

# ACoRN Self-Test # 2

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Organization: \_\_\_\_\_

The purpose of this evaluation is to enable you to assess whether you have understood the ACoRN Framework and can apply it in a case situation.

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## 1. Please complete the labels for the following diagram:

A =

C =

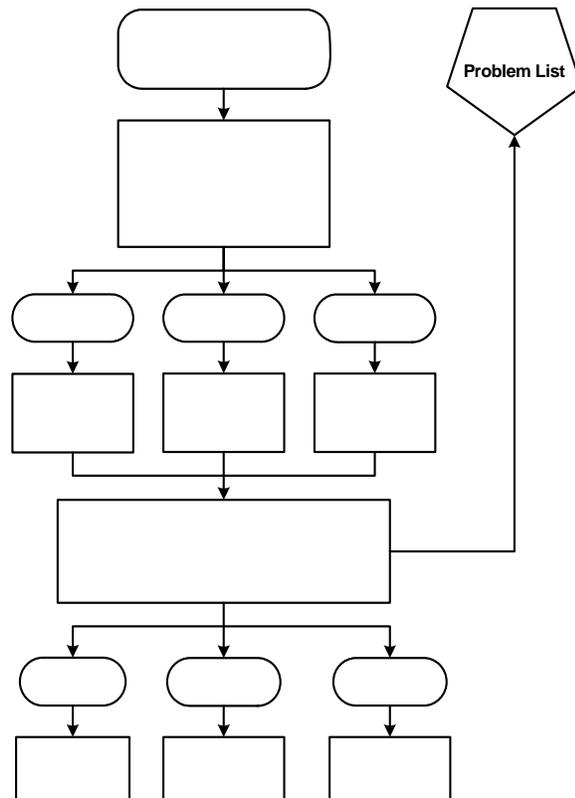
O =

R =

N =

S =

S =



Please read the following case and complete the questions and diagrams.

**Background Information (Setting):**

- Community hospital averages 650 births/year
- Professionals when case presents: 1 family physician who does obstetrics, and 2 RNs who work in the birthing unit. A general surgeon and GP anesthetist are available on-call.
- The average response time for on site support from the tertiary care centre is 4 hours.

**Case:**

A 33 year old multipara arrives in preterm labour at 28 weeks gestation. Assessment indicates she is fully dilated. While further assessment and evaluation is completed, the tertiary referral centre is notified. The neonatal transport team is not expected to arrive for approximately 5 hours due to weather.

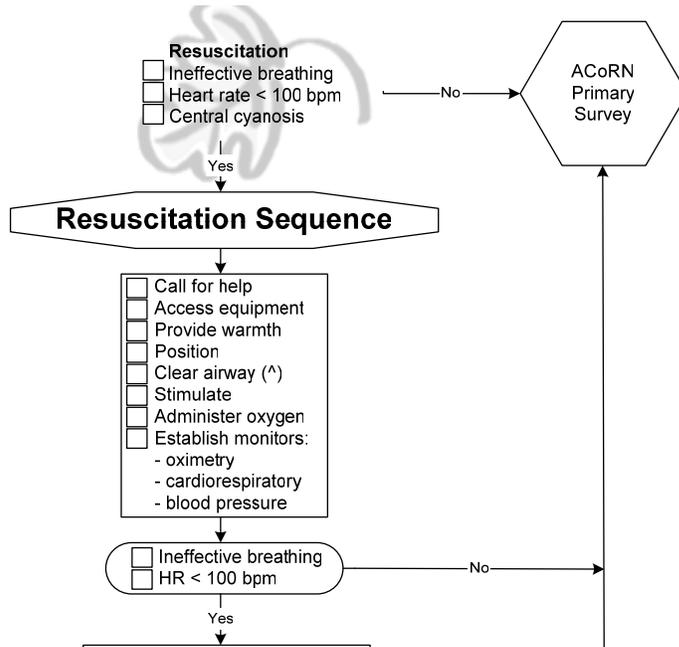
A baby boy is born vaginally twenty minutes later. He is placed on a preheated radiant warmer bed and dried gently. He is breathing spontaneously, heart rate is 154 bpm, and colour improves quickly to pink. Tone is appropriate for a premature baby. Apgars are 7<sup>1</sup>, 8<sup>5</sup>. Weight is 1100 grams.

At 10 minutes of age, the nurse notices the baby's colour is dusky and there are moderate sternal retractions, intercostal indrawing, and nasal flaring. The RR is 76, HR 164.

