

PLASTIC AND RECONSTRUCTIVE SURGERY

By

Earl Calvin Padgett, M. D., F. A. C. S.

Professor of Clinical Surgery University of Kansas School of Medicine Kansas City, Kansas

With the Collaboration of

Kathryn Lyle Stephenson, M. D.

Instructor in Plastic Surgery
Tulane University of Louisiana
New Orleans, Louisiana
Formerly, Resident and Research Fellow
In Plastic Surgery
University of Kansas Hospital
Kansas City, Kansas



CHARLES C THOMAS • PUBLISHER

Springfield • Illinois • U.S.A.

CHARLES C THOMAS · PUBLISHER

BANNERSTONE HOUSE

301-327 East Lawrence Avenue, Springfield, Illinois

Published simultaneously in
The British Commonwealth of Nations by
BLACKWELL SCIENTIFIC PUBLICATIONS, LTD., OXFORD, ENGLAND

Published simultaneously in Canada by The Ryerson Press, Toronto

This book is protected by copyright. No part of it may be duplicated or reproduced in any manner without written permission from the publisher.

Copyright, 1948, by Charles C Thomas · Publisher

FIRST EDITION

PLASTIC AND RECONSTRUCTIVE SURGERY



L. Cutanci traducis apex, vbiadeft instito. I. Cutanei traducis radix. NY. Are & vulnus medicamentis obductum, & deligatum. \(\infty\) \(\infty\) \(\infty\). Fascia regia. DD. Fasciacubitalis. CCC. Fascia pedoralis. M. Fascia brachialis. BB. Fascia ascillaris. OO. Cucultus. NIN. Foramen auriculare cuculti. GGGG. Thorax, sue diplois anterius. HH. Thoracis disjunctio, insimul fumculis consuncta. AAA. Funculi, quorum opera fascia e cum cuculto, vet diploidi consunguntur.

This plate is adapted from an original plate in Tagliacozzi's book published in 1597, and is at present in the library established by Dr. Logan Clendening. It shows very vividly Tagliacozzi's method of partial rhinoplasty. The vest and straps which hold the arm to the head are clearly shown.

PREFACE

No one volume text book has yet appeared which has attempted to cover the field of traumatic surgery of the soft tissues, general reconstructive surgery, including certain grafting procedures in which cartilage or bone is indicated as the graft of choice, and plastic surgery along with cosmetic surgery. Due to the fact that each of these fields obviously overlaps the other it is impossible to present these related subjects as a whole by the separate monographic method.

Largely because of the present day mechanized routine of our lives, all practitioners of medicine and surgery see an increasing percentage of individuals suffering from the results of injury. Thus, traumatic surgery is thrown on the practitioner's doorstep, so to speak. No one who has had a good deal of experience in repairing traumatic deformities will deny that much depends upon the knowledge displayed and the type of care given immediately after the injury and during the first few days or weeks subsequently. If such an ideal is not attainable, at least proper early care can do much to conserve function and make the late reparative work more simple. Therefore, proper early care preserves the resources of all concerned and does much to enhance the final result.

Every so-called specialist should be familiar with what reconstructive surgery has to offer in his field, even if he feels incapable of carrying out the more difficult procedures. Although probably the more difficult surgery will fall to the highly trained specialist in reconstructive work, as it should, many of the less complicated procedures can be carried out by such men as the ophthalmologist, rhinolaryngologist, the orthopedic surgeon, the genito-urinary surgeon, and so on.

Every medical student should know as much of the fundamentals of traumatic and reconstructive surgery as he knows about orthopedic surgery, genito-urinary surgery, gynecology, opthalmology, nose and throat work, otology, dermatology and so forth. Nearly two decades and a half ago when Davis (J. S.) wrote his "Plastic Surgery," he stated in the preface that "the teaching of this subject has been entirely neglected everywhere, both for medical students and post-graduate students. There is as yet no department for instruction of this kind in any American university, and no complete text book has hitherto been written on the subject." Two decades later, however, one finds that the majority of the surgical departments in this country have a man especially prepared to do this type of work. All signs point to the fact that the groundwork has been laid for its rapid development as a specialty whose utility will not be questioned.

