

# Postpartum care

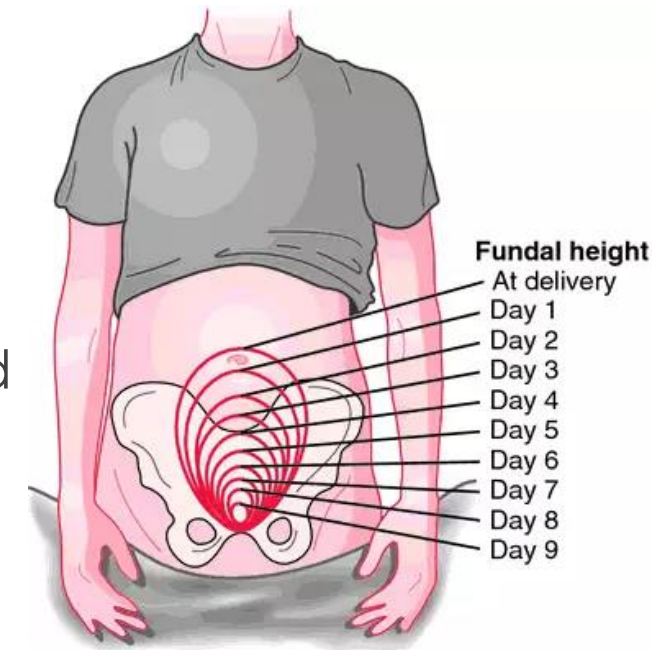
# Postpartum period

- ▶ Also known as the **puerperium**
- ▶ Time after delivery maternal physiologic changes related to pregnancy return to the nonpregnant state
- ▶ Often considered the **6~8 weeks** after delivery
- ▶ American College of Obstetricians and Gynecologists (ACOG) considers **postpartum care** to extend up to **12 weeks** after deliver

# Normal physiology

# Uterine involution 子宮復舊

- ▶ Process of the uterus returning to its nonpregnant size and condition
- ▶ Physiological changes
  - ▶ Hemostatic mechanisms: **myometrial contraction** (atony if inadequate, which is the most common cause of **early postpartum hemorrhage**)
  - ▶ Attains normal size and weight by 6~8 weeks postpartum
    - ▶ Immediately after delivery: uterine can be palpated **near umbilicus**
    - ▶ After **2 weeks**, uterine size decreases enough to be located in true pelvis

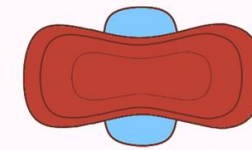


# Lochia 惡露

- ▶ Normal postpartum vaginal bleeding
- ▶ Content: blood, mucus, decidua, epithelial cells
- ▶ Total volume of **200 to 500 ml**
- ▶ Duration: **1 month** in average (15% have lochia after 6 weeks)
  - ▶ **Lochia rubra** (red/red-brown): **the first few days**
  - ▶ **Lochia serosa** (pinkish brown): two to three weeks
  - ▶ **Lochia alba** (yellowish white): the ultimate form

Normal Vaginal Bleeding Postpartum AKA Lochia

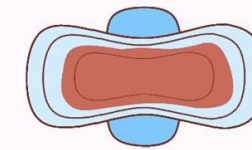
Total volume of postpartum lochial secretion is 200 to 500 mL, Can last from 3 to 6 weeks



**Dark Red Blood**

## Lochia Rubra

- ✓ From the birth until 3 - 4 days postpartum
- ✓ Flow in amounts like a heavy menstrual period.
- ✓ May have small clots
- ✓ The odor should be fleshy, like menstrual blood

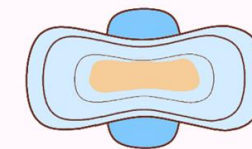


**Pinkish-brownish discharge**

## Lochia Serosa

- ✓ From 4 to 12 days ~ 2 weeks postpartum
- ✓ Flow is moderate to small amount

Overactivity or stress  
May increase lochia flow or change from serosa back to rubra.



