DEPARTMENT OF HEALTH

Nursing Care of Pregnant and Postpartum People in Minnesota Jails and Workhouses

AN EDUCATION AND TRAINING MANUAL

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Introduction

The rate of incarceration for females has continued to increase since 1978 [1]. Compared to men, women are more frequently detained in local jails both pre-trial and after conviction [3]. Women who are being held prior to trial are less likely than men to be able to afford cash bail, and thus more likely to remain in custody until their trial date [3]. For many women, their bail amount is equal to an entire year's income[2]. Women who have been convicted of a crime and are serving an incarceration sentence are more likely to be sentenced to terms of less than one year[3]. These shorter incarcerations are typically served in local jails as opposed to state prisons.[2] It is often more expensive to make phone calls from jails than it is in prisons, and they are less likely to be able to have visitors in jail [3]. Additionally, jails typically do not have access to the same services and rehabilitative programming that prisons have because of their short-term nature.[3] Roughly 10% of all people who are convicted of a crime continue to be housed in jails and the remaining 90% are transferred to prisons. In contrast, around 25% of all women who are convicted of a crime remain in jails as opposed to being transferred to prisons. This leaves a larger proportion of women incarcerated in jails, as opposed to prisons, than their male counterparts[2]. Approximately 80% of women in jails are parents and are more likely than their male counterparts to be primary caregivers to their children prior to their arrest [2]. This creates unique challenges for jails in meeting the needs of this growing population.

Pregnant people must have access to prenatal care and appropriate treatment. To deliver adequate care, healthcare personnel and non-health personnel will benefit from knowledge and skills pertinent to caring for pregnant and postpartum people. One of the challenges facing healthcare staff in jails is that the timeline for an individual's detainment is often undefined until their trial concludes. This makes it difficult to provide consistent care throughout the pregnancy and the postpartum period. On occasion, someone may first learn that they are pregnant when admitted to the jail. Upon learning of their pregnancy, some individuals may request information related to pregnancy termination, while others may ask questions about how they will receive prenatal care while incarcerated. Regardless of whether they choose to terminate the pregnancy or initiate prenatal care, nurses will be responsible for helping patients navigate their options by providing education, resources and coordinating care. Many factors, obstetrical, social or psychological, place people in a high-risk category during pregnancy, necessitating closer monitoring or involvement with specialists. Some pregnant people will be incarcerated during the time they are expected to give birth, which requires staff to understand the signs and symptoms of labor as well as how to safely assess and transfer those who need care in the hospital. After delivery, these individuals may face separation from their newborn or uncertainty about the placement of their baby and perhaps their older children as well.

This education manual began with a group of jail nurses, public health nurses, and nurse practitioners who identified the need for more knowledge and skill to meet the health needs of incarcerated pregnant and postpartum people. Together they generated a list of health topics to be addressed and approached the Maternal Child Health Unit at the MN Department of Health to develop a manual for health personnel in Minnesota jails and workhouses. These efforts culminated in the first version of this manual being published in 2011.

With significant changes to community standards of care and changes to state law, this manual has undergone a revision in 2022. This revision is part of an effort to ensure that all jail staff who encounter pregnant and postpartum individuals in the jail setting have the informational resources needed to oversee the safe detention of these individuals and provide high quality care to contribute to better outcomes for birthing people and their babies.

Nursing Care for Pregnant People in MN Jails and Workhouses is an education manual written to better meet the health needs of pregnant and postpartum people by providing information and resources to health professionals and ancillary staff in jails and workhouses. The manual does not set policy but may be used as agencies discern need for revising or developing policy regarding health care for pregnant or postpartum people. Staff also require education, training, and continued professional development to obtain pertinent information, make an assessment, and take appropriate action to ensure the care of all patients.

At the end of each chapter, a list of resources is available focused on the chapter topics. Many of the official position statements and practice guidelines are only accessible with various subscriptions. Attempts were made to provide links to sites that regularly update their content based on the recommendations from relevant organizations. The text in this manual is up to date as of publishing, but as is common in medicine, guidelines and best practices may change. The hope is that the links provided will direct readers to the most updated information possible between revisions.

Throughout this manual, the term “pregnant person” is used in place of “pregnant woman” or other similar variations. This is a purposeful change in language that reflects the evolving understanding of gender identity and expression. While many pregnant people identify as women, this is not universally the case. The language used in this manual was chosen to be inclusive of all people capable of becoming pregnant. This change is not meant to take away an individual’s ability to identify as a pregnant woman or say that providers cannot use gendered language when working with individuals who identify as women, but because this manual encompasses information that is generalizable to all people who might become pregnant, gender-neutral language is being used.

Jails and prisons are different in several important ways. According to Minnesota law, jails can be under the jurisdiction of a municipality (city) or a county. Municipal jails hold individuals for short stays and transfer to county facilities if the individual is incarcerated for longer than 72 hours.[4] Individuals may be released following a bail hearing or if charges are dropped prior to trial. If a person is not granted bail or cannot afford bail, they are detained in the county jail until their trial is complete and a sentence is handed down. Most often, sentences under one year are served in jails whereas those lasting over one year are served in prison. While jails are operated under local authority, prisons are operated under either state or federal authority. Individuals who are being housed in jails and prisons are considered to be incarcerated. Individual facilities and government entities refer to these people in different ways including inmates and detainees, among others. Throughout this document you will see the use of incarcerated person, unless referring to specific legislation that uses different language.

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Chapter 1: Normal Physical, Hormonal and Psychological Changes During Pregnancy

Changes are described here to facilitate knowledge and management of care during pregnancy. This chapter is not intended to be all inclusive of the anatomical, physiological, and hormonal changes experienced during pregnancy. It is intended to provide background information that might be useful throughout the manual and while providing care to pregnant people.

Physical & Hormonal Changes During Pregnancy

System	Physical & Physiologic Changes	Impact on Pregnancy Experience
Uterus[1,2]	The uterus grows continuously during pregnancy to accommodate the developing fetus. The blood volume to the uterus is also enhanced to provide nutrients and oxygen to the fetus. By the 5th month or 20 weeks gestation the fundus, the top of the uterus, is at the navel. By 36 weeks gestation, the uterus has grown to reach the lower edge of the rib cage.	Uterine growth is measured in centimeters from the symphysis pubis to the fundus of the uterus. Generally, uterine height in centimeters corresponds to the number of weeks gestation the individual is. Fetal movements are usually felt by the individual between 18- and 22-weeks' gestation.
Vaginal discharge[1,3]	There is normally an increase in vaginal discharge appearing clear or whitish.	If the discharge has an unusual odor, causes itching or burning, a provider should assess for an infection.
Breasts[1]	The breasts become enlarged due to the changing hormones of pregnancy. The areolas often become larger and darker. Sometimes veins can become visible under the skin.	Breasts may feel tender in early pregnancy and may produce a thin, yellowish or milky discharge; this is in preparation for milk production.
Cardiovascular[1]	Pregnancy requires the heart to work harder as blood volume increases by approximately 40-50% by 32 weeks gestation, the majority of which is made up of plasma. As cardiac output increases, their heart rate will likely increase by about 10 beats per minute	**Heart murmurs:** it is not uncommon to hear heart murmurs in pregnant people; these usually are not worrisome and resolve after birth. **Blood pressure:** May be unchanged or lowered while pregnant. It is best to obtain blood pressure with the individual lying on their side or in a sitting position with feet flat on the floor. **Dependent edema:** Various hematologic changes result in the tendency toward dependent edema, or swelling, particularly of the lower extremities.
Respiratory tract [1]	The exact cause is unknown, but it is believed pregnant people develop and increased sensitivity to hypoxia and a lower threshold for carbon dioxide levels in the blood. Numerous changes occur to facilitate increased oxygen/carbon dioxide exchange in the lungs. This physiologic hyperventilation creates a state of respiratory alkalosis which allows easier transfer of carbon dioxide from the fetus back to the maternal circulation for expulsion.	To maintain lower levels of carbon dioxide in the blood, the pregnant person breathes slightly faster and more deeply. It is very common for pregnant people to become short of breath even without exertion, especially as the growing uterus makes the work of breathing more difficult. While there is an increased flow of air through the lungs, the pace of breathing should still fall within normal parameters. *Tachypnea (breathing fast) at rest is NOT a physiological change in pregnancy and could signal a pathology.*
Hematologic [1]	Expanded blood volume and a red blood cell production that cannot keep up with the expansion of plasma result in hemodilution. In addition, iron is transferred to the fetus at a rate that is faster than maternal uptake through food or supplementation.	**Physiologic anemia:** Hemodilution and increased iron transfer to the fetus result in a physiologic iron-deficiency anemia. This anemic state results in a natural drop in hematocrit by about 3-5%. While some level of anemia is expected, if hemoglobin drops too low, iron supplementation may be recommended.

System	Physical & Physiologic Changes	Impact on Pregnancy Experience
Hematologic [1]	Increased clotting factors in the blood are found during pregnancy as well as a decrease in fibrinolysis. This is likely a protective factor that helps minimize blood loss at delivery	**Hypercoagulation:** The changes in the clotting cascade put pregnant people at increased risk for blood clots. This risk is further amplified by the effect of decreased vascular resistance and subsequent dependent edema and venous stasis.
Urinary tract [1]	Blood flow to the kidneys is increased and thus the kidneys filter more blood. In the first trimester, the growing uterus places pressure on the bladder but in the second trimester the uterus becomes an abdominal organ (no longer pelvic) and the pressure is lessened. Physical changes to the system include dilation of the ureters, bladder, and urethra, and are the result of increased progesterone. Because of the increased filtration rate, the kidney isn't always able to reabsorb all of the glucose and protein before the urine moves to the bladder. The result is intermittent glucose in the urine, and small amounts of protein in urine (in concentrated samples).	**Urinary frequency:** in the first trimester this is caused by the increased filtration of blood by the kidneys as well as the pressure of the uterus on the bladder. Once the uterus moves out of the pelvis in the second trimester, the frequency usually improves. For some, frequency returns in the third trimester as the baby moves into the pelvis and places pressure on the bladder again. **Nocturia:** many people experience an increased need to urinate at night. This stems from an increase in sodium excretion (and associated fluid excretion) at night and venous return that is facilitated when an individual lays down for bed. **Increased risk of urinary tract infection:** Some individuals struggle to completely empty their bladder during pregnancy, which in combination with occasional glucose in the urine can create a hospitable environment for bacterial growth. Additionally, because of the dilation of urinary tract structures, it is easier to have an infection that ascends to the kidneys and causes pyelonephritis
Digestive tract [1]	Progesterone is most often the instigator of digestive tract changes. The tone of the lower esophageal sphincter decreases, causing smooth muscle relaxation, resulting in reflux or heartburn. Smooth muscles relaxation also contributes to decreased motility and prolonged emptying time of the stomach. The same changes are seen in the lower digestive tract which can contribute to constipation and hemorrhoids forming.	Changes experienced include heartburn, reflux, constipation, flatulence, and formation of hemorrhoids.
Skin changes [1]	There may be changes in skin pigmentation during pregnancy, believed to be caused by the effects of estrogen, progesterone, and melanocyte-stimulating hormone. Thinning of the elastin fibers in the connective tissue under the skin predispose pregnant people to stretch marks. Proliferation and dilation of blood vessels can cause spider angiomas.	Most of the pigmentation changes during pregnancy resolve after delivery. Stretch marks: common on breasts, abdomen, buttocks and thighs, are often longer lasting but may fade with time for some individuals. **Chloasma:** sometimes called the mask of pregnancy, appears as irregular pigmentation on the face. Linea nigra is a line of dark skin pigmentation in the midline of the abdomen.
Musculoskeletal changes [1]	Weight gain is normal and important during pregnancy but can cause musculoskeletal discomfort. This is compounded by the	Many common discomforts of pregnancy can be attributed to musculoskeletal changes. Posture changes

System	Physical & Physiologic Changes	Impact on Pregnancy Experience
	effects of the hormones progesterone, estrogen and relaxin, which cause physiologic changes in the joints and ligaments throughout the body.	such as kyphosis and lordosis and a change in gait may be visible. Other common musculoskeletal complaints include pelvic pain, sciatic back pain and carpal tunnel syndrome. On occasion, some individuals develop enough laxity in the symphysis pubis joint (front of the pelvis) that is causes extreme pain and difficulty in functioning. This is a pathology that results from an initially physiologic change.
Hormonal changes [1]	There are numerous hormonal changes that occur during pregnancy. One major change is that there is a new organ supplying hormones, the placenta. The main hormones of pregnancy are human chorionic gonadotrophin (hCG), human placental lactogen (hPL), progesterone and estrogen. These hormones, in changing concentrations throughout the pregnancy, stimulate complex shifts in other hormones and pathways that help maintain the pregnancy and prepare for birth and postpartum. While we know a fair amount about the hormones of pregnancy, there is still much to learn.	Changes seen in the individual vary greatly. It is theorized that hCG may play a role in the early pregnancy symptoms of nausea and vomiting. Fluctuations in hormone levels can cause mood changes and decreased energy. Human placental lactogen is responsible for changes to glucose metabolism in pregnancy. It increases maternal insulin resistance and promotes the conversion of stored fat back to glucose in the liver. This results in an increase in plasma glucose levels. Conversely, hPL also stimulates the pancreas to increase insulin production. This delicate hormonal balance ensures that the fetus has the glucose that it needs for proper growth. This change in glucose metabolism is also why pregnant people can develop gestational diabetes. This occurs when an individual cannot keep pace with the required insulin production needed to regulate blood sugar levels. If an individual is diabetic prior to pregnancy, either type 1 or type 2, close monitoring is required.

Psychological or Emotional Changes During Pregnancy [4,5]

People may experience a range of emotional reactions to being pregnant. Everyone will react differently to the news of impending parenthood and to the incredible physical, social, and psychological changes that potentially bearing a child brings. Personal and family histories of mental health disorders predispose those individuals to experiencing new and/or worsening mental health symptoms during pregnancy. Trauma has a profound impact on both physical and emotional health and is another predisposing factor for the development of mental health disorders.[4] Ninety-eight percent of women in jails report having experienced trauma at some point in their lives.[5] Other factors that increase the risk for developing mental health disorders include living in poverty, being a minority, adverse childhood experiences, poor social support, relationship problems, stressful life events and intimate partner violence.[4] Pregnant people in jails are universally at increased risk for developing mental health disorders.

