NAPA COUNTY EMS AGENCY

# Acetaminophen

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Adults with:<br>  • Mild to moderate pain unresponsive to BLS control measures.<br>  • Severe pain as an adjunct to Fentanyl |
| **CONTRA-INDICATION** | • Age < 15 years old.<br>• Known hypersensitivity to acetaminophen<br>• Severe hepatic impairment or severe active liver disease |
| **SIDE EFFECTS** | • Nausea<br>• Vomiting<br>• Headache<br>• Insomnia<br>• Constipation<br>• Pruritus |
| **ADULT DOSE** | • 1000 mg in 100 mL NS IV drip over 20 minutes<br>  • 100mL/20 min 10 gtts/mL set = 50 gtts/min = 1 Drip/1.2 sec |
| **PEDIATRIC** | *****NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS***** |
| **CAUTION** | • Patients with hepatic impairment/disease<br>• Patients with alcoholism<br>• Patients with chronic malnutrition<br>• Patients with severe hypovolemia<br>• Patients with severe renal impairment |
| **ACTIONS** | • The precise mechanism of the analgesic and antipyretic properties of acetaminophen is not established but is thought to primarily involve central actions. |
| **GUIDELINE** | • **AP-13:** Pain Management |

# Adenosine

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Narrow Complex Tachycardia<br>• PSVT Including PSVT associated with WPW (Wolff-Parkinson-White syndrome). |
| **CONTRA-INDICATION** | • 2nd- or 3rd-degree atrioventricular (AV) block<br>• A-Fib, A-Flutter, Wide-Complex Tachycardia<br>• Sick Sinus Syndrome<br>• Stimulant induced tachycardia<br>• Poisoning induced Tach |
| **SIDE EFFECTS** | • Arrhythmias<br>• Facial flushing<br>• Bronchospasm<br>• Chest pressure<br>• Nausea<br>• Conduction delay (asystole) for several seconds |
| **ADULT DOSE** | **C-06:** Supraventricular Tachycardia<br>• Initial: 6mg rapid IV bolus over 1-2 sec<br>• Repeat Administration: If not converted to sinus rhythm w/in 1-2 min, give 12 mg rapid IV bolus; may give second 12mg dose if required<br>• Follow each bolus w/ a rapid saline flush |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • May produce short-lasting 1st-, 2nd-, or 3rd-degree heart block; institute appropriate therapy PRN.<br>• Do not give additional doses if high-level block develops on 1st dose.<br>• Caution w/ obstructive lung disease not associated w/ bronchoconstriction (e.g., emphysema, bronchitis).<br>• Caution w/ bronchoconstriction/ bronchospasm (e.g., asthma).<br>• D/C if severe respiratory difficulties develop.<br>• Caution in elderly.<br>• Does not convert A-fib/flutter, or ventricular tachycardia to normal sinus rhythm.<br>• A transient modest slowing of ventricular response may occur immediately following administration in the presence of A-fib/flutter. |
| **ACTIONS** | • Endogenous nucleoside; slows conduction time through AV node, can interrupt reentry pathways through the AV node, and can restore normal sinus rhythm in patients with PSVT, including PSVT associated w/ Wolff-Parkinson-White syndrome. |
| **GUIDELINE** | • **C-06**: Supraventricular Tachycardia<br>• **P-06:** Pediatric Symptomatic Tachycardia |

NAPA COUNTY EMS AGENCY

# Albuterol

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Relief of bronchospasm in patients w/ reversible obstructive airway disease and acute attacks of bronchospasm (i.e., chronic obstructive pulmonary disease, asthma, and allergic reaction).<br>• Suspected hyperkalemia in crush injury patients. |
| **CONTRA-INDICATION** | • Patients complaining of cardiac chest pain<br>• Known Hypokalemia |
| **SIDE EFFECTS** | • Tremors<br>• Dizziness<br>• Nervousness<br>• Nausea<br>• Headache<br>• Insomnia |
| **ADULT DOSE** | **M-03:** Respiratory Distress - Bronchospasm<br>• 5mg in 6 mL of NS. Can be administered via handheld nebulizer, mask, or in-line with BVM or CPAP.<br>**M-04:** Respiratory Distress - Pulmonary Edema/Congestive Heart Failure<br>• 5mg in 6 mL of NS. Can be administered via handheld nebulizer, mask, or in-line with BVM or CPAP.<br>**M-07:** Allergic Reaction/Anaphylaxis<br>• 5mg in 6 mL of NS. Can be administered via handheld nebulizer, mask, or in-line with BVM or CPAP.<br>**T-04:** Crush Syndrome<br>• 5mg in 6 mL of NS. Can be administered via handheld nebulizer, mask, or in-line with BVM or CPAP. |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Caution w/ cardiovascular (CV) disorders (especially coronary insufficiency, cardiac arrhythmias, and HTN). |
| **ACTIONS** | • Acts on Beta-2 receptors to potentiate bronchial dilation and bronchial smooth muscle relaxation. It has minimal Alpha and Beta-1 stimulation and also acts as a CNS stimulant. It shifts potassium intracellularly to reduce serum levels. |
| **GUIDELINE** | • **M-03:** Respiratory Distress – Bronchospasm<br>• **M-04:** Respiratory Distress - Pulmonary Edema/Congestive Heart Failure<br>• **M-07:** Allergic Reaction/Anaphylaxis<br>• **T-04:** Crush Syndrome<br>• **P-07:** Pediatric Allergic Reaction/ Anaphylaxis |

