|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MEDICATION ADMINISTRATION - QUICK REFERENCE GUIDE | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Level** | | | | **Medication** | | | | **Adult Dose** | | | |  | **Pediatric Dose** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Adenosine** | | | | | **1st: 6 mg IV Push 2nd:12 mg IV Push** | | | |  | **1st: 0.1 mg/kg IV Push 2nd: 0.2 mg/kg** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Albuterol Neb** | | | | | **2.5 mg in 3 mL NS SVNeb** | | | |  | **0.15 mcg/kg in 3 mL NS SVNeb** | | | | | | | | | | | | | | | |
| ***B*** | ***A*** | ***P*** | **Aspirin** | | | | | **324 mg (chewable)** | | | |  |  | |  |  |  |  |  |  |  | | |  |  |  |  | |
|  |  | ***P*** | **Atropine (Cardiac)** | | | | | **Brady: 0.5 - 1 mg IV/IO** | | | |  | **Brady: 0.02 mg/kg IV/IO** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Atropine (poisoning)** | | | | | **2 - 5 mg q 15 min IV/IO** | | | |  | **0.05 - 0.1 mg/kg q 15 min IV/IO** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Atrovent Neb** | | | | | **0.5 mg** | | | |  | **0.25 mg** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Benadryl** | | | | | **25 - 50 mg IV/IO/IM** | | | |  | **1 mg/kg IV/IO/IM** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Calcium Chl 10%** | | | | | **500 - 1000 mg IV/IO slow** | | | |  | **20 mg/kg IV/IO slow** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Diazepam** | | | | | ***Seizure*: 5 - 10 mg IV/IO/IM slow *Sedation: 5 - 15 mg slow*** | | | |  | ***Seizure*: 0.25 mg/kg IV/IO/IM (max 10mg)**  ***Rectal*: 0.5 mg/kg (max 10 mg)** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **DuoNeb (Combo)** | | | | | ***0.5mg Atrovent &* 1.25 mg Xopenex** | | | |  |  | | | | | | | | | | | | | | | |
|  | ***A*** |  | **Epinephrine**  **1:1 = 1:1000** | | | | **1 : 1** | | **Asthma: 0.3 - 0.5 mg IV/IO/IM** | | |  | **1 : 1** | **Asthma: 0.01mg/kg <0.3mg IV/IO/IM** | | | | | | | | | | | | | | |
|  | ***Allergy: 0.3 - 0.5 mg IV/IO/IM*** | | |  | ***Allergy: 0.01mg/kg <0.3mg IV/IO/IM*** | | | | | | | | | | | | | | |
|  |  | ***P*** | **Epinephrine**  **1:1 = 1:1000**  **1:10 = 1:10,000** | | | | **1: 10** | | ***Arrest: 1mg q 3 – 5 min*** | **1 : 1** | ***Asthma/Allergy:***  **0.3 - 0.5 mg** |  | **1: 10** | **Arrest/Brady:** | | | | | | | | **1 : 1** | **Arrest: 0.1-0.2 mg/kg** | | | | | |
|  |  |  | **0.01 mg/kg** | | | | | | | | ***Asthma & Allergy:***  ***0.01mg/kg <0.3mg*** | | | | | |
|  |  | ***P*** | **Epinephrine**  ***Push Dose Pressor*** | | | | **1mL Epi 1:10,000 in 9 mL NS (=1:100,000 mg) – SIVP 1-2 mL and monitor for effect** | | | | |  |  | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Fentanyl** | | | **12.5 - 100 mcg IV/IO/IM/IN slow** | | | | | |  | **1 mcg/kg IV/IO/IM/IN slow** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Furosemide** | | | **0.5 – 1 mg/kg IV/IO slow** | | | | | |  | **1 mg/kg IV/IO slow** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Glucagon** | |  | **1 mg IV/IO/SQ/IM/IN slow** | | | | | |  | **<20 kg – 0.5 mg IV/IO/SQ/IM/IN slow** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Glucose (D-50)** | | | **25 - 50 ml (25 g) IV slow** | | | | | |  | **1 ml/kg IV slow (dilute w/ IV fluids)** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Glucose (D-10)** | | | **75 – 125 mL over 5-10 min. May Repeat** | | | | | |  | **75 mL over 5-10 min. May Repeat** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Ketamine:** | | | **Pain: 0.1 - 0.5 mg/kg (IV,IO,IM,IN) SIVP**  **Induction: 1.5 - 2 mg/kg SIVP**  **Excited Delirium: 2 mg/kg SIVP** OR **5 mg/kg IM** | | | | | |  | **Pain: 0.1-0.5 mg/kg (IV,IO,IM,IN) MAX: 2 mg/kg** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Lidocaine** | | | **1 - 1.5 mg/kg IV/IO** | | | | | |  | **1 mg/kg IV/IO/IN** | | | | | | | | | | | | | | | |
