



Pediatric Advanced Life Support

Provider Manual



Table of Contents

Unit One: General Concepts	7
Pediatric Advanced Life Support (PALS) Preparation.....	7
Organization of the PALS Course	7
Delivering the Most Up-to-Date Guidelines Available	7
PALS Manual Updates At-A-Glance: 2020 to 2025.....	8
Pediatric Chain of Survival.....	10
Unit Two: Pediatric Evaluation	12
Evaluate-Identify-Intervene	13
Evaluate the Child	13
Primary Assessment	14
Secondary Assessment	17
Diagnostic Tests	18
Identify	19
Intervene.....	19
Unit Three: The Team in PALS	20
Unit Four: Recognition of Respiratory Distress/Failure	22
Hypoxia.....	23
Hypercarbia	23
Signs of Respiratory Problems	24
Unit Five: Management of Pediatric Respiratory Distress or Failure	25
Upper Airway Obstruction Management	25
Lower Airway Obstruction Management	26
Lung Tissue Disease Management	28
Disordered Control of Breathing Management.....	28
Equipment for Respiratory Management	29
Pediatric Length-Based Resuscitation Tape	29
Unit Six: Recognition of Pediatric Shock	31
Pathophysiology in Shock.....	31
Compensatory Mechanisms in Shock.....	32
Signs of Shock by Type	33
Unit Seven: Management of Pediatric Shock	34
Initial Management.....	34

Management of Shock by Type	35
Shock: Fluid and Medications	35
Intraosseous Access.....	37
Unit Eight: Recognition and Management of Pediatric Bradycardia	39
Signs and Symptoms of Bradycardia	39
Underlying Causes of Bradycardia	39
Bradycardia with a Pulse and Poor Perfusion.....	40
Unit Nine: Recognition and Management of Pediatric Tachycardia	41
Signs and Symptoms of Tachycardia	41
Initial Management of Tachycardia and Emergency Interventions	42
Tachycardia with Poor Perfusion.....	44
Tachycardia with Adequate Perfusion	45
Unit Ten: Recognition and Management of Pediatric Cardiac Arrest	47
Cardiac Arrest Rhythms	47
BLS Components for Management of Cardiac Arrest	47
Advanced Life Support (ALS) in Cardiac Arrest.....	48
Pediatric Cardiac Arrest	49
Manual Defibrillation for VF or Pulseless VT	51
Special Circumstances.....	52
Unit Eleven: Pediatric Post-Resuscitation Support.....	53
DOPE.....	54
Maintenance Fluids.....	55
Management of Shock Following Successful Resuscitation	56
Patient Transport	57
Unit Twelve: Medications Used in PALS	58
Unit Thirteen: Rhythm Recognition.....	65
Sinus Rhythm.....	66
Sinus Bradycardia	66
Sinus Tachycardia	67
Sinus Rhythm with First Degree Heart Block	67
Second Degree AV Heart Block	68
Supraventricular Tachycardia (SVT)	69
Atrial Fibrillation (AF)	70
Atrial Flutter.....	70

Asystole..... 70

Pulseless Electrical Activity (PEA)..... 71

Ventricular Tachycardia (VT) 71

Ventricular Fibrillation (VF)..... 71

Myocardial Infarction (MI) 72

References.....73

List of Figures

Figure 1: Pediatric Chain of Survival..... 10

Figure 2: BLS Infant and Child Algorithm 11

Figure 3: PALS Sequence Algorithm 12

Figure 4: Evaluate-Identify-Intervene Sequence 13

Figure 5: Team Location..... 20

Figure 6: Respiratory Distress to Cardiac Arrest 22

Figure 7: Upper Airway Obstruction Interventions..... 25

Figure 8: Lower Airway Obstruction Interventions..... 26

Figure 9: Lung Tissue Disease Interventions 28

Figure 10: Disordered Control of Breathing Interventions 28

Figure 11: Pathophysiology of Shock 31

Figure 12: Types of Shock..... 35

Figure 13: Intraosseous Access 37

Figure 14: Schematic of Intraosseous Access..... 38

Figure 15: PALS Bradycardia Algorithm..... 40

Figure 16: PALS Tachycardia Initial Management algorithm 42

Figure 17: Synchronized Cardioversion 43

Figure 18: PALS Tachycardia Poor Perfusion Algorithm..... 44

Figure 19: PALS Narrow QRS Tachycardia Adequate Perfusion Algorithm 45

Figure 20: PALS Wide QRS Tachycardia Adequate Perfusion Algorithm 46

Figure 21: ALS Interventions in Cardiac Arrest 48

Figure 22: PALS Cardiac Arrest Algorithm 50

Figure 23: Manual Defibrillation in Pediatric Cardiac Arrest..... 51

Figure 24: PALS Post-Arrest Shock Management Algorithm 56

Figure 25: Standard ECG 65

Figure 26: Normal Sinus Rhythm..... 66

Figure 27: Sinus Bradycardia 66

Figure 28: Sinus Tachycardia 67

Figure 29: First Degree Heart Block 67

Figure 30: Second Degree Heart Block Type I 68

Figure 31: Second Degree Heart Block Type II 68

Figure 32: Third Degree Heart Block..... 69

Figure 33: Supraventricular Tachycardia..... 69

Figure 34: Atrial Fibrillation 70

Figure 35: Atrial Flutter..... 70

Figure 36: Ventricular Tachycardia..... 71

Figure 37: Ventricular Fibrillation 71

Figure 38: Comparison of Normal, STEMI and NSTEMI ECG Tracings..... 72

List of Tables

Table 1: PALS Manual Updates At-A-Glance: 2020 to 20257

Table 2: Primary Assessment Model 13

Table 3: Normal Respiratory Rates 14

Table 4: Normal Heart Rates 14

Table 5: Normal Blood Pressure 15

Table 6: Pediatric Glasgow Coma Scale..... 15

Table 7: Secondary Assessment History 16

Table 8: Diagnostic Tests in PALS..... 17

Table 9: Identify Cause of Condition 18

Table 10: Team Expectations in PALS..... 20

Table 11: Tissue Hypoxia Signs and Treatment..... 22

Table 12: Hypercarbia Signs and Treatment..... 22

Table 13: Clinical Signs by Respiratory Problem 23

Table 14: Classification of Asthma..... 26

Table 15: Pediatric Length-Based System 29

Table 16: Compensatory Mechanisms in Shock 31

Table 17: Signs of Shock by Type..... 32

Table 18: Interventions for Initial Management of Shock 33

Table 19: Signs of Bradycardia by System 38

Table 20: Signs of Tachycardia by System 40

Table 21: BLS Components in Cardiac Arrest 46

Table 22: Post-Resuscitation Priorities and Treatments 52

Table 23: Calculation of Maintenance Fluid..... 54

Table 24: Resuscitation Medications..... 57