NAPA COUNTY EMS AGENCY

# Amiodarone

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Ventricular Fibrillation<br>• Ventricular Tachycardia |
| **CONTRA-INDICATION** | • Cardiogenic shock, marked sinus bradycardia, 2nd- or 3rd-degree atrioventricular (AV) block unless a functioning pacemaker is available. |
| **SIDE EFFECTS** | • Hypotension<br>• asystole/cardiac arrest/pulseless electrical activity<br>• cardiogenic shock<br>• CHF<br>• Liver function abnormality<br>• nausea<br>• Ventricular Tachycardia<br>• AV block |
| **ADULT DOSE** | **C-03:** Ventricular Fibrillation/Pulseless Ventricular Tachycardia<br>• 300mg IV/IO, followed by a 20 mL NS flush<br>• Repeat once at 150 mg IV/IO, followed by a 20 mL NS flush.<br>**C-05:** Wide-Complex Tachycardia<br>• Add 150mg to 100 mL of NS and infuse total contents over 10 minutes |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards**<br>• See **Pediatric Cardiac Arrest Dosing Reference Cards** |
| **CAUTION** | • Monitor for hypotension, bradycardia, AV block, hepatic injury, centrolobular confluent hepatocellular necrosis, worsening of existing or precipitation of new arrhythmia, pulmonary toxicity, ARDS, anaphylactic/anaphylactoid reactions, and other adverse reactions.<br>• May prolong QT intervals so do not use with Procainamide. Watch for negative inotropic effects. |
| **ACTIONS** | • Decreases AV conduction velocity and sinus node function and also includes alpha and beta adrenergic blocking properties. It also prolongs the effective refractory period. |
| **GUIDELINE** | • **C-03:** Ventricular Fibrillation/Pulseless Ventricular Tachycardia<br>• **C-05:** Wide-Complex Tachycardia<br>• **P-03:** Pediatric Ventricular Fibrillation/ Pulseless Ventricular Tachycardia<br>• **P-06:** Pediatric Symptomatic Tachycardia |

# Aspirin

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Chest pain with suspected ACS<br>• Acute pulmonary edema with suspected ACS |
| **CONTRA-INDICATION** | • Active GI bleeding.<br>• Children < 12 years old<br>• Hemorrhagic Stroke<br>• Hypersensitivity to this drug or non-steroidal anti-inflammatory. |
| **SIDE EFFECTS** | • Tinnitus – (only in overdoses)<br>• Stomach irritation<br>• Nausea<br>• Vomiting<br>• Petechiae (with chronic use)<br>• GI Bleeding |
| **ADULT DOSE** | **C-09:** Suspected Acute Coronary Syndrome<br>• 162 mg or two 81 mg tablets PO (one time dose).<br>• Have patient chew if possible.<br><br>**M-04:** Respiratory Distress – Pulmonary Edema/Congestive Heart Failure<br>• 162 mg or two 81 mg tablets PO (one time dose).<br>• Have patient chew if possible. |
| **PEDIATRIC** | *****NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS***** |
| **CAUTION** | • May potentiate with Coumadin or other blood thinners. Acceptable to give one time dose<br>• Use with caution in patients with pregnancy, asthma or recent surgery. |
| **ACTIONS** | • Reduces the loss of myocardium in MI.<br>• Inhibits prostaglandin synthesis for anti-inflammatory effect.<br>• Aspirin blocks the formation of Thromboxane A2, which causes platelets to aggregate.<br>• Aspirin blocks pain impulses in the CNS. |
| **GUIDELINE** | • **C-09:** Suspected Acute Coronary Syndrome<br>• **M-04:** Respiratory Distress – Pulmonary Edema/Congestive Heart Failure |

