

Contents

Part 1 Theory

1 HISTORICAL BACKGROUND	3	4 PHYSIOPATHOLOGY	31
2 THE ANATOMY OF THE LYMPHATIC SYSTEM	5	4.1 Dynamic Insufficiency of the Lymphatic System	31
2.1 Lymphatic Vascular System	5	4.2 Mechanical Insufficiency of the Lymphatic System	31
2.2 Anatomical Characteristics.	12	4.3 Mixed Insufficiency of the Lymphatic System	32
.1 Upper Limb	13	4.4 Lymphangiopathy with Sufficient Lymphatic Drainage.	33
.2 Lower Limb	14	5 CLINICAL SYMPTOMS OF EDEMA	35
2.3 Superficial Lymphatic Vascular System	14	5.1 Differential Diagnosis of Edema	35
<i>Box 2.1</i> Lymphology: Definitions.	6	.1 Medical History.	35
3 VASCULAR PHYSIOLOGY	19	.2 Physical Examination.	36
3.1 Interstice	20	.3 Palpation	37
3.2 Permeability of Blood Capillaries.	21	5.2 Lymphedema.	39
3.3 Processes of Transcapillary Exchange	22	.1 Developmental Stages of Lymphedema	41
.1 Arterial Blood Pressure and Peripheral Resistance	22	Stages Ia and Ib of Lymphedema.	41
.2 Blood Pressure from the Capillaries to the Heart.	23	Stages II and III of Lymphedema.	42
.3 Osmosis and Oncotic Pressure	23	.2 Signs and Symptoms of Primary and Secondary Lymphedema	44
.4 Starling's Equilibrium.	23	.3 Diagnosis of Lymphedema	46
.5 Disruption of Starling's Equilibrium	25	Medical History	47
3.4 Formation and Transportation of Lymph	25	Physical Examination	47
.1 Formation of Lymph	26	Palpation	47
.2 Lymphangion Motor Activity	26	Instrumental Examinations	47
3.5 Lymphatic Load	28	.4 Types of Lymphedema	49
3.6 Lymphatic Vascular System: Functions.	29	Primary Lymphedema	49
<i>Box 3.1</i> Venous Pressure and Normal Edema	23	Cancer-Related Secondary Lymphedema	50
		Non-Oncological Secondary Lymphedema	53
		Postoperative or Post-Traumatic Acute Lymphedema	54

Post-Traumatic Chronic Lymphedema	55	5.4 Lipedema and Lipolymphedema	75
Lymphedema with Lymphatic Reflux.	55	.1 Developmental Stages of Lipedema.	76
Pure Lymphedema or Lymphedema Associated with Other Pathologies	56	.2 Treatment of Lipedema	77
.5 Complications and Pain with Lymphedema	57	5.5 Idiopathic Cyclic Edema	77
Erysipelas or Infectious Dermohypodermatitis	59	5.6 Myxedema.	78
Malignant Lymphedema	60	5.7 Edema and Arteriopathy.	78
After-Effects of Radiation Treatment	62	<i>Box 5.1 The Body's Response to Lymphostasis</i>	<i>39</i>
5.3 Phlebedema and Phlebolymphe- dema	65	<i>Box 5.2 Acute Lymphedema: A Specific Example of Stage Ib Lymphedema</i>	<i>57</i>
.1 Complications of Venous Insufficiency	70	<i>Box 5.3 Manual Lymphatic Drainage and Cancer</i>	<i>63</i>
.2 Clinical Stages (Widmer), Physiopathology (Földi), and Treatment.	71	<i>Box 5.4 Lymphedema Treatments</i>	<i>64</i>
		<i>Box 5.5 Venous System of the Lower Limbs: Anatomical Features</i>	<i>67</i>
		<i>Box 5.6 Right-Sided Heart Failure</i>	<i>71</i>
		<i>Box 5.7 Hepatopathy</i>	<i>71</i>
		<i>Box 5.8 Considerations Regarding Venous Ulcers</i>	<i>74</i>

Part 2

Basic Techniques

6 MANUAL LYMPHATIC DRAINAGE:

OVERVIEW	85	.6 Drainage of the Colon	91
6.1 Basic Techniques	85	.7 Drainage of the Deep Abdominal Lymphatic Chains	91
.1 Circular Technique	86	Overall Technique	91
Instructions.	86	Drainage of the Para-Aortic Lymphatic Chains	91
.2 Pumping Technique	86	Drainage of the Iliac Lymphatic Chains	91
Instructions.	86	.8 Drainage of the Ischiatic Vessels	91
.3 Rotatory Technique	87	6.3 Conditions Calling for MLD	91
Instructions.	88	6.4 Conditions Limiting the Physical Treatment of Edema	92
.4 Oblating Technique	88	6.5 Contraindications for MLD	92
Instructions.	90	<i>Box 6.1 Combined Technique</i>	<i>88</i>
6.2 Specific Techniques	90	7 PRACTICAL METHODS OF MANUAL LYMPHATIC DRAINAGE.	95
.1 Drainage of the Parasternal Nodes	90	Cervical and Scapular Preparatory Technique	96
.2 Drainage of the Intercostal Vessels	90	7.1 Head and Neck	97
.3 Drainage of the Popliteal Nodes	90	.1 MLD of the Head and Neck.	98
.4 Drainage of the Supratrochlear Nodes	90		
.5 Drainage of the Deep Lymph Collectors in the Adductor Canal.	91		

