

Contents

Part I Tools and Techniques in Anthropometry: General Methods

- 1 Calculating Sample Size in Anthropometry** 3
Carine A. Bellera, Bethany J. Foster, and James A. Hanley
- 2 Use of Percentiles and Z-Scores in Anthropometry** 29
Youfa Wang and Hsin-Jen Chen
- 3 Use of Bioelectrical Impedance: General Principles and Overview** 49
Alexander Stahn, Elmarie Terblanche, and Hanns-Christian Gunga
- 4 An Anthropometric Analysis of Seated and Standing People**..... 91
Antonino Nucara, Matilde Pietrafesa, Gianfranco Rizzo, and Gianluca Scaccianoce
- 5 Optical and Electromagnetic Shape-Capturing Systems for Limb Anthropometrics** 115
Mark D. Geil
- 6 The Composite Index of Anthropometric Failure (CIAF): An Alternative Indicator for Malnutrition in Young Children**..... 127
Shailen Nandy and Peter Svedberg
- 7 The Human Body Shape Index (HBSI): An Anthropometric Measure Based on an Age-Related Model of Human Growth**..... 139
Maria K. Lebiedowska and Steven J. Stanhope
- 8 Reproducibility of DXA Measurements of Bone Mineral and Body Composition: Application to Routine Clinical Measurements** 151
Colin E. Webber

9	Self-Reported Anthropometry: Body Mass Index and Body Composition	167
	Savvas P. Tokmakidis, Antonios D. Christodoulos, and Helen T. Douda	
10	Body Composition Analysis Using Radionuclides	185
	Themistoklis Tzotzas, Georgios Karanikas, and Gerasimos E. Krassas	
11	Three-Dimensional (3-D) Photonic Scanning: A New Approach to Anthropometry	205
	Jonathan C.K. Wells	
12	3D Craniofacial Anthropometry, Simplified and Accelerated by Semi-Automatic Calliper	219
	Constantin A. Landes, Michael Trolle, and Robert Sader	
13	Issues in Measurement of Pubertal Development	237
	Frank M. Biro and Lorah D. Dorn	
14	New Anthropometric History: An Analysis of the Secular Trend in Height	253
	Laurent Heyberger	
Part II Tools and Techniques in Anthropometry: Water, Hydration and Surface Area		
15	Total Body Water in Health and Disease: A Look at End-Stage Renal Disease	273
	Luigi Vernaglione, Carlo Lomonte, and Carlo Basile	
16	Bioelectrical Impedance Vector Analysis for Assessment of Hydration in Physiological States and Clinical Conditions	287
	Henry C. Lukaski and Antonio Piccoli	
17	The Uses and Misuses of Body Surface Area in Medicine	307
	James Heaf	
Part III Tools and Techniques in Anthropometry: Muscle		
18	Anthropometry of Human Muscle Using Segmentation Techniques and 3D Modelling: Applications to Lower Motor Neuron Denervated Muscle in Spinal Cord Injury	323
	Paolo Gargiulo, Ugo Carraro, Thomas Mandl, Helmut Kern, Sandra Zampieri, Winfried Mayr, and Thordur Helgason	
19	Upper Limb Muscle Volumes in Adults	355
	Katherine R. Saul, Scott L. Delp, Garry E. Gold, and Wendy M. Murray	