1. Does this baby require resuscitation? Yes No

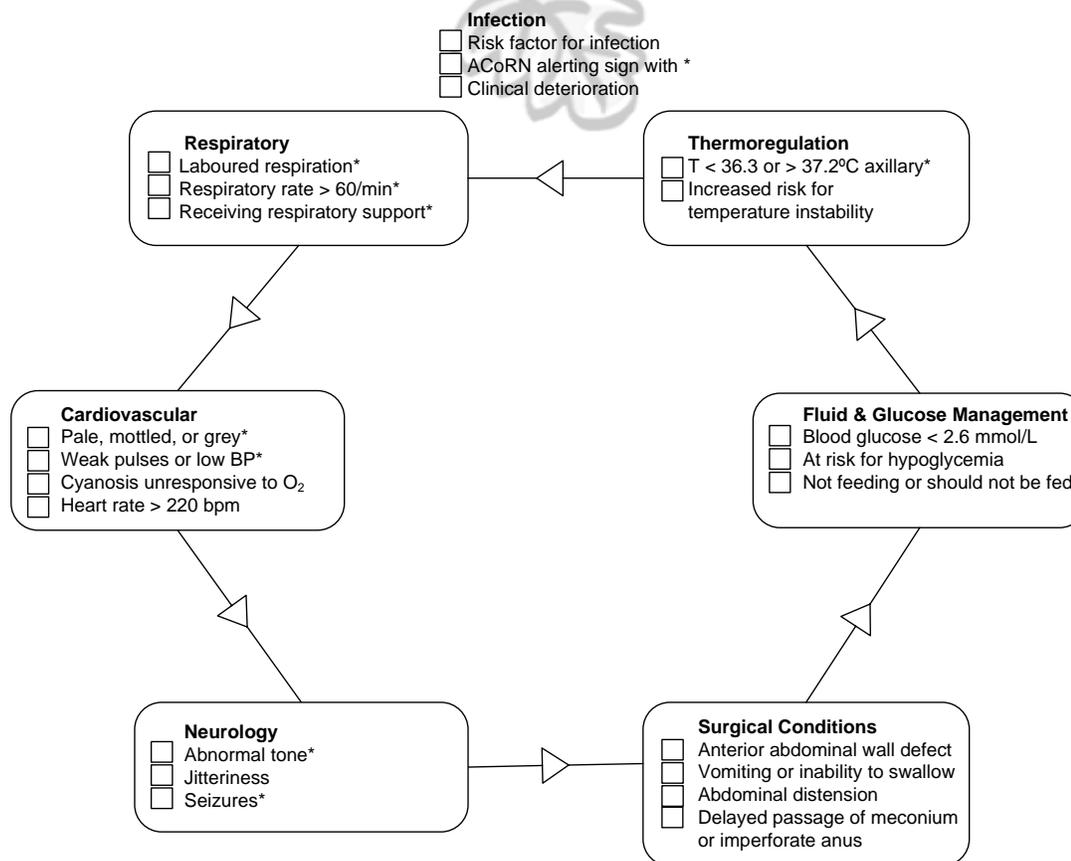
Why or why not? \_\_\_\_\_

2. Trace the baby's pathway, marking the appropriate boxes.

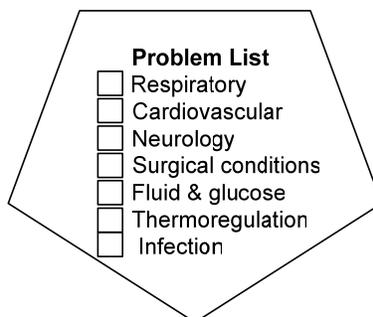


Breathing continues to be regular but labored. HR is 164. Color is now centrally pink with administration of supplemental oxygen.

#### 4. Complete the Primary Survey:



#### 5. Complete the Problem List:



#### 6. Which sequence do you enter first?

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The baby is positioned supine with his limbs contained by a nest. The temperature probe is attached to the baby's abdomen and set to 36.5C on servo control.

His airway is patent. Supplemental oxygen is administered via oxygen hood the oxygen concentration is determined using an analyzer. Following application of the pulse oximeter and cardiorespiratory monitors, you note his oxygen saturation is 93%, RR 74, HR 168, BP mean 30. The axilla temperature is 36.4.

He remains pink, and continues to have moderate retractions. Grunting is heard with handling. On auscultation, air entry is diminished bilaterally.