|  |  | **2nd 3rd dose = ½ initial dose** | | | | | |  | **2nd 3rd dose = ½ initial dose** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Magnesium Sulfate** | | | ***Cardiac*: 1-2 g IV slow (over 5-20 min) *Eclampsia: 1-5 g in 250cc NS over 15-30 min*** | | | | | |  |  | |  |  |  |  |  |  |  | | |  |  |  |  | |
|  |  | ***P*** | **Morphine** | | | **2 - 4 mg IV/IO/IM/IN slow (up to 10 mg)** | | | | | |  | **0.1 mg/kg IV/IO/IM/IN slow** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Narcan** | | | **0.4 – 2 mg IV/IM/IO/IN (may repeat)** | | | | | |  | **0.1 mg/kg IV/IO/IM/IN (MAX 2 mg)** | | | | | | | | | | | | | | | |
| ***B*** | ***A*** | ***P*** | **Nitroglycerin** | | | **0.4 mg SL q 5 min X 3 *EMT may Assist*** | | | | | |  |  | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Sodium Bicarb.** | | | **1 mEq/kg IV/IO repeat ½ q 10 min** | | | | | |  | **1 mEq/kg IV/IO repeat ½ q10 min** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Thiamine** | | | **100 mg IV/IM/IO PRIOR to D 50** | | | | | |  |  | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Versed** | | | **1 - 2 mg IV/IO/IN q30 min PRN *Consider MD Order Prior to use*** | | | | | |  | **0.05—1 mg/kg IV/IO/IN (MAX 4 mg) Consider MD Order Prior to use** | | | | | | | | | | | | | | | |
|  |  | ***P*** | **Vecuronium** | | | **0.08 - 0.1 mg/kg IV/IO Transfer ONLY** | | | | | |  | **<10y/o may require higher initial dose Transfer ONLY** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Xopenex Neb** | | | **1.25 mg in 2.5 ml NS (may repeat X1)** | | | | | |  | **0.075 mg/kg in 2.5 ml NS (may repeat X1)** | | | | | | | | | | | | | | | |
|  | ***A*** | ***P*** | **Zofran** | | | **4 mg IV/IO/IM/IN (may repeat X 1)** | | | | | |  | **0.1 mg/kg IV/IO/IM/IN (MAX 4 mg)** | | | | | | | | | | | | | | | |
|  |  |  |  | | |  | | | | | |  |  | | | | | | | | | | | | | | | |
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**QUICK REFERENCE GUIDES**

***Richmond Agitation-Sedation Scale (RASS)***

|  |  |  |  |
| --- | --- | --- | --- |
| **Score** | **Term** | **Description** |  |
| **+4** | **Combative** | Overly combative, violent, Immediate danger to crew |  |
| **+3** | **Very Agitated** | Pulls or removes tube(s) or catheter(s); aggressive |  |
| **+2** | **Agitated** | Frequent non-purposeful movement; fights ventilator |  |
| **+1** | **Restless** | Anxious but movements not aggressive or vigorous |  |
| **0** | **Alert / Calm** |  |  |
| **-1** | **Drowsy** | Not fully alert, but has sustained awakening (eye opening/eye contact) to voice (greater than 10 sec) | Verbal Stimulation |
| **-2** | **Light Sedation** | Briefly awakens with eye contact to voice (less than 10 sec) |
| **-3** | **Moderate Sedation** | Movement or eye opening to voice (but no eye contact) |
| **-4** | **Deep Sedation** | No response to voice, but movement or eye opening to physical stimulation | **Physical Stimulation** |
| **-5** | **Unarousable** | No response to voice or physical stimulation |

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|  |  | | |  | | | | | | | |
| **Weight Conversions** – **“3:00 am Rule”** To convert lbs to Kg, divide lbs by 2 and subtract 10% | | | | | | | | | | | |
