

Contents

Part I Understanding Your Goals: The What, Why and Who

1	Essential Basics	3
1.1	What Is Stroke?	3
1.2	What Happens During a Stroke?	4
1.3	Why Set Up a Stroke Service?	4
1.4	Understanding the Penumbra Concept	9
1.5	Pathophysiology of Thrombosis	17
1.6	Understanding That “Time Is Brain”	19
1.7	What Is a Stroke Pathway?	20
1.8	Where Should Stroke Care Take Place?	20
1.9	What Is a Stroke Unit?	21
1.10	What Is Decompressive Craniectomy?	21
1.11	What Is Neuroprotection in Stroke?	22
	References	23
	Further Reading	24
2	Guidelines and Regulations	25
2.1	Sources of Supporting Information	25
2.2	Guidelines	27
	Further Reading	32

3	Who Can Support This Project?	33
3.1	Expertise	33
3.2	Funding	33
3.3	Useful Links	37
	Further Reading	38
4	Basic Milestones in Stroke Treatment	39
4.1	Acute Phase	41
4.2	Post-acute Phase	43
5	Defining Your Priorities	45
6	Walking the Steps and Defining Your Own Pathway and Goals on the Way	51
6.1	Step 1: Pre-hospital Care	52
6.2	Step 2: Patient Evaluation	54
6.3	Step 3: Imaging and Diagnosis	56
6.4	Step 4: Primary Stroke Treatment	67
6.5	Step 5: Advanced Stroke Treatment	70
6.6	Step 6: Post-acute Care/Supporting Treatment	80
	References	85
	Further Reading	87
7	Bringing Your Goals into Shape	89
8	Examples of Treatment Pathways	93
8.1	Imaging Pathways	93
9	Specific Pathways in Special Cases	103
9.1	Basilar Artery Thrombosis	104
9.2	Signs of a Major Vessel Occlusion (MCA/ICA)	106
9.3	Portable CT Scanners	107
9.4	DSA with Interventional Treatment as a Primary Choice	109
9.5	Integrated Magnetic Resonance Imaging and X-Ray Angiography	112
	References	113

10	Future Concepts in Stroke Treatment	115
10.1	MSU: The Concept of a Mobile Stroke Unit	115
10.2	New Strategies for Reduction of the Door-to-Needle Times	123
10.3	The Acute Vascular Imaging Concept Using Integrated Imaging	124
	References	129
11	Strategic/Business Management	131
11.1	Things to Consider in a Budget	134
11.2	Staffing	135
11.3	Who Manages Your Project	136
11.4	Project Management Plan	137
 Part II Planning		
12	Establishing Whom and What You Need in the Stroke Pathway	143
12.1	Who Are the Key Parties in a Stroke Service?	144
12.2	Meeting Resistance	144
12.3	Who Are the Key Parties That Need to be Informed?	146
13	Establishing Your Resources (Equipment, Staff, Space)	147
13.1	Determining Non-personnel Resources	147
13.2	Determining Personnel Resources	148
14	Budget and Time Frame	151
14.1	Benefit-Cost Analysis	151
	Reference	154
15	Risk Assessment and Management	155
16	The Team	161
16.1	Setting Up a Project Team	161
16.2	Defining Team Members' Roles and Responsibilities	163
 Part III Getting Started		
17	Work Packages	167

18	Work Groups	169
18.1	Pre-hospital Phase	169
18.2	Acute Phase	171
18.3	Post Treatment Phase	173
Part IV Evaluation		
19	Monitoring	179
19.1	Project Performance	179
19.2	Times and Outcomes	179
20	Marketing	181
20.1	Dissemination	181
20.2	Redefining Your Goals (e.g., Expand Service)	183
21	Closing Remarks	185
Appendix: Tables		187
Index		197