7. What concentration of oxygen should be administered to a baby with respiratory distress? (Choose one best answer)
- a. 100% oxygen
  - b. 40% oxygen
  - c. enough so that he is pink
  - d. the concentration required to maintain SpO<sub>2</sub> 88 to 95%

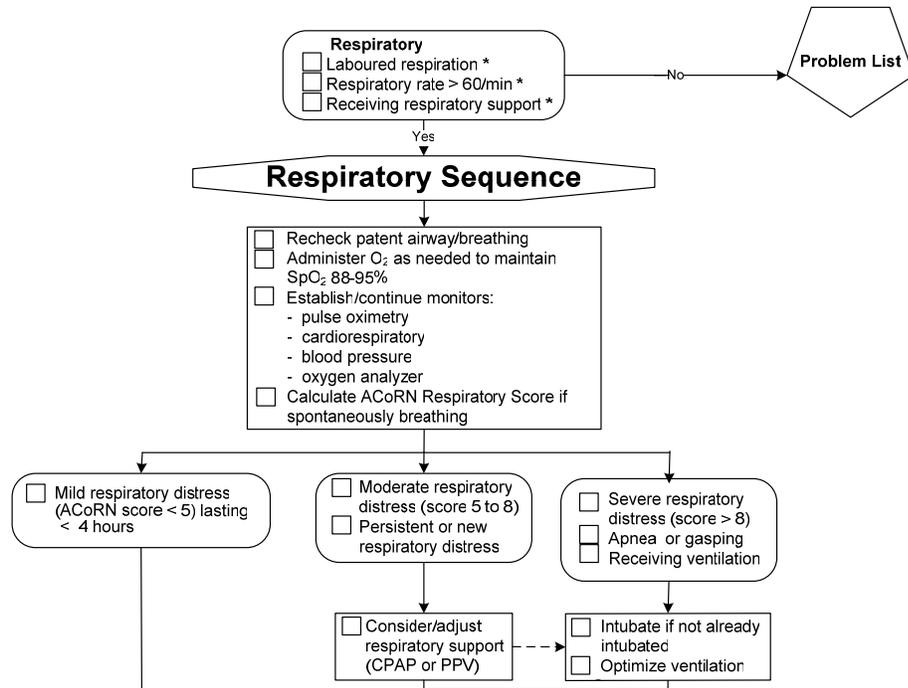
8. Calculate the ACoRN Respiratory Score:

Score	0	1	2
Respiratory rate	40 to 60/minute	60 to 80/minute	> 80/minute
Oxygen requirement <sup>1</sup>	None	≤ 50%	> 50%
Retractions	None	Mild to moderate	Severe
Grunting	None	With stimulation	Continuous at rest
Breath sounds on auscultation	Easily heard throughout	Decreased	Barely heard
Prematurity	> 34 weeks	30 to 34 weeks	< 30 weeks

<sup>1</sup> A baby receiving oxygen prior to the setup of an oxygen analyzer should be assigned a score of "1"

Score is \_\_\_\_\_

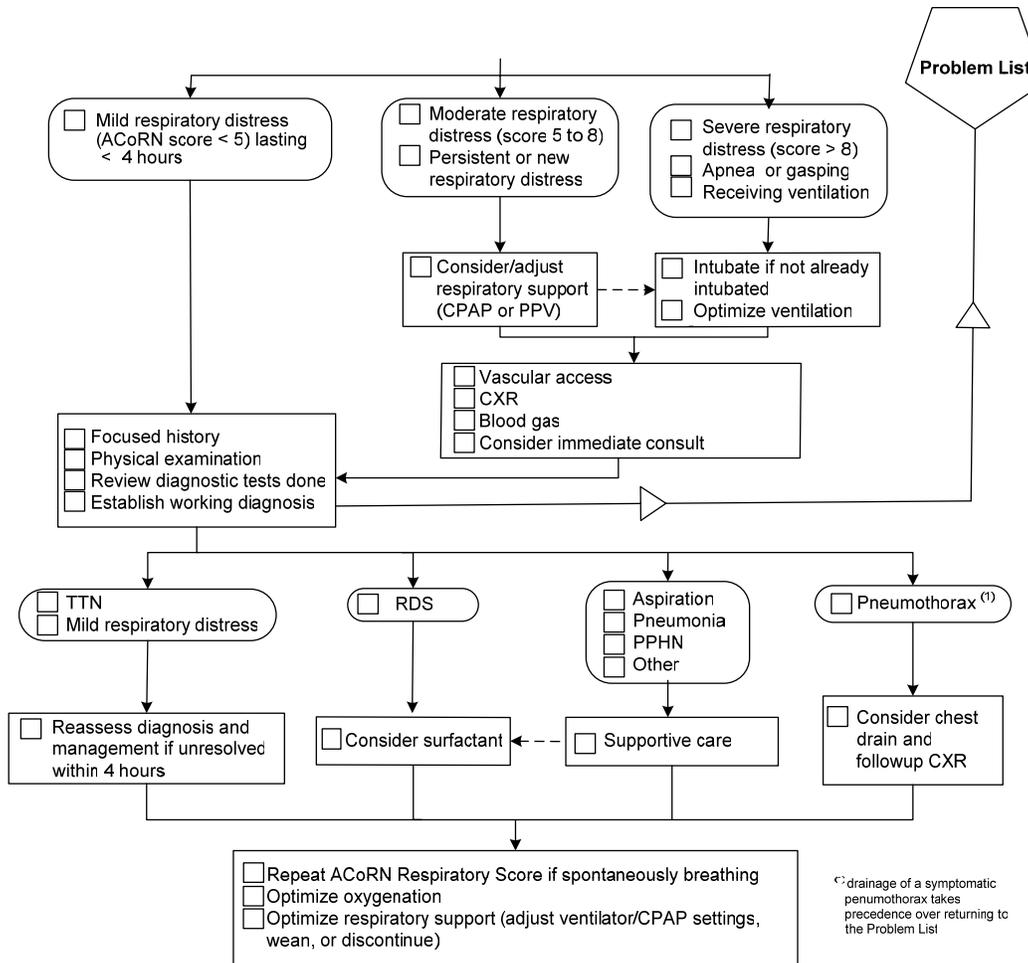
9. Trace the baby's pathway, marking the appropriate boxes.