It is difficult to predict how an individual will respond to pregnancy. Cultural beliefs and values can play a major role in how people interpret and navigate life events. Personal life circumstances including housing, financial stability, health of the current relationship, stress level, and parenting other children can greatly impact how individuals cope with the physical and psychological changes associated with pregnancy. In addition to these common concerns, pregnant people who are in jail or prison may have the added uncertainty of looming court dates or the stress of navigating all of the above factors while remaining incarcerated.

Somatic, or body-related, symptoms of mood disorders which can include appetite disturbance, sleep disturbance and low energy.[6] Somatic symptoms of anxiety disorders include respiratory disturbance (i.e., shortness of breath), heart palpitations, chest pain, dizziness, headache, general malaise, and others.[7] Additionally, different communities tend to experience differing degrees of somatic symptoms based on the community's collective perception of mental health disorders. Some communities view mental health disorders negatively or as a sign of weakness or a moral failing.[8] They may view expressing the mental components (feeling down, depressed, hopeless, anxious, worried, etc.) of anxiety and depression as unacceptable, but it may be more acceptable to be feeling tired, express irritability or anger, feel faint, or perhaps have a headache or stomachache. Many of these somatic symptoms that can lead you to suspect a mental health concern are also common symptoms of pregnancy. There is also a concern among healthcare workers in the correctional setting about malingering, or the intentional exaggeration of mental or physical symptoms in order to avoid a task/outcome or to receive some benefit not typically given to them. It can be difficult to determine the origin of complaints, whether physiologic or pathologic changes in pregnancy, mental health concern or exaggeration. Ultimately it will require thorough investigation, possible consultation or referral, and clinical judgment. Developing empathetic and non-judgmental relationships and providing a safe environment for self-disclosure will ultimately be very helpful in assessing and determining courses of treatment for patients.

Fetal Development [9, 10]

Many people are not aware of their pregnancy until they have missed two menses (8 to 10 weeks gestation). The early development of the embryo (2 weeks to 8 weeks from conception) is when essential body organs and the central nervous system begin to form. Disruption of cellular development in this stage can cause congenital anomalies ranging from essentially undetectable to incompatible with life leading to spontaneous loss. There is a 1% to 3%

baseline risk of a birth defect for any pregnancy, which is called the background risk. People often overestimate the role teratogens in the development of congenital anomalies; only 3% can be traced back to teratogen exposure to medication exposure. Most anomalies are related to genetic effects.

While disruptions during embryonic development are responsible for most major structural anomalies, disruptions during fetal development (8 weeks post conception through delivery) can cause anomalies as well. The impact during this time is more likely to be minor anomalies or functional defects (e.g., cleft palate, ambiguous genitalia, neurological disorders). The following is a non-exhaustive list of factors that can increase the likelihood for congenital anomalies: Genetic heritability/family history, maternal age, Teratogen Medications (Retinol, certain antibiotics, corticosteroids high-dose vitamin A supplementation, alcohol, tobacco, and illicit drugs), chemicals (mercury, lead, pesticides), certain viral and bacterial infections (Syphilis, Rubella, Zika). Additionally maternal conditions such as Diabetes, active alcoholism, fever (during embryonic phase), malnutrition/vitamin deficiency (B vitamin - folate/folic acid).

Detection of Anomalies in Utero [10]

There is no single test nor combination of tests that can assure an individual that their baby will be born healthy. Multiple non-invasive prenatal screenings (NIPS) are available for pregnant people in their first and second trimesters. These are screening tools, not diagnostic tests. Fetal cell-free DNA screening has become the gold standard for identifying fetuses who are at higher risk for trisomy 13, 18 and 21, as well as sex chromosome linked genetic anomalies. It is completed by analyzing a blood sample from the pregnant individual and can be completed any time after 10 weeks gestation. Neural tube defects, such as spina bifida, can be screened for using additional blood tests between 15-18 weeks gestation well as through the anatomy ultrasound ideally between 18-20 weeks gestation. This anatomy ultrasound can also reveal important anatomical abnormalities and help guide medical treatment both during pregnancy and after delivery. If screening tests return results that suggest anomalies, more invasive diagnostic testing can be considered; chorionic villus sampling between 10-14 weeks gestation or amniocentesis between 15-22 weeks gestation. Previously, genetic screening was reserved for individuals with risk factors that increased the risk of genetic anomalies, however it is now recommended that genetic screening be offered to all pregnant people.

Resources and Further Reading

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Chapter 2: Prenatal Care Components

Overview of Legal Changes [1–3]

In 2015, significant changes were made to the rules outlining health care requirements for all incarcerated females, including specific guidance for the care of pregnant individuals. The specific required components of care for females experiencing incarceration are outlined in MN Statute 241.89 (https://www.revisor.mn.gov/statutes/cite/241.89), and are summarized below. In addition, MN Administrative Rules 2911.4200 (https://www.revisor.mn.gov/rules/2911.4200/) provides an outline for dietary needs of pregnant people and what the required modifications are for these individuals, which will be discussed in Chapter 3 on Nutrition. There were also changes made regarding how and when pregnant inmates are to be restrained and specific guidance about shackling and transport, found in MN Statute 241.88 (https://www.revisor.mn.gov/statutes/cite/241.88), and discussed in Chapter 11 directed toward non-health personnel supervising pregnant people.

Required Healthcare for Women While Incarcerated

In addition to the required healthcare intake tasks for all individuals upon admission to jail, there are additional components that apply specifically to women. For individuals following conviction or who are beyond the period specified for their initial appearance before the court, the following must occur:

- Any individual who can become pregnant and is under the age of 50 years is to be tested for pregnancy, unless they refuse, by day 14 of incarceration
- If individual is pregnant, they must receive the prevailing standard of care
- If individual is pregnant or less than 6 weeks postpartum, they must be given appropriate educational resources as outlined and access to a certified doula (either free of charge/volunteer, or paid for by the incarcerated person)
- If individual is pregnant or less than 6 months postpartum, they must have access to mental health assessment and treatment for postpartum depression and other diagnoses
- If individual is pregnant or less than 6 months postpartum, they must be advised of the laws/policies that govern the incarcerated pregnant and postpartum population

Standard Prenatal Care [4]

Prenatal care is the care given to people when they are pregnant, prior to giving birth. In the U.S. prenatal care consists of routine visits to a physician, nurse practitioner or midwife beginning in the first trimester and continuing through delivery and postpartum. Care is characterized by providing support of the normal process of pregnancy, promoting maternal and fetal health, screening and monitoring for potential problems, managing chronic diseases during pregnancy, and treatment of conditions and complications as necessary. The content of each visit includes maternal and fetal screening, counseling or education, follow-up on identified problems, and interventions as indicated. Components of routine care are outlined below, as well as at what point in pregnancy they are routinely offered. This may vary depending on patient factors or provider preference.

New/Initial Prenatal Visit – ideally between 6 and 12 weeks

Assessment and initial intake	Laboratory Tests	Screening	Education/Counseling
▪ Complete history and physical ▪ Vital signs including temperature, heart rate, respiration rate, blood pressure, pain scale ▪ Calculate body mass index (BMI) ▪ Establish due date ▪ Listen for fetal heart tones (FHT) with Doppler if 10 weeks or more (If possible, detect at 10 weeks, found very low on abdomen, typically just above the pubic bone)	▪ CBC ▪ Blood type, Rh factor, antibody screen ▪ Syphilis ▪ HIV ▪ Rubella/Varicella immunity ▪ Hepatitis B and C antigens ▪ Urinalysis and urine culture ▪ Pap smear- if indicated per screening guidelines ▪ Chlamydia ▪ Gonorrhea ▪ Other as indicated (e.g., TB screen, electrophoresis, toxicology screen)	▪ Dental health, need for care during pregnancy ▪ Genetic problems, personal or familial ▪ Caffeine intake ▪ Alcohol use/abuse ▪ Tobacco use ▪ Other drugs, including prescription drugs, over-the-counter drugs and illicit drugs ▪ Domestic or partner violence, sexual abuse, rape* ▪ Depression	▪ Nutrition ▪ What to expect between now and next visit ▪ Exercise, physical activity ▪ Supplements, including prenatal vitamins ▪ Breastfeeding ▪ Follow-up on modifiable risk factors identified at this visit (e.g., smoking cessation, alcohol and drug use, intimate partner violence) ▪ Warning signs, when to call or come to ED ▪ Expected nausea and vomiting ▪ Discuss fetal screening offered in first trimester ▪ Often people are given printed information about pregnancy and birth

Schedule of Subsequent Prenatal Visits

Typically, prenatal visits occur every four weeks until 28 weeks, then every two weeks until 36 weeks, and finally every week until 40 weeks. The visit schedule after 40 weeks will typically be more frequent and dependent on the pregnant individual and provider. At any point in pregnancy, the schedule may be individualized if there is maternal or fetal need for closer monitoring. At each subsequent visit the pregnant person is weighed, blood pressure obtained, and interviewed regarding any problems or concerns. Fetal heart tones are assessed, fundal height is measured, and fetal movements are documented.

Example of content that may be addressed at subsequent prenatal visits:

Weeks' gestation	Possible Discussion during Prenatal Visit
16 Week Visit	▪ Offer fetal screening, including ultrasound ▪ Offer flu vaccination ▪ Review previous labs
20 Week Visit	▪ Maternal awareness of fetal movement ▪ Pre-term labor education ▪ Fetal anatomy ultrasound (18-22 weeks)
24 Week visit	▪ Offer prenatal class schedule with tour of the hospital ▪ Screen and again at 36 weeks for depression, domestic abuse, smoking, alcohol intake or drug use
28 Week visit	▪ Administer RhoGAM if indicated for negative blood type ▪ Standard screen for gestational diabetes with 1 hour glucose tolerance test ▪ Review signs and symptoms of preterm labor, preeclampsia ▪ Continue awareness of fetal movement, daily ▪ Hospital pre-registration
30 to 32 Week visit	▪ Discuss feeding plan for newborn/breast or formula feeding, ▪ Inquire about circumcision preference for male infants ▪ Pain management during labor ▪ Car seat ▪ Pediatric care
34 to 36 Week visit:	▪ Culture for group B streptococcal (36+ weeks) ▪ Consider contraceptive choices ▪ Review signs and symptoms of labor
37 Weeks until 40 weeks:	▪ Labor and delivery update ▪ Post-term management ▪ Readiness for delivery ▪ May include cervical exams

For the jail nurse, there are no routine daily or weekly assessments while in jail unless ordered by the provider.

Intimate Partner Violence [5]

Sexual or emotional abuse can occur, continue, or escalate with pregnancy or in the postpartum. For some people, abuse will be triggered by a pregnancy. In the United States, between 3 and 9 percent of pregnant individuals experience abuse during pregnancy, with factors like poverty, young age and being of a minority race increasing risk substantially. Intimate partner violence (IPV) is associated with many detrimental health effects regardless of pregnancy status, but there are additional risks for pregnancy complications and fetal effects when a pregnant person experiences IPV.

Physical health consequences [5]

- Less likely to initiate or continue prenatal care
- Poor nutrition and inadequate weight gain
- Increased rates of substance use (tobacco, alcohol, illicit drugs)
- Increased risk for STI and UTI
- Increased risk for homicide
  - 45.3% of homicides with pregnant victims were associated with IPV

Mental health consequences [5]

- Increase rates of depression and PTSD
- Increased risk of suicide
  - 54.3% of suicide deaths with pregnant victims attributed to intimate partner conflict
- Elevated stress levels
- Negative coping behaviors
- Isolation

People experiencing IPV are more likely to deliver low birth weight infants and have preterm deliveries. They are more likely to develop conditions like gestational hypertension, preeclampsia, and gestational diabetes. Each of these complications has potential for long term effects on both parent and child. It has been suggested that increased stress levels can cause long term negative psychological and cognitive effects for offspring, although the mechanism may be a combination of intrauterine exposure to stress as well as early childhood experiences among other variables.

Individuals with children at home may also be preoccupied with concern and worry for their health and safety, especially if the abuser has access to the child(ren) as individuals who perpetrate IPV are more likely to perpetrate child abuse as well.[4] Abusers often attempt to isolate victims from any supportive individuals in their life, making incarceration even more isolating. They may experience bouts of depression and anxiety, or present with somatic manifestations such as headache, pain syndromes and gastrointestinal disorders that are less likely to respond to treatment or intervention.[6] The healing process for these people takes time and unconditional support from persons is important to them. Referring them for mental health services can be helpful.

Nursing staff in jails are in a unique position to help individuals experiencing IPV. For some, it may be the first time the individual encounters a healthcare professional without an abuser present.[7] Developing trusting relationships, providing a safe place for individuals to disclose their abuse, and utilizing the principles of trauma informed care can help people navigate their situation. [8] Being prepared with resources for them while they are incarcerated as well as for when they return to the community may be the first step toward breaking the cycle.[8]

Resources and Further Reading

What is Trauma Informed Care? (https://www.traumainformedcare.chcs.org/what-is-trauma-informed-care/)
Introduction to trauma informed care for healthcare professionals

Intimate Partner Violence
(https://www.cdc.gov/violenceprevention/intimatepartnerviolence/index.html)
CDC resources for addressing intimate partner Violence

IPV Hotline (https://www.thehotline.org/)
Great resource for patients; phone call, live chat and text options for individuals to reach out for resources

Violence Free Minnesota (https://www.vfmn.org/get-help)
MN specific resources for individuals looking for assistance with IPV

General Pregnancy Resources

ACNM Printable Pregnancy Fact Sheets for Patients
(https://onlinelibrary.wiley.com/page/journal/15422011/homepage/pregnancy)

ACOG Patient Information Guides- Pregnancy (https://www.acog.org/womens-health/pregnancy/during-pregnancy)

Minnesota Prison Doula Project: Pregnancy Resource Guide for Incarcerated Parents
(https://www.mnprisondoulaproject.org/prg)

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Chapter 3: Nutrition During Pregnancy

Nutrition Requirements for Pregnancy in Minnesota Jails [1, 2]

The most up-to-date legislation about general nutritional provisions required to be provided for all incarcerated people can be found in Minnesota Administrative Rules: 2911.3900 (https://www.revisor.mn.gov/rules/2911.3900/). The rule references standard nutritional guidance for healthful eating for adults who are experiencing incarceration. In addition to these rules, pregnancy qualifies for a "therapeutic diet." The Administrative Rule states "A facility shall develop a diet that meets the increased calcium and calorie requirements of pregnant inmates. Pregnant inmates shall be provided a substitution or supplements as ordered by the medical professional or health services. A pregnancy diet must be dietitian-approved and meet the nutritional guidelines under part 2911.3900."

