语音与语言

Bao Bao & Di Di

宝宝和弟弟

- Who has speech? 谁有语音？
- Who has language? 谁有语言？

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Speech vs. Language 语音与语言

- Who has speech? 谁有语音？
 - neither child has speech
两个孩子都没有语音
 - no oral production of words
因为都没有口头表达的单词

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Speech vs. Language 语音与语言

- Who has language? 谁有语言？
 - Bao Bao has language: gesturing, expressing his feelings – frustration
宝宝有语言：做手势，表达内心的感受 - 沮丧
 - Di Di has no language: no gesturing, no communicative intents
弟弟没有语言：无手势，无交流的意识

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Speech vs. Language 语音与语言

- What is speech? 什么是语音？
 - Oral communication 口头的交流
 - Sounds, words and sentences produced verbally
口腔发出的音，字，和句子
 - Motor act of respiration, phonation, articulation, and resonance
由呼吸，发音，构音，及其共鸣系统共同进行的运动形式

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Speech vs. Language 语音与语言

- What is language? 什么是语言？
 - Symbolic system 有象征性的
 - Express needs, ideas, or experiences
用来表达需求，感想或经历
 - Can be verbal or visual
可为口头的或视觉的
 - sign language 手语
 - written language 书面语言

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Speech vs. Language 语音与语言

- Components of language: semantics (word meaning), syntax (grammar), and pragmatics (use of language)

语言的组成部份包括：内容(字词的意思)，语言的组合(语法)，及语言的使用

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Cognition & Motor 智力与肢体运动

Bao Bao, Zhuang Zhuang & Jian Jian?

宝宝，壮壮和健健？

- What is the primary problem most likely contributing to each child's communication disorders?

什么是造成每个孩子沟通障碍的主要因素？

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Cognition & Motor 智力与肢体运动

- Bao Bao: unrepaired cleft palate

宝宝：未修复的齶裂

- Zhuang Zhuang: motor delay secondary to Spastic CP

壮壮：由痉挛性脑瘫引起的肌肉及肢体运动发育迟缓

- Jian Jian: mental retardation secondary to Down's Syndrome

健健：由唐氏综合症引起的低智商

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Cognition & Motor 智力与肢体运动

Why do we need to care about motor and cognitive development?

我们为什么需要关心肢体运动和智力的发育发展？

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Cognition & Motor 智力与肢体运动

▪ Indicator of a more global delay or syndrome

指示一种全面的发育迟缓或综合症

▪ Predictive of later speech and language delay

预示后期语音及语言的发育迟缓

▪ Factors to be considered in medical and therapy treatment

在手术治疗和言语治疗中予以考虑的因素

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Cognition & Motor 智力与肢体运动

“We must look at the *whole* child, not just the *hole* what’s in the child.”

Dalston, 2002

“我们必须全面观察孩子的发育发展，而不是只着重在孩子口中的那个裂洞。”

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Developmental milestones

正常的发育发展阶段

(See handouts 见参考资料)

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Motor Milestones 肢体运动的发展

Birth to 1 year: 0-1岁

Gross Motor 大肌肉运动

- Roll 翻身
- Sit 坐
- Crawl 爬行
- Stand 站立
- Begin to walk
开始行走

Fine Motor 小肌肉运动

- Put objects to mouth
把东西放入口中
- Grasp and hold two objects
可抓拿两件物品
- Reaching 伸手够东西
- Use fingers 用手指

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Motor Milestones 肢体运动的发展

1 to 3 years: 1-3岁

Gross Motor

- Walk well
行走自如
- Run 奔跑
- Walk up and down
stairs 上下楼梯
- Jump 跳跃

Fine Motor

- Scribble 用笔乱划
- Cut with scissors 会用剪刀
- Good hand and finger
coordination
手与手指的协调性很好
- Feed self 喂自己

