



# The Normal Puerperium

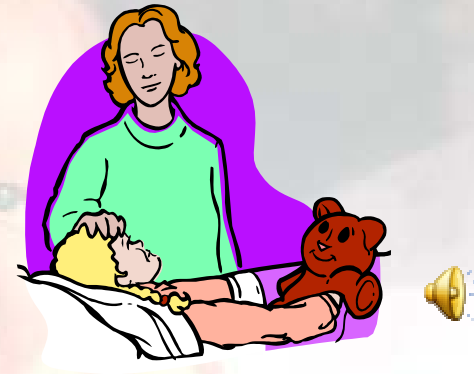
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1/10/05

# Newborn Infants need

- Easy access to mother
- Appropriate feeding
- Adequate environment
- Parental care
- Cleanliness
- Observation of body signs by someone who cares and can take action if necessary
- Access to health care for suspected or manifested complications
- Nurturing, cuddling, stimulation

# Newborn Infants need

- Protection from
  - Illness
  - Harmful practices
  - Abuse/violence



# Newborn Infants need

- Acceptance of
  - Sex
  - Appearance
  - Size



# Newborn Infants need

- Recognition by the state (vital registration system)



# In the Postpartum Period Women Need:

- Information/counseling on
  - Care of the baby and breastfeeding
  - What happens with and in their bodies including signs of possible problems



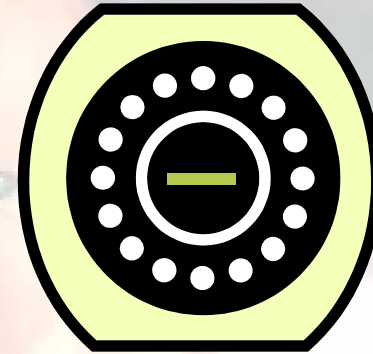
# In the Postpartum Period Women Need:

- Information/counseling on
  - Self care/hygiene and healing
  - Sexual Life



# In the Postpartum Period Women Need:

- Information/counseling on
  - Contraception
  - Nutrition



# In the Postpartum Period Women Need:

- Support from
  - Health care providers
  - Partner and family-  
emotional and  
psychological



A blurred background image showing a woman in a white shirt holding a baby. The woman is looking down at the baby, and the baby is looking towards the camera. The image is faded and serves as a backdrop for the text.

# In the Postpartum Period Women Need:

- Health care for suspected or manifested complications
- Time to care for the baby
- Help with domestic tasks
- Maternity leave
- Social reintegration into her family
- Protection from abuse/violence



# In the Postpartum Period Women Need:

- Women may fear
  - Inadequacy
  - Loss of marital intimacy
  - Isolation
  - Constant responsibility for care of the baby and others

# Respiratory

- Mechanical
- Biochemical
- Lung Volumes
- Ventilation
- Diffusing Capacity
- Acid Base Changes



# Respiratory

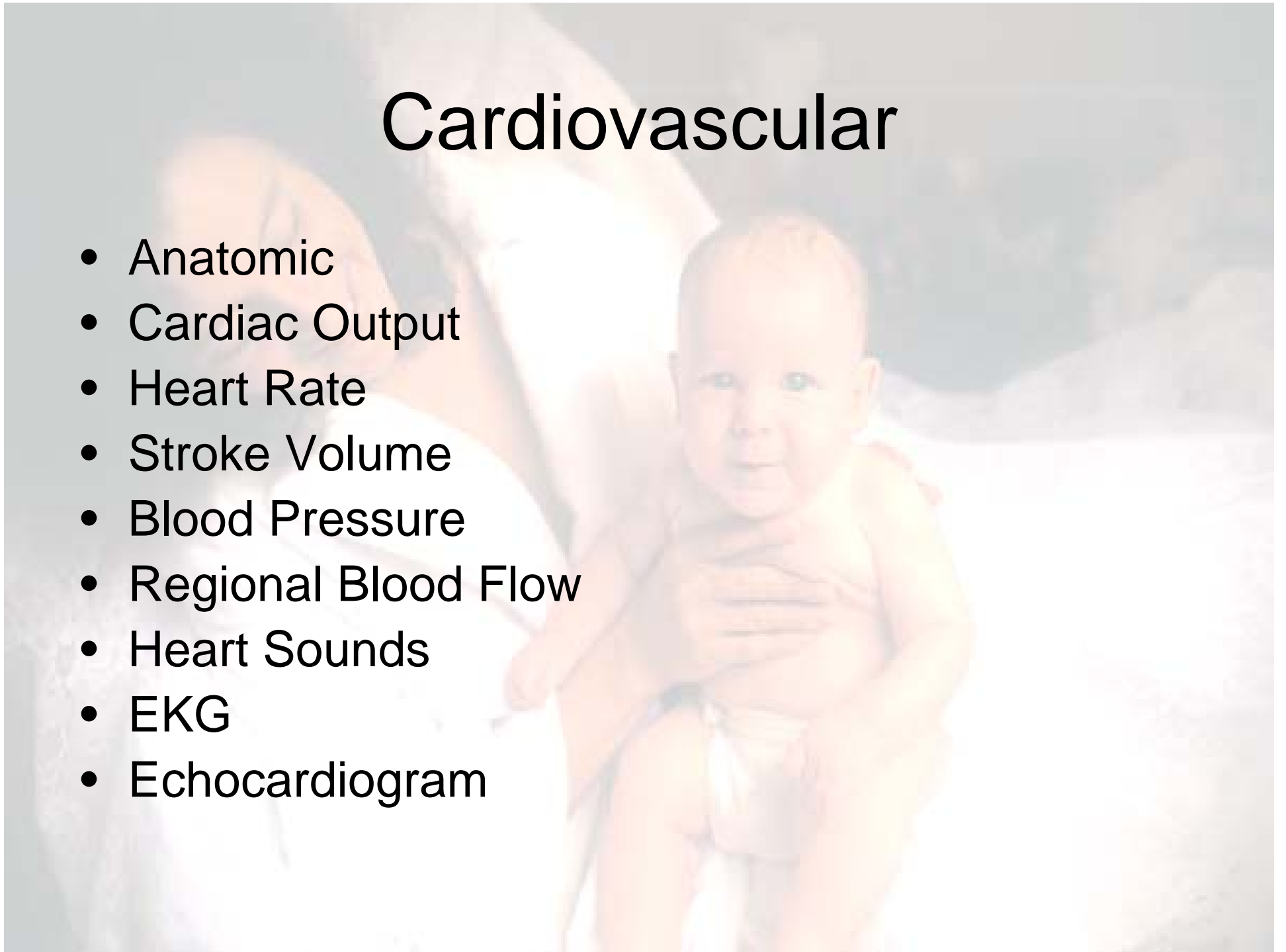
Mechanical	<ul style="list-style-type: none"><li>• Immediate reduction in intra-abdominal pressure</li><li>• Chest wall compliance returns to normal with the relief of diaphragmatic pressure</li><li>• All diameters and angles return to normal 1 – 3 weeks postpartum</li></ul>
Biochemical	<ul style="list-style-type: none"><li>• Feelings of dyspnea disappear shortly after delivery</li></ul>
Lung Volumes	<ul style="list-style-type: none"><li>• Tidal volume and residual volume return to normal</li><li>• Expiratory reserve volume may remain low for several months</li></ul>