These rules provide guidance for jails and prisons on required nutrition and can be used as a baseline guide to develop a diet to meet requirements, along with being feasible for the facility and be beneficial to the pregnant person and the developing fetus. The rule highlights increased requirements for calcium and caloric intake, however other nutritional needs must be increased during pregnancy. Beyond the general minimum requirements, a facility may offer more meat/protein, dairy, or vegetables/fruits to reach minimum caloric value for non-pregnant inmates, per the state rule.[1] Although this is acceptable for pregnant inmates, some consider should be focused on the meat/protein/dairy to accommodate for increasing protein and iron needs in pregnancy.

A standard "pregnancy diet" for facilities may serve to benefit current and future pregnant populations served in jails or prisons. Approval by a dietician, as required by rule 2911.4200, and should be available if a when a facility is caring for a pregnant person. Involvement of food service personnel is encouraged during this planning process to determine best practice to implement the diet regimen. The following information can be used to guide the development of a pregnancy diet for facilities, or as a reference for assessing adequacy of any current pregnancy diets. There will be resources and further reading at the end of the chapter which may also aid in this process.

In addition, consider the effect of pregnancy on eating patterns and tolerability of foods. Nausea and vomiting of pregnancy are common and can begin early in pregnancy and linger into the second or even third trimesters. Some experience symptoms during different times of day, which may coincide with mealtime in facilities making an individual unable to eat enough, or at all, during mealtime. Another consideration is whether an individual can tolerate specific foods due to aversions, where eating the food may induce vomiting, or because the food causes increased heartburn or other GI symptoms, as often noted with acidic, spicy, or fatty foods. These pregnancy-induced changes may be remedied by ensuring that a pregnant person's food is available to them outside of standard mealtimes when their nausea and vomiting is minimal, or by allowing a substitution of a heartburn-inducing food for one that is tolerable to them (i.e., exchanging an orange for an apple, buttered/plain noodles in place of spaghetti sauce).[3]

Prenatal Nutrition [4]

Prenatal nutrition is essential to meet the energy requirements of the pregnant person and the developing fetus, needed nutrients for the development of new fetal tissues, and building energy reserves for labor, delivery, and postpartum lactation. However, nutrition recommendations during pregnancy is not universal to all people. While there is a general agreement that certain nutrients are essential for appropriate fetal development, these nutrients may be obtained in a variety of ways. People who eat meat will fulfill their protein requirement differently than those who follow a vegetarian diet. Individual food preferences, intolerances and nausea and vomiting associated with pregnancy can all impact an individual's nutritional status.

The focus for all pregnant people should be eating foods that nourish their body and their baby. Striving for increased whole foods and decreased processed foods will provide the best nutrition. Pregnant people should take a prenatal vitamin to ensure the minimum amount of nutrients deemed essential for healthy growth and should also try to incorporate foods with nutritional properties known to support healthy development. Special consideration should be given if the individual follows a particular diet, such as veganism or vegetarianism, and nutritional counseling from a dietician might be helpful for these individuals.

Prenatal Vitamin Supplements [3,5]

All pregnant people should be started on a prenatal vitamin as soon as pregnancy is identified. Ideally individuals should be taking these vitamins prior to conception, but this is not the case for many people who become pregnant regardless of justice system involvement.[3]

A standard prenatal vitamin formulation may contain the following supplements:

- Vitamins A, D, E and C
- B Vitamins: B6, B12, Riboflavin, Niacin, Thiamin, Pantothenic Acid
- Folic Acid or Folate
- Iron
- Calcium
- Zinc
- Iodine
- Magnesium
- Omega 3, DHA & EPA

Commercially available prenatal vitamins vary widely in the content and amounts of each component. The prenatal vitamin alone does not meet the needed requirements of all vitamins and minerals. A well-balanced diet will supply the additional requirements and needed fiber, protein, and fats. If fish and seafood are not part of the diet, ensure that the prenatal vitamin contains Omega 3 fatty acids, DHA and EPA, as these are important building blocks for brain development.[5]

Recommended Nutritional Adjustments [5,6]

- Increased calories, average 2200 to 2600 calories per day
  - Average of 300 calories/day, 2200 in first trimester, 2400 in second, 2600 in third
- Increased protein intake; 71 g per day through pregnancy and lactation
  - Approximately 10 oz. of meat, compared to 5-6 oz. for non-pregnant patients
  - Could be meat, eggs, beans/lentils, tofu, peanut butter, fish, dairy products, etc.
- Increased water intake; 3L per day through pregnancy and lactation
  - About 12-8 oz. glasses per day
- Calcium totaling 1000 mg per day[4]
- Iron totaling 27 mg daily, more if they become anemic
  - Fortified cereals, meat (beef/pork higher than chicken), dark green vegetables, beans/legumes, prunes/prune juice, etc.)

Additional recommendations:

- Reduce or eliminate soda intake
- Limit caffeine to 300 mg per day, about 2-3 cups of coffee
- Encourage exercise, as tolerated, 30 minutes most days of the week
  - Generally okay for people to continue pre-pregnancy exercise regimen
- Increase consumption of fresh fruits and vegetables
- Reduce or limit consumption of processed foods
- Encourage consumption of complex carbs (e.g., whole wheat cereals and breads, whole grain or wild rice, vegetables, and legumes)
- Limit simple sugars

Foods to Avoid or Eat with Caution During Pregnancy [7]

Pregnant people are more susceptible to infections during pregnancy. While most people will not appear sick if infected with Listeria or Toxoplasma, for example, or after ingesting fish contaminated with mercury, these bacteria or toxins can cause serious health problems for the fetus. Use the following table to learn what precautions to take with various food during pregnancy. Ensuring that foods are thoroughly pasteurized, cooked or reheated will minimize most food-borne illness risk. While many of the following foods to avoid are not often served in jail settings, it is important information to have handy as people transition back to the community.

Foods to avoid	Why?	What to do
Cheeses made from unpasteurized milk. Often including Brie, feta, Camembert, Roquefort and others	May contain *E. coli* or Listeria	Eat hard cheeses, such as cheddar or Swiss. Check the label, make sure cheese is made from pasteurized milk.
Certain kinds of FISH, such as shark, swordfish, king mackerel, marlin, orange roughy, bigeye tuna and tilefish	Contain high levels of Mercury, PCBs, or PFOs	Fish is a great source of many nutrients. When possible, include safe fish and seafood into the diet. See FDA Fish List
Raw fish or sushi	May contain parasites of bacteria	Cook fish before eating, eat sushi with veggies or cooked meats
Store-bought ham salad, chicken salad, and seafood salad.	May contain Listeria	Make salads on the day that they will be eaten, do not eat if they have been unrefrigerated
Raw sprouts like alfalfa, clover, mung bean and radish	May contain *E. coli* or salmonella	Can eat if cooked thoroughly
Raw eggs, items containing raw eggs (cookie dough, some sauces)	May contain salmonella.	Only eat eggs that have been cooked and have firm yolks
Uncooked or under cooked meat: Beef, veal, lamb, pork and poultry	May contain *E. coli*, salmonella, campylobacter, or toxoplasma gondii	Cook all meats thoroughly
Hot dogs, luncheon meats, cold cuts, fermented or dry sausage, and deli-style meat	May contain Listeria.	Even if the label says that the meat is precooked, **reheat these meats to steaming hot before eating.**

Diet and Exercise in Pregnancy [4]

A well-balanced diet coupled with physical activity during pregnancy can improve the course of the pregnancy and the health of the newborn. Activity and exercise may also help decrease common aches and pains of pregnancy, improve their mood, and assist with sleep.

The amount of exercise also impacts the number of calories needed each day. This is especially pertinent to people in jail. Questions staff nurses should consider for a pregnant person experiencing incarceration: Are they getting any regular exercise? Do they have opportunity for exercise and movement? The recommendation for the essentially healthy person during pregnancy is 30 minutes of mild to moderate exercise most days of the week, if not daily. If the individual has not exercised or been active before pregnancy, they should begin slowly and advance as tolerated.

Weight Gain [4]

When an individual begins pregnancy with a normal BMI, it is advised that they gain between 25 and 35 pounds. People whose weight gain falls within the range given are more likely to give birth to healthy, term infants who are not small or large for their gestational age. For people outside of the normal BMI range, their provider may have specific weight gain goals for them.

People who begin pregnancy underweight are at increased risk for low birth weight or small for gestational age babies, preterm birth and increased perinatal mortality. People who are overweight or obese are at increased risk for large (macrosomic) infants; their infants sometimes have difficulty maintaining their blood sugar after birth and are at increased risk for injury from a difficult birth and cesarean section.

Restricting food or calorie intake during pregnancy is never recommended, regardless of BMI prior to pregnancy. The weight gained in pregnancy does not all stay with the pregnant person.

There is expansion of blood volume of fetal and placental tissues, amniotic fluid, breast tissue enlargement in preparation for lactation and much more. Some weight gain is essential for a healthy pregnancy.

Pica in Pregnancy [4]

Pica is the craving for and eating of non-nutrient substances such as soil, clay, corn starch, soap, ice, etc. One problem for people who have pica is they replace non-nutrient substances for nutritious food. They may become anemic, be constipated, and even gain weight. Most people with pica do not want to tell health care providers or others what they are eating. They know it is not good for them or the baby but they can't stop. There is no proven effective treatment for pica. Removing the substance that they are ingesting is worth a try, but don't be disheartened if they substitute something else. Do share information about what they are ingesting with their health care providers.

Resources and Further Reading

FDA Food Safety for Pregnant Women, Their Unborn Babies, and Children Under Five (https://www.fda.gov/media/83740/download)

ACOG Nutrition in Pregnancy (https://www.acog.org/womens-health/faqs/nutrition-during-pregnancy)

Advice About Eating Fish (https://www.fda.gov/media/102331/download)

Best Practices for Nutrition Care of Pregnant Women in Prison (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6671683/)

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Chapter 4: Common Discomforts of Pregnancy and Relief Measures

This chapter reviews the physiological, anatomical, and psychological bases for selected discomforts. There are three main sections, first trimester, second trimester and occurring anytime in pregnancy. These are general estimates of when these symptoms often develop or are most problematic for people, but many of them can occur outside of their specified trimester. Many of those listed under the first and second trimester headings may continue into or develop for the first time in the third trimester. For instance, nausea and vomiting in pregnancy is often at its peak in the first trimester, but for some people can last until 18 weeks or later. Constipation is listed as a second trimester ailment, but many begin to develop this symptom in the first trimester, and it can last until delivery. The discomforts listed are generally considered to be non-pathological if they are not interfering with a person's ability to complete their daily activities or causing detrimental health effects. It is a fine line between normal and abnormal, and any questions or concerns should be directed to a provider who is knowledgeable about pregnancy.

Relief measures are predicated on the causes of the discomfort and are geared toward symptomatic management that may be possible in jails, with the understanding that not each remedy will be available at each jail. Not all relief measures work for all people, nor should this be considered an exhaustive list of comfort measures. This section is designed to assist the nurse in identifying common complaints or discomforts of pregnancy versus urgent problems that require immediate action. Differentiating urgent problems from common complaints versus manipulating behaviors is frequently challenging for nurses working in the jail setting. With the knowledge of common complaints and remedies, nurses can be prepared to advocate for their pregnant persons to have access to the most effective measures and navigate the intricacies of pregnancy within the jail setting. Collaboration with providers and correctional staff will be the key to ensuring high quality, appropriate and effective care options for each patient.

Assessment of reported pain or new onset of symptoms

Change in health status can be a confusing or concerning time for pregnant person, by assessing and address concerns of the individual can provide clarity form medical staff on treatment steps and an opportunity for education and understanding for the pregnant person. Specifically, when discussing pain and individual may say: "There is pain down there" or body language may shift to be more guarded. Encourage pregnant person to elaborate by asking questions such as: "Can you say more about this pain", "Can you show me where or point to where the pain is" and other questions allowing them to share more about their pain. An acronym to follow to have a full description of the pain that can be used is OLDCARTS which stands for:

- Onset
- Location
- Duration
- Characteristics

- Aggravating factors
- Relieving factors
- Treatment
- Severity

Based on information gathered, consider both non-pathological and pathological causes of their discomfort. When in doubt, contact the provider for guidance. Symptom severity and vital sign status will play a role in determining whether the provider should be contacted routinely or urgently, or if the patient needs to be triaged in the hospital setting for an acute emergency.

First Trimester (4-14 weeks)

Nausea and Vomiting [1]

Influencing factors include increased levels of hCG (human chorionic gonadotropin) and other pregnancy hormones, changes in carbohydrate metabolism, hypoglycemia (perhaps caused by not eating, thereby creating a vicious cycle), gastric overloading, slowed peristalsis, emotional factors, and fatigue.

The specific cause of nausea and vomiting can be hard to pinpoint and is the reason that there is not a single treatment that will be effective for everyone. It is erroneously called morning sickness. It commonly occurs during the morning but can persist throughout the day or evening. It is more apt to occur when the stomach is empty. Over three quarters of pregnant people experience some level of nausea and vomiting of pregnancy. On average, it begins between 5 to 6 weeks gestation and peaks around week 11.

Relief measures:
Encourage patient to do the following to relieve nausea and vomiting

- Eat small, frequent meals, even as often as every 2 hours
- Eat dry crackers before getting up in the morning
- Sip on carbonated beverages, not diet sodas; ginger ale is a good choice
- Avoid foods with strong or offensive odors
- Avoid fatty foods
- Rest
- Drink fluids between meals, not with the meal
- Try chewing gum, peppermints or sucking on hard candy
- Ginger, citrus and peppermint are known to be helpful
- If prenatal vitamin contains iron, consider switching to one without until nausea/vomiting resolve
- Pharmacologic- requires provider order, can include OTC or prescription regimens

Notify the OB provider if the individual is unable to keep food or fluids down (persistent nausea and vomiting) for more than 28 to 48 hours. This may indicate hyperemesis gravidarum or hydatidiform mole requiring more aggressive treatment with antiemetics and IV fluids. Significant concern for dehydration is present with this level of nausea and vomiting.

