CONTENTS

Chapter 1.	Introduction
Chapter 2.	Collection of Specimens and Transport2 TD Chugh
	Sample Collection Manual 2
	Standard Operating Procedures 2
	Collection and Transport of Specimens 2
	Specimen Management in Laboratory 3
	Bloodstream Infections 3
	Central Nervous System Infections 4
	Soft Tissue Infections 4
	Upper Respiratory Tract Infections 4
	Lower Respiratory Infections 5
	Laboratory Diagnosis of CAP 5
	Lab Diagnosis of HAP, VAP 5
	Pneumonia in Immunocompromised Host 6
	Urinary Tract Infections 6
	Skin and Soft Tissue Infections 6
	Laboratory Diagnosis of Malaria 6
	Diagnosis of Surgical Site Infections 7
Chapter 3.	CBC in Infections8
	Vinod Gunasekaran, Anupam Sachdeva
	Components of Complete Blood Count (CBC) 8
	Abnormalities in Red Cell Parameters in Infections 9
	Physiology of Normal WBC Differentiation 10
	Abnormalities in White Cell Parameters in Infections 10
	Morphological Changes in Neutrophils 12
	Morphologic Changes in Lymphocytes 16
	Characteristic Features of Specific Infections 17

Prelims_Rational.indd 9 29-12-2017 01:36:11

			_	
X	IAP-ICP NPH Manuals: Rationa	l Investigation	Practices	in Pediatrics

Chapter 4.	Markers of Infection20
	Narayanappa D, Sujatha MS
	Leukocytosis 22
	CRP 22
	Procalcitonin 23
	Erythrocyte Sedimentation Rate 25
	Ferritin 28
	Other Markers 28
Chapter 5.	Lab Diagnosis of Infectious Diseases31
•	S Balasubramanian, J Rajkumar
	Culture-based Detection 31
	Blood Culture Sampling Technique 31
	Blood Culture Volume 32
	Blood Culture Methods 33
	Fungal Culture 34
	Other Body Fluids 34
	Antimicrobial Susceptibility Testing 34
	Nonculture Methods 35
	Molecular Diagnostic Techniques 37
Chapter 6.	Serology in Pediatric Infectious Diseases
•	Digant D Shastri, Alka J Shah
	Enzyme-linked Immunosorbent Assay (ELISA) 39
	Agglutination Tests 40
	Precipitation Tests 42
	Complement Fixation Test 43
	Hepatitis Viruses Infections 45
	Leptospira Infection 48
	Lyme Disease 49
Chapter 7.	Rational Investigations in Upper and
	Lower Respiratory Tract Infections52
	Ashok Rai
	Investigations in URI 52
	Sinusitis 52

Prelims_Rational.indd 10 29-12-2017 01:36:11

	Pharyngitis, Pharyngotonsillitis 53
	Otitis Media 53
	Pneumonia 53
	Gastric Lavage 54
	Role of Imaging in Pulmonary Infection 55
Chapter 8.	Central Nervous System Infections58
	Nupur Ganguly
	Meningitis 58
	Encephalitis 64
Chapter 9.	How do I Investigate Urinary Tract Infection?67
	Kanav Anand
	Terminologies Used in Relation to UTI 67
	Host Factors that Increase the Risk of UTI 67
	Clinical Features 68
	Diagnosis 69
Chapter 10.	Rational Investigation: Typhoid72
	Jaydeep Choudhury
	Complete Blood Count 72
	Cultures 72
	Serologic Tests 74
	Molecular Methods 76
Chapter 11.	Laboratory Diagnosis of Malaria78
	Ritabrata Kundu
	Microscopic Diagnosis 78
	Rapid Diagnostic Tests (RDTs) 80
	Other Methods of Malaria Diagnosis 83
Chapter 12.	Dengue85
	Vijay Yewale
	Dengue Diagnosis 85
	Primary Infection 85

29-12-2017 01:36:11 Prelims_Rational.indd 11

xii IAP-ICP NPH I	Manuals: Rational Investigation Practices in Pediatrics
	Secondary Infection 86
	NS1 Antigen 87
	Most Useful for Clinical Management 89
Chapter 13.	Fungal Infection in Children90
	Kheya Ghosh Uttam
	Classification of Fungal Infections 90
	Mode of Transmission 91
	Superficial Fungal Infections 91
	Systemic Fungal Infection 93
Chapter 14.	Brucellosis99
	Bharat Mehra, AJ Chitkara
	Epidemiology 99
	Culture 102
	Polymerase Chain Reaction 102
	Treatment 102
Chapter 15.	Leptospirosis104
	Abhay K Shah, Baldev Prajapati
	Organism 104
	Transmission 104
	Risk Factors 105
	Incubation Period 105
	Hepatorenal Syndrome or Weil's Disease 106
	Laboratory Features 106
	Serology 107
	Diagnosis 109
	Treatment 109
	Prevention 110
Chapter 16.	Rickettsial Fever111
	Shyam Kukreja, Tapisha Gupta
	Epidemiology 111
	Clinical Suspicion 111
	Clinical Features 112

Prelims_Rational.indd 12 29-12-2017 01:36:11

	How to Investigate? 112 Specific Tests 112 Skin Biopsy 113
Chapter 17.	Diagnostic Dilemmas in Tuberculosis114 Ira Shah
	Case 1: How to Interpret this Positive Mantoux Test? 114 Case 2: Non-resolving Pneumonia: Is it Really TB? 115 Case 3: BCG Adenitis; Do I Treat with ATT or Not? 117 Case 4: When to do Interferon-Gamma Release Assays? 117

Prelims_Rational.indd 13 29-12-2017 01:36:11