NAPA COUNTY EMS AGENCY

# Atropine Sulfate

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Symptomatic bradycardia<br>• Poisoning/Overdose from organophosphates or carbonates |
| **CONTRA-INDICATION** | • Tachycardia<br>• Hypersensitivity<br>• Narrow-angle glaucoma |
| **SIDE EFFECTS** | • Tachycardia<br>• Dry mouth<br>• Blurred vision<br>• Photophobia |
| **ADULT DOSE** | **C-04:** Symptomatic Bradycardia<br>• 0.5 mg IV/IO. Repeat every five (5) minutes to a total dose of 3mg.<br><br>**M-09:** Poisoning/Overdose<br>• 2.0 mg IV/IO. If not tachycardia or pupil dilation, repeat 2.0mg IV until signs of atropinization appear (dilated pupils, mild tachycardia). |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Elderly: Start at lower end of dosing range. |
| **ACTIONS** | • Anticholinergic; inhibits muscarinic actions of acetylcholine on structures innervated by postganglionic cholinergic nerves, and on smooth muscles, which respond to endogenous acetylcholine but are not so innervated. Major action is by competitive or surmountable antagonism. |
| **GUIDELINE** | • **C-04:** Symptomatic Bradycardia<br>• **M-09:** Poisoning/Overdose<br>• **P-05:** Pediatric Symptomatic Bradycardia |

NAPA COUNTY EMS AGENCY

# Calcium Chloride

MEDICATION REFERENCE CARD

| | |
|---|---|
| INDICATION | • Cardiac arrest when hyperkalemia is suspected in renal dialysis patients.<br>• Suspected hyperkalemia in crush injury patients. |
| CONTRA-INDICATION | • History of digitalis use, unless in the setting of cardiac arrest.<br>• Respiratory failure<br>• Hypercalcemia |
| SIDE EFFECTS | • Peripheral vasodilation<br>• Localized “burning” sensation |
| ADULT DOSE | **C-02:** Asystole/Pulseless Electrical Activity<br>• IV/IO slow IVP 1G of 10% calcium chloride<br><br>**T-04:** Crush Syndrome<br>• 1 gm slow IVP over 60 seconds<br>***Physician Order Only*** |
| PEDIATRIC | ***NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS*** |
| CAUTION | • Necrotic to tissue, avoid extravasation.<br>• IV line should be flushed between administration of Calcium Chloride and Sodium Bicarbonate |
| ACTIONS | • Electrolyte replacement; provides $Ca^{2+}$ and $Cl^-$ ions, which are normal constituents of body fluids and are dependent on various physiological mechanisms for maintenance of balance between intake and output. $Ca^{2+}$ is essential for the functional integrity of the nervous and muscular systems, is necessary for normal cardiac function, and is one of the factors that operates in the mechanisms involved in the coagulation of blood. |
| GUIDELINE | • **C-02:** Asystole/Pulseless Electrical Activity<br>• **T-04:** Crush Syndrome |

NAPA COUNTY EMS AGENCY

# Dextrose

MEDICATION REFERENCE CARD

| | |
|---|---|
| INDICATION | • Symptomatic hypoglycemia: Blood Sugar < 60 mg/dL<br>• Seizures with presence of hypoglycemia |
| CONTRA-INDICATION | • Intracranial hemorrhage<br>• Increased ICP<br>• CVA in absence of hypoglycemia |
| SIDE EFFECTS | • Thrombophlebitis at injection site<br>• Tissue sloughing<br>• Necrosis with extravasation |
| ADULTDOSE | **M-05:** Altered Mental Status<br>• 25 g Dextrose 10% IV/IO. If altered mental status is not resolved and blood glucose remains < 60 mg/dL, may repeat in 5 g increments every 5 minutes. |
| PEDIATRIC | • See **Pediatric Medication Reference Cards** |
| CAUTION | • Care should be exercised to ensure that the needle/catheter is well within the lumen of the vein and that extravasation does not occur. If thrombosis should occur during administration, the injection should be stopped and corrective measures instituted.<br>• IO should only be used if unable to establish IV access. |
| ACTIONS | • Six-carbon sugar molecule, which is the principal form of carbohydrate utilized by the body. Elevates blood glucose level rapidly. |
| GUIDELINE | • **M-05:** Altered Mental Status |