- 20 Bioelectrical Impedance to Predict Muscle Mass in the Elderly 375**
Lars Ellegård and Marja Tengvall
- Part IV Tools and Techniques in Anthropometry:
Adipose Tissue, Other Compartments and Relationships**
- 21 Anthropometry of Body Fat: How Anthropometric
Measures Predict Mortality and Especially
Cardiovascular Mortality 385**
Eddy Mizrahi-Lehrer, Beatriz Cepeda-Valery,
and Abel Romero-Corral
- 22 Body Fat Measurement by Air Displacement
Plethysmography: Theory, Practice, Procedures,
and Applications 397**
Mauro E. Valencia and Rosa C. Villegas-Valle
- 23 Selected Applications of Bioelectrical
Impedance Analysis: Body Fluids, Blood Volume,
Body Cell Mass and Fat Mass 415**
Alexander Stahn, Elmarie Terblanche, and Hanns-Christian Gunga
- 24 Physiological Basis of Regression Relationship
Between Body Mass Index (BMI) and Body Fat Fraction 441**
David G. Levitt, Dymphna Gallagher, and Steven B. Heymsfield
- 25 Relationship Between Physical Measures
of Anthropometry and Bioimpedance Measures 459**
María Dolores Marrodán Serrano,
Marisa González-Montero de Espinosa,
and Estefanía Morales Zamorano
- Part V Regions and Anatomical Areas of the Body: Head and Face**
- 26 Fetal Head Circumference as an Anthropometric Index 477**
Emmanuel Stephen Mador, Josiah Turi Mutihir,
and John Oluwole Ogunranti
- 27 Anthropometry of the Intracranial Volume 517**
Bunyamin Sahin
- 28 Anthropometry and Numerical Simulations
of a Child Head Model 531**
Sébastien Roth, Jean-Sébastien Raul, and Rémy Willinger
- 29 The Farkas System of Craniofacial Anthropometry:
Methodology and Normative Databases 561**
Curtis K. Deutsch, Alison R. Shell, Roberta W. Francis,
and Barbara Dixon Bird

30	Anthropometry of Soft Facial Tissues	575
	John S. Bamforth	
31	Anthropometry of Facial Beauty	593
	Chiarella Sforza, Alberto Laino, Gaia Grandi, Gianluca M. Tartaglia, and Virgilio F. Ferrario	
32	Three-Dimensional Facial Morphometry: From Anthropometry to Digital Morphology	611
	Chiarella Sforza, Claudia Dellavia, Marcio De Menezes, Riccardo Rosati, and Virgilio F. Ferrario	
33	The Concept of Anthropometric Facial Asymmetry	625
	Senem Turan Ozdemir	
34	Periorbital Anthropometric Measurements	641
	Ümit Beden and Matej Beltram	
35	Anthropometry of Eyelids	655
	Dae Hwan Park and Chang Hyun Oh	
36	Neck Circumference: Its Usage in Medicine and Biology	665
	Bernhard Fink	
Part V I Regions and Anatomical Areas of the Body: Limbs, Extremities and Bones		
37	Prediction of Upper and Lower Extremity Tissue Masses Using Surface Anthropometric Measures and DXA	679
	David M. Andrews and Timothy A. Burkhart	
38	Demographic Trends in Mid-Arm Circumference in Children and Adults over a 35-Year Period	697
	R.J. Prineas, Y. Ostchega, and D.S. Reed-Gillette	
39	Anthropometric Wrist and Arm Circumference and Their Derivations: Application to Amyotrophic Lateral Sclerosis	717
	Luciano Bruno de Carvalho-Silva	
40	Mid-Upper Arm Anthropometric Measurements as a Mortality Predictor for Community-Dwelling Dependent Elderly	727
	Masafumi Kuzuya and Hiromi Enoki	
41	The Arm Span to Height Relationship and Its Health Implications	741
	Maw Pin Tan and Sushil K. Bansal	

- 42 Proximal Femoral Anthropometry by Computed Tomography**..... 755
Thomas F. Lang
- 43 Leg Length and Anthropometric Applications: Effects on Health and Disease**..... 769
Maria Inês Varela-Silva and Barry Bogin
- 44 Measures and Application of Lower Leg Length: Fracture Risk Assessment**..... 785
Jian Sheng Chen
- PartV II Regions and Anatomical Areas of the Body:
Joints and Digits**
- 45 Anthropometry and the Knee Joint**..... 801
A.J. Teichtahl, A.E. Wluka, Y. Wang, and M. Flavia Cicuttini
- 46 Knee Anthropometry and Total Knee Arthroplasty: Relationship Between Anthropometry, Surgical Difficulty, and Outcomes**..... 815
Luis Ma. Lozano, Montserrat Núñez, Ester Nuñez, Josep Ma. Segur, and Francisco Maculé
- 47 Standardization of Sizes of Knee–Ankle–Foot Orthoses (KAFO) Through Anthropometry**..... 827
L. Narendra Nath
- 48 Sex Differences and Age Changes in Digit Ratios: Implications for the Use of Digit Ratios in Medicine and Biology**..... 841
John T. Manning
- 49 Correlations Between Digit Ratio and Foetal Origins of Adult Diseases in a Chinese Population: A Focus on Coronary Heart Disease and Breast Cancer**..... 853
Huo Zhenghao, Lu Hong, Dang Jie, and Francis L. Martin
- PartV III Regions and Anatomical Areas of the Body:
Abdominal and Trunk Regions**
- 50 Anthropometry of Abdominal Subcutaneous and Visceral Adipose Tissue with Computed Tomography**..... 869
Amir Abbas Mahabadi, Pál Maurovich-Horvat, and Udo Hoffmann
- 51 Measures of Waist Circumference**..... 881
Paul B. Higgins and Anthony G. Comuzzie

