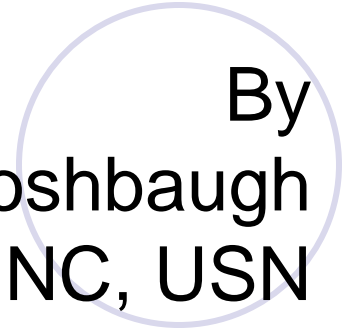
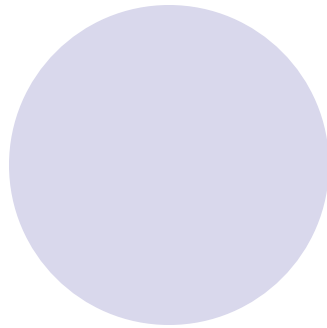
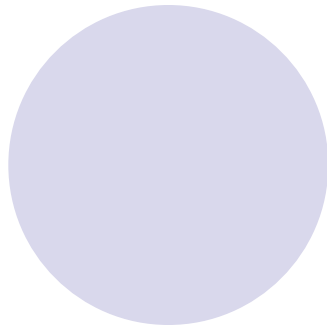




Post Partum Part 2



By
David M. Loshbaugh
LT, NC, USN
Student Nurse Midwife/WHNP

Renal

- Structure
- Hemodynamic
- Glomerular Filtration
- Tubular Function
- Fluid and Electrolyte
- Homeostasis
- Renin- Angiotensin- Aldosterone System
- Volume Homeostasis



Post partum



Renal

- Structural

- Alterations in ureters and bladder tone may return to normal by 6-8 weeks or last for months.



Renal continued

- Hemodynamics
 - -Returns to non-pregnant state by 6 weeks
- Glomerular
 - Filtration-Initial rapid excretion of sodium and water especially on postpartum days 2-5 up to 3,000 ml/day
 - returns to non-pregnant state by 6 weeks.
- Tubular function-
 - Increase creatinine clearance immediately after delivery which returns to normal by 6 days post partum-
 - Excretion of solutes returns to normal by 7 days post partum.



Renal Continued

- Fluid and electrolyte Hemostasis-
 - Returns to normal by 21 days
- Renin-Angiotensin-Aldosterone System (RAA) –
 - RAA fall immediately after delivery then increase for 14 days
 - Then return to normal
- Volume Homeostasis
 - -Returns to non-pregnant state by two weeks after delivery



