



# A SYNOPSIS OF CHILDREN'S DISEASES

BY

JOHN RENDLE-SHORT

M.A., M.B. (Cantab.), M.R.C.P., D.C.H.

*Lecturer in Child Health, University of Sheffield*



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## PREFACE TO THE SECOND EDITION

THE necessity of producing a new edition of A SYNOPSIS OF CHILDREN'S DISEASES has enabled me to rewrite those parts of the book which are now out of date owing to the rapid advances in medical knowledge in the last three years.

As before, numerous articles and books have been consulted and my thanks are due to the authors of these. In addition I would like to thank Professor R. S. Illingworth and many colleagues from whom I have learnt so much.

Finally, it is a pleasure to acknowledge the help and courtesy I have received from Messrs. John Wright & Sons Ltd.

J. R.-S.

*December, 1956.*

## PREFACE TO THE FIRST EDITION

THE importance of children's diseases is unquestioned ; it was therefore considered that there was a place for a book of the synopsis type devoted to this speciality, in order to assemble all the relevant facts tidily for easy reference and rapid revision. It is hoped that this book will be of value to those preparing for examinations, whether Finals, the Diploma of Child Health, or Membership of the Royal College of Physicians ; also for Pædiatric House Physicians and General Practitioners. It should not take the place of standard text-books.

For the guidance of undergraduates, most diseases have been described as common, rare, etc. With few exceptions (e.g., rickets), those conditions marked as rare, or very rare, are of little importance to students taking their final examinations. It must be remembered, however, that whether a disease is described as common or rare depends largely on how many examples of that particular condition the author has seen.

The section on gastro-enteritis is purposely detailed, as the correct management of this disease is the key to the control of infantile dehydration and biochemical upset of whatever aetiology.

The appendix on drug dosage has been inserted especially for the benefit of House Physicians and General Practitioners. The doses have been checked by Mr. A. Williams, Ph.C., M.P.S., Chief Pharmacist at Llandough Hospital, whose help is gratefully acknowledged. Dr. T. Parry, Pathologist to Llandough Hospital, helped with the appendix on normal biochemical values.

Much of the material in this book is drawn from standard text-books, especially Garrod, Batten, and Thursfield's *Diseases of Children* and Mitchell-Nelson's *Textbook of Pediatrics* and grateful thanks are accorded to the writers of these and many other books and articles too numerous to mention individually. It is hoped that the authors will accept this as adequate acknowledgement. In a few instances, references have been given in a footnote, and illustrations taken from articles are acknowledged under each. Messrs. Allen and Hanbury kindly supplied the illustration of the Woolwich nipple shield.

I would like to take this opportunity of thanking all those who read the proofs, and especially Professor A. G. Watkins, for much valuable criticism and advice. Several typists assisted me and my thanks are due to them, and particularly Miss W. R. Davies.

Finally to Messrs. John Wright & Sons I express my sincere gratitude for their unfailing patience and help.

J. R.-S.

November, 1953.

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*PART I*

THE HEALTHY CHILD



# A SYNOPSIS OF CHILDREN'S DISEASES

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## CHAPTER I

### DEVELOPMENT

**Norms of Development.**—All children follow same pattern of development (said to 'pass the same milestones'). Age at which they do so differs within certain limits, even in normal children. Importance of norms is that major deviation almost always indicates some mental or physical abnormality. Accurate knowledge of normal development has enabled diagnosis of certain conditions, e.g., deafness or spastic lesions, to be made at early age.

**Classification.\***—

1. MOTOR BEHAVIOUR (i.e., bodily control and movement).
2. ADAPTIVE BEHAVIOUR (i.e., sensory and motor co-ordination of eyes, arms, hands).
3. LANGUAGE AND EMOTIONAL BEHAVIOUR.
4. PERSONAL-SOCIAL BEHAVIOUR (i.e., reaction to environment).