# Respiratory

Ventilation	<ul style="list-style-type: none"><li>•Rate returns to normal in First few hours</li></ul>
Diffusing Capacity	<ul style="list-style-type: none"><li>•May remain decreased up to 12 months</li></ul>
Acid Base Changes	<ul style="list-style-type: none"><li>•Maternal antepartum alkalosis and intrapartum respiratory acidosis resolve in first few hours</li></ul>

# Cardiovascular

- Anatomic
- Cardiac Output
- Heart Rate
- Stroke Volume
- Blood Pressure
- Regional Blood Flow
- Heart Sounds
- EKG
- Echocardiogram



# Cardiovascular

Anatomic	<ul style="list-style-type: none"><li>•Heart returns to normal placement</li><li>•PMI returns to normal placement</li><li>•Diaphragm returns to normal placement</li><li>•Decrease in venous and arterial pulsation</li></ul>
Cardiac Output =HR x Stroke Volume	<ul style="list-style-type: none"><li>•Increase significantly for 1-2 hours postpartum(60-80% pre labor) then stabilizes</li><li>•Returns to normal although may stay elevated for up to 1 year</li></ul>
Heart Rate	<ul style="list-style-type: none"><li>•Decreases immediately PP</li><li>•Returns to normal 6-8 weeks</li></ul>

# Cardiovascular

Stroke Volume	<ul style="list-style-type: none"><li>•Increases immediately PP</li><li>•Returns to normal 6-8 weeks</li></ul>
Blood pressure	<ul style="list-style-type: none"><li>•Transient rise in first 4 days</li><li>•Returns to normal 6-8 weeks</li></ul>
Regional blood flow	<ul style="list-style-type: none"><li>•Blood returns to maternal circulation from heart, uterus, renal, lungs, extremities, skin</li><li>•Returns to normal 6-8 weeks</li></ul>
Heart Sounds	<ul style="list-style-type: none"><li>•Split in first heart sound resolves by 2-4 weeks</li><li>•SEM – 80% resolve by 4 weeks</li></ul>
EKG and Echo-cardiogram	<ul style="list-style-type: none"><li>•Returns to normal 6-8 weeks</li></ul>

# Hematological

- Total Blood Volume
- Plasma Volume
- RBCs
- Hgb & Hct
- WBCs
- Platelets
- ESR
- Serum Fe
- Coagulation



# Hematological

Total blood volume	<ul style="list-style-type: none"><li>•Decreases immediately PP due to blood loss at delivery</li></ul>
Plasma volume	<ul style="list-style-type: none"><li>•Decreases immediately PP due to blood loss and delivery</li><li>•Increases 3 days PP due to shift of extra cellular fluid into vessels</li></ul>
RBCs	<ul style="list-style-type: none"><li>•RBC production returns to normal levels</li><li>•RBC count returns to normal by 8 weeks PP</li></ul>

# Hematological

Hgb & Hct	<ul style="list-style-type: none"><li>• Immediate decrease in Hgb immediately PP due to blood loss at delivery</li><li>• Hgb levels stabilize by 2-3 days</li><li>• HCT remains relatively stable immediately after delivery</li><li>• Hct returns to non-pregnant levels 4-6 weeks</li></ul>
WBCs	<ul style="list-style-type: none"><li>• Decrease to 6- 10,000 after high of 25-30,000 during intrapartum and immediate postpartum</li><li>• Returns to normal 4-7 days</li></ul>
Platelets	<ul style="list-style-type: none"><li>• Increases at 3-4 days</li><li>• Gradually returns to non-pregnant levels</li></ul>

# Hematological

ESR	<ul style="list-style-type: none"><li>• Gradually returns to non-pregnant levels after antepartum increase</li></ul>
Serum Fe	<ul style="list-style-type: none"><li>• Increases as Hgb is catabolized</li><li>• Gradually returns to non-pregnant levels</li></ul>
Coagulation factors	<ul style="list-style-type: none"><li>• Increase in fibrolytic activity in first hours</li><li>• Slow decrease to non-pregnant levels by 1-4 weeks</li><li>• Slow decrease in coagulation factors by 1-4 weeks</li></ul>