- 52 Trunk:Periphery Fat Ratio** 893
Rachel Novotny
- Part IX Regions and Anatomical Areas of the Body:
Sensory Organs**
- 53 Anthropometry of Normal Human Auricle**..... 903
Ruma Purkait
- 54 Anthropometric Analysis of the Nose**..... 919
Abdullah Etöz and İlker Ercan
- 55 Three-Dimensional Computerized Anthropometry
of the Nose**..... 927
Chiarella Sforza, Riccardo Rosati, Marcio De Menezes,
Claudia Dolci, and Virgilio F. Ferrario
- Part X Regions and Anatomical Areas of the Body:
Internal Organs, Other Tissues and Regions**
- 56 Imaging Techniques for the Measurement of Liver Volume**..... 945
Ferruccio Santini, Monica Giannetti, and Aldo Pinchera
- 57 Epicardial Adipose Tissue Measured by Multidetector
Computed Tomography: Practical Tips
and Clinical Implications** 955
Tzung-Dau Wang and Wen-Jeng Lee
- 58 Breast Volume Determination in Breast Hypertrophy** 973
Laszlo Kovacs and Maximilian Eder
- 59 Numerical Modelling of Human Breast Deformation** 985
A. Pérez del Palomar, B. Calvo, and A. Lapuebla-Ferri
- Part XI Anthropometry of Pregnancy:
Prenatal and Postnatal Aspects**
- 60 Reference Charts for Anthropometric
Changes During Pregnancy**..... 999
Elvira Beatriz Calvo and Laura Beatriz López
- 61 Prenatal Famine Exposure and Long-Term
Consequences for Anthropometry and Adult Health** 1021
Tessa Roseboom, Rebecca Painter, and Susanne de Rooij
- 62 Parental Determinants of Neonatal Anthropometry** 1033
Gareth Hynes, Cyrus Cooper, and Elaine Dennison

- 63 Use of Computerized Anthropometry and Morphometrics to Identify Fetal Alcohol Syndrome.....** 1049
Elizabeth S. Moore and Richard E. Ward
- 64 Correlating Maternal and Infant Anthropometric Variables and Micronutrients at Birth in the Pakistani Population.....** 1067
Shahzad K. Akram and Christine Carlsson-Skwirut
- 65 Neonatal Anthropometry: A Tool to Evaluate the Nutritional Status and Predict Early and Late Risks.....** 1079
Luis Pereira-da-Silva
- 66 Anthropometric Measurements in Sudanese Newborns: Value in Measuring Weight at Birth and Its Relationship with Maternal Characteristics.....** 1105
Eltahir M. Elshibly and Gerd Schmalisch
- 67 Total Body Water in Newborns.....** 1121
Maria Dalva Barbosa Baker Méio and Maria Elizabeth Lopes Moreira
- Part XII Anthropometry of Infants and Children**
- 68 Failure to Thrive in Infancy: Anthropometric Definitions.....** 1139
Else Marie Olsen and Charlotte M. Wright
- 69 Estimation of Children's Weight in Medical Emergencies.....** 1151
Anne-Maree Kelly
- 70 Anthropometry and HIV-Infected Children in Africa.....** 1163
Herculina Salome Kruger
- 71 Waist Circumference Measures and Application to Thai Children and Adolescents.....** 1179
Uruwan Yamborisut and Kallaya Kijboonchoo
- 72 Secular Changes in Craniofacial Dimensions of Indigenous Children in Southern Mexico.....** 1197
Bertis B. Little and Robert M. Malina
- 73 Anthropometric Indexes of Low-Income Brazilian Children.....** 1211
Sylvia do Carmo Castro Franceschini, Silvia Eloiza Priore,
Fabiana de Cássia Carvalho Oliveira, Cláudia Aparecida Marlière de Lima,
and Silvia Nascimento de Freitas
- 74 Adipokines and Anthropometry: Childhood and Adolescent Obesity or Adipocytokines and Anthropometry in Childhood and Adolescence.....** 1221
Panagiota Pervanidou, Makarios Eleftheriades,
and Ioannis Papassotiriou