The objectives which I have attempted to keep in mind during the completion of the book are several in number. First, to present the subject of traumatic surgery of the soft tissues, general reconstructive surgery, and plastic surgery from the standpoint of broad general principles and yet to include specific details so that all practitioners as well as the specialist in this field can see the relationship between this specialty and other types of surgery. Second, to do something in the way of collecting the miscellaneous literature of the fields. Third, to collect the various reconstructive procedures in other special fields of surgery which may fail because some basic principle of reconstructive surgery is violated and to present these selected procedures from the viewpoint of one working in the field of reconstructive surgery.

Throughout this book I have attempted to write from the standpoint of personal experience because it seemed to me that this would tend to a more vivid and less stereotyped presentation.

As a rule, methods, therefore, are emphasized which I have occasion to see and use and which I believe to be satisfactory. Without a doubt a considerable number of procedures preferred by other surgeons have been omitted. Selection has been done without malice. There had to be an end-point somewhere.

Possibly it will be noted that some space has been allotted to operations on the bones of a grafting or reconstructive nature. This material was included not with the idea of covering the field of fractures and dislocations or of operative orthopedics, but because it at the present time appears necessary for the reconstructive surgeon to have an accurate conception of the relationship of the recent developments of these domains to his work. As to how far each surgeon should go or as to what type of operative work he may select to do himself in a given case should depend on his general training and experience and the circumstances. Often a completed reconstructive procedure cannot be limited to the soft tissues or the hard tissues alone because both may be involved.

All of the drawings have been made by Mr. Ted Bloodhart. It was on the basis of these drawings that Mr. Max Broedel accepted him as a student for a finishing period, which he completed in double-quick time. I predict a very brilliant future for him, as the drawings show more native ability than I have seen previously.

Dr. Kathryn Stephenson, who became assistant on plastic surgery at the University of Kansas Hospitals, took a full part in aiding me in a final complete revision of the book. Chapters VIII and IX were re-written by her. A good part of her time for a year or more has been devoted to getting the book into shape for the publisher. I am very much indebted to her for this work.

I wish last to thank Mr. Thomas for the unusual amount of painstaking work which he has devoted to this book, so that it might strike a high standard from the publishing standpoint.

Kansas City, Kansas

E. C. P.

"To study phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all."

-Sir William Osler

To know when ones self is interested in the first condition of interesting other people."

-Walter Pater: Marius the Epicurean, Chap. 6

"In composing, as a general rule, run your pen through every other word you have written. You have no idea what vigor it will give your style."

Sidney Smith: Lady Holland's Memoir, Vol. I

"My desire is that mine adversary had written a book."

The King James Bible, Old Testament, XXXI, 35

"I first gave it a dose of castor-oil, and then I christened it; so now the poor child is ready for either world."

Sidney Smith: Lady Holland's Memoir, Vol. I, Chap. II

CONTENTS

PREFA	CE	V
I.	GENERAL CONSIDERATIONS	3
	Recent Development	3
	Training	6
	Diagnosis and Points to be Observed. Original Disease Pyogenic Infection Time of Operation General Physical Condition Age Influence Social Status	6
	Mental Attitude Records	
	Study of the Case After Preliminary Examination Molding and Casting Plaster Cast of the Face Moulage Roehrig's Transparent Oil Colors (for photo tinting) Lead Patterns of the Deformity The Use of Modeling Composition Form at the Operating Table Planning and Marking Out the Incision	9
	Five Cardinal Principles of Reconstructive Surgery Asepsis and Skin Preparation Absence of Tension Accuracy to Co-aptation Avoidance of Raw Surfaces Atraumatic Technique	13
	Incisions	16
	Massage, Passive Motion and Traction	16
II.	SKIN FLAPS	18
	Transference	18
	Compound Skin Flap	19
	Varieties of Simple Skin Flaps. 1. Sliding Flaps 2. Flaps Transferred from Neighboring Areas by Angulation 3. Flaps Transferred by Regional Juxtaposition 4. Flap Carried by Means of an Intermediate Carrier 5. Flap Transplanted by Successive Migration 6. Artery Flap	21
	Operative Points. Selection of Donor Area Depth, Size and Shapes Judging the Amount of Circulation in a Flap Preservation of Viability Nerve Supply Pigmentation The Uses of Skin Flaps Versus Skin Grafts.	34
III.	TRANSPLANTATION OF SKIN, DERMA, AND MUCOSA	41
	Historical	
	Iso or Homografts	43

