

**Salina Regional Health Center**

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**AIR LEAK SYNDROME WITH INFANT**

## Air Leak Syndrome with Infant

**Location:** NICU

### **History/Information**

The male infant was delivered by C-section and was breech presentation.

**Gestational age-**36 weeks

**APGAR-** 8 & 9

**AGA**

**Wt.-**5 lbs. 14 oz. (2658 gm)

**Length-**18 ½ inches

**Maternal history:** non-eventful, GBS neg., Hep. neg.

### **Supplies needed:**

Dr. order sheet (written out)

12 French chest tube

pleurovac

Morphine

Syringe

IV D10W at 8cc/hr

O2 equipment

Blue eye shadow on hands and feet

Chest tube consent form

Recording of baby grunting and cassette recorder

Telephone available

Kelly clamp

Oxyhood

IV (24 guage) taped on hand

Skin temp probe on abdomen

OG tube

Chest tube dressing (numbered)

Monitor display – “ks temp”

State	Events	Minimal behaviors	Questions/teaching
<p><b>State 1:</b> <b>Admission to nursery</b></p> <p>eyes shut</p> <p>listen to heart rate with bell over pacer</p>	<p>HR- 140 BP- 84/55 RR- 40 Sat-98%</p> <p><b>Tell learner when asked:</b></p> <p>Temp. 97 ax.</p> <p>Skin-cool to touch</p> <p>Acrocyanosis</p> <p>Blood sugar-60</p>	<p>On warmer with skin temp control</p>	
<p><b>State 2:</b> <b>Vital signs 2 hours later</b></p> <p>Start “grunting” cassette but turn off occasionally for “occasional grunting”</p>	<p>HR-136 reg. RR-52 Sat 96% BP -84/55 See-saw breathing</p> <p><b>Tell learner when asked:</b></p> <p>Temp.-98.5 ax</p> <p>Occas. grunting/mild-mod. Intercostals retractions</p> <p>Nasal flaring CR-3-5 sec.</p> <p>Acrocyanosis</p>	<p><b>Calls Dr./Pediatrician</b> <b>Tells:</b> grunting, vitals, sat, see-saw breathing</p> <p><b>Physician’s orders:</b></p> <p>Start on oxygen oxyhood at 30%</p> <p>IV D10W @ 8cc/hr</p> <p>CBC,chest x-ray, blood cultures</p> <p>Ampicillian 250 mg. IV every 12 hours</p> <p>Gentamyacin 11mg. IV every 24 hr.</p> <p>NPO</p> <p>Admit to special care unit</p> <p>Let Dr. talk to parents</p>	<p>? the 1<sup>st</sup> Priority: #1 Call RT; Start O2 #2 IV started</p> <ul style="list-style-type: none"> <li>• Pain control before start IV</li> <li>• Give antibiotics</li> </ul> <p>Nurse should ask to transfer call to mother so dr. can update mother on baby’s condition</p>

<p><b>State 3: Admission to special care nursery</b></p> <p>When oxygen applied go to oxygen tab and add 40%</p> <p><b>Check O2 sat</b></p>	<p>HR-116 reg. RR-56 BP-84/55 O2 sat.-99 See-saw breathing</p> <p><b>Tell learner when asked:</b></p> <p>Temp.-98.6 ax Env.-36.9 (warmer temp) Skin-36.9 (skin temp) CR-3-4 sec. Grunting, retractions, flaring</p>	<p>Starts IV of D10W at 8 cc/hr (<b>verbalizes sucrose "Sweet ease" by mouth</b>)</p> <p>O2/oxyhood at 30%</p>	
<p><b>State 4: 1 hour later</b></p> <p>turn up breath sounds</p> <p>turn down heart sounds</p>	<p>HR-120 RR-80 BP-80/50</p> <p>Breath sounds-crackles but equal bilat.</p> <p>O2 sat-99%</p> <p>See-saw breathing</p> <p><b>Tell learner when asked:</b></p> <p>Blood sugar-98</p> <p>Grunting/retracting ICR</p>	<p><b>Calls Physician:</b> Tells baby is worse, vitals</p> <p><b>Physician's orders:</b></p> <p>Start nasal CPAP with OG tube 3 cm at 30% O2</p> <p><b>Nurse relays orders to RT</b></p>	<p>Insert OG tube after measuring and leave end open</p> <p>Need to indicate need to inform parents or have parents come to Nsy at some point</p>
<p><b>State 5: Pneumothorax on right side (2 hrs later)</b></p> <p>Crying (turn off when listening to breath sounds)</p> <p>Eyes shut</p> <p><b>Increase shunt fraction and use pause to cause desat.</b></p> <p>O2 sat to 77 and pause</p> <p>Check that intrapleural is at 100</p>	<p>HR-128 RR-80 BP-80/48 <b>O2 sat-93</b> <b>Desats to 50% at times</b> Very fussy</p> <p>Breath sounds diminished on right side</p> <p><b>Tell learner when asked:</b> Temp-98.2</p> <p>Sever retractions, grunting</p> <p>Dusky color</p> <p>PMI-midsternum left boarder 3-4<sup>th</sup> ICS LSB</p> <p>CR 5</p> <p>CPAP-3cm and 35%</p>	<p><b>Calls physician</b></p> <p><b>Physician orders:</b></p> <p>Increase O2 to 50%</p> <p>Chest x-ray and call back.</p> <p><b>Nurse should ask to transfer Dr. to parents' room to update on infant condition.</b></p>	

