Contents

	Foreword	ix
	Preface	xi
	Acknowledgements	xvii
1	The clinical picture for therapy and management	1
	Incidence of cerebral palsy	1
	Motor dysfunction	1
	Associated impairments and disabilities	3
	Broad framework for therapy and management	4
	Aetiology of cerebral palsy	7
	Genetic causes	7
	Causes in later childhood	7
	Neuroimaging	7
	Clinical picture and development	8
	Change at different ages	9
	Classification systems	11
	Topographical classifications	14
	Classification of motor types of cerebral palsies	15
	Common features observed in all presenting types of cerebral palsies	21
	Motor delay	22
	Summary	23
2	A collaborative learning approach	25
	Working with parents within a family framework	25
	Emotional support	26
	Parents vary	27
	Other adults	28
	Family-centred services	28
	Research on home and school visits	30
	Collaborative learning approach	30
	Opportunities to discover what the parents and child want to achieve	31
	Opportunities to clarify what is needed for these achievements, to recognise	
	what parents and children already know and can do, and to find	
	out what they still need to learn and do	32
	Involvement in the selection and use of methods	34
	Involvement in the evaluation of progress	37
	Parent-child interaction	38
	Helping a child to learn motor control (body function) and motor function (activity)	39
	Observation of parent and child interaction	40
	Social needs	41
	Parents' health	41
	Teamwork with parents	42

vi Contents

	Siblings Alternative and complementary treatments Summary	43 44 46
3	Learning motor function Learning methods Development of a child's attention and learning Practical ideas to promote attention and learning A child's own strategies for a chosen goal Task analysis Cues for learning Verbal guidance Rewards Practice and experience Summary	49 50 52 53 54 55 56 58 58 59 60
4	Adolescents and adults Studies of function in adolescents and adults Activity goals Issues of concern for adolescents and adults Adolescents Adults Healthy lifestyle Develop appropriate community mobility Training of self-care and cosmetic appearance Knowledge about the condition Therapeutic activities Measures Summary	61 62 63 64 65 66 67 68 69 69 70 70
5	Outline of treatment approaches History Muscle education and braces Progressive pattern movements Proprioceptive neuromuscular facilitations (PNF) Neuromotor development Neurodevelopmental treatment (NDT) (Bobath approach) Sensory stimulation for activation and inhibition Reflex creeping and other reflex reactions Conductive education Sensory integration Context therapy Strength training Systems-based task-oriented approach Mobility Opportunities Via Education (MOVE) Contemporary theories	71 71 73 74 75 75 77 78 79 81 82 82 87 88
6	Evidence-based practice Research and clinical studies Research on treatment approaches Theoretical grounds Research studies Reviews of research studies Research on specific procedures	93 93 93 94 94 94

	Contents	vii
	Other research	95
	Clinical experience with evidence-based practice	96
	Definitions	97
	The appraisal of research studies for therapy	98
	Examples of qualitative research methods (Greenhalgh and Taylor 1997)	102
7	Synthesis of treatment approaches	103
	The eclectic viewpoint in therapy	103
	Synthesis of treatment systems	104
	The postural mechanisms	105
	Trunk control	108
	Voluntary motion	108
	Perceptual-motor function	110
	Principles for a synthesis of therapy and management	110
	Developmental training	111
	Some advantages and disadvantages of modifications of developmental sequences	114
	Treatment of atypical tone	116
	Training of movement patterns	117
	Use of afferent stimuli	118
	Management of deformity	120
8	Assessment for therapy and management	121
	Approach to assessment	121
	Assessment and measurements	125
	Examples of atypically persistent postures, movements, and functions	132
	Functional measures	133
	Specific functional items	135
	Measures of upper extremity and hand function	137
	Measures of daily activity and participation	138 142
	Quality of life and health-related quality of life measures	
	Norm-referenced measures of stages of child development Neonatal assessments	143 144
	Methods of observation of gait	144
	· · · · · · · · · · · · · · · · · · ·	154
	Additional assessment required Records	154
	Summary	156
9	Treatment procedures and management	157
	Motor training	157
	Development of the child with severe visual impairment	161
	Developmental Training	168
	Prone development	168
	Supine development	193
	Development of sitting	208
	Development of standing and walking	230
	Lower limb orthoses for standing and walking	263
	Development of hand function	277
	Techniques for carrying the child correctly	307
10	Function and the child's daily life	309
-	Motor function in communication	310
	Motor function in self-care activities	313
	Motor function for leisure	326

viii Contents

11 Therapeutic group work	329
General management of groups	331
Selection of children	332
The programme	333
Summary	335
12 Management of deformities	337
Causes of deformities	338
Therapy goals	343
Deformities and gait	344
General considerations related to surgery	348
Therapy and daily care	351
Dynamic arm deformity	365
Deformities of trunk and neck	365
13 Assessment, prescription, and provision of equipment	367
Equipment for self-care tasks	368
Postural management equipment	370
Sleep systems	381
Other equipment for positioning	383
Mobility equipment	383
Adaptations and the built environment	391
Appendix 1 Developmental levels	393
Physical ability assessment guide	393
Wheelchair use	397
Appendix 2 Useful organisations	399
References	401
Index	429