CONTENTS

	Heterografts and Zoografts Parabiosis Transplantation of Fetal Membranes Metaplasia Preservation of Skin Grafts	45
	Autografts of Skin	47
	Properties and Technique of Removal of the Skin Grafts Used Before the Development of the Deep Intermediate Skin Grafts Properties of the Thiersch and "Split" Grafts Technique of Cutting a Thiersch or "Split" Graft Properties of a Full Thickness Skin Graft Technique of Full Thickness Skin Grafting	51
	Special Types of Skin Grafts Small Deep Skin Grafts "Sieve" Graft The Implantation Method of Skin Grafting Tunnel and Buried Skin Grafts Pulpified Epidermis	55
	Superficial and Deep Calibrated Intermediate Skin Grafts and the "Three Quarter" Thickness Skin Grafts The Dermatome Classification	58
	Superficial Intermediate Calibrated Skin Grafts as Cut with the Dermatome	62
	The Dermatome and Directions for Its Use	68
	The Forming of and the Relining of Cavities with Skin Grafts	71
	General Considerations Pertinent to Successful Skin Grafting	73
	Optimum Time for Skin Grafting	
	Preoperative and Postoperative Care When Grafting with Thin or Superficial Intermediate Skin Grafts On a Granulating Surface Preparation of the Bed On Aseptic Denuded Surfaces	75
	Grafting with the "Three Quarter Thickness" or Full Thickness Skin Grafts Operative Factors Conducive to Success The Operation for Releasing a Cicatricial Contracture The Dressing	80
	The Return of Sensation.	84
	Mucosal Grafts Technique of Mucosal Grafting Transplantation of Cutis or Derma	85
IV.	TRANSPLANTATION OF BONE AND CARTILAGE	90
	A. The Transplantation of Bone The Osteoblastic Theory The Mesenchymal Theory The Specific Stimulus Theory Resumé	90
	Histologic Changes After Bone Grafting The Blood Supply of Bone General Clinical Indications and Contraindications for Bone Transplantation Methods Employed in Bone Transplantation Homo and Heterotransplantation of Bone Resumé	
	e e e e e e e e e e e e e e e e e e e	