| **Kg** | | **Lbs** | **Kg** | | **Lbs** | **Kg** | **Lbs** | **Kg** | **Lbs** | **Kg** | **Lbs** |
| **1** | | **2** | **26** | | **57** | **51** | **112** | **76** | **167** | **110** | **242** |
| **2** | | **4** | **27** | | **59** | **52** | **114** | **77** | **169** | **120** | **264** |
| **3** | | **7** | **28** | | **62** | **53** | **117** | **78** | **172** | **130** | **286** |
| **4** | | **9** | **29** | | **64** | **54** | **119** | **79** | **174** | **140** | **308** |
| **5** | | **11** | **30** | | **66** | **55** | **121** | **80** | **176** | **150** | **330** |
| **6** | | **13** | **31** | | **68** | **56** | **123** | **81** | **178** | **160** | **352** |
| **7** | | **15** | **32** | | **70** | **57** | **125** | **82** | **180** | **170** | **374** |
| **8** | | **18** | **33** | | **73** | **58** | **128** | **83** | **183** | **180** | **396** |
| **9** | | **20** | **34** | | **75** | **59** | **130** | **84** | **185** | **190** | **418** |
| **10** | | **22** | **35** | | **77** | **60** | **132** | **85** | **187** | **200** | **440** |
| **11** | | **24** | **36** | | **79** | **61** | **134** | **86** | **189** | **210** | **462** |
| **12** | | **26** | **37** | | **81** | **62** | **136** | **87** | **191** | **220** | **484** |
| **13** | | **29** | **38** | | **84** | **63** | **139** | **88** | **194** | **230** | **506** |
| **14** | | **31** | **39** | | **86** | **64** | **141** | **89** | **196** | **240** | **528** |
| **15** | | **33** | **40** | | **88** | **65** | **143** | **90** | **198** | **250** | **550** |
| **16** | | **35** | **41** | | **90** | **66** | **145** | **91** | **200** | **260** | **572** |
| **17** | | **37** | **42** | | **92** | **67** | **147** | **92** | **202** | **270** | **594** |
| **18** | | **40** | **43** | | **95** | **68** | **150** | **93** | **205** | **280** | **616** |
| **19** | | **42** | **44** | | **97** | **69** | **152** | **94** | **207** | **290** | **638** |
| **20** | | **44** | **45** | | **99** | **70** | **154** | **95** | **209** | **300** | **660** |
| **21** | | **46** | **46** | | **101** | **71** | **156** | **96** | **211** | **310** | **682** |
| **22** | | **48** | **47** | | **103** | **72** | **158** | **97** | **213** | **320** | **704** |
| **23** | | **51** | **48** | | **106** | **73** | **161** | **98** | **216** | **330** | **726** |
| **24** | | **53** | **49** | | **108** | **74** | **163** | **99** | **218** | **340** | **748** |
| **25** | | **55** | **50** | | **110** | **75** | **165** | **100** | **220** | **350** | **770** |

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| **IV FLUID RATES Drops/Minute** | **DRIP SET:** | **10** | **20\*** | **60** |  | **Pediatric Vital Signs** | | | |
| 30 cc/hr | 5 | 10 | 30 |  | **AGE** | **HR-Awake** | **HR-Sleep** | **Resp. Rate** |
| 60 cc/hr | 10 | 20 | 60 |  | **Infant = <1 y/o** | 85—205 | 80—160 | 30—60 |
| 100 cc/hr | 17 | 33 | 100 |  | **Toddler = 1-4 y/o** | 85—190 | 75—160 | 24—40 |
| 200 cc/hr | 33 | 67 | 200 |  | **School-age = 4-9** | 60—140 | 60—90 | 22—34 |
| 300 cc/hr | 50 | 100 | 300 |  | **Adolescent** | 60—100 | 50—90 | 12—16 |
| 400 cc/hr | 67 | 133 | 400 |  | **Typical Systolic BP for 1-10 y/o:** 90 + (age yrs X 2) mmHg  **Lower systolic limit for 1-10 y/o:** 70 + (age yrs X 2) mmHg  **Lower range-normal systolic BP for > 10 y/o**: approx. 90 mmHg  **Typical MEAN AP** (50th%) = 55 + (age yrs X 1.5) mmHg | | | |
