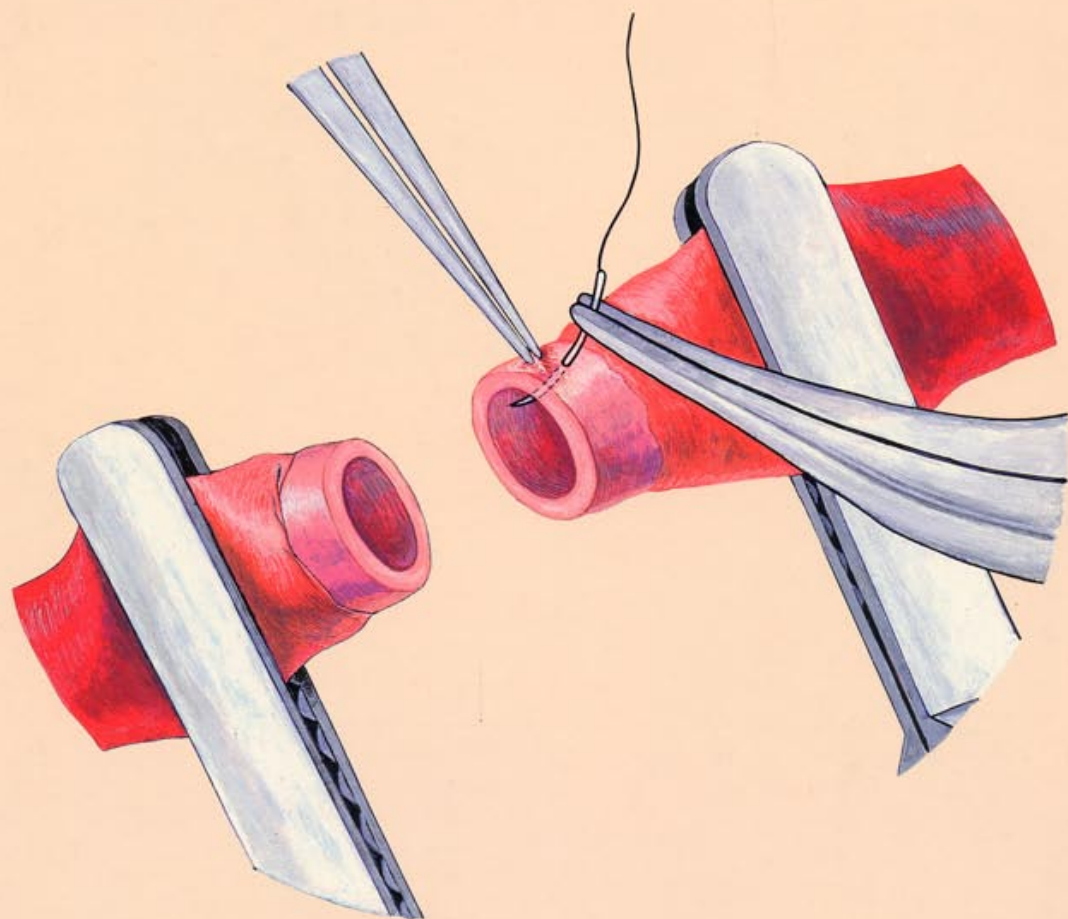


MICROVASCULAR TISSUE TRANSFER

Fundamental Techniques and Clinical Applications

KIYONORI HARII, M.D.



IGAKU-SHOIN Tokyo · New York

Contents

<i>Chapter 1</i>	FUNDAMENTAL TECHNIQUES OF MICROVASCULAR SURGERY	1
	Equipment	1
	Operating microscope	1
	Microsurgical instruments	1
	Suture materials	4
	Techniques of Microvascular Anastomosis	4
	Preparation	4
	Position and hand support	5
	Suture technique	6
	Arterial anastomosis	9
	Venous anastomosis	15
	Interposition of the graft	16
	Patency test	16
<i>Chapter 2</i>	GENERAL CONCEPTS OF FREE TISSUE TRANSFER	17
	Indications and Contraindications	17
	Indications	17
	Contraindications	17
	Available Tissue Types	18
	Operative Procedure	19
	Preoperative preparation	19
	Surgical steps	20
	Preparation of recipient site	21
	Isolation of donor flap	22
	Microvascular revascularization	23
	Closure of donor and recipient sites	24
	Postoperative care	25
<i>Chapter 3</i>	FREE SKIN FLAP TRANSFER	27