10. What must you do at this point? (Choose one best answer)

1. initiate CPAP
2. sit tight and wait
3. intubate
4. increase FiO<sub>2</sub>
5. ensure personnel is in house who can initiate respiratory support

11. Continue tracing the baby's pathway, marking the appropriate boxes.

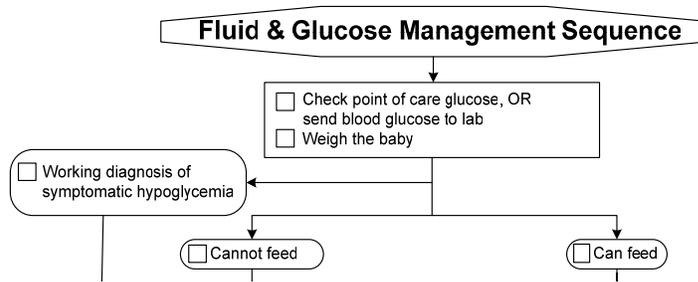


You prepare to obtain vascular access and a chest radiograph. You note that you will also need to do a blood gas.  
 Mom's pregnancy was uncomplicated until she began preterm labour; her GBS status is unknown.

12. Why do you need to consider an immediate consult?

Setting: \_\_\_\_\_  
 Baby's condition: \_\_\_\_\_  
 Resources: \_\_\_\_\_

You enter the next Sequence in your problem list.



13. What core step(s) in this sequence has been previously completed and when?

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14. What core step still needs to be completed?