NAPA COUNTY EMS AGENCY

# Diphenhydramine

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Allergic Reaction/Anaphylaxis<br>• Severe Nausea/Vomiting secondary to motion sickness |
| **CONTRA-INDICATION** | • Active bronchospasm<br>• Neonatal administration |
| **SIDE EFFECTS** | • Sedation<br>• Dizziness<br>• Epigastric distress<br>• Thickening of bronchial secretions<br>• Photosensitivity<br>• Hypotension<br>• Hemolytic anemia<br>• Headache<br>• Insomnia |
| **ADULT DOSE** | **M-07:** Allergic Reaction/Anaphylaxis<br>• 1mg/kg IV/IO/IM.<br>• Maximum dose of 50 mg<br><br>**M-16:** Severe Nausea/Vomiting<br>• 1mg/kg IV/IO/IM.<br>• Maximum dose of 50 mg |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Use caution in administering to patients with narrow-angle glaucoma.<br>• May produce excitation and may diminish mental alertness in pediatrics.<br>• Thickens bronchial secretions.<br>• No SQ administration, Diphenhydramine is a tissue irritant. |
| **ACTIONS** | • Diphenhydramine blocks H1 receptor sites. It is a CNS depressant with mild sedative effects. It also has anti-cholinergic effects as well as being an effective anti-emetic. |
| **GUIDELINE** | • **M-07:** Allergic Reaction/Anaphylaxis<br>• **M-16:** Severe Nausea/Vomiting<br>• **P-07:** Pediatric Allergic Reaction/Anaphylaxis |

# Dopamine

MEDICATION REFERENCE CARD

## INDICATION

- Symptomatic bradycardia with inadequate response to Atropine
- Cardiogenic shock with systolic BP <90mmHg

## CONTRA-INDICATION

- Hypersensitivity to the medication
- Patients with pheochromocytoma
- Patients with uncorrected tachyarrhythmia
- Use with caution in patients with history occlusive vascular disease

## SIDE EFFECTT

- Headache
- Dyspnea
- Palpitations
- PVCs
- SVT
- VT
- Hypertension
- Peripheral vasoconstriction

## ADULT DOSE

**C-04:** Symptomatic Bradycardia

- IV/IO Infusion using 400mg/250mL in D5W – Titrate to systolic blood pressure of 90 mmHg, based on weight range of Dopamine Dose Chart.

**C-08:** Cardiogenic Shock

- IV/IO Infusion using 400mg/250mL in D5W – Titrate to systolic blood pressure of 90 mmHg, based on weight range of Dopamine Dose Chart.

## PEDIATRIC

*****NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS*****

## CAUTION

- Monitor blood pressure every 5 minutes
- Consider placing multifunction defibrillator pads
- Assess lung sounds and document finding

## ACTION

- Inotropic agent
- Positive chronotropic effects
- Agonist action on β adrenoreceptors

## GUIDELINE

- **C-04:** Symptomatic Bradycardia
- **C-08:** Cardiogenic Shock

## DOPAMINE DOSE

| Pt Weight | | Time Interval | mcg/min |
|---|---|---|---|
| kg | lbs | | |
| 40 kg – 49 kg | 88 lbs – 110 lbs | 1 gtts every 4 secs | 400.0 mcg/min |
| 50 kg – 70 kg | 110 lbs – 154 lbs | 1 gtts every 3 secs | 533.3 mcg/min |
| > 70 kg | > 154 lbs | 1 gtts every 2 secs | 800.0 mcg/min |

# Epinephrine

MEDICATION REFERENCE CARD

## INDICATION

- Cardiac arrest (adult/pediatric)
- Pediatric Bradycardia
- Allergic reaction/anaphylaxis
- Respiratory Distress/Bronchospasm

## CONTRA-INDICATION

- Cocaine-induced VT
- Infusion with alkaline solutions

## SIDE EFFECTS

- Anxiety
- Apprehensiveness
- Restlessness
- Tremors
- Weakness
- Dizziness
- Palpitations
- Headache

## ADULT DOSE

**C-02:** Asystole/Pulseless Electrical Activity

- 1mg IV/IO q 3-5 min 1:10,000

**C-03:** Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- 1mg IV/IO q 3-5 min 1:10,000

**M-03:** Respiratory Distress - Bronchospasm

- 0.3 mg IM 1:1,000. May repeat x 2 at 10 minute intervals as clinically indicated

**M-07:** Allergic Reaction/Anaphylaxis

- 0.3 mg IM 1:1,000. May repeat x 2 at 10 minute intervals as clinically indicated
- 0.1 mg IV/IO 1:10,000. May repeat once in 10 minutes as clinically indicated