Neuromuscular/ Sensory

- Ocular
- ENT
- Musculo-Skeletal
- Sleep



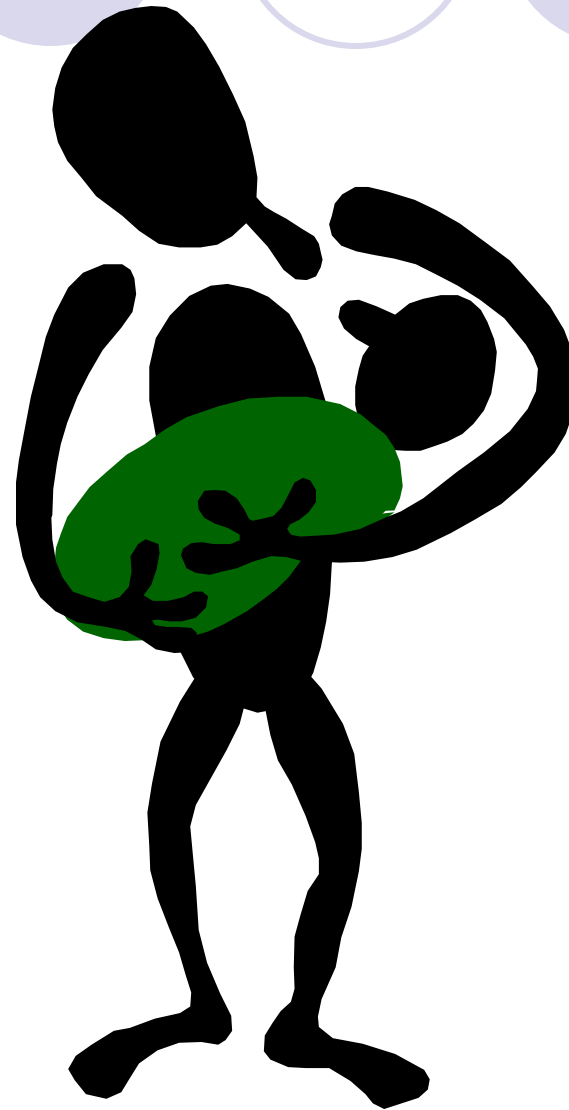
Ha ha



HEY MOM, GUESS WHOSE CAR
JUST PULLED UP IN OUR DRIVEWAY?

Neuromuscular/ Sensory

- Ocular-
 - Corneal edema and blood flow return to normal by 6-8 weeks
 - Subconjunctival hemorrhages resolve spontaneously
- ENT
 - Hoarseness, ear and nasal stuffiness resolve spontaneously in a few days
- Musculo-Skeletal
 - Lordosis may resolve by 6 weeks
 - Waddle resolves by 6 weeks
 - Diastasis recti may persist
- Sleep
 - Changes in REM and NREM sleep normalize by two weeks
 - Generally a decrease in sleep time
 - Generally an increase in night awakening



GI and Hepatic

- Food intake
- Mouth and Pharynx
- Esophagus
- Stomach
- Pancreas
- Small and Large Intestines
- Gall Bladder
- Liver
- Weight Gain



GI and Hepatic



- Food intake-Appetite stabilized
 - Cravings disappear-Strong influenced by cultural and economic factors
- Mouth and Pharynx-Gingivitis risk decreases
 - Salvia amounts and acidity normalize
- Esophagus
 - Sphincter tone returns
 - Peristalsis normalizes
- Stomach
 - Gastric motility returns to normal
 - Gastric acid levels return to normal
- Pancreas
 - Pancreatic risk decreases
- Small and large intestines
 - Gastric motility decreases 2-3 days
 - Normal bowel movement 2-3 days and Normal bowel pattern 8-14 days