Fatigue [1]

Fatigue has no certain etiology but may be due to increased energy requirements of pregnancy or changing hormone levels. Sleep is often disturbed during pregnancy for various reasons which likely contributes to increased fatigue. If someone is experiencing significant nausea and vomiting, fatigue may be exacerbated by inadequate caloric intake as well as by the emotional toll of nausea and vomiting.

Relief measures: reassure the pregnant patient that this is normal and will get better in the second trimester. Encourage frequent rest periods during the day until this passes. Mild exercise and good nutrition may help.

Fatigue can also be related to other conditions, such as Anemia. A hemoglobin of < 10 g/dl can contribute to fatigue, but anemia is more likely in later trimesters of pregnancy.[2] If fatigue is persistent or interfering with daily activities or is associated with other symptoms like shortness of breath or fever, a provider should be notified.

Breast Tenderness [1]

Increased levels of estrogen and progesterone may result in breast tenderness. Breast tissue begins to enlarge in the first trimester in preparation for lactation.

Relief measures: wear well-fitting, supportive bra. Consider helping patients acquire a bra that provides the needed support based on their changing breast size. The size that they wore at intake will likely not fit them throughout their pregnancy and may need to be adjusted multiple times during their stay.

If there is new-onset pain, especially if it is unilateral, or if there is an identified lump or mass, a breast exam by a provider may be warranted. While breast cancer during pregnancy is rare, it is a can't-miss diagnosis.

Urinary Frequency [1,3]

During the first trimester, urinary frequency is likely due to the increased progesterone and HCG hormones, as well as increased pressure on the bladder from the growing uterus. In the second trimester the uterus moves out of the pelvis, reducing pressure on the bladder which can sometimes provide a reprieve from urinary frequency. During the third trimester urinary frequency often reappears due to the increasing size of the uterus and the pressure this places on the bladder. There is also a reversal of usual diurnal pattern to nocturia daytime fluid retention/swelling (dependent edema) is reabsorbed and excreted at night when individual is resting supine.[3]

Relief measures: Explain to the pregnant individual why this is happening, decrease amount of fluid intake before going to bed, void when the urge is felt. Do not limit total fluid intake.

Frequency alone during pregnancy does not indicate UTI. Pregnant people are at an increased risk for infection and are more likely to experience complications such as pyelonephritis. Any dysuria or hematuria, or a sudden onset increase in frequency should be investigated further by a provider to assess for UTI. [3]

Nocturia (urinating frequently at night)

Nocturia is often a result of venous return from the extremities which is facilitated when the individual lies in a recumbent position for sleep. The result is a reversed diurnal pattern, which means increased urinary output in the overnight hours.

Relief measures: Explain the cause of increased nighttime urination and reassure them of its normalcy. Suggest limiting fluid intake for a few of hours before bedtime, but relief may be minimal.

Bleeding Gums [3]

Individuals may notice that their gums are bleeding after brushing their teeth. This is attributed to an increase in blood volume during pregnancy as well as inflammation caused by progesterone and estrogen.

Relief measures: Encourage good dental hygiene, brush and floss regularly using gentle technique. Reassure the individual this is not unusual in pregnancy.

People are more likely to experience gingivitis and dental carries during pregnancy. Dental cleanings, including x-rays as needed, are considered safe in pregnancy, and should be completed every 6 months regardless of pregnancy status.[4] Consult with OB provider and/or Dentist if patients report tooth or other oral pain.

Second Trimester (14-28 weeks)

Heartburn [1–3]

Heartburn often begins toward the end of the second trimester and can extend through the third trimester. It is characterized by the regurgitation or reflux of acidic gastric contents into the lower esophagus by reversed peristalsis. The acidic nature of the gastric contents causes a burning and bad taste in the mouth. The causes of heartburn are thought to be relaxation of the lower esophageal sphincter because of increased progesterone, decreased gastrointestinal motility resulting from smooth muscle relaxation which delays stomach emptying, and pressure on the stomach from the growing uterus.[3]

Relief measures: [1] Encourage patients to do the following to treat or prevent heartburn:

- Eat slowly
- Eat small, frequent meals, to avoid overloading stomach
- Keep a log of foods and note which make heartburn worse; avoid these
  - Spicy or fatty foods are often triggers
- Avoid heavy foods or a full meal just before bedtime
- Avoid lying down after eating
  - Elevate the head off the bed if symptoms are worse at night, if possible

Contact OB provider to administer antacid preparations. Tums (calcium carbonate) is often a first line choice for occasional symptoms. More persistent symptoms often benefit from medications taken on a schedule as compared to as needed. Pepcid AC (famotidine) is a common next step, taken once or twice daily. Prilosec (omeprazole) is another safe option when other antacids have failed. Alka-Seltzer should be avoided as many preparations contain aspirin at doses that are not considered safe in pregnancy.

Heartburn is often described as a burning in the epigastric area and is a relatively benign finding. However, there are other conditions that have pain in the same region that may be described as "heartburn". These include hiatal hernia, cholecystitis, pancreatitis, and preeclampsia, all of which require diagnosis and condition-specific treatment. Any severe pain that is persistent, radiates to other areas of the body or is non-responsive to treatment should be reported to the on-call provider urgently.[2]

Dependent edema [1]

Dependent edema is the result of impaired venous circulation and increased venous pressure in the lower extremities, caused by pressure of the enlarging uterus on the pelvic veins when the person is sitting or standing and on the inferior vena cava when they are supine. Constrictive clothing adds to the problem. Dependent edema is generally seen in the ankles and feet.

Relief measures: Encourage patient to do the following to relieve or prevent swelling:

- Elevate the legs periodically throughout the day
- Practice frequent dorsiflexion of feet when prolonged sitting or standing is necessary
- Avoid prolonged sitting or standing
- Position on the side when lying down to assist venous return
- Suggest they ask provider about a maternity abdominal support or girdle to take the pressure off the pelvic veins
- Consider compression socks/support hose, can be prescribed

Contact OB provider if sudden onset of edema in hands and face, or if swelling of extremities rapidly worsens (especially if it happens overnight when swelling tends to remit) This may be a sign of preeclampsia. Swelling of the extremities is no longer a diagnostic criterion for preeclampsia as swelling is such a widely experienced and non-specific finding, however it can still raise one's suspicion and warrant further investigation. See Chapter 6, Pregnancy Complications.

Flatulence [1]

Likely due to decreased gastrointestinal motility, a result of increased progesterone on relaxing smooth muscle and from the displacement of and pressure on the intestines by the enlarging uterus.

Relief measures: Encourage pregnant individual maintain a regular pattern of daily bowel movements and avoid gas forming foods. Regular exercise can help encourage bowel movements and the passage of flatus. Some people find relief by employing the knee-chest position. Provider may order Gas-X (simethicone).

Pain from excess flatulence can be difficult to differentiate from pain related to other GI causes, including appendicitis. If pain is severe and non-remitting, contact the on-call provider urgently.

Constipation[1]

Caused by decreased peristalsis due to relaxation of the smooth muscle of the large bowel in the presence of increased amounts of progesterone. The bowel is displaced and compressed by the enlarging uterus and/or presenting part of the fetus, also contributing to decreased motility and thus constipation. If the individual is taking an iron supplement, constipation is a common side effect.

Relief measures: Encourage patient to do the following to prevent or relieve constipation:

- Adequate fluid intake, defined as a minimum of 8 glasses per day
- Prunes or prune juice,
- Adequate rest
- Warm liquids (stimulate peristalsis)
- Foods that are high in natural fiber (e.g., lettuce, celery, bran)
    - apples, berries, broccoli, beans, whole grains, oatmeal, etc.
- "P fruits" of plums, pears, peaches, and pineapple
- Don't ignore the "urge" or delay having a bowel movement
- General exercise, a daily walk, good posture, good body mechanics, and daily exercise of contracting the lower abdominal muscles

Contact OB provider to order any mild laxatives, stool softeners, and/or glycerin suppositories if needed.

Hemorrhoids [1]

Progesterone causes relaxation of the vein walls and of the large bowel. The pressure from the enlarging uterus interferes with venous circulation and causes congestion in the pelvic veins. Hemorrhoids are often preceded by constipation and subsequent straining for bowel movements

Relief measures: Encourage patient to do the following to prevent worsening symptoms and help hemorrhoids heal.

- Patients can avoid constipation by altering the diet, increasing/maintaining exercise, and increasing fluid intake
- Encourage patient to avoid straining during defecation
- Suggest they ask about relief measures at their next prenatal visit (analgesic ointments or topical anesthetics)

Contact OB provider if hemorrhoids are bleeding or causing difficulty with daily activities. Can be extremely painful depending on severity.

Leg Cramps [1]

Physiological basis for leg cramping is not clear, but some evidence suggests changes in magnesium/calcium/phosphorous uptake at the cellular level may be a possible cause. Cramps can also be called “Charlie horses”, are often felt in the calves.

Relief measures:

- Encourage frequent stretching of calf muscle via dorsiflexion of foot; feet on floor, hold wall for stability, bend knees while feet remain on floor to complete stretch. Can be done during a cramp for relief
- Encourage an adequate intake of calcium and magnesium, readily found in dairy, dark green/leafy vegetables, beans, legumes, and nuts; consider discussing a magnesium and/or calcium supplement with the provider

Varicosities[1]

A number of factors contribute to the development of varicosities during pregnancy. Varicosities can result from impaired venous circulation and increased venous pressure in the lower extremities, caused by pressure of the enlarging uterus on the pelvic veins when the person is sitting or standing and on the inferior vena cava when they are supine. They are more common in people who have a family history of varicosities. Constrictive clothing inhibiting venous return from the lower extremities or prolonged periods of standing add to the problem. Progesterone-induced relaxation of the vein walls and valves and surrounding smooth muscle also contributes to varicosities. Most often seen on the legs and/or vulva. These can become very painful, especially vulvar varicosities.

Relief measures: Encourage patient to do the following to minimize discomfort and prevent further exacerbation of varicosities. Not all of these measures will be available in all settings but can be helpful as patients are being discharged.

- Use support hose, ace bandages, or elastic stockings; put on after elevating your legs and before arising
  - Prescription support garments
- Avoid long periods of standing
- Have rest periods, with your legs elevated, periodically throughout the day
- Keep your legs uncrossed when sitting
- Sit frequently, with legs elevated when possible
- Maintain good posture and good body mechanics
- Engage in mild exercise and walking to facilitate increased circulation

Round Ligament Pain/Abdominal pain or discomfort[1]

The ligaments that connect the uterus to other internal structures are stretched as the uterus grows. The discomfort may be described as sharp and shooting or continuous and dull. It may be experienced on both sides, but typically only occurs on one side at a time. Differentiating factors for round ligament pain are its location in the lower left/right sides of the abdomen near the hip bones and that it typically has a sudden onset, lasting a few seconds or a minute, with just as sudden of a resolution. It is often triggered by sudden and/or twisting movements. Can occur anytime in pregnancy, most common in the second trimester. It is differentiated from gastrointestinal tract and abdominal pain because if often extends into inguinal area, not so with appendicitis, gallbladder inflammation, and peptic ulcer.

Relief measures: round ligament pain is often difficult to relieve. It can help to explain why this is happening, as is can be frightening for patients. A pregnancy support belt can help take the pressure off the ligaments and can be prescribed by their provider.

Contact OB provider urgently if sudden, severe onset pain without remission or if any of the following are present: centrally located or in upper quadrants; associated with vaginal bleeding, contractions or abdominal/uterine rigidity; coupled with signs and symptoms of term or pre-term labor. (See Chapter 6, Complications of Pregnancy and Chapter 7, Diagnosing Labor)

Hyperventilation, Shortness of Breath, Dyspnea (nonpathological) [1, 3]

These symptoms may be due to the increased amount of progesterone during pregnancy acting directly on the respiratory center to lower the carbon dioxide levels and increase the oxygen levels (for the benefit of the fetus). The increased metabolic activity that occurs with pregnancy causes an increase in carbon dioxide levels and hyperventilation lowers carbon dioxide levels. Dyspnea is due to decreased vital capacity from pressure of enlarging uterus on the diaphragm.

The relief measures for shortness of breath are geared toward providing more room for abdominal contents, thereby reducing the pressure on the diaphragm and facilitating lung functioning.

Relief measures:

- Reassure patients that this can be a common finding, as anxiety can contribute to further hyperventilation.
- Encourage them to be aware of their breath and regulate their breathing speed when they notice hyperventilation.
- Encourage good posture, no slumping of shoulders, to allow more room for chest expansion.
- Non-pregnant patients often use the abdomen to breathe, but this is more difficult as the uterus becomes larger; encourage diaphragmatic and intercostal breathing instead.

If symptoms are persistent in all positions or worsening despite remedies, contact OB provider urgently. Can consider assessing O_2 saturation, heart rate and rhythm, and breath sounds if within scope of training and facility protocol, and contact appropriate provider based on findings (ER for vital sign irregularity, OB provider if assessment is otherwise normal). While most dyspnea and/or hyperventilation is nonpathological, there are rare cases where it is a sign of underlying disease processes.

Supine Hypotensive Syndrome [1, 5]

Occurs when the individual lies in a supine position. Symptoms often start within 3-10 minutes of lying flat on their back. The weight of the enlarged uterus compresses the inferior vena cava and descending aorta. Venous return from the lower half of the body is inhibited, which in turn reduces the amount of blood filling the heart and subsequently lowers cardiac output and blood pressure. Blood flow through the placenta can be decreased if the individual remains in the supine position for a prolonged period, and decreased blood flow could result in fetal hypoxia. Symptoms of this condition are very similar to those of hypotension from other causes. Patients may experience nausea, dizziness, vomiting, tachycardia and diaphoresis during these episodes. Not all pregnant people will experience this when supine, but it can be scary when it happens.