| 500 cc/hr  1000 cc/hr | 83  167 | 167  333 | 500  1000 |  |
| \* Hospital Pump tubing=20 gtt/cc | | | |  |

**COMMON LAB VALUES**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **HEMATOLOGY** | | | | **ARTERIAL BLOOD GAS** | | | | |
| RBC | 4.2 - 5.6 M/mcL 3.8 - 5.1 M/mcL | | | pH | 7.35 – 7.45 | | | |
| WBC | 3.8 – 11 K/mm3 | | | PaCO2 | 35 – 45 mmHg | | | |
| Hgb | 14 – 18 g/dL 11 – 16 g/dL | | | PaO2 | 75 – 100 mmHg | | | |
| Hct | 39 – 54% 34 – 47% | | | HCO3 | 22 – 28 mEq/L | | | |
| MCV | 78 – 98 fL | | | O2 Sats | 96 – 100% | | | |
| Neutrophils | 50 – 81% | | | **BLOOD CHEMISTRIES** | | | | |
| Bands | 1 – 5 % | | | BUN | | 6 – 23 mg/dL | | |
| Lymphocytes | 14 – 44 % | | | Ca++ (calcium) | | 8 – 11 mg/dL | | |
| **COAGULATION** | | | | Cl- (chloride) | | 95 – 105 mEq/L | | |
| Platelets | | 140,000 – 450,000/ml | | Creatinine | | 0.6 – 1.5 mg/dL | | |
| Plasminogen | | 62 – 130% | | Glucose | | 70 – 110 mg/dL | | |
| PT | | 10 – 14 sec. | | Mg++ (magnesium) | | 1.5 – 2.5 mg/dL | | |
| PTT | | 32 – 45 sec. | | Phosphorus | | 2.2 – 4.8 mg/dL | | |
| Fibrinogen | | 160 – 450 mg/dL | | K+ (potassium) | | 3.5 – 5.5 mEq/L | | |
| INR | | 0.9 – 1.1 | | Na+ (sodium) | | 135 – 148 mEq/L | | |
|  | | | |  | | | | |
|  | | | | **IV Fluids Infusion Formula** | | | | |
| Total amt (ml) **X** drop factor | | | = drops/minute | |
|  | | | | Total time (in minutes) | | |
| **Drug Dose Calculation** | | | |  | | |  | |
| dose ordered(mg) **X** vol. of drug in pkg (mL) | | | = volume  to admin | **NS - IV Fluid Burn Resuscitation** | | | | |
| amt of drug in package (mg) | | | (% burn area) **X** (pt. wt. in Kg) | | | | = mL/hr (over 8 hrs) |
|  | |  | | 4 | | | |

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| *Los Angeles Stroke Screen* | | | | | | | **CVA rtPA Exclusion Criteria** | | |
| **Age over 45 years** | | | | **Y** | | **N** | **Onset** time: Sx **<** 4.5 hrs | **Y** | **N** |
| **No prior Hx of seizures** | | | | **Y** | | **N** | **CVA/Head injury** in last 3 mo. | **Y** | **N** |
| **New onset neuro Sx (24 hrs)** | | | | **Y** | | **N** | **Prior Intracranial hemorrhage** | **Y** | **N** |
| **Ambulatory prior to event** | | | | **Y** | | **N** | **GI/Urinary bleed** W/in 21 days | **Y** | **N** |
| **Blood Glucose between 60 - 400** | | | | **Y** | | **N** | **Major surgery** W/in 14 days | **Y** | **N** |
| **EXAM** | Obvious asymmetry | | **Right** | **Left** | | | **Cerebral: aneurysm, neoplasm** | **Y** | **N** |
| **Facial smile/grimace** | | Droop | Droop | | | **MI** W/in last 90 days | **Y** | **N** |
| **Grip** | Normal | Weak | Weak | | | **HPTN** (sys **>**185 or diastolic **>**110) | **Y** | **N** |
| No grip | No grip | | | Sx of **subarachnoid hemorrhage** | **Y** | **N** |
| **Arm weakness** | Normal | Drifts | Drifts | | |  | | |
| Falls | Falls | | |
| Pt has **unilateral** weakness: | | | | **Y** | **N** | |
| If Yes to **All**-screen criteria met: | | | | **Y** | **N** | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **GLASGOW COMA SCALE** | | | | | |
| **EYES OPENING** | | **VERBAL RESPONSE** | | **MOTOR RESPONSE** | |
| **Spontaneous** | **4** | **Oriented** | **5** | **Obeys commands** | **6** |
| **To Verbal Stimuli** | **3** | **Confused – able to answer questions** | **4** | **Purposeful mvmt to pain** | **5** |
| **To Pain** | **2** | **Inappropriate words** | **3** | **Withdraws from pain** | **4** |
| **No Response** | **1** | **Incomprehensible speech** | **2** | **Flexion (decorticate)** | **3** |