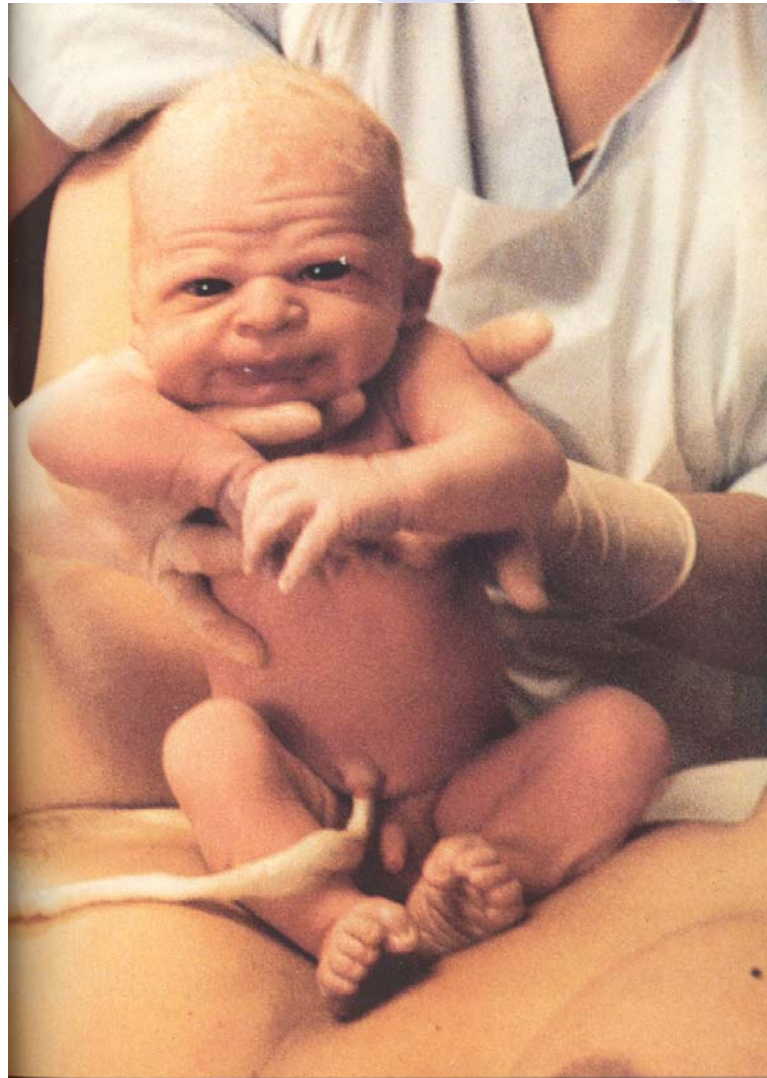
GI and Hepatic



- Gall bladder-
 - Increases contractility so gall empties and expels stones
 - Can lead to gallstone pancreatitis
- Liver
 - Liver function studies return to normal 10-14 days
 - Spider angiomas and palmar erythema disappear or diminish.
- Weight gain
 - At delivery-12 lbs weight loss
 - Initial weight loss is seen in first 3 days
 - Then steady loss over 3-6 months
 - Occurs sooner in women of young age, low parity and low pre-pregnant weight.

Reproductive

- Uterus
- Placental Site
- Lochia
- Breasts
- Cervix
- Vagina



Reproductive

A decorative graphic consisting of two sets of three circles. The first set on the left has a solid light purple circle on the left, a white circle with a light purple outline in the middle, and a solid light purple circle on the right. The second set on the right has a solid light purple circle on the left, a white circle with a light purple outline in the middle, and a solid light purple circle on the right.

- Uterus

- Decrease in size of cells
- Re-organization and shedding of decidua/ endometrium by three weeks.
- Non pregnant size at 6 weeks.

- Placental Site

- Decrease in size with decrease in uterine size by half.
- Regeneration from sides and beneath by 6 weeks

- Lochia

- Rubra birth to 3-4 days; blood decidua.
- Serosa ends 7-8 days, serous fluids, decidual tissue, leukocytes, erythrocytes.
- At 10-14days, increase of rubra with shedding of placental scab.
- Alba 10days to whenever; leukocytes and decidual cells.



Reproductive



● Breasts

- Drop in estrogen and progesterone initiate lactation/milk production

● Cervix

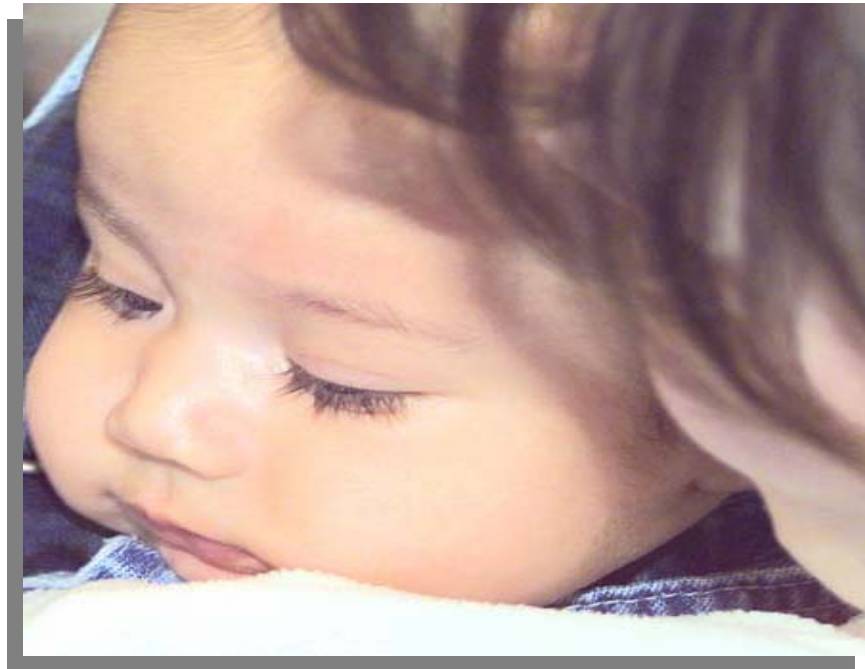
- Immediately, ulcerations, lacerations, ecchymosis, admits 2-3 fingers.
- One week admits 1-2 fingers.
- Four weeks non pregnant