### NORMAL DEVELOPMENTAL PATTERNS

**Birth.**—

1. MOTOR BEHAVIOUR.—

- a. Child sleeps most of time. When awake is usually crying.
- b. Dislikes looking at light and closes eyes.
- c. Moro reflex well marked, i.e., generalized convulsive flexion of all four limbs if child suddenly startled as by banging side of cot.
- d. Jaw clonus usually present; ankle clonus occasionally present.
- e. 'Walking reflex' can sometimes be elicited: if child supported in standing position he will often place one foot in front of the other as though walking.
- f. Hands held clenched, usually with thumb between index and middle finger. Grip good and child can be partly lifted if he grasps examiner's finger. Object placed in hand, however, is soon dropped.
- g. Lies immobile. Can flex and extend legs and arms. When pulled into sitting position head flops back. When lying prone infant cannot lift his head from couch.

2. ADAPTIVE BEHAVIOUR.—Nil.

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\* Modified from *Developmental Diagnosis*, by Arnold Gesell and Catherine S. Amatruda (second ed.). New York: Paul B. Hoeber Inc.

Normal Developmental Patterns—Birth, *continued*.

3. LANGUAGE AND EMOTIONAL BEHAVIOUR.—Cries vigorously ; does not register pleasure.
4. PERSONAL-SOCIAL BEHAVIOUR.—Nil.

**Four Weeks (1 Month).—**

1. MOTOR BEHAVIOUR.—
  - a. Child lies on back, usually in ‘ tonic-neck-reflex ’ attitude, i.e., with head turned to one side, arm and leg of that side extended, and arm and leg of opposite side flexed.
  - b. Can roll part way on to side ; move arms freely ; flex and extend legs, but only lift them a few inches.
  - c. Hands held as at birth.
  - d. Head flops back when child raised into sitting position and drops when child suspended in prone position.
2. ADAPTIVE BEHAVIOUR.—
  - a. Follows moving object with eyes partly.
  - b. Appreciates noise.
3. LANGUAGE AND EMOTIONAL BEHAVIOUR.—
  - a. Does not cry all the time when awake ; may make a few noises.
  - b. Emotion not yet shown by facial expression.
4. PERSONAL-SOCIAL BEHAVIOUR.—Nil.

**Sixteen Weeks (4 Months).—**

1. MOTOR BEHAVIOUR.—
  - a. Child lies on back with head in mid-position.
  - b. Moves arms and legs freely. Can clasp hands together in midline.
  - c. Fingers extended.
  - d. When pulled into sitting position head lags only a little. Head held up well in prone position.
2. ADAPTIVE BEHAVIOUR.—
  - a. Stares around attentively.
  - b. When shown object, interest is aroused, and effort made to touch it.
3. LANGUAGE AND EMOTIONAL BEHAVIOUR.—
  - a. Smiles at examiner.
  - b. Coos and laughs.
4. PERSONAL-SOCIAL BEHAVIOUR.—
  - a. Recognizes bottle.
  - b. Plays with hands and clothing.

**Twenty-eight Weeks (7 Months).—**

1. MOTOR BEHAVIOUR.—
  - a. Sits with support.
  - b. Lifts head from pillow.
  - c. Uses hands actively ; grasps objects and puts them in his mouth.
  - d. Pushes up and down with legs when held in standing position.
2. ADAPTIVE BEHAVIOUR.—Plays with objects incessantly.
3. LANGUAGE AND EMOTIONAL BEHAVIOUR.—Says “ Ma ”, “ Da ”, etc., but without any meaning.
4. PERSONAL-SOCIAL BEHAVIOUR.—Takes solids easily.

**Forty Weeks (10 Months).—**

**1. MOTOR BEHAVIOUR.—**

- a.* Sits without support.
- b.* Creeps.
- c.* Pulls himself to standing position.

