# CENTRAL CALIFORNIA
# EMERGENCY MEDICAL SERVICES
**A Division of the Fresno County Department of Public Health**

| Manual | Policy |
|---|---|
| Emergency Medical Services<br>Administrative Policies and Procedures | Number 530.31 |
| Subject<br>Paramedic Treatment Protocols<br><br>**NEONATAL RESUSCITATION (PATIENTS LESS THAN 24 HOURS OF AGE)** | Page 1 of 3 |
| References<br>Title 22, Division 9, Chapter 4<br>of the California Code of Regulations | Effective<br>Fresno County: 01/15/82<br>Kings County: 04/10/89<br>Madera County: 06/15/85<br>Tulare County: 04/19/05 |

| **STANDING ORDERS** | |
|---|---|
| 1. Airway | Suction nasopharynx first then mouth with bulb syringe. Position airway. |
| 2. Warm | Dry and keep warm with thermal blanket or dry towel. Cover infant's head. Stimulate by drying vigorously including the head and back. |
| 3. Assess | Evaluate breathing and heart rate. Perform APGAR score 1 and 5 minutes after delivery. Do not delay resuscitative measure to score patient. |
| **IF HEART RATE GREATER THAN 100** | |
| 4. Assess Color | If peripheral cyanosis present, administer 100% oxygen via mask or blow-by. |
| 5. Transport | |
| 6. Reassess | Heart rate and respiration's enroute.<br><br>NOTE: If 5 minute APGAR is 7 or less, perform heelstick and check glucose. If less than 40, give 0.15 mg Glucagon IM. |
| **IF HEART RATE 80-100** | |
| 4. Oxygen | 100% via mask or blow-by. |
| 5. Stimulate | |
| 6. Reassess | If heart rate less than 100 after 30 seconds of oxygen and stimulation, begin assisted ventilation with 100% oxygen via bag-valve-mask, 40-60 breaths per minute. |
| 7. STAT Transport | |
| 8. Reassess | Heart rate and respirations enroute.<br><br>NOTE: If 5 minute APGAR is 7 or less, perform heelstick and check glucose. If blood glucose less than 40, give 0.15 mg Glucagon IM. |

**STANDING ORDERS – CONTINUED ON NEXT PAGE**

| Approved By | | Revision |
|---|---|---|
| EMS Director | **Daniel J. Lynch**<br>(Signature on File at EMS Agency) | **06/01/2018** |
| EMS Medical Director | **Jim Andrews, M.D.**<br>(Signature on File at EMS Agency) | |

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| Paramedic Treatment Protocols – Neonatal Resuscitation | Number 530.31 |

| STANDING ORDERS (CONTINUED) | |
|---|---|
| 9. Consider Naloxone | 0.1 ml IV/IO/IN if history of maternal narcotic use. May repeat dose. |
| 10. Contact Hospital | Per EMS Policy #530.02. |
| **IF HEART RATE 60-80** | |
| 4. Oxygen | Assist ventilation with 100% oxygen via bag-valve-mask, 40-60 breaths per minute. |
| 5. CPR | If no increase in heart rate after 30 seconds of ventilation, start compressions 120 per minute. |
| 6. STAT Transport | Notify Hospital of ETA when unit is enroute. |
| 7. IV/IO Access | LR TKO with Volutrol and pediatric tubing. |
| 8. Epinephrine | 0.3 ml of 1:10,000 IV/IO if heart rate fails to increase above 80. Repeat in 3-5 minutes.<br>Repeat IV/IO doses – 3.0 ml 1:10,000 (Repeat doses are ten times initial dose.) |
| 9. Accucheck | Heelstick – if possible, and enough personnel on scene. |
| 10. Glucose | 3 ml D50 (Dilute 1:1 with Normal Saline for a total of 6 ml) IV/IO<br>NOTE: Heelstick is for base line information only. Glucose is to be given to all neonates with heart rate less than 80. |
| 11. Reassess | Heart rate and respirations enroute. |
| 12. Consider Naloxone | 0.1 ml IV/IO/IN if history of maternal narcotic use. May repeat dose. |
| 13. Contact Hospital | Per EMS Policy #530.02. |
| **IF HEART RATE LESS THAN OR EQUAL TO 60** | |
| 4. Oxygen | Assist ventilation with 100% oxygen via BVM with 40-60 breaths per minute. |
| 5. CPR | Chest compressions at 120 per minute. |
| 6. STAT Transport | Notify hospital of ETA when enroute |
| 7. IV/IO Access | LR TKO with Volutrol and Pediatric tubing. |
| 8. Epinephrine | 0.3 ml of 1:10,000 IV/IO. Repeat in 3-5 minutes.<br>Repeat IV/IO doses – 3.0 ml 1:10,000. (Repeat doses are ten times original dose.) |
| 9. Accucheck | Heelstick, if possible, and enough personnel on scene. |
| 10. Glucose | 3 ml D50 (Dilute 1:1 with NS for a total of 6 ml) IV/IO.<br>NOTE: Heelstick is for base line information only. Glucose is to be given to all neonates with heart rate less than 80. |

**STANDING ORDERS – CONTINUED ON NEXT PAGE**

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| Paramedic Treatment Protocols – Neonatal Resuscitation | Number 530.31 |

**STANDING ORDERS (CONTINUED)**

| | |
|---|---|
| 11. Reassess | Heart rate and respirations enroute. |
| 12. Consider Naloxone | 0.1 ml IV/IO/IN if history of maternal narcotic use. May repeat dose. |
| 13. Contact Hospital | Per EMS Policy #530.02. |

## SPECIAL CONSIDERATION AND PRIORITIES

1. The most common cause of neonatal arrest is bradycardia and cardiac arrest in hypoxia. This can be prevented by prompt suctioning and assisted respirations.

2. Perform chest compressions with both thumbs (with hands encircling the back), at the mid-sternum and intermammary line, at 1/3" – 1/2" depth of chest.

3. Transport an arrested neonate lights/siren to the nearest appropriate hospital. Do not delay transport if difficulty with IV/IO access. Priorities should be good CPR and rapid transport.

4. Consider early Base Hospital contact for critically ill patients if manpower allows. Do not delay initial treatment to make Base Hospital contact.

5. Refer to Broselow Tape for specific pediatric doses.

6. APGAR Chart – Perform APGAR score 1 and 5 minutes after delivery.

7. Use foot length to determine the initiation/termination of CPR in premature newborns. Foot length of 33 mm, equals 20-week gestation and resuscitation should continue. If the newborns foot length is less than 33mm terminate CPR. Newborns with foot lengths less than 33 mm are considered nonviable. Refer to EMS Policy #549.

| | **APGAR SCORE** | | |
|---|---|---|---|
| | 0 | 1 | 2 |
| Appearance | Blue or Pale | Body Pink, Limbs Blue | Complete Pink |
| Pulse | 0 | Less than 100 | 100 or greater |
| Grimace | No Response | Grimace | Cough, Sneeze, Cry |
| Activity | Flaccid | Some Flexion | Active Movement |
| Respiratory Effort | Absent | Slow, Irregular, Weak Cry | Strong Cry |