● Vagina-

- Immediately postpartum, stretched, edematous, bruised.
- One day it regains some tone, decreased gapping, no edema, smooth walled.
- Three weeks decreased in size, increased rugae.

Integumentary

- Hyperpigmentation
- Chloasma
- Connective Tissue
- Spider Nevi
- Palmar Erythema
- Non-Pitting Edema
- Capillary Hemangiomas
- Varicosities
- Skin tags
- Secretory Glands
- Pruritis



Integumentary

- Hyperpigmentation
 - Tend to fade but may remain in dark complected women.
 - Freckles, nevi and recent scars generally revert to previous state.
- Chloasma-
 - Fades by **one** year but may persist
- Connective tissue
 - Striae fade to white but never disappear.
- Spider Nevi
 - Fades 6-18 weeks.
 - May not completely disappear.
- Palmar Erythema-
 - Disappears by one week.
- Non-Pitting Edema
 - -Resolves by one week



Integumentary

- Capillary Hemangiomas
 - Regress but don't disappear
- Varicosities
 - Generally regress but don't disappear.
- Skin tags
 - May disappear, regress, or remain
- Secretory glands
 - Resolve by 2-6 weeks.
- Hair growth
 - Increased hair loss by 4-20 weeks.
 - Regrowth by 6-15 months.
 - Fine hairs in face may disappear but coarse ones may remain
- Pruritis
 - Always clears by six weeks



Host Defense Mechanisms

- Primary Host Defense Mechanism
- Cell-mediated Immunity
- Antibody Mediated Immunity

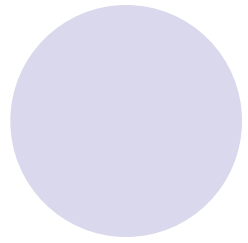
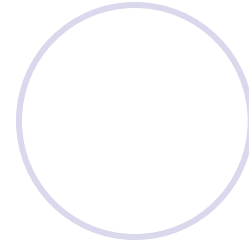
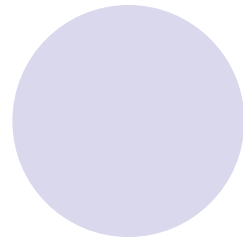
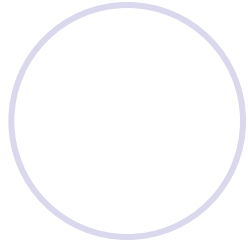
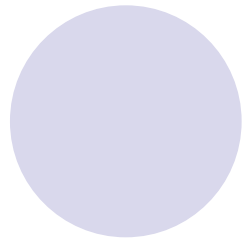


Host Defense Mechanisms

- **Primary Host Defense Mechanism**
 - Decreases to WBCs 6-10,000 after high 25-30,000 during intrapartum and immediate post partum.
 - Returns to normal in 4-7 days
- **Cell-mediated Immunity**
 - Helper T- cells (T4) remain elevated for 2-3 months.
 - T lymphocyte function returns to normal so risk of viral infection decreases
- **Antibody mediated Immunity**
 - IgG returns to normal.
 - Susceptibility to strep infection decreases

Ha Ha





The End