

Respiratory Distress in the Late Preterm

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Dave Hampton is
employed by ONY, Inc.





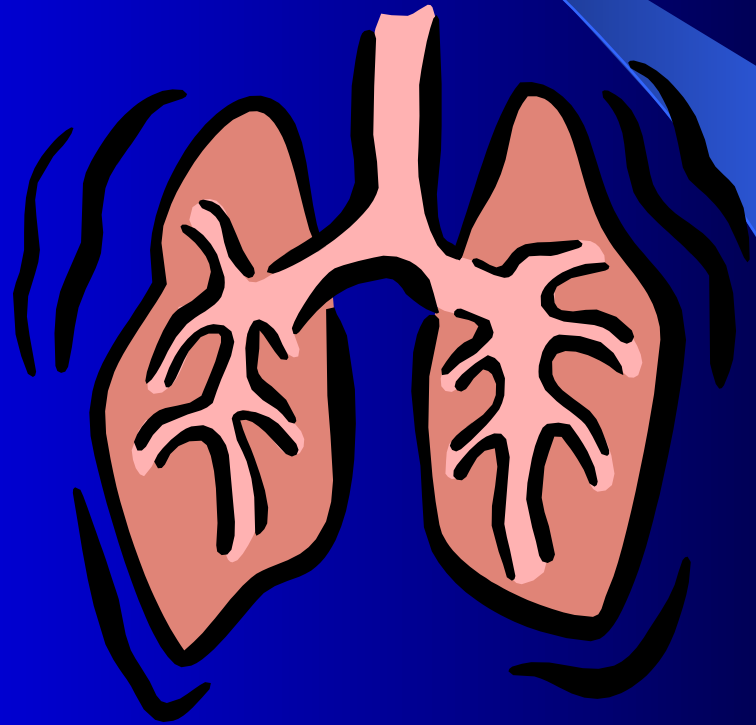
STABLE and NRP

This program is not intended to be a substitute for either of these programs.

Fetal Lung Development

- **Lung Fluid**
- **Fetal Circulation**
- **Delivery and Transition**

Hypoxia and Pulmonary Vasoconstriction



Clinical Signs of Respiratory Distress

Tachypnea

Grunting, Retracting, and Nasal Flaring

Cyanosis

Hypotonia

Tachycardia

Disease Processes

Transient Tachypnea of the Newborn

Respiratory Distress Syndrome

Pneumonia and Sepsis

Persistent Pulmonary Hypertension

Air leaks

Congenital Heart Disease

Disease Processes

Congenital Diaphragmatic Hernia

T-E Fistula

Pierre-Robin Syndrome

Choanal Atresia

Congenital Hypoplastic Lungs

Hypoglycemia

Hypoxic Ischemic Encephalopathy

Other (temperature)

More Disease Processes

- Pulmonary Hypoplasia
- Pulmonary Edema/Hemorrhage
- Pleural Effusion
- Vascular Ring
- Cysts and Tumors
- Phrenic Nerve Paralysis/Eventration
- Osteogenesis Imperfecta

Transient Tachypnea of the Newborn



Etiology and Pathophysiology

Failure of the fetal lung fluid to clear

Pertinent Clinical Clinical Information

History

Vitals

Breath Sounds

X-Ray

Key Points

Getting Better or Getting Worse

Feeding or IV (watch that blood sugar level)

If this infant is still sick @ 24 hours of age, it's not TTN

Thermoregulation, lab work, etc.

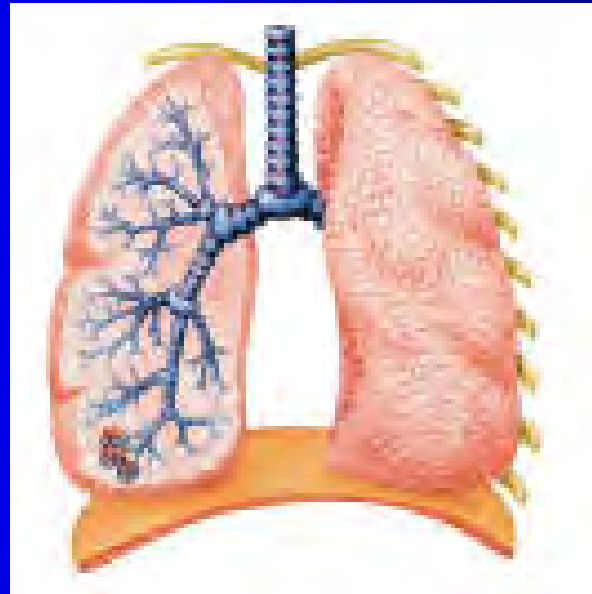
Treatment and Stabilization

Time

Oxygenation and Ventilation

Supportive Care

Respiratory Distress Syndrome



Etiology and Pathophysiology

Lack of surfactant production

Surfactant inactivation

Other

Pertinent Clinical Information

Respiratory Status

Vital Signs

Lab Work

X-Ray

History

Infant of a Diabetic Mother

Treatment and Stabilization

Respiratory Status

Nutrition

Surfactant Replacement Therapy

Supportive Care

Pneumonia and Sepsis



Etiology and Pathophysiology

Inflammation of the lung caused by either an invading pathogen or chemical aspiration