	В.	The Transplantation of Cartilage The Fate of Transplanted Cartilage Nourishment of Cartilage Microscopic Changes After Autogenous Transplantation of Cartilage Homo and Heterografts of Cartilage Preserved Cartilage Maternal Cartilage Clinical Application of Cartilage Transplantation Technique of Cartilage Transplantation Method to Prevent Cartilage Grafts from Warping Diced Cartilage Grafts	96
	C.	Transplantation of Epiphyseal Cartilage and Joints	104
V.	TRANS	SPLANTATION OF FAT, FASCIA, TENDONS, AND NERVES	108
	Α.	Fat Grafts Histologic Changes in Fat Grafts Fat Transplantation in Clinical Surgery Technique of Fat Transplantation	108
	В.	The Transplantation of Fascia. Histology of Fascia Clinical Application of Fascial Transplantation General Principles of the Technique of Fascia Transplantation Techniques of Obtaining Fascia Lata	110
	C.	Tendon Repair After Suturing and Free Transplantation The Process of Repair in a Gap Bridged by a Tendon Graft The Importance of the Sheath and Peritendinous Tissues Source of Supply	113
	D.	Tendon Switching	118
	E.	Surgery of Nerves Regeneration Surgical Repair Suggested Alternate Procedure When End-to-End Anastomosis is Impossible	119
VI.	TRANS	SPLANTATION OF OTHER MISCELLANEOUS TISSUES AND ORGANS	127
		The Transplantation of Muscle. Muscle Flaps The Transplantation of Peritoneum.	
	B. C.	The Transplantation of Blood Vessels	
	D.	The Transplantation of Organs (Thyroid, Ovary, Kidney, Parathyroid, Testicle, Adrenal Gland, Thymus and Spleen, Pancreas, Hypophysis)	
	E.	Keratoplasty Transplantation of Lens of Eye	
VII.	THE M	MATERIALS FOR RECONSTRUCTIVE SURGERY	136
	The	e Selection of Anesthesia	140
VIII.	The	ENERAL CARE OF WOUNDS OF THE SOFT TISSUES. Literature and Trends in the Treatment of Wounds	143 145
	Exa	A Foreign Body	147
	The	E Local Treatment of Wounds	148
		Late Secondary Suture	

CONTENTS

	The Technique of Handling Various Types of Wounds. General Aids to Wound Healing. Age Anemia Hypoproteinemia Fluid and Electrolyte Requirements Acid Diet Vitamins	153
	Local Aids to Wound Healing. Allantoin and Urea Tissue Extracts Chlorophyll Sulphydril Compounds Vitamins Ultraviolet Rays Ointments	
	Germicides The Halogen and Halogen Containing Compounds Protein Precipitants Mercurial Antiseptics The Oxygen Releasing Compounds Zinc Peroxide as a Prophylaxis for Wound Infection Azo, Acridine and Neoaniline Dyes Sulfonamides Local Use of Penicillin	
IX. S	SOME OF THE COMPLICATIONS OF WOUNDS Hemorrhage Symptoms Secondary Hemorrhage Treatment	
	Traumatic Shock	169
	Treatment of Shock	172
	Blood and Blood Substitutes	174
	Pyogenic Infection	177
	Treatment	178
	Systemic Infection	179
	Sulfonamides History Mode of Action Administration and Dosage Toxicity	
	Systemic Use of Penicillin	181
	Streptomycin Administration Toxicity	183
	Clinical Experience With the Use of Chemotherapeutic Drugs in the Treatment and Prevention of Sepsis Strepticoccic Sepsis Staphylococcic Sepsis	
	Prevention of Further Extension of Local Infection Wound Diphtheria Burrowing Ulcers Necrotizing Staphylococcic Ulceration	186
	Certain Specific Infections Complicating Wounds	187
	A Postoperative Complication of Particular Interest to the Reconstructive Surgeon-Keloid Treat-	
	ment	
	Removal of Tattoo Marks	193