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Cognitive Milestones 智力的发展

Birth to 1 year: 0-1岁

- Sensorimotor play 感官运动的游戏
- Functional use of toys 知道如何使用玩具
- Differentiate primary caregiver from others
可分别出亲人和生人
- Imitate actions 模仿别人的举动
- Imitate sounds and gestures 模仿声音和手势

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Cognitive Milestones 智力的发展

1 to 3 years: 1-3岁

- Symbolic play 象征性的游戏
- Object permanence 理解物体永久性
- Cause-effect 理解因果关系
- Discriminate sizes 分别东西大小
- Match object to picture of object 可看图识物
- Share toys with other children
可与其他孩子分享玩具

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Speech Milestones 语音的发展

Birth to 1 year: 0-1岁

- Cooing (vowels) 咕咕发音(元音)
- Laughter (with voice) 带嗓音地笑
- Vocal play (single syllable)
使用嗓音(单音节)
- Babbling (bababa, mamama) 咿哑学语
- Expressive jargon (varied babbling with adult-like intonation) 带成人语调的咿哑学语

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Speech Milestones 语音的发展

1-2 years: 1-2 岁

- Tone 声调
- Vowels 元音
- Syllable-initial consonants stabilized: [t] d, [tʰ] t, [m] m, [n] n, [x] h

经常使用的字首辅音：拼音 d, t, m, n, h

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Speech Milestones 语音的发展

2-3 years: 2-3 岁

- Syllable-initial consonants stabilized: [p] b, [pʰ] p, [k] g, [kʰ] k, [ç] x, [tç] j, [tçʰ] q, [f] f

经常使用的字首辅音：拼音 b, p, g, k, x, j, q, f

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Speech Milestones 语音的发展

3-5+ years: 3-5+ 岁

- Syllable-initial consonants stabilized: [l] l, [s] s, [ʃ] sh, [r] r, [tʃ] zh, [tʃʰ] ch, [ts] z, [tsʰ] c

经常使用的字首辅音：拼音 l, s, sh, r, zh, ch, z, c

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Language Milestones 语言的发展

Birth to 1 year: 0-1岁

Receptive Language

语言的理解

- Respond to own name 对自己的名字做反应
- Understand "no" 明白“不”
- Shake head *yes* and *no* to some questions
点头或摇头来回答问题
- Follow simple instructions 听从简单的指令

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Language Milestones 语言的发展

Expressive Language

语言的表达

- Direct sounds and gestures to objects and persons 用声音和手势要人和物
- First word appear 开始讲第一个字
- Vocalize during play 一边玩一边发音
- Intentional language begins
开始有意识的语言

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Language Milestones 语言的发展

1-2 years: 1-2岁

Receptive Language

语言的理解

- Respond to simple "wh" questions
回应简单的“什么”问题
- Identify body parts 知道身体部位
- Perceive others' emotion 觉察他人的情绪

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Language Milestones 语言的发展

Expressive Language
语言的表达

- Two or three word combinations at 1.5 yrs.
一岁半左右用两个或三个字的词组
- First phrase 开始讲短语
- First sentence 开始讲句子
- First pronoun 开始用代名词(我, 你)

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Language Milestones 语言的发展

2-3 years: 2-3 岁

Receptive Language
语言的理解

- Rapid increase in comprehension vocabulary
理解的词汇快速并大量地增加
- Listen to simple stories 倾听简短的故事
- Understand most common adjectives
理解大部分形容词
- Identify object by use 可识别物体的用途

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Language Milestones 语言的发展

Expressive Language
语言的表达

- Rapid vocabulary expansion
表达词汇快速并大量地扩充
- Ask simple questions 问简单的问题
- Use simple sentences 讲简单的句子
- Talk about immediate experiences
谈论亲身经历

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Language Milestones 语言的发展

3 years and up: 3 岁以上

Receptive Language

语言的理解

- Begin to learn from listening 开始边听边学
- Comprehend complex and compound sentences
理解复杂的句子结构
- Understand more complex stories
明白复杂的故事