Relief measures: Have the individual turn to their side until symptoms resolve. Reassurance and explanation are essential as they are likely to be frightened. People who experience this phenomenon once are more likely to experience it again; they should avoid lying and sleeping on their back when possible and/or maintain a 15-degree left tilt of their pelvis if they must be supine.

Faintness/Dizziness

Can be caused by a sudden change of position and may be related to increased blood volume and adaptive blood pressure changes. Standing for long periods in a warm area may also be a cause. Anemia can result in a more persistent feeling of dizziness or lightheadedness.

Relief measures: Encourage patient to do the following to avoid dizziness:

- Avoid standing in one place for long periods of time, especially in hot areas
- Change positions slowly from laying to sitting, sitting to standing
- Maintain adequate hydration

Transient faintness or dizziness with position change is less concerning than persistent symptoms, but both should be reported to their OB provider. Any loss of consciousness should be evaluated by a provider urgently.

Can Occur Anytime in Pregnancy

Backaches [1]

Likely due to different processes depending on gestation. In the first trimester, upper back pain with increasing size of breast tissue is common. As the pregnancy progresses, lower back pain can be caused by the increasing weight of the uterus and fetus which results in a shift in the individual's center of gravity. This results in accentuated lordosis and associated discomfort. Pain can be exaggerated if the person has had previous back problems or poor abdominal muscle tone.

Relief measures: Encourage patient to do the following to prevent or relieve back pain:

- Good posture and body mechanics are essential
- Squat rather than bend to lift anything so that the legs bear the strain, bend at the hips, not the back
- Spread the feet apart and place one foot slightly in front of the other when squatting so there is a broad base for balance when rising
- If available offer a supportive mattress and/or additional pillows to assist with positioning at night which will help alleviate pulling and strain in bed
- Suggest they ask about exercises to relieve back pain at their next prenatal visit
- Heat or ice, if available

Contact OB provider if you suspect labor or preterm labor- pain that comes in waves in the low back could be contractions. Back/flank pain can also indicate pyelonephritis, so it is important to assess for other signs of infection.

Leukorrhea (Increased Vaginal Discharge) [1, 3]

Hyperplasia of vaginal mucosa and increased production of mucus by the endocervical glands due to the increase in estrogen levels are responsible to increased vaginal discharge. The secretion is acidic which serves to protect against possible harmful infection, however, does provide a medium that fosters the growth of the organisms responsible for vaginitis.

Relief measures: Educate patients that this is a normal occurrence with pregnancy. Wash perineal and vaginal areas with water only, as soap can cause more irritation. Avoid douching or sprays. Cotton underwear, if available, can help with prevention of bacterial vaginosis as it does not hold moisture like some synthetic fabrics.

Increased discharge by itself is not a cause to suspect STI or a vaginal infection. If the vaginal discharge is coupled with burning, itching, bad odor or irritation, suspect vaginitis or sexually transmitted infection (STI). Contact OB provider if there is concern for vaginitis or STI.

Difficulty Sleeping [1]

Discomfort due to the growing fetus and difficulty finding a position that is comfortable for 6 to 8 hours at a time are likely culprits. Stress, anxiety, sleeping in a new place can each aggravate the person's ability to sleep.

Relief measures:

- Offer any form of support for sleep that you have available (more pillows for back support or to place between their legs, etc.)
- Advise that patients avoid caffeine, particularly in the afternoon and evening
- Encourage regular exercise may help regulate sleep cycle
- Explain that it is normal to awaken several times at night especially as you near the end of pregnancy
- OB provider may prescribe over the counter sleep medication such as doxylamine or diphenhydramine, but should not be used regularly

Nasal Congestion [1]

Increasing levels of estrogen cause increased blood volume overall with increased blood flow to the mucus membranes in the nose. This results in blood tinged mucous when blowing your nose and increased likelihood of nosebleeds.

Relief measures: Encourage blowing the nose gently when needed. Can consider nasal spray, with prescription from provider. Encourage adequate hydration to keep mucus thin, which may be less irritating.

If nosebleeds occur frequently or occur with any other unusual bleeding or bruising, a provider should be alerted as this could indicate a clotting problem.

Other symptoms pregnant people may bring to the nurse

Vision Changes

A pregnant person may experience vision changes. They can be temporary and may resolve after delivery. Contact lenses, their solutions and enzymatic cleaners are safe during pregnancy. Lubrication or rewetting eye drops are safe to use during pregnancy. The nurse may treat vision changes in pregnant patients similarly as the non- pregnant patient.

See Chapter 6, Complications during Pregnancy, Pre-eclampsia. If the person is complaining of "blurred vision" or sudden changes in vision, further assess for signs and symptoms of pre-eclampsia.

Stretch Marks

There is no known treatment to prevent stretch marks in pregnant people. Lotions or creams feel good but have no effect on the formation of stretch marks or limiting their occurrence.

Scabies

There is no over-the-counter treatment for scabies. The OB provider should be contacted with the nursing assessment to determine next steps.

Lice

The pregnant person with lice can be treated with permethrin lotion 1% (NIX).

Resources and Further Reading

Nausea and Vomiting of Pregnancy: Using the 24-hour Pregnancy-Unique Quantification of Emesis (PUQE-24) Scale (https://www.jogc.com/article/S1701-2163(16)34298-0/pdf)
Tool for assessing nausea and vomiting in pregnancy

US DHS Body Changes and Discomforts (https://www.womenshealth.gov/pregnancy/youre-pregnant-now-what/body-changes-and-discomforts)
Fast facts about body changes that are easily shared with patients

US DHS Pregnancy Complications (https://www.womenshealth.gov/pregnancy/youre-pregnant-now-what/pregnancy-complications)
Further information on pregnancy complications, associated fact sheets for patients

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Chapter 5: Medications and Substance Use Disorder (SUD) During Pregnancy

Drug Safety in Pregnancy [1]

Choosing medications to use and timing of when to use involves examining current evident and consideration of known risks and potential benefits for each person. In 2015, the FDA updated guidance to medications used and prescribed for pregnant individuals to the Pregnancy and Lactation Labeling Rule (PLLR). Previously medications were categorized by A, B, C, D and X to denote relative safety of medications with "A" being strong evidence that there is no risk to human fetuses and "X" being known risk to human fetuses and absolute contraindication. Most medications, however, fell in categories B, C and D due to lack of strong evidence of safety or harm.[1]. The goal of PLLR is to provide information instead of classification for medications. There are three categories: 1) pregnancy (which included labor and delivery), 2) lactation, and 3) females and males of reproductive age. Each medication must update their own labeling information as new studies are completed and published. For the pregnancy category, the label must include the following subsections: pregnancy exposure registry, risk summary, clinical considerations and data. Providers and patients can review this information together to decide if the benefit of taking a particular medication outweighs the potential harm based on the current evidence. [1]

No drug is known to be 100% safe during pregnancy. Some drugs are safe at certain points in pregnancy and known to cause harm at other points in pregnancy. One medication may be deemed to have benefits that outweigh the risks for one individual based on their unique history; that same drug may be deemed too risky for a different individual. The risks and benefits of any drug prescribed during pregnancy should be discussed fully with the individual who is pregnant. All medications that a pregnant person is given must be approved by a physician who knows they are pregnant.

RhoGAM? [5,6]

RhoGAM is prescribed to pregnant people who are Rh-negative. It is routinely given at 28 weeks and again within 72 hours of delivery. It is also given following an abortion or miscarriage, after any bleeding episode in pregnancy and after any procedure that risks mixing maternal and fetal blood supplies (external cephalic version, amniocentesis, etc.). If a pregnant person has an Rh-negative blood type and experiences any sort of abdominal trauma or reports any vaginal bleeding, they should be evaluated by a provider as soon as possible and no later than 48 hours to ensure RhoGAM can be administered within the appropriate timeframe. Without this injection, Rh sensitization is likely and can cause poor neonatal outcomes in future pregnancies.

Vaccinations

Three vaccinations are routinely recommended in pregnancy at this time: annual influenza in the fall/winter before flu season, TDAP in the third trimester and Covid-19 series if currently unvaccinated and booster if available. As more information comes out about the Covid-19 vaccination, additional boosters may be recommended. See Centers for Disease Control and Prevention Vaccinations in Pregnancy Guide (http://www.cdc.gov/vaccines/pubs/preg-guide.htm#women) for most up to date information.

Antidepressants in Pregnancy [2]

Current evidence suggests the majority of antidepressant medications are not linked to specific birth defects. On the other hand, untreated maternal depression in pregnancy has been associated with higher rates of spontaneous abortion, preterm birth, poor maternal responsiveness to infant cues, suicidal attempts and postpartum depression.[2,3] Untreated depression has been shown to impair child development and have adverse effects on the behavior of the individual's child(ren).[2] People should be counseled and assessed individually regarding continued use of antidepressant medication during pregnancy. Those who begin pregnancy while taking antidepressant medications do not need to discontinue them and may have better long-term outcomes if medications are continued. Counseling and appropriate medication will enhance the well-being for both themselves and their children.

Other Psychotropic Medications in Pregnancy [2]

A significant number of people who are incarcerated have been diagnosed with a psychiatric disorder. Approximately 1 in 3 pregnant people in jails self-report significant psychological distress, and as many as 73% of pregnant people in state prisons have mental health problems.[4] Medication and appropriate psychological therapies are the cornerstone for treating mental illness. Many people will discontinue psychotropic medications when they realize they are pregnant, fearing how the drug may impact the fetus. Much is known about the risks of prenatal exposure to psychotropic medications; however, the data is not complete. Obstetricians and psychiatrists must weigh the risks associated with prenatal exposure: risk of teratogenesis, risk of neonatal toxicity, risk of long-term neurobehavioral sequelae, and risk of worsening behavioral symptoms in people if the medication is withdrawn.

Ultimately, the decision to initiate, continue or discontinue any psychotropic medication during pregnancy should be made after a thorough conversation between the individual and their provider(s) based on the patient's individual health history and current situation. Weighing risks and benefits to psychotropic medications and developing a comprehensive treatment strategy is key in managing these conditions during pregnancy. This will likely involve collaboration between OB providers, psychiatrists, therapists, and jail nurses.

Legal Requirements for Mandated Reporting in Minnesota

The legal statute discussing the requirement for mandated reporters to file a report about known or suspected use of controlled substances by a pregnant individual can be found here: Mandated Reporting of Controlled Substance Use in Pregnancy (https://www.revisor.mn.gov/statutes/2021/cite/260E.31/subd/260E.31.1#stat.260E.31.1). A Mandated reporter is: "A professional or professional's delegate who is engaged in the practice of the healing arts, social services, hospital administration, psychological or psychiatric treatment, childcare, education, correctional supervision, probation and correctional services, or law enforcement." Statute 260E.06 Defining Mandated Reporters (https://www.revisor.mn.gov/statutes/cite/260E.06)

As of this writing (July 2022), the following is true for mandated reporters:

- Report to the local welfare agency if reporter knows or have reason to believe that a pregnant individual has used controlled substances, including tetrahydrocannabinol (THC), for non-medical purposes during pregnancy
  - Controlled substances include the following or their derivatives: opium, cocaine, heroin, phencyclidine, methamphetamine, amphetamine, tetrahydrocannabinol
  - It is important to determine whether a substance has been used for medical or recreational purposes
    - Tricky with substances like amphetamines and prescription opioid medications
      - Some individuals continue these medications in pregnancy, and these would likely not require reporting unless there is suspicion for overuse or misuse
    - Consider obtaining a release of information to obtain medical records that can determine what has been prescribed and in what dosages
- Report use of alcohol that is "in any way habitual or excessive" during the pregnancy [Statute 260E.31; Reporting of Prenatal Exposure to Controlled Substances (https://www.revisor.mn.gov/statutes/cite/260E.31)](https://www.revisor.mn.gov/statutes/cite/260E.31)

ONE IMPORTANT EXEMPTION to this mandated reporting requirement is as follows: "A health care professional or a social service professional who is mandated to report under this chapter is exempt from reporting under paragraph (a) if the professional is **providing or collaborating with other professionals to provide the woman with prenatal care, postpartum care, or other health care services, including care of the woman's infant.** If the woman does not continue to receive regular prenatal or postpartum care, after the woman's health care professional has made attempts to contact the woman, then the professional is required to report under paragraph (a)".

This exemption will likely look different in varying situations, depending upon if prenatal care is already established, if the person just found out about their pregnancy, if they are in your facility for 24 hours or for 3 weeks and their willingness to participate in prenatal care, among other factors. Reporter will have to use their best clinical judgement to determine if a report is necessary in your circumstance. The likely rationale for this exemption is to encourage the individual to initiate or continue care, knowing that their provider is not mandated to report their use as long as they are in care. The fear of legal repercussions (e.g., losing their children, criminal charges) often prevents people from seeking care, and prenatal care is incredibly important.

The goal of these mandatory reports is to identify individuals who need support for chemical use and ensure that they are offered the treatment services they need. Pregnancy is often a catalyst for people to work towards sobriety. A nurse providing care in the prenatal period, is in a unique position to encourage people to access the treatment resources that they need. One can help them connect with community resources, public health nursing, prenatal care providers and treatment programs. If an individual is willing to begin accessing these resources and continues with their care, there isn't a reason to automatically involve the welfare agency. However, if they decline care, have not established prenatal care, do not connect with the public health nurses after release, etc. then the mandated reporting exemption is no longer in play and a report should be filed. This becomes a bit of a case management task to determine

your legal responsibility to report once they are released from your facility, and again relies heavily on unique circumstance and clinical judgment.

What is the process of reporting?

- Immediately report to the local welfare agency, most often via telephone, the known or suspected used of a controlled substance for non- medical purposes.
- A written report must follow within 72 hours of the oral report by the mandated reporter.
- The report shall identify the pregnant person, the nature and extent of substance usage (if known) and the name and address of the reporter.

Drug use and misuse during pregnancy [5, 6]

Nearly all illicit drugs are dangerous to the health of the individual and the fetus. Although alcohol and tobacco are legal substances, they too pose a danger to the developing fetus. The most commonly abused substances in pregnancy are tobacco and alcohol. Misuse of illicit drugs during pregnancy often means use of more than one harmful substance.