|  |  | **No Response** | **1** | **Extension (decerebrate)** | **2** |
|  |  |  |  | **No Response** | **1** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| ***TRAUMA ALERT CRITERIA*** | | | | | | | | | | | | | | | | | |
| * **Glasgow Coma Scale at or below 8** | | | | | | | **Pediatric Assessment** | | | | | | | | | | |
| * **Systolic BP <90 mmHg**   Age 0-2 SBP <60 Age 2-10 SBP <70+2(AGE) | | | | | | | | | | | | | | | | | |
| * **Heart Rate >120** sustained | | | | | | | | | | | | | | | | | |
| * **Respiratory Compromise – RR <10 or >29**;   Field Intubation; evidence of Flail Chest | | | | | | | | | | | | | | | | | |
| * **Penetrating injury to Head, Chest, Abdomen**   **or Extremities** (proximal to elbow and knee) | | | | | | | | | | | | | | | | | |
| * **Amputation** (full or partial) **of Extremity proximal to wrist or ankle** | | | | | | | | | | | | | | | | | |
|  |  | |  |  |  |  |  | |  |  |  | |  |  | |  | |
| **Ketamine Injection** 100 mg / 1 mL (*calculations = mL to give – IV,IN*) for pain management  MIX 100 mg (1 mL) of Ketamine in 9 mL NS = 10 mg/mL concentration | | | | | | | | | | | | | | | | | |
| **Drug**  **Delivery Rate**  (mg/kg) | **Patient Body Weight (kg)** | | | | | | | | | | | | | | | | |
| **5** | | **10** | **20** | **30** | **40** | **50** | | **60** | **70** | **80** | | **90** | **100** | | **110** | |
| **0.1** | **0.05** | | **0.1** | **0.2** | **0.3** | **0.4** | **0.5** | | **0.6** | **0.7** | **0.8** | | **0.9** | **1.0** | | **1.1** | |
| **0.2** | **0.1** | | **0.2** | **0.4** | **0.6** | **0.8** | **1.0** | | **1.2** | **1.4** | **1.6** | | **1.8** | **2.0** | | **2.2** | |
| **0.3** | **0.15** | | **0.3** | **0.6** | **0.9** | **1.2** | **1.5** | | **1.8** | **2.1** | **2.4** | | **2.7** | **3.0** | | **3.3** | |
| **0.4** | **0.2** | | **0.4** | **0.8** | **1.2** | **1.6** | **2.0** | | **2.4** | **2.8** | **3.2** | | **3.6** | **4.0** | | **4.5** | |
| **0.5** | **0.25** | | **0.5** | **1.0** | **1.5** | **2.0** | **2.5** | | **3.0** | **3.5** | **4.0** | | **4.5** | **5.0** | | **5.5** | |
|  |  | |  |  |  |  |  | |  |  |  | |  |  | |  |
| **Maintain Sedation for Intubated Pt.** | | **For ADULT patients being transferred: Maintain sedation to prevent tube dislodgment**;  ***Fentanyl***: 2-10 mcg/kg IV/IO **PRN** ***AND Versed or Vecuronium AS NEEDED***  ***Ketamine:*** 1 mg/kg Slow IV push ***(to avoid laryngospasm)***  ***Propofol***: (Infusion) may increase 5-15 mcg/kg/min or as ordered by MD – ***SEE PROTOCOL***  ***Versed***: 1-4 mg IV/IO q 15 minutes PRN or as ordered by MD  ***Vecuronium***: 0.6-1.0 mg/kg q 30 minutes PRN or as ordered by MD – ***MUST USE SEDATION*** | | | | | | | | | | | | | | | |
| **Sedative** | | **Dosage IV Push** | | | | | | | | | | **Onset** | | | **Duration** | | |
| ***Fentanyl*** | | ***Induction:* 2 – 10 mcg/kg *Sedation* *(titrate)*: 3 mcg/kg** | | | | | | | | | | **60 seconds** | | | **30 – 60 min** | | |
| ***Ketamine*** | | ***Induction:* 1.5 – 2 mg/kg SIVP *Sedation*: 1 mg/kg q 10 min PRN** | | | | | | | | | | **45 - 60 sec.** | | | **10 – 20 min** | | |
| ***Propofol*** | | **Initial start @ 20-35 mcg/kg/min *(may increase 5-15 mcg/kg/min*)** | | | | | | | | | | **40 seconds** | | | **3 – 5 min** | | |
| ***Versed*** | | ***Induction*: 0.07–0.3 mg/kg *Sedation* *(titrate)*: 0.02–0.04 mg/kg** | | | | | | | | | | **2 minutes** | | | **1 – 2 hours** | | |
| ***Vecuronium*** | | 0.08-0.1 mg/kg **DURATION**: 25 – 40 min | | | | | | **SIDE EFFECTS**: Apnea, respiratory insufficiency | | | | | | | | | |