Pertinent Clinical Information

Maternal history

Cultures

Respiratory status

Vital signs

History of illness

X-Ray

Color

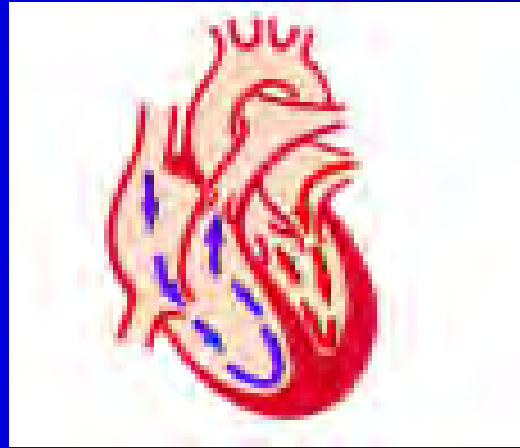
BEWARE OF PPHN

Treatment and Stabilization

Antibiotics
Respiratory
Supportive



Persistent Pulmonary Hypertension of the Newborn



Etiology and Pathophysiology

Failure of the fetal shunts to close post delivery

Hypoxemia

Pulmonary vasoconstriction

Pertinent Clinical Information

Is there an underlying disease process?

Tachypnea

History

X-Ray and lab

ECHO

BEWARE!! Oxygenation and blood pressure are very labile

Treatment and Stabilization

Oxygen, Oxygen, Oxygen

Prone positioning

Supportive Care

Sedation

Other therapies

ECMO Center

Air Leaks



Etiology and Pathophysiology

Air leak at the terminal or respiratory bronchiole allowing air to escape to the pleural space

Pertinent Clinical information

Tachypnea with mild respiratory distress

Breath sounds

Transluminations and X-Ray

Usually not life-threatening

Treatment and Stabilization

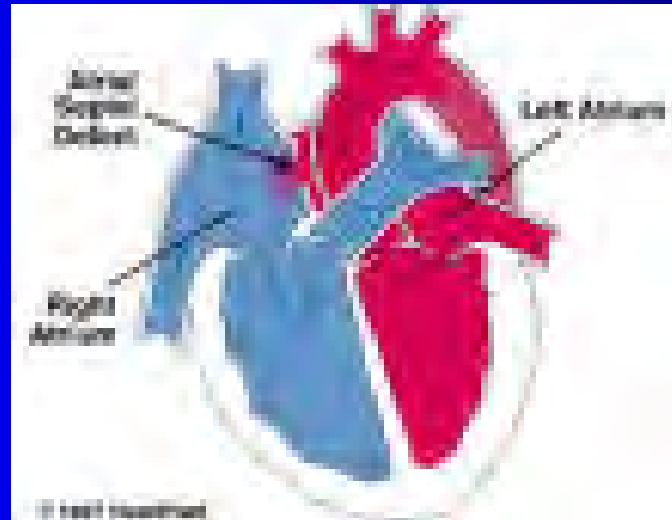
Nitrogen Washout

Supportive Care

Chest tubes??

Positive Pressure??

Congenital Heart Disease



Differential Diagnosis

Mild to Severe Respiratory Distress

Failure of oxygen to alleviate cyanosis

Murmur

Lab and X-Ray

ECHO

Stabilization

**Respiratory
Supportive
Prostin??**

Anomalies That Can Cause Respiratory Distress



Diaphragmatic Hernia

Stable with mild respiratory distress

**Critical with severe respiratory
distress**

Pertinent Clinical Information

Always at risk for PPHN

Treatment and Stabilization

Intubation

OG tube

Supportive Care

Transport

T-E Fistula

**Respiratory distress associated
with/without feedings**

Copious oral secretions

Failure to pass OG tube

Check the other end too!!

Choanal Atresia



Micrognathia

Pierre-Robin

Treacher-Collins

Nasal airways

Prone positioning

Intubation

Other Stuff

Hypo/Hyperthermia

Hypoglycemia

Hypoxic Ischemic Encephalopathy

Congenital hypoplastic lungs

Tracheal stenosis and L-T webs

Meconium Aspiration Syndrome

Summary

Be sure to try and find an underlying cause
and try to treat it

Remember basic supportive care (TEMP)

X-Rays and ECHOs are your friends

Leave them alone, minimal stimulation,
prone positioning

OXYGEN

Always be on the alert for PPHN

BEWARE!! Some infants will have multiple causes of respiratory distress

Some causes of respiratory distress will lead directly to other causes of respiratory distress