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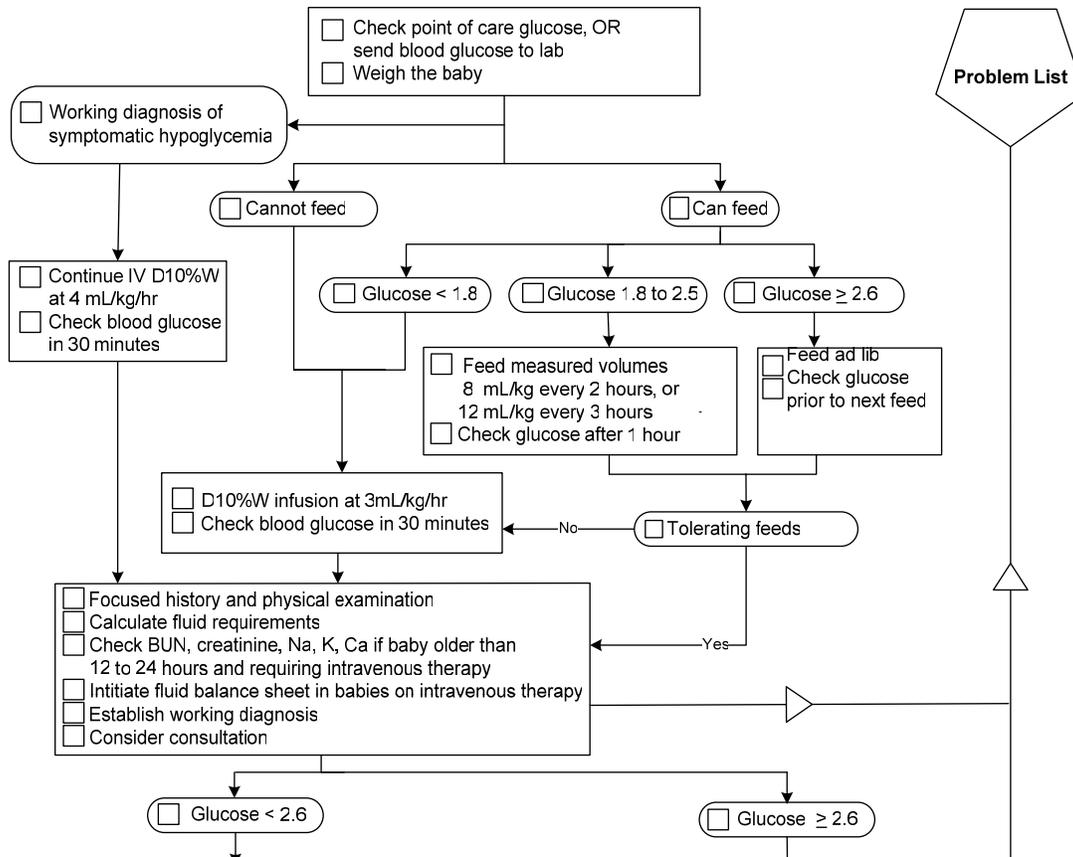
15. Would you feed this baby? Yes No

Why or why not?

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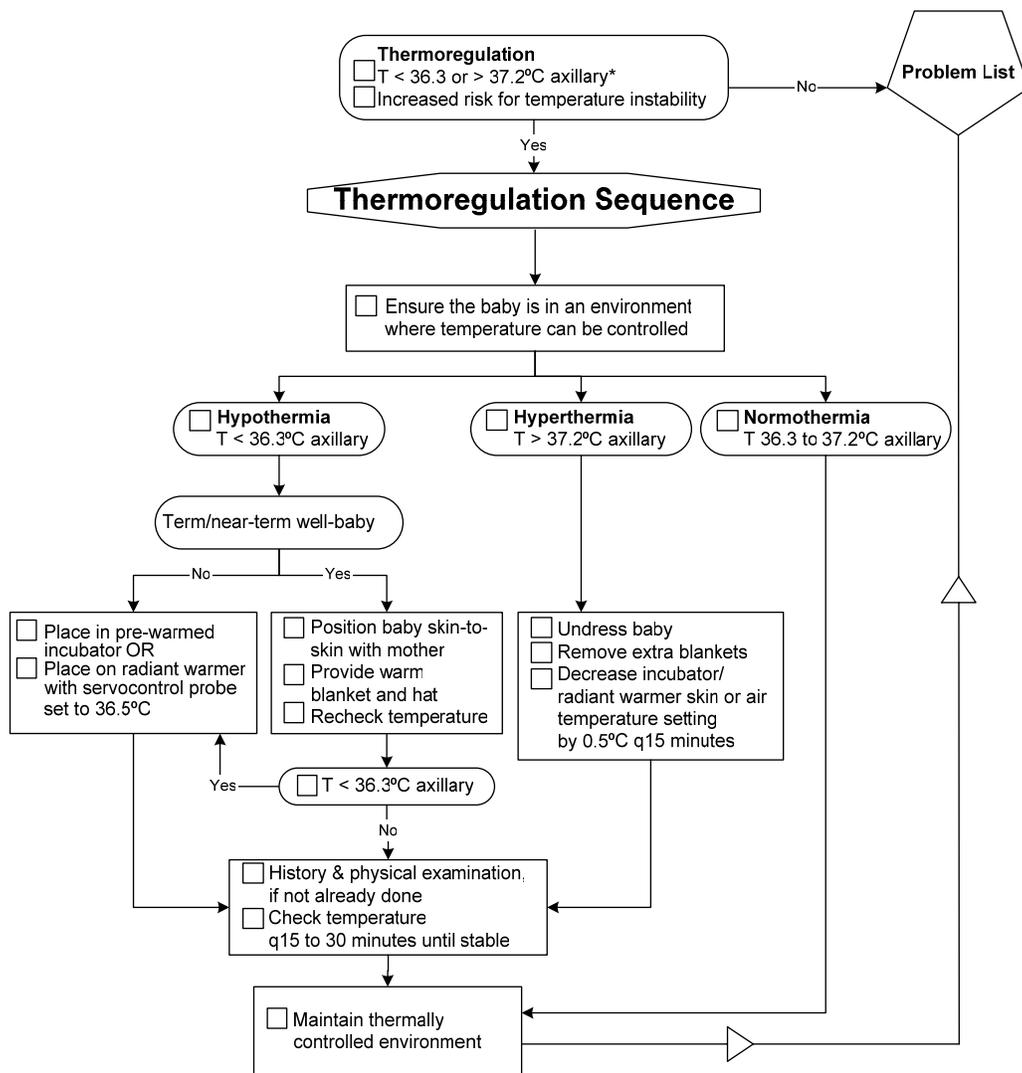
The glucose meter reads 3.0.

