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## NICU Disease Process

D.O.B	12/24/2025	1 min: 7	5 min:
Gestational Age	29w 5d	36w	
Adjusted Gestational Age			
Birth weight	4	4.	195
Current weight	7 lbs	12.2 oz./	S

Disease Name: Respiratory Distress Syndrome (Secondary to Prematurity)

### What is happening in the body?

This baby being so premature resulted in a deficiency of surfactant as well as diminished lung function (still developing). The alveoli begin to collapse due to the increase in surface tension, which makes the baby's work of breathing more labored and stressful. This is where we see the baby beginning to show signs of distress accompanied by cyanosis if not resolved in a timely manner.



### What am I going to see during my assessment?

Baby's with RDS are most often presenting with increased labor of breathing, tachypnea, and dyspnea due to the lungs not being able to open up properly. Nasal flaring and retractions (subcostal or intercostal) are also highly indicative of respiratory distress. On assessment you may auscultate some inspiratory crackles and forcible grunting when the patient is breathing. If the RDS continues to progress, we will see decreased tissue perfusion, which will present as cyanosis or pallor.



### What tests and labs would I expect to see? What are those results?

Labs might include a CBC, ABG, and respiratory panel to monitor for infection and oxygenation status/acidosis. If the CBC were to be abnormal, a blood culture may be ordered to determine a pathogen. Patient will likely be acidotic when the ABG yields results. Diagnostics would likely include a chest x-ray, pulse oximetry, and echocardiogram. The CXR will determine if there is fluid in the lungs, pulse oximetry will

**What medications and nursing interventions or treatments will you anticipate?**

If needed, we could see this baby going on the ventilator when they are first born to help support their airway. Then we would see artificial surfactant replacement being given to help their lungs with the surface tension. Possible removal of ventilation to nasal cannula oxygen supplementation. They will likely be NPO to allow the body to rest and receive IV fluids/nutrition. This baby received **Curosurf** 2 hours after birth. Then was given caffeine citrate until 36 weeks to support their respiratory system. This patient is now on mechanical ventilation with two daily endotracheal



**How will you know that your patient is improving?**

Improvements would be initially seen with reduced work of breathing, perfusion to all tissues (no cyanosis), and absence of nasal flaring/retractions. Needing less supplemental oxygenation and increased, consistent oxygen saturation would also indicate an improvement in status. Eventually getting off all oxygen supplementation and breathing on their own while holding saturations above 95% is the goal.



**What are the primary risk factors for this diagnosis?** The largest contributing factor to this diagnosis is prematurity. Following that, would be a higher incidence in males. Maternal diabetes is also a risk factor due to the increased fetal insulin, which disrupts surfactant production. Also, perinatal depression can be a factor, because if the baby's heart rate is consistently dropping in utero, they will likely have trouble



**What are the long-term complications?** The primary long-term complication from RDS is bronchopulmonary dysplasia (chronic lung damage). This increases the chance of asthma, recurrent infections and chronic wheezing. We could possibly see a long-term side effect of oxygen supplementation called retinopathy of prematurity. This is where we can give the baby too much oxygen, which can 'poison' the eye(s) causing blindness