**Yellowish-white discharge**

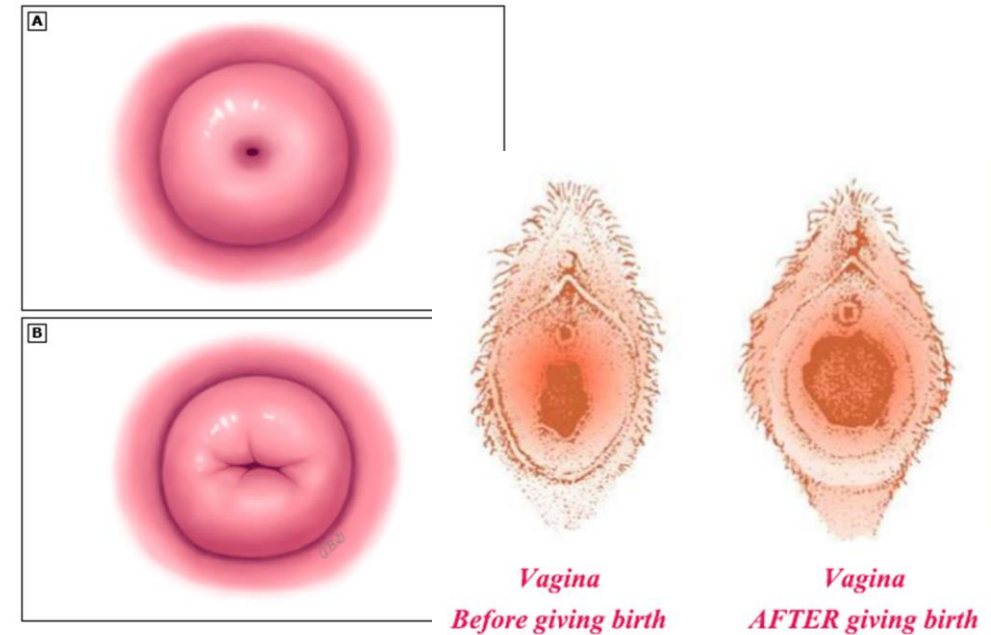
## Lochia Alba

- ✓ From 12 days to 3 weeks postpartum
- ✓ Gradually disappearing
- ✓ Scant creamy whitish discharge

[Pinkorbluecare.com](http://Pinkorbluecare.com)

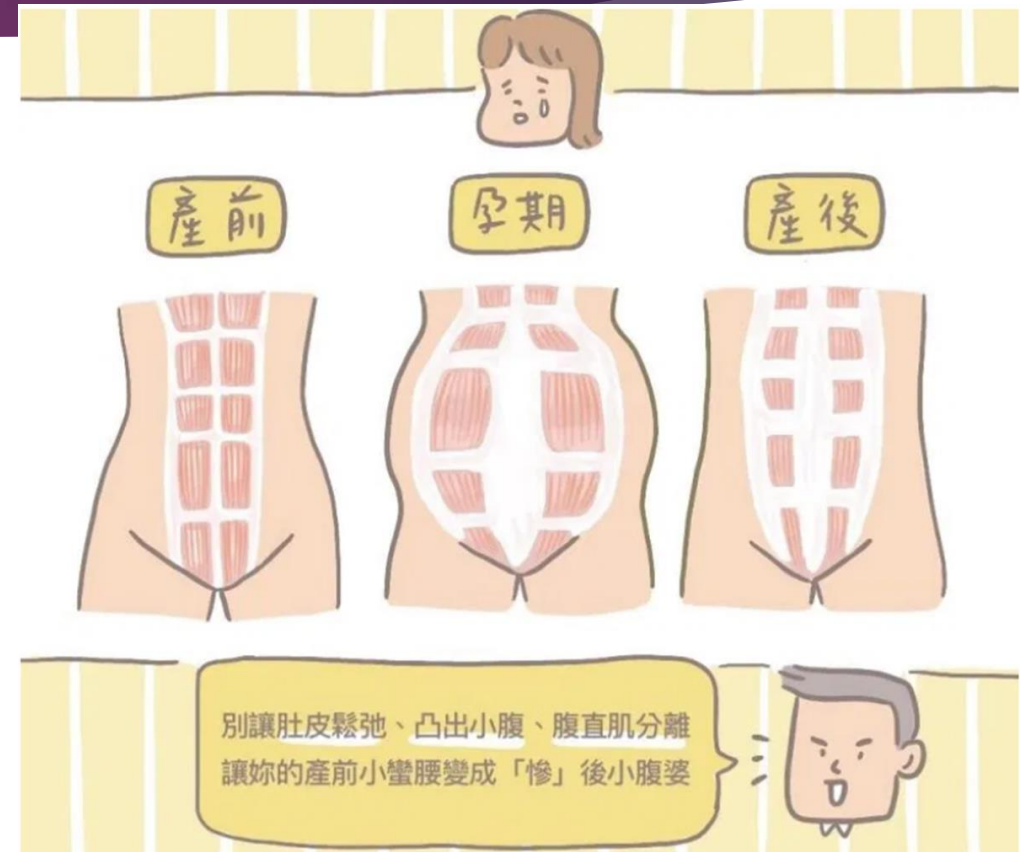
# Cervix and vagina

- ▶ Cervix
  - ▶ **3 cm dilated** for the first few postpartum days and **less than 1 cm at one week**
  - ▶ The external os **never resumes its pregravid shape**
- ▶ Vagina
  - ▶ Distended during pregnancy, slowly contracts after delivery but **not to its pregravid size**
  - ▶ **Rugae** are restored around the 3rd week