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Language Milestones 语言的发展

Expressive Language

语言的表达

- Increase complexity of sentences
句子更加复杂
- Improvement in grammar 语法更完善
- Better topic maintenance 更好地围绕主题
- Better conversational partner
更好的谈话对象

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Assessment

检测

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Assessment 检测

Assessment Protocol 检测大纲

- Interviews (see handouts)
病人或家长的问答(见参考资料)
- Case histories 病史
- Observation 观察
- Developmental checklist (see handouts)
发育发展阶段目录表(见参考资料)

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Assessment 检测

- Formal testing 正规测试
- Speech and language sample analysis
语音和语言的样本分析
- Structured probe activities
结构性引导活动
- Test-teach-retest 测试-教导-再测试
- Caregiver feedback conference
家长反馈会议

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Assessment 检测

- Interviews 问答卷
 - patient, parents, caretakers, teachers
病人, 家长, 其他看护人, 老师
 - include open-ended questions
用开放式问题
- Formal testing 正规测试
 - single-word articulation test 单字语音测试表
 - Mandarin McArthur Communicative Developmental Inventories (in press) 普通话 CDI (在发表中)

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Assessment 检测

- **Speech & language sample analysis**
语音和语言的样本分析
 - capture a representative portion of child's communication for further analysis
分析孩子具代表性的一段语言表达
 - collect on audiotape or videotape
录音或摄像

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Assessment 检测

- transcribe into written form
进行书面记录
- look for strengths and weaknesses in speech production and language skills
总结孩子语音和语言中的优缺点

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Assessment 检测

- **Structured probe activities**
结构性引导活动
 - elicit target production
创造机会引发要检测的语音和语言
 - may use pictures and toys, etc.
可用图片和玩具等
 - picture-naming task (Zhu & Dodd, 2000)
看图讲话

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Assessment 检测

- Test-teach-retest 测试 - 教导 - 再测试
 - stimulability 可否改善
 - child's responsiveness and changes
孩子的反应和变化
 - prognosis 治疗预测

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Assessment 检测

- Caregiver feedback conference
家长反馈会议
 - inform parents the assessment findings
通知家长检测的结果
 - discuss recommendations
讨论治疗的推荐意见

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Assessment 检测

What is the assessment protocol for Bao Bao?

宝宝的检测大纲:

- Interviews 家长的问答
- Case histories 病史
- Observation 观察
- Developmental checklist 发育发展阶段目录表
- Mandarin CDI 普通话 CDI
- Caregiver feedback conference 家长反馈会议

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Assessment 检测

What is the assessment protocol for Mei Mei (poster case #2)?

妹妹的检测大纲:

- Interviews 病人和家长的问答
- Case histories 病史
- Observation 观察
- Formal testing 正规测试

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Assessment 检测

- Speech and language sample analysis
语音和语言的样本分析
- Structured probe activities 结构性引导活动
- Test-teach-retest 测试-教导-再测试
- Caregiver feedback conference
家长反馈会议

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Summary

总结

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Summary 总结

Take-Home Messages: 重要观点

- Normal developmental milestones
正常的发育发展阶段
- Speech vs. Language 语音与语言
- Assess overall development: motor, cognitive,
speech & language 全方面进行检测: 肢体运
动, 智力, 语音及语言
- Assessment Protocol 检测大纲

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Recommended readings

推荐文献

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Recommended Readings 推荐文献

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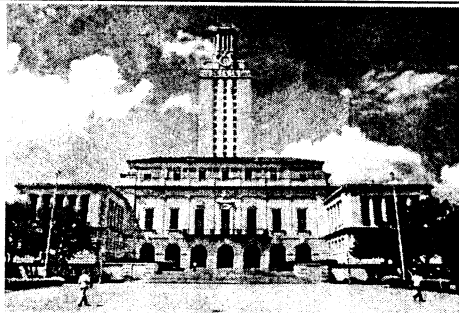
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THANK YOU! 感谢大家!



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