- 75 Anthropometric Measures in Children with Renal Failure** 1237
Andreas Nydegger and Julie E. Bines
- 76 Measures of Body Surface Area in Children** 1249
Janusz Feber and Hana Krásničanová
- 77 Skinfold Thickness in Sri Lankan Children** 1257
V.P. Wickramasinghe
- 78 Use of Segmental Lengths for the Assessment of Growth
in Children with Cerebral Palsy** 1279
Kristie L. Bell, Peter S.W. Davies, Roslyn N. Boyd,
and Richard D. Stevenson
- PartX III Anthropometry of Puberty and
Adolescence in Health and Disease**
- 79 Anthropometric Indices and Cardiovascular Disease
Risk in Children and Adolescents: CASPIAN Study** 1301
Roya Kelishadi
- 80 Secular Trends in the Anthropometry of Adolescents
and College Students: Polish Perspective** 1319
Boguslaw Antoszewski and Aneta Sitek
- 81 Vitamin D, Exercise, and Body Composition
in Young Children and Adolescents** 1337
Leng Huat Foo
- 82 Anthropometry of Adolescents: Brazilian Perspectives** 1357
Silvia Eloiza Priore, Renata Maria Souza Oliveira,
Sylvia do Carmo Castro Franceschini,
Silvia Nascimento de Freitas,
and Cláudia Aparecida Marlière de Lima
- 83 Anthropometric Indices for Obesity and Hypertension
in Indian Affluent Adolescents** 1371
Shobha Rao
- 84 Anthropometry in Relation to Sexual Maturation** 1385
Silvia Diez Castilho and Antonio de Azevedo Barros-Filho
- 85 Reference Curves of Waist Circumference
in Children and Adolescents** 1405
Peter Schwandt and Gerda-Maria Haas

Part XIV Anthropometry of Middle-Aged and Aged in Health and Disease	
86 Anthropometric Aspects and Common Health Problems in Older Adults	1415
Prasert Assantachai	
87 Anthropometrical Changes in Older Taiwanese and Diet and Exercise	1435
Alan C. Tsai	
88 Anthropometry and Mortality in Older Women: Potential Survival Benefit of Overweight and Obesity	1449
Chantal Matkin Dolan, Michelle Hansen, and Kathryn Fisher	
89 Postmenopausal Anthropometric Relationship Between Arm Span and Height in Osteoporosis	1467
Demet Ofluoglu	
90 Relationship Between Plasma Hormones and Anthropometric Measures of Muscle Mass in Postmenopausal Women.....	1481
Fábio Lera Orsatti, Erick Prado de Oliveira, and Roberto Carlos Burini	
91 Anthropometric Measurements in Adults and Elderly: Cuban Perspectives	1491
Aline Rodrigues Barbosa and Raildo da Silva Coqueiro	
92 Anthropometric Indices and Nutritional Assessments in the Elderly: Brazilian Perspectives	1509
Aline Rodrigues Barbosa, Lúcia Andréia Zanette Ramos Zeni, and Ileana Arminda Mourão Kazapi	
93 Assessment of Sarcopenia.....	1527
Daniel Bunout, Gladys Barrera RN, Pia de la Maza, Laura Leiva RT, and Sandra Hirsch	
94 Body Mass Index and Cardiac Events in Elderly Patients.....	1537
John A. Batsis and Silvio Buscemi	
Part XV Anthropometry in Genetic Disease and Polymorphisms	
95 Anthropometry of Twins	1561
Sergio Demarini	
96 Anthropometry in Children with Cystic Fibrosis	1571
Alexia J. Murphy and Peter S.W. Davies	