# Abdominal wall and pelvic muscles

- ▶ Abdominal wall
  - ▶ **Separation of the rectus abdominis** muscles may persist
- ▶ Pelvic muscles
  - ▶ **Relaxation** resulted from fascial stretching and trauma during childbirth



# Ovaries

- ▶ The resumption of normal function by the ovaries is highly variable. It is greatly influenced by the mother decision whether to **breastfeed** the infant.
- ▶ Non-breastfeeding mother: average time to first menses **7-9 weeks**
- ▶ Breastfeeding mother: **36 weeks** (suppression of ovulation due to the elevation in **prolactin**)



# Breasts

- ▶ **Lactogenesis** is triggered initially by the **delivery of the placenta**, which results in **falling levels of progesterone**, with the continued presence of **prolactin**.
- ▶ The **colostrum** is the liquid that is initially released by the breasts during the **first 2-4 days after delivery**. It is high in protein and is very protective for the newborn.
- ▶ If the mother is **not breastfeeding**, the prolactin levels decrease and return to normal within **2-3 weeks**

# Physiologic weight loss

- ▶ Delivery of the fetus, placenta, and amniotic fluid: 6 kg in average
- ▶ Contraction of the uterus and loss of lochial fluid and excess intra- and extracellular fluid during the puerperium: 2 to 7 kg
- ▶ **+2kg per delivery**



# Routine maternal care

# Routine postpartum care

- ▶ The majority of women remain in the hospital approximately **2 days after a vaginal delivery** and **3-5 days after a cesarean section**.
- ▶ While still in the hospital, the mother is monitored for **blood loss, signs of infection, abnormal blood pressure, contraction of the uterus, and the ability to void**.

# Vaginal delivery

- ▶ **Swelling of their perineum and pain**
  - ▶ use **ice** for the **first 24 hours** after delivery, and then switch to **warm sitz baths**
  - ▶ Treat pain: NSAIDs, narcotics
- ▶ **Hemorrhoids**
  - ▶ corticosteroid creams, local anesthetics

# Cesarean section

- ▶ **Pain from abdominal incision**
  - ▶ NSAIDs, narcotics, PCA (IVPCA, Epidural)
- ▶ Often are **slower to begin ambulating, eating, and voiding**
  - ▶ Encourage ambulation

# Breast care

- ▶ **Breastfeeding** should be **initiated as soon** after delivery as possible
- ▶ The mother should be encouraged to feed the baby **every 2-4 hours**.
- ▶ In women who choose **not to breastfeed**, the care of the breasts is quite different. **Ice packs** applied to the breasts and the use of a **tight bra or a binder** also can help to prevent breast engorgement.
- ▶ **Breast engorgement → lactational mastitis** (eg, tenderness, swelling, fever).
  - ▶ **NSAIDs**
  - ▶ Frequent, complete **lactation** (with optimizing breastfeeding technique) (泌乳師：一次一邊2000)
  - ▶ **Empirical antibiotics for S. aureus**

# Breast care

## ► Contraindications for breastfeeding

母親患有的疾病	可否哺餵母乳	說明
HIV	X	可能藉由母乳傳播 HIV 病毒，建議不要哺餵母乳。
VZV / HSV 感染	X	可能會藉由接觸而傳染給嬰兒，建議暫時不要哺餵母乳。
接受化療/放療	X	建議不要哺餵母乳。
Tuberculosis	Δ	開放性肺結核會傳染給寶寶，要在有效治療 <u>2 周</u> 後，才可以哺餵母乳。
B 型肝炎	Δ	寶寶出生後施打免疫球蛋白並注射疫苗後，即可哺餵母乳。
C 型肝炎	O	完全可以哺餵母乳。
CMV 感染	O	雖然母乳中可能有病毒，但不太會傳染給寶寶，可哺餵母乳。
喝酒	O	不鼓勵母親喝酒，但在許可得範圍內是可以哺餵母乳的。
抽菸	O	不鼓勵媽媽抽菸，但抽菸還是可議哺餵母乳。
備註：O 可以哺餵母乳      X 建議不要哺餵母乳      Δ有條件可哺餵母乳		



# Puerperal fever

- ▶ 產後24小時~10天期間，每天量體溫，其中任2天 $>38^{\circ}\text{C}$
- ▶ 生殖道：會陰傷口、子宮內膜炎、骨盆腔感染
- ▶ 非生殖道：肺塌陷、脹奶、乳腺炎、剖腹產傷口感染、泌尿道感染