## PEDIATRIC

- See **Pediatric Medication Reference Cards**
- See **Pediatric Cardiac Arrest Dosing Reference Cards**

## CAUTION

- High doses produce vasoconstriction and may compromise organ function
- Low doses may increase cardiac output with redirection of blood flow to skeletal muscles, producing decreased renal blood flow
- Myocardial $O_2$ requirements are increased
- Subcutaneous administration is not recommended for treatment of anaphylaxis because absorption is delayed

## ACTIONS

- Increases heartrate and automaticity
- Increases cardiac contractile force.
- Increases myocardial electrical activity
- Increases system vascular resistance
- Increases blood pressure
- Causes bronchodilation

## GUIDELINE

- **C-02:** Asystole/Pulseless Electrical Activity
- **C-03:** Ventricular Fibrillation/Pulseless Ventricular Tachycardia
- **M-03:** Respiratory Distress – Bronchospasm
- **M-07:** Allergic Reaction/Anaphylaxis
- **P-02:** Pediatric Asystole/Pulseless Electrical Activity
- **P-03:** Pediatric Ventricular Fibrillation/Pulseless Ventricular Tachycardia
- **P-04:** Neonatal Resuscitation
- **P-05:** Pediatric Symptomatic Bradycardia
- **P-07:** Pediatric Allergic Reaction

# Fentanyl

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Pain unresponsive to BLS control measures.<br>• Pharmacologic treatment requires adequate vital signs and level of consciousness. |
| **CONTRA-INDICATION** | • Sensitivity/allergy to medication<br>• Profound respiratory depression<br>• Increased intracranial pressure<br>• Patients with SBP <90 mmHg require base hospital contact<br>• Pediatric patients with capillary refill >2 seconds |
| **SIDE EFFECTS** | • Respiratory depression<br>• Chest wall rigidity (high doses)<br>• Apnea<br>• Bradycardia |
| **ADULT DOSE** | **AP-13:** Pain Management<br>• IV/IO: 1 mcg/kg, MAX single dose of 100 mcg; may repeat q 5-10 minutes, titrated to pain, to MAX total dose of 200 mcg.<br>• IN: 1 mcg/kg divided into each nare with a MAX single dose of 100 mcg; may repeat once in 15 minutes, to a MAX total dose of 200 mcg.<br>• IM: 1 mcg/kg to a MAX single dose of 50 mcg; may repeat 3 times in 15 minute increments; to a MAX total dose of 200 mcg. |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Use caution in patients with hepatic insufficiency.<br>• Have naloxone readily available to reverse respiratory depression<br>• Use caution in patients with head injuries<br>• Continuous pulse oximetry monitoring is required<br>• Use psychological and BLS measures to reduce need for pain medication<br>• **Use extreme care and give half-dose increments to patients > 65 years of age.**<br>*****Its use on patients with respiratory depression, altered mental status, women in labor, a BP <90 mmHg or in conjunction with midazolam requires base hospital consult***** |
| **ACTION** | Opioid analgesic with a short duration of action that binds to pain receptors within the central nervous system and alters pain reception |
| **GUIDELINE** | • **AP-13:** Pain Management |

NAPA COUNTY EMS AGENCY

# Hydroxocobalamin

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Patients exhibiting significant signs and/or symptoms of cyanide toxicity with known or suspected exposure |
| **CONTRA-INDICATION** | • None |
| **SIDE EFFECTS** | • Rash<br>• Infusion-site reaction<br>• Headache<br>• Increased B/P<br>• Nausea<br>• Chromaturia – abnormal urine color<br>• Erythema – redness of the skin<br>• Decreased lymphocyte percentage |
| **ADULT DOSE** | **M-10:** Smoke Inhalation/Carbon Monoxide Monitoring & Cyanide Toxicity<br>• 5g IV/IO infusion over 15 minutes (5mL/min)<br>• Second 5g dose based on severity of symptoms – 10g maximum |
| **PEDIATRIC** | *****NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS***** |
| **CAUTION** | • Monitor SpCO2<br>• Determine blood glucose<br>• Initiate IV NS 250-500mL bolus<br>• Pulse oximetry values may be unreliable<br>• Consider decontamination measures based on route of exposure. |
| **ACTION** | • Cyanide antidote; binds to cyanide ions to form cyanocobalamin, which gets excreted in the urine. Each hydroxocobalamin molecule can bind 1 cyanide ion by substituting it for the hydroxo ligand linked to the trivalent cobalt ion. |
| **GUIDELINE** | • **M-10:** Smoke Inhalation/Carbon Monoxide Monitoring & Cyanide Toxicity |