	4 4 6
CONTENTS	X111

3	X		MATIC SURGERY OF THE NERVES, TENDONS, AND BLOOD VESSELS	
		A.	Injuries of the Nerves Diagnosis of Nerve Injury Treatment Further Considerations Postoperative Care Results of Nerve Anastomosis Nerve Grafting Neurolysis of Nerves	197
		В.	Wounds of the Tendons Treatment Tendon Suture	203
		C.	Wounds of the Blood Vessels Hemorrhage Technique of End-to-End Anastomosis Nonsuture Anastomosis of Blood Vessels Technique of Care and Closure of Arterial Defects Aneurysms Time of Operation Arterial Occlusion	206
1	XI.	TRAUN	MATIC SURGERY OF THE HEAD, FACE, AND NECK	217
		Inju	Important Diagnostic Points The Immediate Results of Severe Injury of the Head The Signs of Acute Intracranial Disturbance Concussion Infection	217
		Inju	Localizing Signs of Injury to the Brain Injury to the Cranial Nerves General Discussion of Treatment Extradural Hemorrhage Treatment of Acute Intracranial Injuries Other than Extradural Hemorrhage	218
		Inji	ury of the Scalp and Pericranium. Simple Scalp Wounds Avulsion of the Scalp Skin Grafting of the Pericranium Removing the Outer Table of the Skull Shifting of Scalp Flaps	220
		Inju	General Discussion Injury to the Meninges Treatment of Simple Depressed Fractures The Objectives in the Care of Compound Injuries of the Skull and Brain Treatment of Convulsions The Treatment of the Late Effects of Cranial Injuries	222
		Inju	General Discussion Type of Injury Characteristic of Automobile Accidents Preliminary Examination	225
		Inju	ury of the Soft Tissues of the Face and Neck Surface Wounds of the Face Incised and Lacerated Wounds of the Face Through-and-Through Wounds of the Nose, Cheek, or Lips	226
			unds of the Orbital Contents	
			General Discussion Surgical Care of Hematoma Auris Incised and Lacerated Wounds of the External Ear	
			vision of Free Airway and Prevention of Accumulation of Salivary Secretion in Pharynx	
			unds of the Floor of the Mouth	

	The Management of Fractures of the Bones of the Face and Jaws. Replacement of the Bones Recent Fractures of the Frontal Bone Recent Fractures of the Nasal Bones Fracture of the Malar Bone Recent Fractures of Mandible External Fixation of Recent Mandibular Fractures Internal Fixation of Bones with Kirschner Wires Cast Splints Recent Fractures of the Maxillary Compound Fixation of Fragments Complicated by Loss of Bony Substance Complications	232
XII.	TRAUMATIC SURGERY OF THE TRUNK	252
	A. Injuries of the Chest Extrathoracic Injuries Non-penetrating Thoracic Injuries Penetrating Wounds of the Chest Conditions Caused by Intrathoracic Injury Treatment	252
	B. Injuries of the Heart Symptoms and Signs Treatment Foreign Bodies in the Heart	264
	C. Wounds of the Abdomen	270
	Wounds of the Pancreas Wounds of the Kidney Abdomino-thoracic Wounds Results of Perforating Abdominal Wounds Non-penetrating Wounds of the Abdomen Immersion Blast Injury	
	D. Injury to the Spinal CordQueckenstedt Test	281
XIII.	TRAUMATIC SURGERY OF THE EXTREMITIES Immediate and Reparative Surgery of the Extremities War Injuries and Fractures Civilian Compound Fractures Joint Injuries and Wounds Treatment of Wounds Penetrating a Joint Willems' Treatment of Joint Injury and Infection Amputation Painful Amputations	
	Wounds of the Hand. Classification Complications of Wounds of the Hand Infections of the Finger Tips Local Superficial Infections of the Hand Gangrenous Infections of the Hand The Relation of the Anatomy of the Hand to Deep Infections Lymphangitis, Tendon Sheath Infection, and Major Fascial Space Abscess of Hand and Arm Tenosynovitis of Hand and Forearm Fascial Space Infection of the Hand The Early Care of Surface Destruction of the Hand and Arm. Sprains of the Extremities. Ruptures of Muscles, Tendons and Ligaments	303