Medical and obstetrical complications are common among individuals who use illicit substances. People tend to be undernourished, anemic, suffer from depression or anxiety, at risk for hypertension, and at risk for infections including STIs, HIV and Hepatitis B and C. Obstetric complications include placental abruption, spontaneous abortion, intrauterine death, premature delivery, preterm rupture of membranes, infections of the uterus and amniotic fluid, postpartum hemorrhage and hypertension or pre- eclampsia.

The fetus and neonate are at risk for intrauterine growth restriction, passage of meconium, neonatal abstinence syndrome (withdrawal) and neurological assaults leading to psychological and physical disorders. The symptoms of withdrawal in newborns may include agitation, abnormally increased or decreased muscle tone, tremor, sleepiness, severe difficulty breathing, and difficulty in feeding. In some newborns, the symptoms subside within hours or days and do not require specific treatment; other newborns may require longer hospital stays for treatment.[8]

Mental health diagnoses, experiencing trauma, and substance misuse are frequently associated with one another. Women who struggle with substance use disorder (SUD) are likely to have experienced sexual and physical abuse; over 50% of women seeking treatment for SUD report histories of childhood physical and/or sexual trauma.[7] Substance use is also a risk factor for individuals to experience revictimization. [7] One study found that 98% of women in jails had experienced trauma in their lifetime, and 74% struggled with substance use.[4] In jail settings, staff will likely have encounters with individuals who have both a trauma history and substance use disorders. This trauma history can often manifest in new and different ways for individuals when they are pregnant. Trauma-informed care can be beneficial for all people who have experienced trauma.

Selected substances of use and misuse that pose risk for pregnant people and their fetus/neonates are addressed below. The particular harm of a substance to the individual or the fetus/neonate is influenced by a number of factors:

- the drug used, how much, how often
- timing of the drug in relation to the number of weeks gestation.
- the combination of substances used
- nutritional intake
- presence of chronic disease or infections
- daily living environment such as safe housing, stable housing, number of children or other persons dependent on the individual, domestic violence, familial or social support systems

Alcohol [9]

Using or abusing alcohol in pregnancy has the potential of causing permanent fetal damage known as fetal alcohol spectrum disorders (FASD). If alcohol is consumed in large amounts during the early weeks of pregnancy, brain growth may be permanently affected. Continued drinking can lead to symmetric growth restriction resulting in the dysmorphic physical features of the fetus and brain growth and development. Alcohol is the leading cause of learning disabilities, behavioral disorders and mental retardation in the U.S. There is no known safe level of alcohol consumption during pregnancy. Alcohol use in pregnancy has also been associated with placental abruption and increased spontaneous abortions. People are advised to refrain from all types of alcohol when pregnant, including beer, wine, wine coolers, and hard liquors.

Withdrawal and Treatment for Alcohol Use [25]

Withdrawal from alcohol is not life threatening to the fetus. It is beneficial for the person to stop drinking at any point in pregnancy; while harm cannot be ruled out from past use, further harm can be avoided if they stop, it is never too late. There are several screening tools that can be used to predict and/or identify alcohol withdrawal. The tool recommended by the American Society of Addiction Medicine is the Clinical Institute Withdrawal Assessment-Alcohol (CIWA-AR).

Interactive CIWA-AR Tool (https://www.revisor.mn.gov/statutes/cite/260E.31)
CIWA-AR Tool PDF (https://americanaddictioncenters.org/alcoholism-treatment/ciwa-ar-alcohol-assessmentI)

Nursing Intervention and Assessment for Alcohol Withdrawal

Assess for alcohol withdrawal using the CIWA (symptoms are likely to be noted within 1-3 day of abstinence)

- Nausea or vomiting
- Tremors
- Paroxysmal sweats
- Anxiety
- Agitation
- Tactile disturbance
- Auditory disturbance

- Visual disturbance
- Headache
- Orientation and clouding of sensorium
- Obtain vital signs and blood pressure
- Assess risk for physical harm to the pregnant person and their fetus.
- Supportive therapy includes fluids, food if tolerated, quiet environment, and rest or sleep.
- Monitor their well-being every hour until symptoms subside.
- If CIWA score of 8 or more, call the provider or ED with nursing assessments to determine further action. Some people will require IV fluids during withdrawal to prevent dehydration and its consequences.

If appropriate care is not able to be provided at your facility, consider transfer to a hospital or detox facility. See: Centers for Disease Control and Prevention Fact Sheet for FASD (https://www.cdc.gov/ncbddd/fasd/facts.html)

Tobacco [10]

Nicotine is the addictive component of tobacco. It increases blood pressure and heart rate and activates the central nervous system. Nicotine has been implicated in increased rates of early pregnancy loss, intrauterine fetal death, preterm delivery, low birth weight infants and intrauterine growth restriction. Prenatal nicotine exposure is also linked to increased rates of Sudden Unexplained Infant Death Syndrome (SUIDS). Cigarettes are one common form of nicotine delivery, but nicotine from smokeless tobacco ("chew") and e-cigarettes/vaping have not been found to be a "safe" alternative. The earlier in pregnancy a person can quit using nicotine the better but quitting at any point has significant health benefits.

See: smokefree.gov

Opiates and Narcotics [6,11–14]

While there is no specific fetal malformation linked to opiate use in pregnancy, their use has been associated with increased risk for several major cardiac defects as well as spina bifida and gastroschisis. While there is an increased risk, the absolute risk of these malformations remains exceedingly low.[12] Opioid use disorder (OUD) in pregnancy has been associated with higher risk for other perinatal complications including preterm birth, intrauterine growth restriction, placental abruption and perinatal death.[13] Babies born to individuals who have been using opioid medications regularly and/or close to delivery are at risk for neonatal opioid withdrawal syndrome (NOWS). Currently the US Centers for Disease Control and Prevention and the American College of Obstetricians and Gynecologists (ACOG), along with numerous other organizations, recommend treating OUD in pregnancy with "medication for opioid use disorder" (MOUD). The most well studied MOUD therapies in pregnancy are buprenorphine and methadone, which are continued through delivery and into postpartum.[1]

If a pregnant person is utilizing MOUD therapy upon their admission to jail or prison, this therapy should be continued. However, a jail is likely not the safest setting to *initiate* MOUD therapy. The pregnant individual needs to be in a hospital or detoxification facility where treatment can be implemented with a team of knowledgeable professionals with expertise in

maternal and fetal medicine. Pregnant patients with OUD should be referred to local providers to initiate treatment.[14] Pregnant people using MOUD therapy will give birth to neonates who will likely experience NOWS. Discussing this likelihood before delivery can help prepare individuals for what to expect.

Withdrawal and Treatment for Opioid Use [22]

The standard of care in pregnancy is to avoid opiate withdrawal or detoxification. Medications for opioid use disorder therapy, including methadone and buprenorphine, have been demonstrated to improve long term maternal outcomes. While there is some conflicting evidence about safety of withdrawing from MOUD and opioids during pregnancy, it is still the opinion of large organizations such as ACOG that the standard of care should be to continue MOUD therapy throughout pregnancy.

The pregnant person using opiates should have a comprehensive treatment plan for the remainder of the pregnancy and immediate postpartum period. Jails are typically not equipped with the staff or monitoring technology needed to initiate MOUD, and therefore transfer to a facility that can safely monitor and initiate MOUDs is recommended if a patient is an active opioid user at intake. Methadone or buprenorphine are the opioid agonists currently used in MOUD. The individual will likely continue their regimen after delivery as relapse rates are high in those with opioid use disorder. Methadone must be obtained from a licensed methadone clinic and can be administered by a nurse in the jail setting. In order to provide methadone to patients' jails must ensure a secure chain of custody from the clinic to the jail and continued security while it in the jail. Buprenorphine does not have these restrictions and does not need a licensed clinic to supply or administer the drug.

Symptoms of opioid withdrawal will be apparent depending on the quantity used and frequency used. In general, withdrawal symptoms are seen within 24 to 48 hours since last use. The Clinical Opiate Withdrawal Scale (COWS) is a nationally recognized screening tool for identifying withdrawal symptoms and ranking their severity. The total score on the COWS helps identify those people experiencing withdrawal. A score of 8 on the COWS screening tool indicates withdrawal. The threshold for withdrawal in pregnant people is lower than the non-pregnant people. Err on the side of caution.

[Interactive COWS Tool (https://www.mdcalc.com/cows-score-opiate-withdrawal)](https://www.mdcalc.com/cows-score-opiate-withdrawal)

[Clinical Opiate Withdrawal Scale: PDF of scale (https://medicine.yale.edu/edbup/COWS_338055_5_v4.pdf)](https://medicine.yale.edu/edbup/COWS_338055_5_v4.pdf)

Nursing Assessments and Interventions for Opioid Withdrawal

The pregnant person experiencing withdrawal symptoms from opiates with a score of 8 on the COWS tool needs to be transferred to a facility that can manage their care. [23]

- Assess and score their symptoms using the COWS tool
  - Pulse rate, sweating, tremors, restlessness, yawning, pupil size, anxiety or irritability, bone or joint aches, gooseflesh skin or runny nose or tearing
- Relay nursing assessments to the provider or emergency department to determine the next steps. Expect that the person will be transported to a center equipped to handle their care.

- Document assessments and send to the receiving facility.

See: [Treatment for Opioid Use Disorders in Pregnancy- Centers for Disease Control and Prevention (https://www.cdc.gov/pregnancy/opioids/treatment.html)](https://www.cdc.gov/pregnancy/opioids/treatment.html)

[Neonatal Opioid Withdrawal Syndrome (NOWS): What Families Need to Know (https://www.healthychildren.org/English/ages-stages/prenatal/Pages/Neonatal-Opioid-Withdrawal-Syndrome.aspx)](https://www.healthychildren.org/English/ages-stages/prenatal/Pages/Neonatal-Opioid-Withdrawal-Syndrome.aspx)

Cocaine [15, 16]

Cocaine is a potent short-acting stimulant to the central nervous system. It can be used as an inhalant, intravenously, or smoked and is frequently mixed with tobacco smoking, marijuana and alcohol use. Risk for blood-borne infections such as HIV or Hepatitis are elevated if the individual is using cocaine intravenously. Withdrawal from cocaine is not life threatening to the individual or the fetus.[16]

Cocaine can cause maternal complications including hypertension, heart attack, kidney failure, stroke and death. It also can also cause vasoconstriction of maternal vessels leading to utero-placental insufficiency, which may cause fetal hypoxia and acidosis. Other neonatal complications may include an increased risk for malformations of the genitourinary tract, intrauterine growth restriction, preterm premature rupture of the membranes, preterm labor and/or delivery and placental abruption. The long-term effects for neonates exposed to cocaine in utero are not well known.

Amphetamine and Methamphetamine [15]

As with cocaine, it is difficult to ascertain the effects of these drugs on the developing fetus due to the use of other drugs in combination with amphetamines and methamphetamines. People abusing these drugs may also be engaged in high-risk behaviors and have limited prenatal care.

Maternal complications of methamphetamine abuse include an increased risk for hypertension, heart attack, cardiomyopathy and stroke. Manifestations of abuse in the neonate are growth restriction, low birth weight, prematurity and the morbidity associated with these birth outcomes. More information is needed to determine the long-term effects of amphetamine abuse on children who were exposed in utero.

Little is known about the use of amphetamines for the treatment of Attention-Deficit/Hyperactivity Disorder (ADHD) in pregnancy when taken as prescribed, however it appears that more people are continuing these medications during pregnancy.[17] The choice to continue or discontinue these medications should be made with the individual’s provider.

Withdrawal and Treatment for Cocaine, Amphetamine & Methamphetamine Use [24]

Withdrawal from these substances is usually not a medical or obstetrical risk for the pregnant person and the fetus. However, if last use was recent or a large amount or if they are a first-time user, they are at risk for preterm labor, stillbirth or placental abruption. In these instances, it is likely that their symptoms (**rapid onset of uterine contractions, rupture of membranes or vaginal bleeding**) will prompt the police officers to transport them immediately to the emergency room. Severe after-effects of cocaine use can include seizures and hallucinations. The individual may experience a “crash” within 1 to 3 hours after the last usage. Symptoms include irritability, discomfort, fatigue and depression with a craving for the next high.

Management of these symptoms is general supportive care. Cocaine users in particular may experience migraine headaches, dyspnea, hyperthermia that together alter their mental state.

Nursing Assessment and Intervention for Stimulant Withdrawal

- Ask the person what drug or drugs they have been using, when they last used and how frequent is their usage.
- Obtain their pregnancy history: weeks' gestation, gravida/parity, any complications with this pregnancy, any history of pre-term labor or delivery or problems with their babies.
- Screen for bleeding, loss of fluid (ROM), prenatal care, contractions or rigid abdomen.
- Obtain vital signs and blood pressure, note if outside the range of normal.
- Orientation to time and place. Do they know where they are? Is their speech slurred or difficult to follow their thinking?
- Consult with a provider or labor and delivery unit with nursing assessments for the best next steps. Expect them to be transported to the labor and delivery unit for further monitoring if your facility cannot ensure their safety.

Call for immediate transport if nursing assessments include bleeding, signs and symptoms of labor, range of motion rupture or a rigid abdomen.

Inhalants [18]

The organic solvent toluene used in paints and glues is associated with fetal affects similar to alcohol abuse. Inhalants should not be used during pregnancy. Withdrawal is not life threatening to the individual or the fetus, however if acute intoxication occurs close to delivery, these infants may experience neonatal abstinence syndrome symptoms.

Hallucinogens [19, 20]

PCP, LSD, MDMA (ecstasy), psilocybin (mushrooms), mescaline (peyote cactus) and others fall into the category of hallucinogens. Little research has been completed about the effects of these medications on pregnant people or their fetuses. Neonatal lethargy, eating problems and tremors are the symptoms most often associated with chronic hallucinogen exposure during pregnancy. There is also a risk for low birth weight, poor muscle control and neurological damage. In the case of an overdose, the individual can become hypertensive, hyperthermic, diaphoretic, and possibly go into a coma. Any of these symptoms can jeopardize the health of the fetus. Individuals using these drugs may behave erratically or become violent, which may place them in dangerous situations with consequences for both the adult and neonate. Withdrawal from these substances is not of physiological concern for the parent or fetus.