<p><b>State 6: Chest x-ray to verify pneumothorax</b></p> <p>Use pause button to keep sat. at approp. Level</p> <p><b>Decrease the shunt fraction to increase the O2 sat to 91%</b></p> <p><b>Crying – until morphine</b></p>	<p>O2 sat-77%</p> <p>Labored respirations</p>	<p><b>Dr. calls with chest x-ray results and will insert chest tube</b></p> <p><b>Dr. also says to give morphine 1 mg. IV now, Ask what the oxygen is, if not already increased - order to increase O2 to 60%.</b></p> <p><b>Also Dr. asks about parents</b></p> <p><b>Nurse should:</b> Asks for pain med from Dr.</p> <p>Asks to transfer Dr. to mother so he can update parents</p>	<p>Nurse could increase oxygen at this point</p> <p>Results of CXR : Right Lower chest pneumothorax</p> <p>Nurse increases oxygen to 60%</p> <p>Priority:</p> <ul style="list-style-type: none"> <li>• Give Morphine</li> <li>• Get consent form signed</li> <li>• Set up Pleuravac</li> <li>• Get Chest tube tray and UAC set-up</li> </ul>
<p><b>State 7: Dr. present and chest tube inserted</b></p> <p>Check O2 sat</p> <p>Shunt fraction to .24</p>	<p>HR-140 reg. RR-60-less labored O2 sat-95% BP-80/50</p> <p>sleeping</p> <p><b>Tell learner when asked:</b></p> <p>Temp.-98.6</p> <p>Occas. grunting, Mild/mod retractions</p> <p>Color pink with acrocyanosis</p> <p>CR-3-4</p> <p>CPAP -3 at 40%</p>	<p><b>After doctor arrives:</b></p> <p>Nurse verifies with doctor the correct side of chest tube placement</p>	<p>Verifies Right side as correct side for chest tube placement</p>

<p><b>State 8:</b> <b>Baby stabilizes</b></p>	<p>HR-140 RR-50 O2 sat-99%</p> <p>Sleeping</p> <p>No see-saw breathing</p> <p><b>Tell learner when asked:</b></p> <p>Color pink</p> <p>CR-3</p>	<p>Assesses fluctuation in water level</p> <p>Assesses chest tube connections sites</p> <p>Assesses cm # chest tube at skin insertion</p> <p>Verbalizes “gentle bubbling”</p> <p>Problem solves:</p> <ol style="list-style-type: none"> <li>1. No water fluctuation</li> <li>2. Excessive bubbling</li> <li>3. Chest tube/tubing disconnect</li> <li>4. Chest tube out</li> <li>5. How to prevent pulling out of chest tube</li> </ol>	<p>What are the s/s pneumothorax?</p> <p><b>*What is the s/s of pneumopericardium?</b></p> <p>How would you identify a <i>bilateral</i> pneumothorax in a baby on <u>CPAP</u>?</p> <ul style="list-style-type: none"> <li>• Fussy/agitated</li> <li>• Labored breathing</li> <li>• Chest elevation</li> </ul> <p>+Identifies 2 placements for chest tube insertion</p>
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- + 2 Places for chest tube:
- 2nd ICS mid clavicular line
  - 4 th ICS ant axillary line

- \* Muffled/distant heart sounds
- Bradycardia
  - Decreased pulses
  - Marked hypotension
  - Cyanosis/pallor
  - Decreased EKG voltage

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