- 97 Facial Anthropometry in Hypohidrotic Ectodermal Dysplasia (HED)..... 1585**
Claudia Dellavia, Francesca Catti, Michela Turci,
Chiarella Sforza, and Virgilio F. Ferrario
- 98 Anthropometric Indices of Facial Features in Down's Syndrome Subjects..... 1603**
Chiarella Sforza, Claudia Dellavia, Cristina Allievi,
Davide G. Tommasi, and Virgilio F. Ferrario
- 99 Sex Chromosome Aneuploidy and Anthropometry..... 1619**
Lise Aksglaede, Niels Erik Skakkebak, and Anders Juul
- 100 Anthropometric Indices in Turner Syndrome..... 1635**
Anna M. Kucharska
- 101 Polymorphisms in the Serotonin (5-Hydroxytryptamine (5-HT)) Type 2A Receptor (5-HTR2A) Gene, Other Related Genes and Anthropometry..... 1649**
Dolores Corella and Mercedes Sotos-Prieto
- Part XVI Anthropometry in Cancer**
- 102 Anthropometry and Thyroid Cancer Risk 1671**
Cari Meinhold Kitahara and Amy Berrington de González
- 103 Anthropometry and Ovarian Cancer: The Inflammation Connection 1685**
Julia B. Greer
- 104 Anthropometry and Breast Cancer Risk 1703**
Amanda I. Phipps
- 105 Anthropometric Parameters in Hospitalized Elderly Patients with Cancer 1725**
E. Paillaud, B. Campillo, E. Alonso, and P.N. Bories
- 106 Body Weight and Body Surface Area in Chemotherapy..... 1735**
Dominique Levêque
- Part XVII Anthropometry in Exercise and Sport Activities**
- 107 The Meaning of Muscle Mass for Health, Disease, and Strength Exercises 1747**
Roberto Carlos Burini and Nailza Maestá
- 108 Exercise, Nutrition, and Anthropometry of Bone Development in Term and Preterm Infants..... 1761**
Ita Litmanovitz and Alon Eliakim

- 109 Anthropometry and Race Performance in Endurance Athletes** 1777
Beat Knechtle
- 110 Anthropometry and the Response to Dietary Supplementation in Exercise**..... 1785
Melissa Crowe
- 111 Anthropometry in Premenarcheal Female Esthetic Sports Athletes and Ballerinas**..... 1817
Marjeta Misigoj-Durakovic
- 112 Fitness and Anthropometric Testing in Basketball Players** 1837
Eric J. Drinkwater
- 113 Anthropometric Digit Ratio 2D:4D and Athletic Performance** 1857
Johannes Hönekopp
- 114 Anthropometric Variables and Its Usage to Characterise Elite Youth Athletes** 1865
Cristóbal Sánchez-Muñoz, Mikel Zabala, and Karen Williams
- 115 Anthropometry in Athletes with Spinal Cord Injury** 1889
Mina C. Mojtahedi and Ellen M. Evans
- 116 Anthropometry in 55–75-Year Olds in Response to Exercise** 1903
Melanie I. Stuckey, Anna M. Chudyk, and Robert J. Petrella
- 117 Anthropometry and Exercise in Obesity** 1919
Fusun ARDIC
- 118 Anthropometry and Exercise in Down Syndrome** 1937
Manuel Rosety-Rodríguez, Francisco Javier Ordoñez, Gabriel Fornieles-Gonzalez, Miguel Angel Rosety, Natalia Garcia Gomez, Antonio Diaz-Ordóñez, Jesus Rosety, Alejandra Camacho Molina, and Ignacio Rosety
- Part XVIII Anthropometry in Metabolic Disease and Obesity**
- 119 Value of Waist Circumference in Metabolic Diseases**..... 1947
V. Saroja Voruganti and Anthony G. Comuzzie
- 120 Waist Circumference for the Clinical Diagnosis of Metabolic Syndrome in the Japanese Population: Optimal Cut-Point to Predict Early Arteriosclerosis** 1959
Yuka Matoba, Toyoshi Inoguchi, Atsushi Ogo, and Ryoichi Takayanagi