Marijuana [21]

Marijuana is one of the most commonly used drugs in pregnant and non-pregnant people, particularly as it becomes legal in states across the country. There is no strong evidence that it has teratogenic effects on the fetus. Infants that have been frequently and regularly exposed to marijuana during pregnancy are at risk for withdrawal symptoms such as tremors and excessive crying. The effects on the fetus are similar to smoking tobacco (e.g., low birth weight infants, and preterm labor or birth). Long-term effects on child development suggest there could be

some cognitive impacts, but it cannot be known if these are drug related or due to a myriad of other psychosocial factors. Withdrawal from marijuana is not of physiological concern for the parent or fetus.

Withdrawal from Substances Takeaways

Withdrawal from any substance can cause concern for the safety and well-being of the pregnant person and the fetus both physically and mentally. The tendency to shame or blame the person for endangering their baby is a frequent reaction from caregivers. Keeping the focus on the health of the baby and future abstinence for the individual is vital. Another challenge will be to discern complaints of pregnancy that are non-threatening from complaints resulting from withdrawal, especially from opiates. Tested tools are provided to guide assessment. Have a plan in place that clearly outlines the professionals or hospital/clinic to call when questions arise and when MOUD medication is needed.

Resources and Further Reading

Use of Medication-Assisted Treatment for Opioid Use Disorder in Criminal Justice Settings (https://store.samhsa.gov/product/Use-of-Medication-Assisted-Treatment-for-Opioid-Use-Disorder-in-Criminal-Justice-Settings/PEP19-MATUSECJS)
A guide focused on MAT (aka MOUD) for opioid use disorder treatment

Screening and Assessment of Co-Occurring Disorders in the Justice System (https://store.samhsa.gov/sites/default/files/d7/priv/pep19-screen-codjs.pdf)
A guide for screening for cooccurring mental health and substance use disorders within the justice system, with corrections specific advice

NIDA - Words Matter - Terms to Use and Avoid When Talking About Addiction: A CME/CE Activity (https://nida.nih.gov/nidamed-medical-health-professionals/health-professions-education/cmece-activities/your-words-matter-terms-to-use-avoid-when-talking-about-addiction-cmece-activity)
Discussion of what words to use and avoid and why

NIDA - Addiction Medicine Toolkit for Health Care Providers in Training NIDA - Addiction Medicine Toolkit for Health Care Providers in Training)
Wide range of topics geared towards healthcare professionals working with individuals with substance use disorder

Caring for Patients Who Have Experienced Trauma (https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2021/04/caring-for-patients-who-have-experienced-trauma)
ACOG's statement on how to improve care for patients who have experienced trauma

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Chapter 6: Pregnancy Complications

Warning Signs: indications to prompt a nursing assessment and evaluation by OB provider [1]

If any of the following symptoms present during pregnancy, the individual needs to be assessed by provider within 1 to 24 hours, depending on severity of symptoms.

- Signs of preeclampsia
  - See Hypertensive Disorders of Pregnancy section of this chapter
- Persistent nausea and vomiting
  - Unable to keep foods or fluids down in 48 hours or more
- Contractions, 6 in an hour and less than 37 weeks gestation
- Suspicion of leaking amniotic fluid with or without contractions
- Temperature of 100.4 degrees Fahrenheit/38 degrees Celsius or greater
- Decreased fetal movement (fewer than 10 movements in two hours; failed "kick count")
- Vaginal spotting or bleeding
- Suspect labor at term
  - See Chapter 7, Diagnosing Labor at Term

Red Flag Signs; indications for immediate assessment in the emergency department [1]

- Seizure
- Severe range blood pressures, twice, occurring 15 minutes apart
  - ≥160 mm Hg systolic and/or ≥110 mm Hg diastolic
- Absent fetal movement and/or absent FHTs
  - Decreased, but not absent, fetal movement may warrant referral to L&D/ED for monitoring
- Active vaginal bleeding visualized at introitus, filling a large pad in an hour
- Sudden, sharp abdominal pain that does not go away (not rhythmic or patterned as with labor contractions)
- Persistent abdominal/uterine rigidity and/or tenderness

Bleeding During Pregnancy [1]

Most pregnant people do not bleed during pregnancy, but it is not an uncommon occurrence. There are multiple causes of bleeding during pregnancy. Bleeding can be fresh (bright red) or old (dark brown). It may be slight and persist for several days or have a sudden heavy onset. Approximately 30% of pregnancies will experience some type of bleeding, most often in the first trimester. The incidence and cause of bleeding vary by trimester. Regardless of the cause or the gestational age of the pregnancy, all vaginal bleeding needs to be investigated to rule out causes that are life threatening.

This section will discuss bleeding during the pregnancy (antepartum) and as a possible sign of labor. Bleeding during delivery and the first 24 hours after birth will not be addressed. Bleeding after 24 hours of delivery is addressed in Chapter 9, Postpartum Care.

First Trimester Bleeding [1]

The most common causes of first trimester bleeding include: subchorionic hemorrhage, non-viable/anembryonic pregnancy and infection or irritation of the cervix or vagina. Most first trimester bleeding does not result in early pregnancy loss, but it is a concern for many who experience this bleeding. There are other causes of first trimester vaginal bleeding that need to be investigated, as they can be life threatening.

Pregnancy Loss/Spontaneous Abortion/Miscarriage

Most early pregnancy losses do not lead to significant complication, but there is possibility for hemorrhage and infection. Signs of early pregnancy loss include vaginal bleeding, cramping and passage of tissue. Viability of the pregnancy can be determined with ultrasound. If a pregnancy loss is detected, the provider and patient will develop a plan for follow up to ensure that the uterus expels the products of conception. This could include medical or surgical management.

Ectopic Pregnancy [2]

An ectopic pregnancy occurs when the embryo implants somewhere outside of the uterus, most commonly in the fallopian tube. In the early stages, individual may present with slight to moderate vaginal spotting and may have one-sided lower abdominal pain. In later stages they may present with moderate to heavy bleeding, dropping blood pressure and abdominal pain that may radiate to the neck or shoulder. The classic presentation of a tubal rupture is sudden unset of a severe sharp, stabbing, tearing lower abdominal pain. This may occur without any prior spotting or abdominal pain. Hypotension and shock develop quickly. **This is a true emergency, and they should be transported to the ER via ambulance immediately. It is best to assume that a pregnancy is ectopic until proven otherwise with an ultrasound, as it can rupture and cause life-threatening hemorrhage.**

Other possible causes of bleeding early in pregnancy include severe cervicitis, cervical lesions, cervical polyp, bleeding after insertion of object into the vagina, spotting during implantation, trauma, or bleeding that comes from a subchorionic bleed. Rarely, the bleeding may be a symptom of hydatidiform mole. All bleeding should be reported to a provider within 24 hours. If bleeding is heavy or accompanied by other symptoms such as abdominal/back pain, cramping or fever, the provider should be alerted urgently. Any severe pain or bleeding should be assessed emergently.

Nursing Assessment of First Trimester Vaginal Bleeding [1]

Having these questions answered when calling the provider will help expedite decision making:

- ❑ Was there a positive pregnancy test? When was the first positive pregnancy test?
- ❑ How far along in the pregnancy are they? When was their last menstrual period (LMP)?
- ❑ Have they had an ultrasound to confirm dates (establish an EDC/estimated date of delivery)?
- ❑ Have they had any prenatal care? Where? Can you call them/do we have records?
  - Do we know their blood type? Is RhoGAM administration needed?
- ❑ Have they had any bleeding with this pregnancy before this incident?
- ❑ Obtain a history of this bleeding incident
  - When did it start? Has it been continuous?
  - What color is it? Brown or pink or bright red?
  - Differentiate vaginal bleeding from blood in the urine or bleeding from hemorrhoids/rectal bleeding
    - Bleeding only when you urinate? When you wipe? Straining with stools?
  - How much bleeding is present? Enough to get on your underwear? Through your underwear? Are you using pads to contain the bleeding? If so, are you soaking through pads/how often?
    - **Any bleeding that soaks through a large pad in one hour or less should be emergently evaluated.**
- ❑ Is there pain or cramping? Where is it located (lower front, midline, right or left side, back, rectal, shoulder painful with breathing)? Can they rate the pain between 1 and 10, with 10 being the worst pain they have ever experienced?
- ❑ Have they been experiencing itching, burning, discomfort or abnormal/foul smelling discharge? Known or possible STIs?
- ❑ Has there been anything in their vagina recently?
- ❑ Obtain temperature, respirations, pulse, and blood pressure
- ❑ Inspect underwear and trousers for blood
- ❑ Consider inspecting perineum for active bleeding

First Trimester Bleeding Take-Aways

- Any bleeding that is associated with other symptoms needs prompt consultation with a provider to determine next steps
- Any bleeding that fills a large pad in less than an hour is emergent, and your facility's medical emergency protocols should be followed
- Any signs/symptoms that indicate hemodynamic instability require immediate transport to the hospital
- Given the circumstances in many jails, it is prudent to always contact provider with nursing assessments to determine the next step

Second and Third Trimester Bleeding

The most concerning causes of bleeding after 24 weeks gestation include placenta previa, placenta abruptio or impending labor (preterm or term). However, as in early pregnancy, cervical polyps or lesions, STIs or vaginitis may also be associated with vaginal or cervical bleeding or spotting.

Placenta previa [1]

When the placenta is covering or lying within 2 cm of the cervical OS, it is called placenta previa. If the placenta is within 2 cm of the cervical OS, it is considered low-lying. Both placenta previa and low-lying placenta require additional monitoring during pregnancy. Diagnosis of placenta previa is made by ultrasound. It is often found at routine ultrasounds or during the evaluation of vaginal bleeding in the 2nd and 3rd trimesters. Placenta previa can resolve as the pregnancy progresses and the uterus grows. Follow up ultrasounds will be completed later in the third trimester to monitor the position of the placenta and determine the plan of care. Individuals with placenta previa might be counseled to avoid vaginal penetration and activities that lead to orgasm because they may provoke bleeding. Providers may also advise these patients to avoid strenuous exercise and lifting more than twenty pounds.

Risks to individual or fetus:

- If labor begins with the cervix covering all or part of the cervical OS, it can result in hemorrhage and decreased blood flow to the fetus
- If placenta previa remains at 36 weeks, cesarean section is typically recommended between 36 and 38 weeks to avoid the risk of labor beginning.
    - Delivery may be recommended sooner if bleeding begins earlier in pregnancy.

Signs and symptoms of placenta previa:

- Painless vaginal bleeding, any amount
    - bright red in color
- Uterus remains uncontracted, no abdominal pain

Nursing Assessment for Placenta Previa [1]

If an individual has a **known placenta previa** (found on ultrasound) and experiences any vaginal bleeding, it is emergent and needs **immediate evaluation at the hospital**.

Placenta previa may occur when someone presents with painless bright red bleeding in the second or third trimesters. Diagnosis will require medical evaluation.

- ❑ Ask when bleeding started. How much and what color? Has it increased, stayed the same or decreased since it began? Any clots seen? Mucus?
  - Is this the first time they have experienced bleeding this pregnancy?
- ❑ Do they know where their placenta is located?
- ❑ Do you have an ultrasound report that confirms placental location?
- ❑ Observe the perineum for bright red bleeding. How much? Any evidence of rupture of membranes?
- ❑ Are they in labor? Any abdominal pain or uterine contractions? If contractions reported, palpate the uterus to verify (See Chapter 7, Diagnosing Labor at Term)
- ❑ Maternal vital signs
- ❑ Fetal heart rate (if available/within scope)

Next steps will be based on the amount of bleeding seen and associated symptoms. If there is continuous bright red bleeding, even in small amounts, the patient should be transported for emergent evaluation. If bleeding is better described as spotting, is only noted with wiping, or is pink or brownish, call the provider to determine next steps.

Placental abruption [3]

If the placenta separates from the uterine wall during pregnancy, before the baby is born, it is called a placental abruption. Placental abruption is a **true emergency**. Without the placenta securely attached to the uterus, the fetus will not receive sufficient oxygen to survive. Abruptions can be partial or total. In a partial abruption, portions of the placenta remain attached to the uterus and able to provide oxygenation to the fetus. In a complete abruption, the entirety of the placenta is detached from the uterus, which completely interrupts fetal oxygenation and frequently results in fetal death and significant maternal hemorrhage. The greater the surface area of the placenta attached, the more oxygen the fetus is receiving.

Some abruptions are “concealed” meaning that the placenta is detaching but the blood is contained between the uterus and placenta and does not present with vaginal bleeding. This makes early diagnosis more difficult, as vaginal bleeding is a prominent sign of abruption. Prompt identification and immediate delivery are key to reducing maternal and neonatal morbidity and mortality, act quickly!

Risk factors for placental abruption:

- Hypertension or preeclampsia
- Cigarette smoking
- Cocaine use
- Previous uterine scar, including previous cesarean
- Abdominal injury such as car accident, a direct blow to the abdomen
- Premature rupture of membranes with uterine infection

Signs and symptoms of abruption:

- Early symptoms can mimic labor, including cramping and low back pain
- Decreased fetal movement, or sudden surge of movement not typical for the fetus could signal an abruption
- Classic presentation includes sudden severe, constant abdominal pain
- Uterus feels ridged/hard, without softening as you would expect with contractions
- Often accompanied by vaginal bleeding, but concealed abruptions are possible
- FHT may be absent if abruption is complete

Risks to pregnant person:

- Hemorrhagic shock
- Coagulation defects leading to development of disseminated intravascular coagulation (DIC)
- Anemia
- Maternal morbidity is uncommon, but does occur, especially if remote from hospital

Risks to fetus/neonate:

- Perinatal mortality rate increases with severity of abruption; fetal death is associated with an abruption of greater than 50% of the placenta
- Fetal outcome depends on severity of abruption, weeks' gestation and length of time from diagnosis to birth
- Possible prematurity, anemia and hypoxia resulting in permanent damage to neonate

Nursing Assessment for Placental Abruption [3]

When a pregnant individual in their second or third trimester presents with sudden onset of severe, unrelenting abdominal pain, with or without bleeding, respond as if an emergency:

- ❑ Call 911 for an ambulance
- ❑ Place hand on their gravid abdomen and assess whether it is rigid or tender to palpation
- ❑ Vital signs
- ❑ With complete abruption, individual may quickly present with signs/symptoms of shock)
- ❑ Assess for fetal movement
- ❑ Fetal heart tones using doppler
    - o Don't delay transport by searching too long for FHT
- ❑ Call ED to report assessment (e.g., admitted to jail 3 hours ago, any history of illicit drug use. Term/near term or weeks gestation if you know, sudden onset of unrelenting abdominal pain, any bleeding noted, FHT assessed or not. Estimate time of arrival)

Someone who presents with less severe symptoms may be experiencing a partial abruption, still requiring further assessment in ED or labor and delivery unit in the hospital.