CONTENTS XV

Crushing Injuries of the Lower Extremity	305
THE EARLY CARE OF THE THERMAL AND PHYSIOCHEMICAL INJURIES	
Treatment of Burns	314
Electrical Burns Electrical Burn Characteristics	326
Phosphorus Burns	327
Acid and Alkali Burns	329
Mustard Gas Burns	329
Lewisite Burns	330
Phosphogene	329
The Effect of Freezing High Altitude Frost-bite Immersion Foot Trench Foot	330
Burns Due to Roentgen Rays and Radium	
A. Reconstruction of the Soft Tissues of the Forehead and Scalp	
Repair Following Removal of a Malignant Neoplasm of the Scalp Reconstructive Surgery of the Brain Covering and Skull A Contoural Defect of the Supraorbital Ridge Reconstructing the Cranial Defect	
B. Cartilaginous Grafts	352
C. Bone Grafts Vitalium Acrylic Celluloid Comments on Alloplastic Materials	352
Clinical Types of Facial Clefts	
The Nasal Deformity	366
Repair of the Lip Useful Operations for Single Clefts of the Lip Useful Operations for the Repair of Double Cleft Lip The Re-repair of a Poorly Repaired Lip and Nose Postoperative Care	369
The Repair of the Alveolus and Anterior Palate Closure of the Alveolar Cleft and Lip in Single Cleft at One Sitting The Veau Operation for Closure of the Lip, Alveolus and Anterior Palate at One Sitting The Problem of the Premaxilla in Double Cleft The Problem of Alveolar Ridge and Anterior Palate Closure in Double Cleft of the Palate The Repair of the Palate Proper	. 385
	Special Techniques Crush Injury March Fractures Refrigeration Anesthesia THE EARLY CARE OF THE THERMAL AND PHYSIOCHEMICAL INJURIES. Thermal Burns Treatment of Burns Systemic Treatment Local Treatment Local Treatment Crafting of Thin Skin on a Granulating Surface Correction of Cicatricial Contractures Skin Graft Versus Skin Flap Types of Grafts Preferable for Various Locations and "Take" Electrical Burns Electrical Burns Acid and Alkali Burns. Mustard Gas Burns. Lewisite Burns Phosphorus Burns Acid and Alkali Burns. Mustard Gas Burns. Lewisite Burns Phosphogene The Effect of Freezing. High Altitude Frost-bite Immersion Foot Trench Foot Burns Due to Rentgen Rays and Radium RECONSTRUCTIVE SURGERY OF THE HEAD AND FOREHEAD. A. Reconstruction of the Soft Tissues of the Forehead and Scalp. Tumors of the Forehead and Scalp Repair Following Removal of a Malignant Neoplasm of the Scalp Repair Following Removal of a Malignant Neoplasm of the Scalp Repair Following Removal of a Malignant Neoplasm of the Scalp Reconstructive Surgery of the Barian Covering and Skull A Contoural Defect of the Supraorbital Ridge Reconstructing the Cranial Defect B. Cartilaginous Grafts Diced Cartilage C. Bone Grafts. Vitalium Aerylic Celluloid Comments on Alloplastic Materials THE RECONSTRUCTION OF CONGENITAL CLEFTS. Clinical Types of Facial Clefts. Classification of Ritchie Historical Repair of Cleft Lip The Nasal Deformity Repair of the Lip. Useful Operations for Single Clefts of the Lip Useful Operations for Single Clefts of the Lip Useful Operations for the Repair of Double Cleft Lip The Re-expair of a Poorly Repaired Lip and Nose Postoperative Care The Repair of the Penasilla in Double Cleft at One Sitting The Problem of the Premasilla in Double Cleft and Anterior Palate at One Sitting The Problem of the Premasilla in Double Cleft of the Palate The Problem of the Premasilla in Double Cleft of the Palate