# Ipratropium

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Bronchospasm |
| **CONTRA-INDICATION** | • Known hypersensitivity to Atropine<br>• Known hypersensitivity to Ipratropium<br>• Not indicated for acute treatment of bronchospasm, independently from the use of with Albuterol when rapid response is required. |
| **SIDE EFFECTS** | • Increased Heart Rate<br>• Shakiness<br>• Headache<br>• Nausea<br>• Dry Mouth |
| **ADULT DOSE** | **M-03:** Respiratory Distress - Bronchospasm<br>• 0.5 mg in 3 mL NS via handheld nebulizer. |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Always use in combination with Albuterol. Do not use independently as “rescue” medication<br>• May be combined with Albuterol in nebulizer |
| **ACTION** | • Relaxes smooth muscles of bronchi and bronchioles by acting as a competitive antagonist at muscarinic receptors and producing an anticholinergic effect by drying secretions. |
| **GUIDELINE** | • **M-03:** Respiratory Distress - Bronchospasm |

# Lidocaine

MEDICATION REFERENCE CARD

| | |
|---|---|
| INDICATION | • Local anesthetic for use in conscious or responsive to pain patents where an intraosseous needle has been placed |
| CONTRA-INDICATION | • Patients in idioventricular, ventricular escape rhythms, or high degree heart blocks<br>• Patients with known hypersensitivity to Lidocaine<br>• Lidocaine is not locally indicated for use as an antiarrhythmic. |
| SIDE EFFECTS | Although toxicity is rare in this dose range and route, be aware of these signs and symptoms<br>• Seizures<br>• Hypotension<br>• Drowsiness<br>• Dizziness<br>• Confusion<br>• Bradycardia<br>• Heart Blocks<br>• Respiratory Arrest |
| DOSING/ ROUTES | **AP-08:** Intraosseous Infusion<br>• 40 mg IO of 2%. Administer over 2 minutes. Flush with 10 mL NS after administration.<br>• May administer one additional dose of lidocaine 20 mg (1cc) over 30 seconds if clinically indicated. |
| PEDIATRIC | • See **Pediatric Medication Reference Cards** |
| CAUTION | • Administer as first fluid infused into IO after placement |
| ACTION | • Lidocaine stabilizes neuronal membranes by decreasing conduction impulses causing a localized anesthetic action |
| GUIDELINE | • **AP-08:** Intraosseous Infusion |

# Midazolam

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Treatment of Seizures<br>• Sedation: Severe anxiety/combativeness not responsive to other calming measures; Procedural sedation |
| **CONTRA-INDICATION** | • Known hypersensitivity<br>• Systolic Blood Pressure <90 mmHg at time of administration<br>• Significant respiratory depression<br>• Use caution in patients with head injury or multi-system trauma |
| **SIDE EFFECTS** | • Sedation<br>• Respiratory Depression<br>• Apnea<br>• Hypotension<br>• Amnesia |
| **ADULT DOSE** | **M-06:** Seizures<br>• IV/IO: 5 mg initial dose, may repeat once in 5 minutes.<br>• IN/IM: 5 mg. May repeat once in 15 min.<br><br>**AP-14:** Sedation<br>• IV/IO: 2 mg initial dose, repeat twice to a MAX total dose of 6 mg.<br>• IM: 5 mg. May repeat once in 15 min.<br>• IN: 5 mg ½ in each nostril. May repeat once in 15 min. |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Administer slowly<br>• **Use extreme care and give half-dose increments to patients > 65 years of age when administering for sedation**<br>• Always have resuscitative equipment readily available<br>• Use extreme caution in administering without IV or IO access, obtain as quickly as possible after administration if necessary to administer immediately<br><br>*****Base hospital order required for concurrent administration of analgesia***** |
| **ACTIONS** | • Midazolam is a short acting benzodiazepine which causes depression of the Central Nervous System<br>• Onset: 2 min (IV), 15 min (IM)<br>• Half Life: 30-60 Minutes<br>• Duration: Several days to weeks |
| **GUIDELINE** | • **M-06:** Seizures<br>• **AP-14:** Sedation |