Principle	27
Scalp Flap	27
Anatomy	27
Flap design	28
Flap elevation	30
Closure of donor site	30
<i>Clinical examples (Case 1–2)</i>	32
Deltpectoral Flap	35
Anatomy	35
Flap design	36
Flap elevation	37
Transfer	39
<i>Clinical examples (Case 3–4)</i>	40
Lateral Thoracic Flap	43
Anatomy	43
Flap design	45
Flap elevation	45
<i>Clinical example (Case 5)</i>	47
Groin Flap	48
Anatomy	48
Flap design	53
Flap elevation	54
Transfer	56
Lateral modification of flap design	57
<i>Clinical examples (Case 6–11)</i>	58
Dorsalis Pedis and First Web Space Flap	69
Anatomy	70
Flap design	72
Flap elevation	72
Closure of donor site	76
<i>Clinical examples (Case 12–15)</i>	77
Other Skin Flaps	84
Scapular Flap	84
Anatomy	84
Flap design	86
Flap elevation	87
Closure of donor site	88
Combination with other flaps	88
<i>Clinical examples (Case 16–17)</i>	89
Forearm Flap	94
<i>Clinical example (Case 18)</i>	97
Chapter 4 MUSCLE AND MUSCULOCUTANEOUS FLAPS	101
Principle	101

Gracilis Muscle	102
Anatomy	102
Flap design	104
Flap elevation	105
<i>Clinical examples (Case 19 – 20)</i>	107
Latissimus Dorsi and Serratus Anterior Muscles	111
Anatomy	112
Latissimus dorsi flap	115
<i>Clinical examples (Case 21 – 26)</i>	120
Serratus anterior flap	131
Musculocutaneous microvascular free flap	131
<i>Clinical example (Case 27)</i>	133
Combined musculocutaneous flaps	135
<i>Clinical example (Case 28)</i>	136
Other Muscle or Musculocutaneous Flaps	139
Tensor Fascia Lata Flap	139
Pectoralis Major Flap	140
Gluteus Maximus Flap	142
Rectus Femoris Flap	143
Rectus Abdominis Flap	144
<i>Chapter 5</i> FREE NEUROVASCULAR MUSCLE TRANSFER	145
Principle	145
Requirements for Successful Transfer	145
Treatment of Long-Standing Facial Paralysis	146
Combination with cross-face nerve graft	147
<i>Clinical examples (Case 29 – 31)</i>	151
<i>Chapter 6</i> FREE VASCULARIZED BONE GRAFT AND FREE OSTEOCUTANEOUS FLAP	157
Principle	157
Vascular anatomy of bone	157
Fibula	158
Vascular anatomy	159
Harvest of graft	160
Fixation of bone graft	160
Rib	161
Vascular Anatomy	162
Iliac Bone	162
Superficial circumflex iliac system	165
Deep circumflex iliac system	165
<i>Clinical examples (Case 32 – 35)</i>	171

<i>Chapter 7</i>	TOE-TO-HAND TRANSFER AND TRANSFER OF SMALL JOINT	177
	Principle	177
	Anatomy	177
	Isolation of Second Toe	178
	Free Vascularized Joint Transfer	181
	Wrap-Around Flap	181
	<i>Clinical examples (Case 36 – 38)</i>	184
<i>Chapter 8</i>	FREE OMENTAL TRANSFER AND INTESTINAL TRANSFER	193
	Principle	193
	Omentum	193
	Jejunum	194
	<i>Clinical examples (Case 39 – 43)</i>	196
<i>Chapter 9</i>	COMPLICATIONS	205
	Arterial Thrombosis	205
	Venous Thrombosis	208
	Other Factors Leading to Complications	209
	Technical mistakes	209
	Hematoma and infection	209
	Donor site complications	209
	<i>Clinical examples (Case 44 – 47)</i>	210
	References	215
	Index	217