

Pediatric and Adolescent Plastic Surgery for the Clinician

Aleksandar M. Vlahovic
Emir Q. Haxhija

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*I dedicate this book to my sons Maksim and
Vuk and to my wife Natasa.*

Aleksandar M. Vlahovic

Preface

Pediatric plastic surgery is a specific field of surgery which includes reconstructive and aesthetic procedures in children.

The majority of procedures in pediatric plastic surgery are reconstructive in nature. Purely aesthetic procedures in children are rare.

Pediatric plastic surgeons are involved in the treatment of a wide spectrum of congenital lesions.

The treatment of patients in pediatric plastic surgery often requires a multidisciplinary approach including different specialties (pediatricians, dermatologist, vascular surgeons, orthopedic surgeons, maxillofacial surgeons, otorhinolaryngologist, anesthesiologist, etc.) and other medical caregivers.

For most of the patients with clefts, malignant tumors, complicated hand anomalies, and breast anomalies, long-term evaluation is required, very often in adulthood.

Health practitioners in their clinical practice are often dealing with these patients, and this book should serve as a guide in their everyday practice.

This book includes 16 years of my personal experience in this field.

Belgrade, Serbia
Graz, Austria

Aleksandar M. Vlahovic
Emir Q. Haxhija

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Abbreviations

AD	Autosomal dominant
AER	Apical ectodermal ridge
AM	Arterial malformation
AMN	Acquired melanocytic nevi
ASN	Atypical spitzoid neoplasm
ASZ	Alcoholic solution of zein
BA	Branchial anomaly
BAA	Branchial arch anomaly
BH	Breast height
BRBN	Blue rubber bleb nevus
BW	Breast width
CCBR	Cervical chondrocutaneous branchial remnant
CCBS	Congenital constriction band syndrome
CL	Cleft lip
CLOVES	Congenital lipomatous overgrowth, vascular malformations, epidermal nevi and scoliosis, skeletal or spinal anomalies
CLP	Cleft lip and palate
CLVM	Capillary-lymphatic-venous malformation
CM	Capillary malformation
CMCJ	Carpometacarpal joint
CMN	Congenital melanocytic nevi
CNLN	Congenital nevus-like nevus
CNs	Cranial nerves
CNS	Central nervous system
CO ₂	Carbon dioxide
CP	Cleft palate
CSS	Cultured skin substitutes
CT	Computerized tomography
DFSP	Dermatofibrosarcoma protuberans
DHEA	Dehydroepiandrosterone
DIC	Disseminated intravascular coagulation
EPC	Endothelial progenitor cell
EVLt	Endovenous laser treatment
EXIT	Ex utero intrapartum treatment

FGFR	Fibroblast growth factor receptor
FGFs	Fibroblast growth factors
FNAB	Fine needle aspiration biopsy
FS	Fibrosarcoma
FTSG	Full-thickness skin graft
GLUT1	Glucose transporter protein
GPP	Gingivoperiosteoplasty
GVM	Glomuvenous malformation
GW	Gestational week
HemEPCs	Hemangioma-derived endothelial progenitor cells
HL	Hodgkin lymphoma
IF	Infantile fibrosarcoma
IHs	Infantile hemangiomas
IMD	Inframammary distance
IMF	Inframammary fold
IPJ	Interphalangeal joint
KHE	Kaposiform hemangioendothelioma
KMP	Kasabach-Merritt phenomenon
KTP	Potassium titanyl phosphate
LAHSHAL	Lip, alveolus, hard and soft palates
LCH	Langerhans cell histiocytosis
LDH	Lactate dehydrogenase
LIC	Localized intravascular coagulopathy
LM	Lymphatic malformation
LMWH	Low molecular weight heparin
LUMBAR	Lower body infantile hemangioma, urogenital anomalies and ulceration, myelopathy, bony deformities, anorectal malformations and arterial anomalies, renal anomalies
LVM	Lymphaticovenous malformation
MC	Metacarpal
MCPJ	Metacarpophalangeal joint
MIBG	Metaiodobenzylguanidine
MMPs	Matrix metalloproteinases
MRI	Magnetic resonance imaging
NAC	Nipple-areola complex
NB	Neuroblastoma
NCM	Neurocutaneous melanosis
Nd:YAG	Neodymium-doped yttrium aluminum garnet
NDCS	Nasal dermoid cyst and sinus
NF	Neurofibroma
NHL	Non-Hodgkin lymphoma
NICH	Noninvoluting congenital hemangioma
OMENS	Orbital asymmetry, mandibular hypoplasia, ear deformity, nerve involvement, soft tissue deficiency
OOM	Orbicularis oris muscle

OOPS	Operation on placental support
PAL	Power-assisted liposuction
PDL	Pulsed-dye laser
PG	Pyogenic granuloma
PHACES	Posterior fossa malformations, hemangioma, arterial anomalies, cardiovascular anomalies, eye abnormalities, sternal clefting
PMM	Pectoralis major muscle
PNAM	Presurgical nasal and alveolar molding
pPNET	Peripheral primitive neuroectodermal tumor
PSIO	Presurgical infant orthopedics
PT	Prothrombin time
PTT	Partial thromboplastin time
RICH	Rapidly involuting congenital hemangioma
RMS	Rhabdomyosarcoma
SHBG	Sex hormone-binding globulin
Shh	Sonic hedgehog protein
SLN	Sentinel lymph node
SpLN	Speckled lentiginous nevus
SS	Synovial sarcoma
SSN	Suprasternal notch
STS	Sodium tetradecyl sulfate
STSG	Split-thickness skin graft
TA	Tufted angioma
TGDC	Thyroglossal duct cyst
TSH	Thyroid-stimulated hormone
TTM	Topical timolol maleate
UAL	Ultrasound-assisted liposuction
US	Ultrasound
UV	Ultraviolet
VASER	Vibration amplification of sound energy at resonance
VEGF	Vascular endothelial growth factor
VH	Verrucous hemangioma
VM	Venous malformation
VPI	Velopharyngeal insufficiency
WHO	World Health Organization
Wnt	Wingless type
ZPA	Zone of polarizing activity