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Study Guide Neonate

Apgar

7 - 10 mild or no distress
4 – 6 moderate distress
0 – 3 score means that the baby has severe distress
Parameters: 2 no issue

1 moderate,

0 absent or poor

Color, HR, Resp effort

Tone and reflex (response to stimuli)

***Ballard* Score determines Gestational Age**
Silverman Determines WOB/Resp Distress

- 0-3 Mild
- 4-6 Moderate
- >6 Impending failure

Congenital Heart

Cyanotic (Right to left shunt) most blood will not get to lungs for O2

- Tetralogy of Fallot
- Transposition of the Great Vessels

Non-Cyanotic

Left to Right Shunting

- Ventricular Septal Defect (VSD)
- Atrial Septal Defect (ASD)
  - AKA - Patent Foramen Ovale
- Patent Ductus Arteriosus (PDA

Surfactant PG present & LS 2:1 is mature lungs. < 2:1 immature lungs/premature infant

List Fetal Shunts from Mom to Baby

_____

When do they close?

_____

What mothers are more likely to have high risk pregnancy/infant?_____

_____

Additional Notes

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Common Neonatal Conditions

	TTN	Meconium Aspiration	IRDS
Cause	**C Section**	**Post term infant meconium present fluid**	**Premature infant**
CXR	**Grey, wet slightly under expanded**	**Flattened diaphragm** ➢ **9 ribs expanded with infiltrates middle lobes**	**Decreased expansion often 6 or < ribs, white out to ground glass**
Breath Sounds	**Crackles**	**Wheezes, course**	**Diminished**
Symptoms	**Inc WOB ,**	**Inc WOB, high pressure to bag**	**Inc WOB, High Pressure with bag/PPV**
Vitals	**Increase RR decrease Spo2**	**May have no respiratory effort, very poor oxygenation**	**Poor oxygenation**
Treatment	**CPAP or HFNC**	**Conventional Vent**	**Surfactant / CPAP if improvement/ Conventional vent if no improvement**
May require	**Oxygen**	**HFOV,** **INO for PPHN**	**HFOV, permissive hypercapnia**
Additional notes	**Generally resolves few days**	**Long term issue, poor prognosis. Requires High FIO2 which is unusual in NICU**	**Watch for rapid improvement after surfactant.** **Can lead to BPD chronic lung DZ**

Notes:

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Ventilator Management in the Neonate

ABG Criteria for Mech vent Neonate PH_____ PaCO2_____ PaO2_____

Ventilator Changes for ABG Chart

	↑ $PaCo2$	↓ $PaO2$	↓ $PaCo2$	↑PaO2>70
NPPV	Increase IPAP	Increase CPAP	Switch to CPAP	Wean FIO2 First
NPPV	Increase rate ONLY if not a Backup rate	Increase FI02 Carefully	Decrease IPAP	Then slowly wean CPAP
Mech Vent	Increase PIP 1st unless over-expanded CXR	Increase PEEP	Wean PIP	Wean FIO2 as low As possible
Mech Vent	2nd choice Increase RR	Increase FIO2 carefully	Wean RR	Wean PEEP if higher 4
Mech Vent	May need to increase flow to increase VT	Never go above 60% unless PPHN		**Start considering extubation if : Cont..**
Mech Vent	May need to increase I time to increase VT	May need to increase I time to increase FRC	Always consider extubation if low CO2 on conventional vent if settings low	**Pa02 is high or normal AND PH and CO2 Respiratory Alkalosis or Normal**
HFOV	Increase AMP/Power	MAP increase by 2	Decrease AMP/Power	Wean FIO2
HFOV	HZ decrease try to avoid this!	FIO2 never above 60%	Consider switch to conventional or NPPV if ABG great	Wean MAP (Consider conventional or NPPV if ABG good)

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Pressure control will be discussed more in detail in Ventilator management

Always use Pressure Control with Neonates

- RR 30 – 40 bpm (Infant will over breathe vent)
- PIP – 15 – 20 cm H_2O (Primary Control of Ventilation-CO2 Removal)
- PEEP 3 – 5 cm H_2O (Oxygenation)
- Flow 6 – 8 lpm (If set too low VT will not be reached)
- Ti .25 - .5 seconds (Lower I time for more premature infant)

Flow inflating bags are used in neonates. The pressure is controlled with flowmeter and release or relief valve. If PIP or inflation is too high turn down flow or open the relief valve. If not enough Pressure close the valve or increase the flow. Always have a manometer and bag in green 20-25 cmH2O.

Neonates require PPV or Bag mask Positive pressure breaths for apnea, inadequate Respiration (gasping or RR< 20), or HR < 100. Primary Apnea requires stimulation only but most apnea will be considered secondary which requires PPV.

Notes_____

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