16. Trace the baby's pathway, marking the appropriate boxes.



17. What rate do you set the IV infusion to?

18. Trace the baby's pathway in the next Sequence.



19. Why is this baby at risk for temperature instability?

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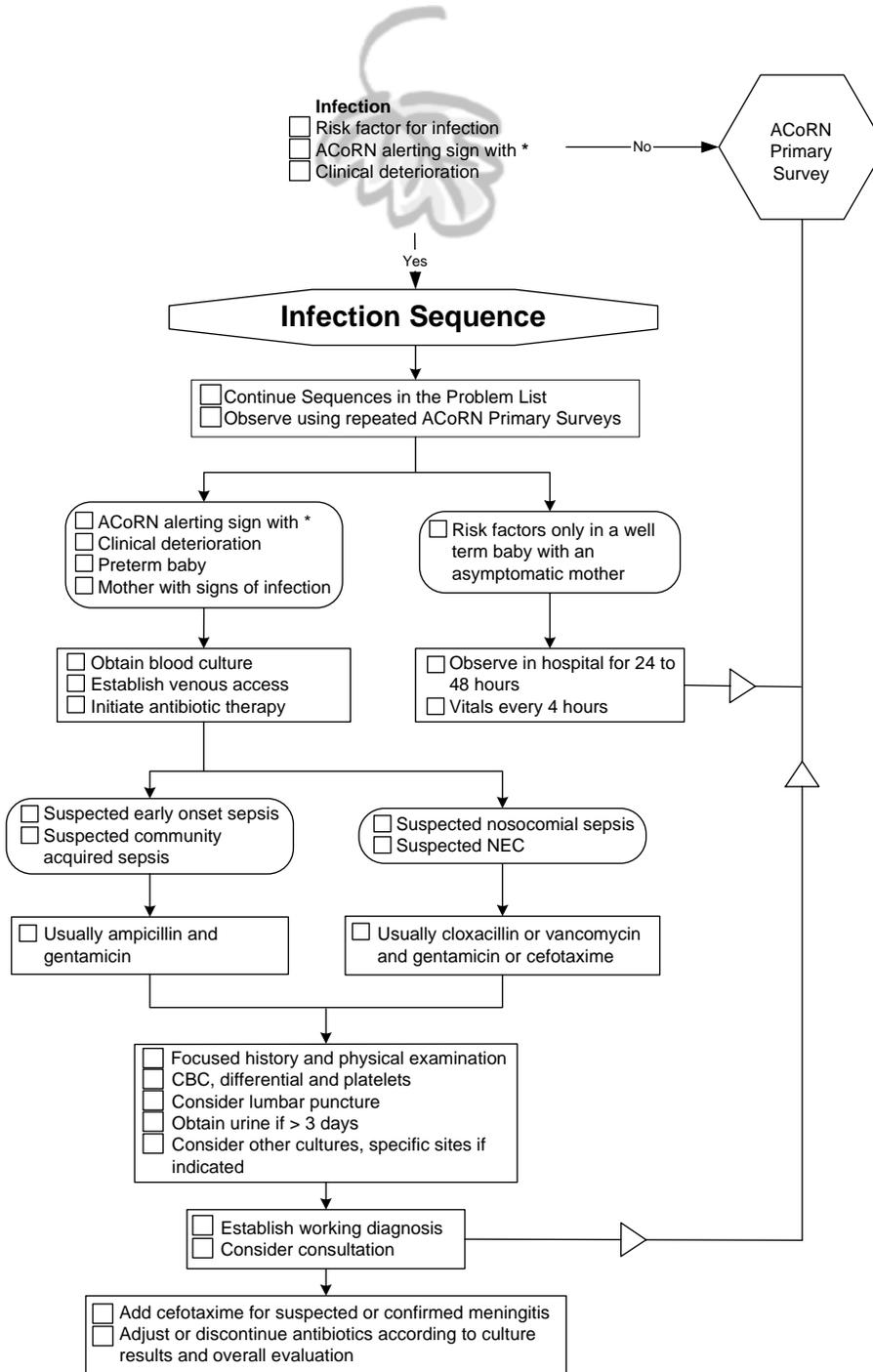
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20. What measures can you employ to prevent heat loss?