NAPA COUNTY EMS AGENCY

# Naloxone

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Altered mental status respiratory depression with suspected narcotic overdose |
| **CONTRA-INDICATION** | • Known hypersensitivity<br>• Do not use for patients who have stable hemodynamic and respiratory statuses<br>• Can precipitate narcotic withdrawal |
| **SIDE EFFECTS** | • Nausea/Vomiting<br>• Sweating<br>• Tachycardia<br>• Hypertension<br>• Tremulousness/Seizures<br>• Ventricular arrhythmias<br>• Pulmonary edema |
| **ADULT DOSE** | **M-09:** Poisoning/Overdose<br>• 0.4 mg IV/IO/IN/IM. May repeat every 3-5 minutes, titrated to reverse respiratory depression. Max total dose of 2 mg.<br>**M-18:** Naloxone Administration by Law Enforcement (NALE)<br>• 4 mg intranasally. May repeat once. |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Titrate to adequate respiratory status<br>• Monitor for and treat cardiac disturbances as appropriate<br>• Due to relatively short clinical effect (20-30 min) monitor closely for recurrence of respiratory depression<br>• Can precipitate narcotic withdrawal<br>• Use in pregnant women in labor requires base hospital order |
| **ACTIONS** | • Displaces narcotic molecules by competing for the opiate receptor sites in the brain and reverses respiratory depression secondary to opiates or analgesics. |
| **GUIDELINE** | • **M-09:** Poisoning/Overdose<br>• **M-18:** Naloxone Administration by Law Enforcement (NALE) |

NAPA COUNTY EMS AGENCY

# Nitroglycerin

MEDICATION REFERENCE CARD

| | |
|---|---|
| **INDICATION** | • Suspected Acute Coronary Syndrome<br>• Acute Pulmonary Edema/CHF |
| **CONTRA-INDICATION** | • Recent use of phosphodiesterase-5 inhibitors for erectile dysfunction or pulmonary hypertension.<br>  ◦ Viagra or Levitra within 24 hours<br>  ◦ Cialis within 72 hours<br>• Hypotension (Below 100mmHG)<br>• Increased intracranial pressure (ICP)<br>• Severe hepatic or renal disease |
| **SIDE EFFECTS** | • Hypotension<br>• Dizziness<br>• Headache<br>• Palpitations<br>• Bradycardia<br>• Flushing<br>• Reflex tachycardia<br>• Burning under the tongue |
| **ADULT DOSE** | **C-09:** Suspected Acute Coronary Syndrome<br>• 0.4mg SL, repeat q 3-5 minutes if discomfort persists and blood pressure remains ≥ 100mmHg<br>• 1/2 inch of 2% nitroglycerin paste for transport time greater than 1 hour<br><br>**M-04:** Respiratory Distress - Acute Pulmonary Edema<br>• For patients with a blood pressure ≥ 100 mmHg, administer 0.4 mg SL.<br>• For patients with a blood pressure ≥ 150 mmHg, administer 0.8 mg SL.<br>• Repeat q 3-5 min. MAX total dose of 8.0 mg.<br>• 1/2 inch of 2% nitroglycerin paste for transport time greater than 1 hour. |
| **PEDIATRIC** | *****NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS***** |
| **CAUTION** | • Patients who have taken Sildenafil (Viagra) or Vardenafil (Levitra) within 24 hours<br>• Patients who have taken Tadalafil (Cialis) within 72 hours |
| **ACTIONS** | • Vasodilation<br>• Dilate Coronary Arteries<br>• Decreases Preload<br>• General smooth muscle relaxant |
| **GUIDELINE** | • **M-04:** Respiratory Distress – Acute Pulmonary Edema<br>• **C-09:** Suspected Acute Coronary Syndrome |

NAPA COUNTY EMS AGENCY

# Ondansetron

MEDICATION REFERENCE CARD

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|---|---|
| INDICATION | • Treat Intractable vomiting<br>• Prevent and control nausea and vomiting in adult and pediatrics |
| CONTRA-INDICATION | • Hypersensitivity<br>• Use of Apomorphine with Ondansetron is contraindicated on report of profound hypotension and loss of consciousness when Apomorphine was administered.<br>• Known sensitivity to Granisetron (Kyril), Dolasetron (Anzemet), Palonosetron (Aloxi) |
| SIDE EFFECTS | • Dizziness<br>• Headache<br>• Fatigue<br>• Hypotension<br>• Tachycardia<br>• Constipation |
| ADULT DOSE | **M-16:** Nausea/Vomiting<br>• 4mg IM or PO or slow IV over 30 seconds. May repeat every 10 minutes to a total of 12 mg. |
| PEDIATRIC | • See **Pediatric Medication Reference Cards** |
| CAUTION | • Do not administer if patient gives history of prolonged QT syndrome or is taking a medication that prolong QT interval<br>• Can be used in pregnancy and breast feeding mothers<br>• Has been proven to be ineffective when treated for motion sickness<br>• Oral disintegrated tablets should be handled with care<br>• Oral disintegrated tablets can be placed on the tongue and do not need to be chewed. |
| ACTIONS | Ondansetron is a serotonin 5-HT3 receptor antagonist. One part of ondansetron is to reduce the activity of the vagus nerve. The vagus nerve activates the vomiting center in the medulla oblongata. Ondansetron does not have an effect on the dopamine or muscarinic receptors. |
| GUIDELINE | • **M-16:** Nausea/Vomiting |