.2 MLD of the Face and Cranium	100	Global Technique	146
.3 MLD of the Intraoral Region.	107	Focused Techniques	147
7.2 Thorax	110	7.6 Superficial Abdominal Region	149
.1 MLD of the Thorax.	111	.1 MLD of the Superficial	
.2 MLD of the Breast	115	Abdominal Region	150
7.3 Back	117	7.7 Gluteal and Lumbar Regions	153
.1 MLD of the Back	118	.1 MLD of the Lumbar and Gluteal	
7.4 Upper Limb	122	Regions	154
.1 MLD of the Upper Limb	124	7.8 Anterior Surface of the Lower Limb . .	157
.2 MLD of the Hand	131	.1 MLD of the Anterior Surface	
7.5 Deep Abdominal Region	141	of the Lower Limb.	158
.1 MLD of the Colon	142	7.9 Posterior Surface of the Lower Limb. .	175
.2 MLD of the Abdominal		.1 MLD of the Posterior Surface	
Lymphatic Chains	145	of the Lower Limb.	176

Part 3
Applied Techniques

8 TWO-PHASE TREATMENT

OF LYMPHEDEMA: APPLICATIONS		Through the Posterior Vessels . . .	207
OF MANUAL LYMPHATIC DRAINAGE	185	.4 MLD of the Thoracic Quadrant	
8.1 MLD for the Treatment		toward the Parasternal Nodes.	208
of Lymphedema	187	.5 MLD of the Upper Limb toward	
8.2 Hemifacial Lymphedema.	190	the Homolateral Supraclavicular	
.1 MLD toward the Homolateral		Nodes	209
Axillary Nodes	191	.6 MLD of Bilateral Lymphedema	
.2 MLD toward the Contralateral		of the Thorax and of the Upper	
Supraclavicular Nodes	193	Limbs	210
8.3 Facial Lymphedema	196	8.5 Lymphedema: Abdomen,	
.1 MLD toward the Axillary		Genital Organs, Lower Limb	212
Nodes	198	.1 MLD of the Abdominal Quadrant	
8.4 Lymphedema: Thorax, Breast		toward the Contralateral	
and Upper Limb	199	Inguinal Nodes	214
.1 MLD of the Thoracic Quadrant		Through the Anterior Vessels. . . .	214
toward the Contralateral		Through the Posterior Vessels . . .	216
Axillary Nodes	201	.2 MLD of the Abdominal Quadrant	
Through the Anterior Vessels. . . .	201	toward the Homolateral	
Through the Posterior Vessels . . .	202	Axillary Nodes	217
.2 MLD of the Thoracic Quadrant		Through the Anterior Vessels. . . .	217
toward the Homolateral		Through the Posterior Vessels . . .	219
Inguinal Nodes	203	.3 MLD of the Gluteal Region	
Through the Anterior Vessels. . . .	203	toward the Anorectal Vessels	221
Through the Posterior Vessels . . .	205	.4 MLD of the Genital Organs.	222
.3 MLD of the Thoracic Quadrant		MLD toward the Axillary	
toward the Homolateral		Nodes	222
Supraclavicular Nodes	207	MLD toward the Anorectal	
Through the Anterior Vessels. . . .	207	Vessels	223
		.5 MLD of the Lower Limb.	223

Anterior Surface: Drainage toward the Homolateral Axillary and Contralateral Inguinal Nodes.....	223	.6 MLD of Bilateral Lymphedema of the Lower Limbs.....	226
Posterior Surface: Drainage toward the Ischiatic Vessels and Homolateral Axillary and Contralateral Inguinal Nodes.....	224	<i>Box 8.1</i> Specific Massage Techniques for Tissue Fibrosis.....	188
		<i>Box 8.2</i> Two-Phase Treatment for Lymphedema Applied to Chronic Venous Insufficiency.....	228

Part 4

Decongestive Physiotherapy

9 ELASTIC COMPRESSION TREATMENT OF EDEMA.....	233	<i>Box 9.1</i> Recommendations and Contraindications for Elastic Compression Treatment.....	235
9.1 Characteristics of Bandages.....	234	<i>Box 9.2</i> Self-Bandaging.....	331
9.2 Compression Bandaging of the Upper Limb.....	239	10 DECONGESTIVE AND MOBILITY EXERCISES.....	333
.1 Bandaging Prescribed in Cases of Edema Associated with Complex Regional Pain Syndrome.....	239	10.1 Decongestive Exercises for the Upper Limb.....	334
.2 Bandaging Prescribed in Cases of Post-Traumatic or Postsurgical Edema of the Hand and Forearm.....	263	10.2 Mobility Exercises for the Upper Limb.....	336
.3 Bandaging Prescribed in Cases of Lymphedema of the Upper Limb.....	270	10.3 Decongestive Exercises for the Lower Limb.....	339
9.3 Compression Bandaging of the Thorax.....	296	10.4 Mobility Exercises for the Lower Limb.....	341
.1 Bandaging Prescribed in Cases of Lymphedema of the Breast.....	296	11 TWO-PHASE TREATMENT OF LYMPHEDEMA: MAINTENANCE PHASE.....	343
9.4 Compression Bandaging of the Lower Limb.....	304	11.1 Elastic Compression Garment.....	344
.1 Bandaging Prescribed in Cases of Distal Lymphedema of the Lower Limb.....	304	12 CAUSES FOR FAILURE OR SUCCESS OF TWO-PHASE TREATMENT OF LYMPHEDEMA.....	349
.2 Bandaging Prescribed in Cases of Distal Complex Regional Pain Syndrome of the Lower Limb.....	320	12.1 Successful Results.....	350
.3 Bandaging Prescribed in Cases of Lymphedema of the Lower Limb.....	320	INDEX.....	355