- 121 BMI, Waist Circumference, and Metabolic Syndrome: Lessons from Japanese Perspectives** 1973
Masaru Sakurai, Tsuguhito Ota, Katsuyuki Miura, Hideaki Nakagawa, Shuichi Kaneko, and Toshinari Takamura
- 122 Anthropometry of Local Fat Reduction**..... 1989
Frank L. Greenway and Susan Pekarovics
- 123 Waist-to-Height Ratio and Obesity in Chinese** 2007
Che-Yi Chou and Zhiguo Mao
- 124 Diagnosis of Obesity Using Anthropometric Indices in Urban Populations: Brazilian Perspectives**..... 2017
Cláudia Aparecida Marlière, Silvia Nascimento de Freitas, Silvia Eloíza Priore, and Sylvia do Carmo Castro Franceschini
- 125 Presurgical Assessment of Intra-abdominal Visceral Fat in Obese Patients**..... 2031
Angela Falbo and Stefano Palomba
- Part XIX Anthropometry in Diabetes**
- 126 Maternal Anthropometric Indices and Gestational Diabetes** 2047
Edwina Yeung, Yiqing Song, and Cuilin Zhang
- 127 Body Size at Birth and Risk of Type 2 Diabetes in Adult Life**..... 2073
Yiqing Song, Lu Wang, Edwina Yeung, and Cuilin Zhang
- 128 Waist-Circumference Phenotype and Risk of Type 2 Diabetes** 2091
Ike S. Okosun and Tandeih A. Ghogomu
- 129 The Use of Skinfolds in Anthropometric Measures and Their Applications to Diabetes** 2107
Marie-Eve Mathieu and Louise Béliveau
- Part XX Anthropometry in Cardiovascular Disease**
- 130 Altered Bone Geometry of the Radius and Tibia Among Stroke Survivors**..... 2123
Marco Y.C. Pang and Ricky W.K. Lau
- 131 Waist Circumference and Cardiovascular Risk**..... 2137
Heribert Schunkert, Marcello Ricardo Paulista Markus, and Jan Stritzke

- 132 Anthropometry, Body Surface Area and Cardiopulmonary Bypass: Determining the Pump Flow Rate of the Heart-Lung Machine Using Body Size** 2155
R. Peter Alston
- 133 Anthropometric Measurements, Adipokines and Abdominal Aortic Calcification**..... 2171
Adam Franklin Parr and Jonathan Golledge
- Part XXI Anthropometry in Organ Disease**
- 134 Body Composition in Liver Cirrhosis** 2187
Lindsay D. Plank and John L. McCall
- 135 Liver Damage Severity Evaluated by Liver Function Tests and the Nutritional Status Estimated by Anthropometric Indicators** 2201
Alfredo Larrosa-Haro, Erika F. Hurtado-López, Rocío Macías-Rosales, and Edgar M. Vásquez-Garibay
- 136 Waist Circumference Correlates and Hepatic Fat Accumulation** 2213
Yuichiro Eguchi, Toshihiko Mizuta, Iwata Ozaki, Dita Salova, Masato Yoneda, Koji Fujita, Hideyuki Hyogo, Hideki Fujii, Masafumi Ono, Yasuaki Suzuki, Takaaki Ohtake, Yoshio Sumida, and Kazuma Fujimoto
- 137 Ultrasonographic Anthropometry: An Application to the Measurement of Liver and Abdominal Fat** 2227
Marisa Chiloiro and Giovanni Misciagna
- 138 Dissecting the Architecture of Bone Strength-Related Phenotypes for Studying Osteoporosis**..... 2243
Xiaojing Wang and Candace M. Kammerer
- 139 Body Composition and Lung Function** 2259
Mauro Zamboni, Andrea Rossi, Alessandra Zivelonghi, Giulia Zamboni, and Francesco Fantin
- Part XXII Anthropometry in Special Conditions and Circumstances**
- 140 Psychosocial Correlates in the Context of Body Mass Index and Overweight**..... 2273
Helena Fonseca and Margarida Gaspar de Matos
- 141 Body Composition Studies in Critical Illness** 2285
Lindsay D. Plank