XVII.	RECON	STRUCTIVE SURGERY OF THE LIPS OTHER THAN CLEFT LIP 4	15
	Hist	orical	15
	Gen	Discussion of Immediate Restoration Versus Later Restoration	
	A.	Reconstructive Operations After Excision of Benign Lesions of the Lips 4	20
		Restoration of Surface Defects of the Lips-Ectropion 4	
	C.	Restoration of the Lining of the Lip 4	24
		Reconstruction of the Buccal Orifice and Commissure 4	
	E.	Restoration of Full Thickness Defects of the Lips 4	27
		Dieffenbach Operation for Reconstruction of the Lower Lip Burow Operation for Reconstruction of Lower Lip	
		Owens Operation	127
	Γ.	Restoration of Full Thickness Defects of the Upper Lip	37
XVIII.		STRUCTIVE SURGERY OF THE NOSE 4	
	A.	Restorative Rhinoplasty 4 Supporting Structure	42
		When to Rebuild a Nose	
		Loss of Sufficient Tissue to Necessitate Total Rhinoplasty	
		Use of a Forehead Flap for Total Rhinoplasty Use of a Skin Flap from a Distance for Total Rhinoplasty	
		Use of Crosslapping Skin Flaps, One from the Forehead and One from a Distance	
		Plans for Partial Nasal Reconstruction	
		Loss of Superficial Dorsal Tissue	
		Loss of Tissue at the Lower End of the Nose	
	B.	Corrective Rhinoplasty	158
		The Bony and Cartilaginous Arch	
		Abnormal Length of the Septum	
		The Cartilaginous Tip	
		2. The Intranasal Correction of Deficiency Malformation of the Growth or Hereditary Type	
		 Correction of Malformations of the Nostrils and Alae The Correction of Hypertrophic Malformation of the Growth of Hereditary Type by a Meth 	bor
		of External Exposure	100
		5. Deviations of the Nose	
		Relation of Septal Resection to Corrective Rhinoplasty	
		When Should the Septal Resection Be Done 6. The Reconstruction of Bifid Nose	
		7. Pre and Postoperative Care of Corrective Rhinoplasty	
	C.	Depressed Bridge or "Saddle" Nose	175
		Historical	
		Supporting Material Compound Saddle Nose	
		Nasal Deformity in Anhidrotic Ectodermal Dysplasis	
		- Jepane	
XIX.		ISTRUCTIVE SURGERY OF AND ABOUT THE ORBIT	487
	A.	Reconstructive Surgery of the Eyelids	190
		Outward Distortion of the Eyelids (Ectropion)	
		Conjunctival Losses with Eyeball Present	
		Loss of the Total Thickness of the Eyelids Blepharoptosis	
		Narrowing and Widening of the Palpebral Fissure Loss of Eyelashes	
	B.	Reconstructive Surgery of the Bony Orbit	504
		Reconstruction Following a Crushing Injury of the Maxillary Frontal Process, Lachrymal and	
		Ethmoidal Compound Correction of Enophthalmus	
	C.	Reconstructive Surgery of and about the Canthi	505
		Inner Canthus	
		Outer Canthus	

CONTENTS xvii

				500
		D.	Preparation of the Eye Socket for Prosthesis	508
	*	E.	Reconstructive Surgery of Certain Miscellaneous Affections about the Orbital Region Loss of Eyebrow Epicanthus Corneal Tattooing Keratoplasty Eye Prosthesis Certain Benign Tumors Causing Deformity of the Orbital Region	510
XX.	RE	CON	STRUCTIVE SURGERY OF THE EAR	518
		A.	Congenital or Growth Deformities of the Ear	519
		B.	Deformity of Loss Due to Injury	523
		C.	Reparative Procedure	523
XXI.	RE	CON	STRUCTIVE SURGERY OF THE CHEEK AND FACE	552
		Α.	Reconstruction of an External Surface Defect	553
		B.	Reconstruction of a Lining Defect	561
		C.	Reconstruction of Full Thickness Defects	563
		D.	Reconstruction of a Contoural Defect—Three-Dimensional Defect	566
		E.	Reconstruction of the Face After Bony Loss so that Prosthesis May Offer Support	571
		F.	Miscellaneous Defects Depressed Scars The Treatment of Salivary Fistula Facial Nerve Paralysis The Operation of Nerve Anatomosis Hemanigioma of the Face Lymphangioma of the Face Plexiform Neurofibroma of the Face The Operation of or Tightening and Raising the Skin and Musculature of the Face	573
XXII.	RE	CON	STRUCTIVE SURGERY OF THE MOUTH AND JAW	591
			Reconstructive Operations of the Soft Tissues	

-2