# Discharge planning

# Patient education

- ▶ Patients should be instructed on expected normal postpartum changes and care of herself and the newborn
- ▶ Signs of possible complications
  - ▶ Excessive postpartum bleeding
  - ▶ Fever
  - ▶ New or worsening perineal or uterine pain
  - ▶ Dysuria
  - ▶ Significant mood disturbance

# Rehabilitation

- ▶ The woman who has had a **cesarean section** needs to be more careful about resuming some of her activities. It is important for her to **prevent overuse of her abdomen** until her incision is well healed to prevent an early dehiscence or a hernia later on.
- ▶ **Pelvic floor muscle exercises** decreases the short-term risk of **urinary incontinence** in women without prior incontinence if performed **during pregnancy**; can be started **two weeks postpartum** (**Contraindicated immediate after delivery** in the women who sustain **levator ani muscle injury** at childbirth)

# Diet

- 哺乳飲食建議

- 肚子餓就吃，口渴就喝；在**哺乳期不要刻意減重**
- **多喝水份、湯汁或新鮮果汁等液體**，每天應攝取2000c.c. ~ 3000c.c.水分，以利**生成乳汁**
- 攝取全穀雜糧類及蔬菜、水果，可以獲取維生素、礦物質及膳食纖維，促進腸蠕動以預防便秘
- 選擇優良蛋白質及適量油脂，如豆魚肉蛋類、奶類
- 適度日曬，且多食用富含維生素D的食物，如魚類、雞蛋、乳品、菇蕈類(黑木耳、香菇)

- 減少或避免

- 菸、酒、咖啡與濃茶。
- 脂肪含量多的食物，如肥肉、油炸食物等。
- **補品類食物，如人參、薑、麻油、酒等(抑制子宮收縮)。**
- **麥芽水、蘆筍、寒水果、韭菜(泌乳量下降)**
- 深海魚類(含汞)
- 煙燻加工食物，如：醃肉、鹹蛋、鹹魚、火腿、豆腐乳等。
- 高熱量食物，如：糖果、可樂、汽水

# Follow-up visits

- ▶ Timing
  - ▶ Traditionally **4-6 weeks** after delivery as first postpartum visit
- ▶ Patient assessment
  - ▶ Health of the **infant**, patients **mood**, difficulties with **breastfeeding**.....
  - ▶ Routine physical examinations (breast, perineum, vagina.....)
- ▶ Screening
  - ▶ Depression
  - ▶ Diabetes
  - ▶ **Cardiovascular risk**

# Conclusion

**Table 1.** Suggested Components of the Postpartum Care Plan\* ↵

Element	Components
Care team	Name, phone number, and office or clinic address for each member of care team
Postpartum visits	Time, date, and location for postpartum visit(s); phone number to call to schedule or reschedule appointments
Infant feeding plan	Intended method of infant feeding, resources for community support (eg, WIC, Lactation Warm Lines, Mothers' groups), return-to-work resources
Reproductive life plan and commensurate contraception	Desired number of children and timing of next pregnancy Method of contraception, instructions for when to initiate, effectiveness, potential adverse effects, and care team member to contact with questions
Pregnancy complications	Pregnancy complications and recommended follow-up or test results (eg, glucose screening for gestational diabetes, blood pressure check for gestational hypertension), as well as risk reduction recommendations for any future pregnancies
Adverse pregnancy outcomes associated with ASCVD	Adverse pregnancy outcomes associated with ASCVD will need baseline ASCVD risk assessment, as well as discussion of need for ongoing annual assessment and need for ASCVD prevention over lifetime.
Mental health	Anticipatory guidance regarding signs and symptoms of perinatal depression or anxiety; management recommendations for women with anxiety, depression, or other psychiatric issues identified during pregnancy or in the postpartum period
Postpartum problems	Recommendations for management of postpartum problems (ie, pelvic floor exercises for stress urinary incontinence, water-based lubricant for dyspareunia)
Chronic health conditions	Treatment plan for ongoing physical and mental health conditions and the care team member responsible for follow-up

Abbreviations: ASCVD, atherosclerotic cardiovascular disease; WIC, Special Supplemental Nutrition Program for Women, Infants, and Children.

\*A Postpartum Care Plan Template is available as part of the ACOG Pregnancy Record.

# Reference

- ▶ Pamela Berens, MD. Overview of the postpartum period: Normal physiology and routine maternal care. Uptodate.
- ▶ Pamela Berens, MD. Overview of the postpartum period: Disorders and complications. Uptodate.
- ▶ Nancy F Butte, PhDAlison Stuebe, MD, MSc. Maternal nutrition during lactation. Uptodate.