- 142 Anthropometry and Infectious and Parasitic Diseases**..... 2299
 Pedro R.T. Romão, Francisco Martins Teixeira,
 Taysa Ribeiro Schalcher, and Marta Chagas Monteiro
- 143 Body Composition in Spinal Cord
 Injured–Paraplegic Men**..... 2317
 Yannis Dionyssiotis
- 144 Anthropometry of Head Circumference,
 Limb Length and Dementia** 2341
 Jae-Min Kim, Robert Stewart, Il-Seon Shin, and Jin-Sang Yoon
- 145 Anthropometry in Special and Selective
 Conditions and Circumstances: Anthropometry
 as Measure of Risk in COPD Patients**..... 2357
 Ernesto Crisafulli, Stefania Costi, and Enrico M. Clini
- 146 Anthropometry in Congenital Adrenal Hyperplasia** 2373
 Henrik Falhammar, Anna Nordenström, and Marja Thorén
- 147 Changes in Anthropometric Measures in Systemic
 Lupus Erythematosus**..... 2391
 Chi Chiu Mok
- 148 Anthropometric Measurement-Based Estimates
 of Body Water in Children on Peritoneal Dialysis** 2403
 B.Z. Morgenstern
- 149 Anthropometry and Body Composition in
 Chronic Kidney Disease Patients not on Dialysis**..... 2413
 Vincenzo Bellizzi, Biagio Di Iorio, and Luca Scalfi
- 150 Obesity, Leptins, Hypogonadism and Waist–Hip
 Ratio in men: An Interplay** 2429
 J. Elizabeth, C. Rakshita, and S. Ramkumar
- 151 Usage of Anthropometry to Determine Etiological and
 Risk Factors in Deep-Tissue Injury**..... 2443
 Amit Gefen
- 152 Anthropometry in the Assessment of HIV-Related
 Lipodystrophy** 2459
 Giovanni Guaraldi, Stentarelli Chiara, Stefano Zona,
 and Bruno Bagni
- 153 Use of Anthropometry in Monitoring the Nutritional
 and Health Status of Persons Living with HIV/AIDS** 2473
 Selby Nichols, Nequesha Dalrymple, and Marlon Francis

- 154 Antropometry in HIV Patients: Effects of Recombinant Human Growth Hormone** 2495
Livio Luzi, Ileana Terruzzi, and Stefano Benedini
- 155 Digital Three-Dimensional Photogrammetry: Craniofacial Applications to Facial Growth, Orthognathic and Reconstructive Surgery, and Morphometrics** 2511
Nada M. Souccar, Chung How Kau, and Seth M. Weinberg
- PartX XIII Anthropometry in Ethnic Groups and Cultural and Geographical Diversity**
- 156 Anthropometry in Ethnic Groups and Cultural and Geographical Diversity**..... 2523
Wee Bin Lian
- 157 Ethnicity and Facial Anthropometry** 2535
Mehrdad Jahanshahi
- 158 Anthropometry in the Circumpolar Inuit** 2543
Tracey Galloway, T. Kue Young, and Peter Bjerregaard
- 159 Anthropometric Measures of Birth and Stature: Perspectives on Russian Mothers and Newborns**..... 2561
Boris N. Mironov
- 160 Body Composition in a Multiethnic Community in New Zealand**..... 2581
Elaine Rush
- 161 Anthropometric Measurements in Australian Aborigines**..... 2593
Srinivas Kondalsamy-Chennakesavan, Leonard S. Piers, Sidya Raghavan, and Kerin O’Dea
- 162 Secular Changes in Anthropometric Indices of Children and Adolescents: Studies from Korea**..... 2615
Joong-Myung Choi and Ji-Yeong Kim
- 163 Determinants of Central Adiposity: An Iranian Perspective**..... 2629
Leila Azadbakht, Ahmad Esmailzadeh, and Pamela J. Surkan
- 164 Anthropometry and the Prevalence of Child Obesity in China and Japan**..... 2641
Liubai Li, Hui Li, and Hiroshi Ushijima
- 165 Optimal Waist Circumference Cutoffs for Abdominal Obesity in Chinese** 2657
Weiping Jia and Jiemin Pan