**2. ADAPTIVE BEHAVIOUR.—**Picks objects up accurately.

**3. LANGUAGE BEHAVIOUR.—**Can imitate sounds.

**4. PERSONAL-SOCIAL BEHAVIOUR.—**Holds cup.

**Fifty-two Weeks (12 Months).—**

**1. MOTOR BEHAVIOUR.—**Walks with hand held.

**2. ADAPTIVE BEHAVIOUR.—**Plays with toys.

**3. LANGUAGE BEHAVIOUR.—**Says two or three words.

**4. PERSONAL-SOCIAL BEHAVIOUR.—**Helps with dressing.

**Eighteen Months.**—Child can walk well ; says about 10 words ; feeds himself but rather inaccurately. Usually clean and dry by day.

**Two Years.**—Runs ; walks up and down stairs alone ; uses sentences of 3-4 words ; feeds himself cleanly ; mainly dry at night.

CHAPTER II

PHYSICAL GROWTH

INTRODUCTION

1. Weight more commonly used than height as criterion of growth. Steady gain in weight or height of more importance than actual figures recorded at any one time.

Needless worry often caused by telling mother that child is below average weight.

**2. Factors Influencing Physical Growth.—**

*a.* **BIRTH WEIGHT.**—Children whose birth weight is low tend to remain relatively smaller than those with higher birth weight.

*b.* **SEX.**—Girls usually smaller than boys.

*c.* **FAMILIAL FACTORS.**—Large parents tend to have large children.

*d.* **RACIAL FACTORS.**—Some races, e.g., pygmies, tend to be shorter than others.

*e.* **ENDOCRINE FACTORS.**—May influence weight or height.

*f.* **ENVIRONMENTAL FACTORS.**—Children in social classes I and II (see footnote, p. 31) usually larger than those in classes IV and V. Perhaps due to nutritional differences.

*g.* **ILLNESS.**—Certain diseases, e.g., coeliac disease, result in cessation of normal gain in weight or height.

3. Growth does not proceed regularly and uniformly.—

*a.* First 2 years of life—period of intense growth.

*b.* 2-11 years—growth occurs more slowly.

*c.* At puberty—further period of active growth.

4. Tables of average weight or heights vary considerably according to country of origin and date when they were compiled.



Physical Growth, *continued*.**WEIGHT**

(Table I)

**Birth Weight.**—Average 7–7½ lb., but great variations occur. Weights of 8–9 lb. not uncommon. Babies weighing 10 lb. or more may be born to diabetic or pre-diabetic mothers.

**Approximate Weights.**—

Birth weight (e.g., 7 lb.) approximately doubled ( $\times 2$ ) at 4 months (i.e., 14 lb.).

Birth weight approximately trebled ( $\times 3$ ) at 1 year (i.e., 21 lb.).

Birth weight approximately quadrupled ( $\times 4$ ) at 2 years (i.e., 28 lb.).

After this weight increases by about 4 lb. per year up to 7 years.

**Expected Weight.**—Following factors used in calculation:—

1. Baby normally loses weight after birth, but should have returned to birth weight by tenth day.
2. Baby gains approximately 1 oz. per day for first 100 days of life. Expected weight can thus be calculated as follows: Number of days since birth minus 10, equals weight in ounces that child should have gained. This figure added to birth weight therefore gives expected weight.

Table I.—TABLE OF AVERAGES

	WEIGHT	HEIGHT	HEAD CIRCUMFERENCE
	Pounds	Inches	Inches
Birth	7	20	13½
6 months	17	26	16½
1 year	21	30	18
2 years	28	34	19
3 years	32	38	19½
4 years	36	40	20
5 years	40	42	20
6 years	44	44	20
7 years	48	46	20½

**HEIGHT****Approximate Heights.**—

From 6 months to 1 year: height increases 4 in.

From 1 year to 2 years: height increases 4 in.

From 2 years to 3 years: height increases 4 in.

From 3 years onward: height increases 2 in. each year.

At 4 years height double that at birth.

**HEAD CIRCUMFERENCE**

Measurement of especial value in cases of suspected hydrocephalus. (Table I.)