NAPA COUNTY EMS AGENCY

# Sodium Bicarbonate

MEDICATION REFERENCE CARD

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|---|---|
| **INDICATION** | • Crush Injury<br>• Suspected hyperkalemia<br>• Cyclic Antidepressant overdose/poisoning |
| **CONTRA-INDICATION** | • Alkalosis<br>• Hypokalemia<br>• Hypocalcemia<br>• Hypernatremia<br>• Acute renal failure<br>• Burns or crush injuries longer than 8 hours old |
| **SIDE EFFECTS** | • Alkalosis<br>• Hypokalemia<br>• Hypernatremia<br>• Pulmonary edema |
| **ADULT DOSE** | **T-04:** Crush Syndrome<br>• 1 mEq/kg to a max of 100 mEq IVP<br>• After extrication, consider additional dose after Base Hospital consult<br>**C-02:** Asystole/Pulseless Electrical Activity<br>• 1 mEq/kg IV/IO if hyperkalemia is suspected<br>**M-09:** Poisoning/Overdose<br>• In presence of life threatening dysrhythmias 1 mEq/kg IVP |
| **PEDIATRIC** | • See **Pediatric Medication Reference Cards** |
| **CAUTION** | • Deactivates vasopressors<br>• Precipitates with Calcium Chloride may cause electrolyte imbalances |
| **ACTIONS** | • Combines with excessive acids to form a weak volatile acid. It also binds tricyclics to serum proteins through alkalization. It is a buffer in metabolic acidosis and assists with shifting potassium into cells. It is also seen to be effective if correcting acidosis secondary to hyperkalemia. |
| **GUIDELINE** | • **C-02:** Asystole/Pulseless Electrical Activity<br>• **T-04:** Crush Syndrome<br>• **M-09:** Poisoning/Overdose |

NAPA COUNTY EMS AGENCY

# Tranexamic Acid

MEDICATION REFERENCE CARD

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|---|---|
| **INDICATION** | • Adults, who sustained blunt or penetrating trauma occurring within 3 hours with signs and symptoms of hemorrhagic shock and one or more of the following:<br>  • Systolic blood pressure of less than 90 mmHg at scene of injury, during ground medical transport, or on arrival to designated trauma centers.<br>  • Bleeding uncontrolled by direct pressure or tourniquet.<br>  • Significant blood loss and a heart rate greater than 120 BPM. |
| **CONTRAINDICATION** | • Age < 15 years old.<br>• Any patient with an active thromboembolic event (within the last 24 hours), i.e., active stroke, myocardial infarction or pulmonary embolism.<br>• Any patient with a hypersensitivity or anaphylactic reaction to TXA.<br>• Any patient more than three (3) hours post injury.<br>• Traumatic arrest with greater than five (5) minutes of CPR without return of vital signs.<br>• Penetrating cranial injury.<br>• Traumatic brain injury with brain matter exposed.<br>• Isolated drowning or hanging victims.<br>• Documented cervical cord injury with motor deficit. |
| **SIDE EFFECTS** | • Thromboembolism (DVT and pulmonary embolism)<br>• Gastrointestinal effects including nausea, vomiting and diarrhea<br>• Headache<br>• Fatigue<br>• Dizziness<br>• Visual disturbances |
| **ADULT DOSE** | • 1 gram in 100 mL NS IV/IO over 10 min (**NO IV PUSH**). |
| **PEDIATRIC** | *****NOT LOCALLY INDICATED FOR PEDIATRIC PATIENTS***** |
| **CAUTION** | • Patients with thromboembolism risk<br>• Patients with renal impairment<br>• Patients with history of upper urinary tract bleeding |
| **ACTIONS** | • A synthetic derivative of lysine that inhibits fibrinolysis by blocking the lysine binding sites on plasminogen.<br>• Inhibits both Plasminogen activation and Plasmin activity thus preventing clot breakdown. |
| **GUIDELINE** | • **T-03** Major Hemorrhage Control |