- 166 Usefulness of Skinfold Thickness Measurements for Determining Body Fat Distribution and Disease Risk for Japanese Men and Women**..... 2667
Hironori Imano, Akihiko Kitamura, Masahiko Kiyama, Tetsuya Ohira, Renzhe Cui, Isao Muraki, Yuji Shimizu, Mitsumasa Umesawa, Kenji Maeda, Masatoshi Ido, Takeo Okada, Masakazu Nakamura, Hiroyuki Noda, Kazumasa Yamagishi, Shinich Sato, Takeshi Tanigawa, Yoshinori Ishikawa, and Hiroyasu Iso
- 167 Socioeconomic Status, Anthropometric Status and Developmental Outcomes of East-African Children**..... 2679
Amina Abubakar and Fons van de Vijver
- 168 Body Mass Index and Mortality in India**..... 2695
Catherine Sauvaget
- Part XXIV Anthropometry and Nutrition: General Aspects**
- 169 Anthropometric Measurements and Nutritional Status in the Healthy Elderly Population**..... 2709
Lilia Castillo-Martínez, Carmen García-Peña, Teresa Juárez-Cedillo, Óscar Rosas-Carrasco, Claudia Rabay-Gánem, and Sergio Sánchez-García
- 170 Anthropometry of Leg Lean Volume: Application to Nutrition in Systemic Disorders**..... 2731
Débora Villaça and J. Alberto Neder
- 171 Nutritional Anthropometry for Amputees: Challenges for Clinicians**..... 2745
Elaine Bannerman, Jolene Thomas, and Michelle Miller
- 172 Anthropometry of Malnutrition in End Stage Liver Disease**..... 2755
E.T. Tsiaousi and A.I. Hatzitolios
- 173 Anthropometry in Anorexia Nervosa**..... 2767
Antonella Diamanti and Fabio Panetta
- 174 Clinical Practice of Body Composition Assessment in Female Subjects with Anorexia Nervosa**..... 2783
Michel Probst and Marina Goris
- 175 Perceived Body Image and Actual Anthropometric Indices in Eating Disorders**..... 2795
Dieter Benninghoven

- 176 Anthropometry and Nutritional Rehabilitation in Underweight Eating Disorders** 2807
Giulio Marchesini, Laura Maria Ricciardi, Nicola Villanova, and Riccardo Dalle Grave
- 177 Anthropometric Nutritional Assessment in Children with Severe Neurological Impairment and Intellectual Disability** 2821
Corine Penning and Heleen M. Evenhuis
- 178 Eating Frequency and Anthropometry** 2837
Karine Duval and Éric Doucet
- PartX XV Anthropometry and Nutrition: Micro- and Macro-Nutrients**
- 179 Relationship Between Calcium Intake and Anthropometric Indices** 2875
Herculina Salome Kruger
- 180 Dietary Protein Intake and Anthropometric Indices of Muscle Mass in Elderly** 2893
Karine Perreault and Isabelle J. Dionne
- 181 Anthropometry and the Prevalence of Child Protein–Energy Malnutrition in China and Japan** 2909
Liubai Li, Hui Li, and Hiroshi Ushijima
- Part XXVI Biomechanical and Ergonomic Aspects**
- 182 Anthropometry in Bipedal Locomotion: The Link Between Anatomy and Gait** 2927
Franck Multon, Guillaume Nicolas, Robin Huw Crompton, Kristiaan D’Août, and Gilles Berillon
- 183 Use of Anthropometry for the Measurement of Lower Extremity Alignment** 2951
Annegret Mündermann
- 184 Anatomical Reference Frames for Long Bones: Biomechanical Applications** 2971
Luca Cristofolini
- 185 Using Three-Dimensional (3D) Anthropometric Data in Design** 3001
Jianwei Niu and Zhizhong Li

186 Use of Anthropometric Measures and Digital Human Modelling Tools for Product and Workplace Design..... 3015
Lars Hanson and Dan Högberg

187 Anthropometric Indices in the Philippines for Manufacturing Workers..... 3035
Jinky Leilanie DP Lu

Erratum E1

Index..... 3055