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21. Trace the baby's pathway in the next Sequence in your problem list.



22. What antibiotics and dose would you administer at this time? Indicate the concentration you would use and volume you would administer.

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The blood gas result returns: pH 7.30, CO<sub>2</sub> 50, O<sub>2</sub> 40 (capillary), BD 2.

23. What values are increased, normal or decreased on the blood gas result.

pH: \_\_\_\_\_ Normal range: \_\_\_\_\_

pCO<sub>2</sub>: \_\_\_\_\_ Normal range: \_\_\_\_\_

BD: \_\_\_\_\_ Normal range: \_\_\_\_\_

24. How would you interpret the acid base balance of this blood gas?

\_\_\_\_\_

25. How would you interpret the pO<sub>2</sub> of this blood gas?

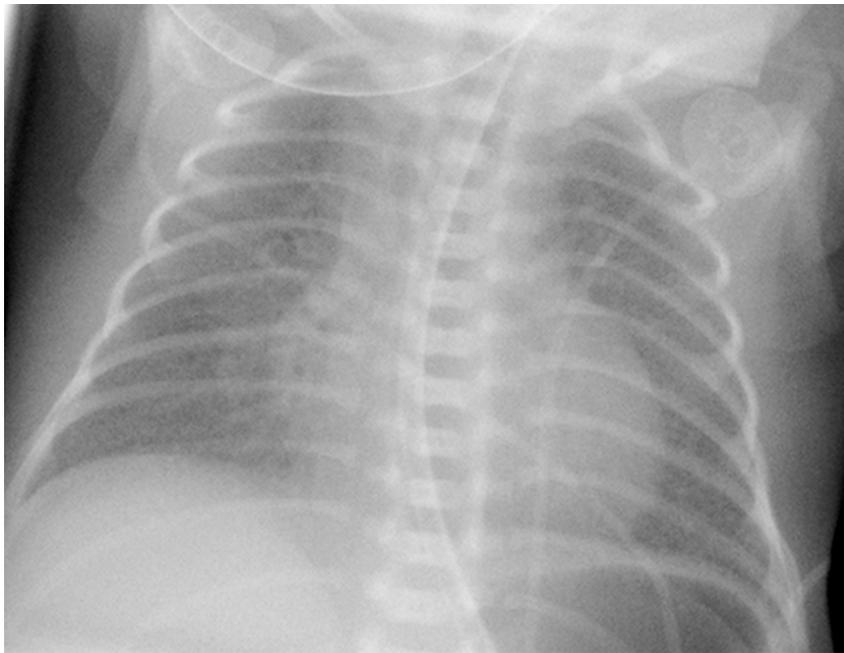
\_\_\_\_\_

26. Is the blood gas satisfactory?      Yes    No

Why? \_\_\_\_\_

\_\_\_\_\_

27. Comment on the chest radiograph below:



Lung fields:

\_\_\_\_\_

Diaphragm & heart borders:

\_\_\_\_\_

Heart shape and size:

\_\_\_\_\_

Air leaks:

\_\_\_\_\_

Location of stomach bubble:

\_\_\_\_\_

ETT:

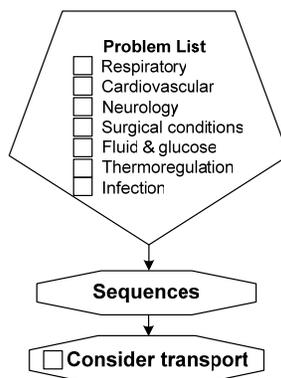
\_\_\_\_\_

28. What is your working diagnosis?

\_\_\_\_\_

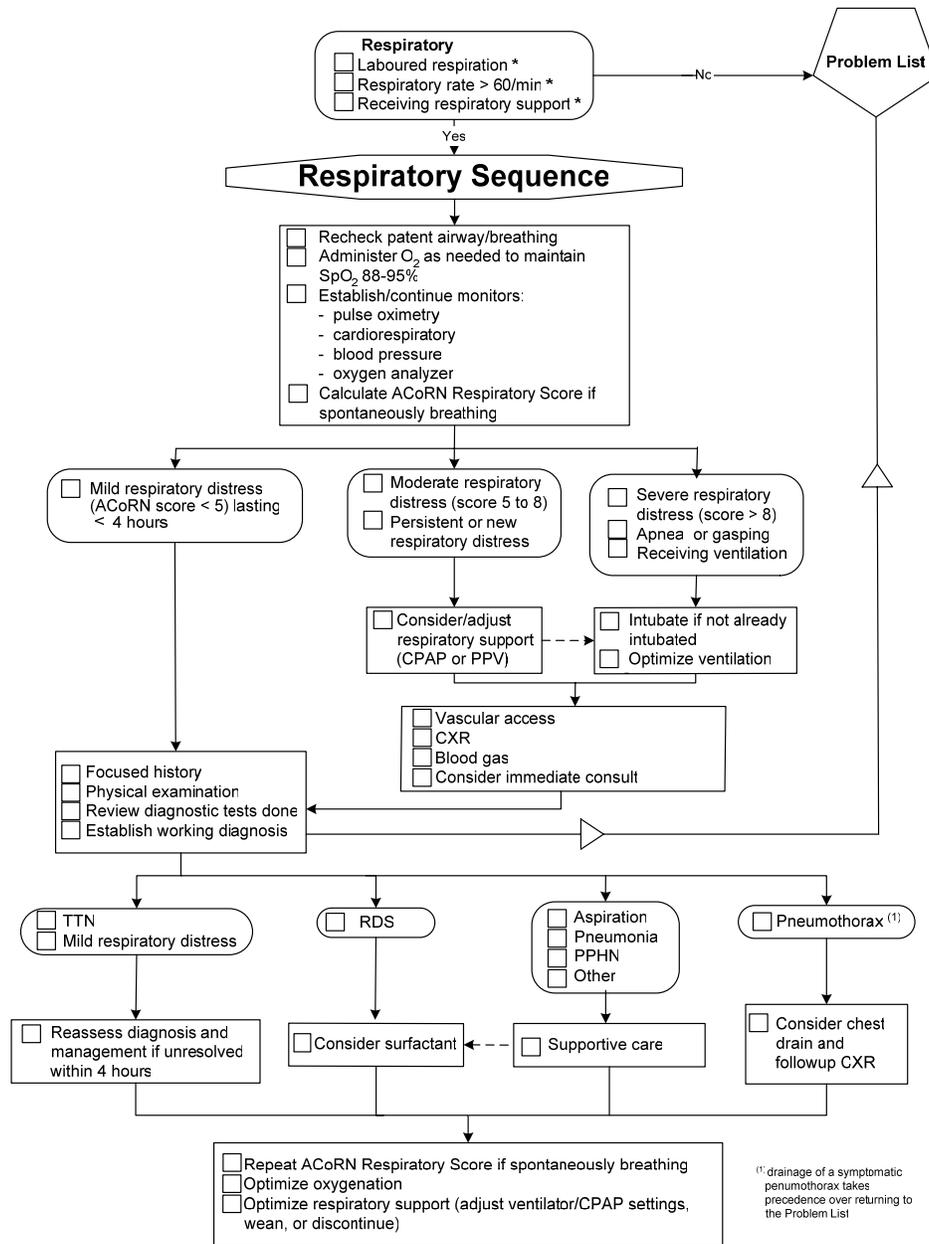
You note you have completed all the appropriate sequences up to **Next Steps**.

You now consider transport, then return to those sequences where **Specific Management** is pending.



29. In which sequences do you need to review Specific Management?

30. Indicating where you re-entered the Respiratory Sequence, trace the baby's pathway, marking the appropriate boxes.



31. What three respiratory therapies are under consideration in this case?

**32. What are the indications for surfactant? When should it be given?**

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**33. Briefly explain when you might withhold surfactant therapy in a baby with RDS.**

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You consult with the tertiary centre to discuss the baby's condition and care.

You indicate the baby has moderate respiratory distress, satisfactory blood gases, and a chest radiograph consistent with RDS. You have also initiated intravenous therapy with D10%W, obtained a blood culture and initiated ampicillin and gentamicin. Blood glucose and temperature are within normal range.

As you have limited resources to provide ongoing care for this type of baby in your level I center, you request transfer to a center with the needed resources.

At this time, the center may request that CPAP be initiated, or that the baby be intubated and given surfactant.

You update the parents about the baby's condition and plans to transport the baby.

**34. Resuscitation, stabilization and ongoing care are a team effort. Describe how a clinical experience can provide an opportunity for staff to learn from the situation and each other.**

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