- Decreased fetal movement OR sudden surge of fetal movement
- New onset low back pain or contractions, particularly before 37 weeks
- Uterus tender to palpation
- Small to moderate amounts of vaginal bleeding
  - May believe it to be bloody show or blood-tinged amniotic fluid
  - Not always present with concealed abruption

If any continuous vaginal bleeding is present, urgent transfer to the hospital is warranted. When in doubt, transport.

Any pregnant person who experiences abdominal injury (fall, punch/kick, car accident, etc.) should be seen urgently in a facility that can monitor the fetus continuously, most often a hospital.

Hypertensive Disorders in Pregnancy [2,4]

The hypertensive disorders of pregnancy are divided into four categories: chronic hypertension, gestational hypertension, preeclampsia, and chronic hypertension with superimposed preeclampsia:

- **Chronic hypertension** is that elevated blood pressures are seen either prior to pregnancy or before the 20th week of pregnancy
- **Chronic hypertension with superimposed preeclampsia** is when Individuals with chronic hypertension go on to experience signs and symptoms of preeclampsia
- **Gestational hypertension** is characterized by elevated blood pressure after the 20 weeks gestation, without any signs or symptoms of preeclampsia
  - A significant portion of individuals with gestational hypertension will go on to develop preeclampsia
- **Preeclampsia** is diagnosed if there are new-onset elevated blood pressures after 20 weeks gestation, along with additional signs and symptoms of preeclampsia as discussed in the next section

Preeclampsia [2, 5]

Preeclampsia stems from abnormal placentation and a defect in the spiral arteries of the placenta. Typically, the spiral arteries develop into large, low-resistance vessels that allow for increasing blood flow as pregnancy progresses. In preeclampsia, the vessels are unable to accommodate which leads to hypoxia and ischemia of the placental tissues. The damaged placental tissue triggers a cascade of inflammatory processes which can lead to hypertension and eventually kidney, liver, and brain damage.

Preeclampsia can develop and progress slowly over weeks or become severe and require delivery in a matter of hours. There are three major classifications of preeclampsia:

- Preeclampsia
- Preeclampsia with severe features
- Eclampsia

Preeclampsia (with or without severe features) is differentiated from eclampsia by the presence of seizures. If someone who was diagnosed with preeclampsia has a tonic-clonic seizure, they have now moved to the diagnosis of eclampsia.

Preeclampsia

To diagnose preeclampsia, the individual must have new onset hypertension, ≥140 mm Hg systolic or ≥90 mm Hg diastolic or both in two separate readings at least 4 hours apart, and proteinuria (2+ on dipstick or protein/creatinine ration >.3 mg/dL). In the absence of proteinuria, any of the following end organ dysfunction markers can be used to make a diagnosis of preeclampsia:

- low platelets
- Renal impairment measured by serum creatinine
- Hepatic involvement measured by elevations of ALT/AST
- Pulmonary edema
- New onset headache not responsive to rest, hydration, or medication
- Visual disturbance (spots, flashing lights, new onset blurriness, sudden change in visual field, etc.)

Preeclampsia with severe features

This is diagnosed when blood pressures reach severe range levels of ≥160 mm Hg systolic or ≥110 mmHg diastolic or both, on two separate readings measured at least 15 minutes apart. It can also be diagnosed with mild to moderately elevated blood pressure (≥140 mm Hg systolic or ≥90 mm Hg diastolic or both) if 2 or more signs of end-organ damage are present:

- low platelets
- Renal impairment measured by serum creatinine or urine PCR
- Hepatic involvement measured by elevations of ALT/AST
    - Severe right upper quadrant or epigastric pain
- Pulmonary edema
- New onset headache not responsive to rest, hydration, or medication
- Visual disturbance (spots, flashing lights, new onset blurriness, sudden change in visual field, etc.)

People at greater risk for preeclampsia include [5]:

High Risk Factors	Moderate Risk Factors
Chronic hypertension	First pregnancy
History of preeclampsia in a previous pregnancy	BMI ≥30
Twins or higher order multiples	Age ≥ 35
Type 1 or 2 diabetes	Personal history risk factors
kidney disease	Sociodemographic characteristics (low socioeconomic status, African American race)
Autoimmune conditions	Family history of preeclampsia

Eclampsia [5]

Eclampsia is a **medical emergency.** The presence of seizure activity not better explained by another diagnosis (epilepsy, drug use, etc.) is the diagnostic feature of eclampsia. Seizures are often precipitated by neurological signs and symptoms such as photophobia, blurred vision, headache and hyperreflexia. The progression from preeclampsia to eclampsia is not linear, and roughly a third of individuals who experience an eclamptic seizure do not demonstrate symptoms of preeclampsia prior to seizing.

HELLP syndrome [5, 6]

HELLP syndrome stands for **H**emolysis, **E**levated **L**iver enzymes, **L**ow **P**latelets and has significant overlap with preeclampsia in presentation and signs/symptoms. It has often been described as a more severe form of preeclampsia, as many individuals who develop this condition begin with a diagnosis of preeclampsia. However, 15-20% of individuals with HELLP syndrome do not develop elevated blood pressure or proteinuria, the classic signs of preeclampsia, which can make identification difficult.[6] HELLP is most often seen in the third trimester, approximately 70% of cases, and the rest occur postpartum within 48 hours of delivery.[6] The most common presenting symptoms are right upper quadrant pain with generalized malaise (90% of cases) and nausea and vomiting (50% of cases).[5] HELLP has a maternal mortality rate of up to 24% and a perinatal death rate of up to 37%. and relies on early diagnosis for improving outcomes.[6]

Individuals with HELLP syndrome can be very ill, very quickly. The inflammatory cascade created by this condition can lead to numerous complications including disseminated intravascular coagulation (DIC), respiratory failure, acute kidney injury, liver failure and others. These patients are ideally cared for in tertiary care facilities that can provide adult ICU and high-level NICU care. Obstetrical Management of Hypertensive Disorders of Pregnancy:[5]

Obstetrical management is a balance between severity of the disease, the gestational age of the fetus and avoiding further progression. An individual plan will be developed with the patient and provider. Gestational hypertension and preeclampsia without severe features may be managed expectantly (watched closely for signs of symptom progression, more frequent monitoring,

47 etc.) until 37 weeks gestation, when delivery is recommended. Be sure to clarify this plan with the OB provider, especially if the patient is going to remain at the jail facility. Determine what nursing assessments and interventions the provider would like and how often they should be done.

If preeclampsia with severe features is diagnosed and the individual is greater than 34 weeks gestation, delivery is typically recommended at the time of diagnosis. For a small number of individuals less than 34 weeks' gestation, based on their unique clinical picture, expectant management may be utilized after weighing the risks and benefits to both the pregnant person and neonate. This will necessitate **inpatient admission** to an antepartum or labor and delivery unit. Eclampsia is an indication for expedited delivery regardless of gestational age.

Nursing Assessment and Intervention for Hypertensive Disorders

- If a pregnant person presents with any of the signs/symptoms of preeclampsia, a blood pressure and urine dipstick (if available, 2+ is threshold) should be checked.
- If blood pressure is elevated (≥140/≥90, either or both) the provider should be notified ASAP. Report results of the urine dipstick if applicable. Alert provider to any other symptoms the patient is experiencing, if applicable. Provider may request that the patient be transported to the hospital for monitoring.
- If patient remains at facility, repeat the blood pressure measurement in 4 hours; if it remains elevated notify the provider and determine next steps.

If the blood pressure falls in the severe range (≥160/≥110, either or both) or if they have an elevated blood pressure in the mild/moderate range and are exhibiting signs/symptoms of end organ damage as noted above (headache, right upper quadrant or epigastric pain, vision changes, pulmonary edema, general malaise, nausea/vomiting, photophobia, hyperreflexia, etc.) plans should be made to transport the patient emergently via ambulance. Consider calling ahead to the facility to provide your assessment and any background information.

Diabetes Mellitus (DM) and Gestational Diabetes (GDM) [2]

In a normal pregnancy, carbohydrate metabolism is altered to facilitate glucose transport to the fetus, ensuring adequate nutrition and growth. As the placenta grows, it secretes a hormone called human placental lactogen (hPL), that increases the individual's resistance to insulin. Typically, the pancreas can make up for this insulin resistance by secreting additional insulin, but when the insulin needs outpace the body's ability to produce it, a diabetic state is created.

Individuals who do not have preexisting/pregestational diabetes (type 1 or 2) are screened for GDM between 24- and 28-weeks' gestation. If their blood sugar is elevated during this screening, they will undergo a three-hour oral glucose tolerance test to diagnosis GDM. Individuals with certain pre-pregnancy risk factors may be offered early screening in addition to the usual screening. Emotional responses to being diagnosed with GDM vary widely, from obsession with diet and glucose monitoring to denial of a problem and resistance to treatment plan. These people do not feel sick and are sometimes not convinced that their pregnancy is at higher risk.

Risks for the person with any type of DM:

- Polyhydramnios, increased volume of amniotic fluid occurs in 10 to 20% of pregnancies affected by DM
- Preeclampsia/eclampsia
- Likely will be recommended to take 81 mg “baby aspirin” daily beginning at 12 weeks
- Hyperglycemia usually develops slowly but can lead to coma and death for pregnant person and fetus
- Diabetic ketoacidosis
- Hypoglycemia - for individuals utilizing insulin for blood sugar control
- Preterm labor and birth
- Vaginal yeast infections

Risks for individuals with preexisting/pregestational DM (not GDM)

- Spontaneous abortion
- Worsening retinopathy
- Incidence of congenital anomalies is higher in patients with pregestational diabetes

Risks for the fetus and neonate:

- Large for gestational age or macrosomia
- Intrauterine growth restriction, if there is vascular damage due to advanced DM
- Stillbirth or intrauterine fetal demise (IUFD)
- Respiratory distress syndrome
- Polycythemia
- Hyperbilirubinemia

Nursing Assessments and Interventions for Diabetes in Pregnancy

The following are recommendations based on diabetes type and will vary by patient:

- **Type 1 diabetes:** consult with an endocrinologist to discuss pregnancy’s effect on insulin needs and develop a care plan. Individuals require less insulin in the first trimester with increasing needs in the second trimester, followed by a decreased need in the third trimester and postpartum. Trends should be closely monitored.
- **Type 2 diabetes:** individuals should work with their care team to develop a plan to effectively manage their blood sugars. This may entail continuing current medications, adding or changing medications or utilizing insulin.
- **Gestational diabetes:** many people who develop can control their blood sugars using diet and exercise, but some may require medication. Referral to a nutritionist who is well versed in GDM can be very helpful. Close monitoring by their OB provider is important. Regardless

of what type of diabetes a person has, maintaining good blood sugar control can help people avoid complications for themselves and the neonate.

Routine Treatment

During pregnancy, treatment is focused on stringent glucose control.

- Contact prenatal care provider for details of glucose monitoring, insulin administration and dietary regulation
  - Expect more frequent prenatal visits and fetal monitoring
- Expectations and Guidelines for care:
  - Dietary needs: may have referral to dietician specializing in GDM or pregestational diabetes, recommendations for specific nutritional plan may be individualized.
  - Glucose monitoring: monitoring of glucose levels multiple times daily, as ordered by obstetrical provider. Record glucose levels in daily diary for them to take to their prenatal visits. This is required for insulin management and assessing glucose control.
    - DM1 patients will likely have different medical orders and needs, some use continuous glucose monitors and insulin pumps, others check BG and administer insulin manually.
  - For DM2 and GDM patients, if glucose control is not achieved through diet and exercise, medications will be added.
    - Oral medications have been shown to be as effective as insulin and may be used in pregnancy
    - Insulin administration: multiple daily injections are common.
    - Follow prescribed physician orders for insulin management or administering oral hypoglycemics.
  - Encourage patient to be aware of fetal movement and note changes in movement patterns. Discuss kick counts (10 movements in 2 hours while laying on left side with hands on abdomen) for if/when they notice a change in movement pattern or become concerned that baby is not moving as much as usual.
    - Movements felt from inside and outside both count
    - Sometimes the perception of movement is not as obvious when people are up and moving around, but when they lay down the movement is noticeable
    - If a kick count is performed and decreased fetal movement is noted, urgent evaluation at the hospital is advised
- Clarify with OB provider:
  - Parameters for glucose control, what are they?
    - What is too high, what is too low?
  - When does OB provider want to be called? At what glucose reading or number of readings in a week does the provider want to be called?
  - What activities can they take part in while incarcerated? Are any activities limited?

Red Flag Signs and Symptoms in Diabetic Patients

Hypoglycemia - especially if insulin is administered.

- Mental confusion, difficulty concentrating
- Visual disturbances, heart palpations
- Tremor or shakiness
- Anxiety, irritability, hostile
- Cold, clammy or sweating skin
- Pallor
- Staggering gait
- Fatigue
- Headache
- Abdominal pain or nausea
- **Loss of conscious or fainting**
  - This is a medical emergency, and the individual should be seen in the ED
  - Do not attempt to feed them or give them juice while unconscious, use glucagon injection or nasal spray if available; consider requesting a prescription for this if it is not readily available at your facility.

If conscious, treat hypoglycemia with glucose: 15 grams of oral glucose or ¾ cup of juice. Wait 10 to 15 minutes. If no improvement, treat again. If next meal is more than an hour away, give snack with carbohydrate and protein, for example cheese and crackers.

Once acute hypoglycemia is resolved:

- Assess daily food intake, not skipping meals or adding extra food or glucose drinks. Note if glucose levels are too high or too low.
- Document and send assessments, including glucose diary to provider, or if urgent, contact provider for next steps.
- Provide feedback to the individual about their glucose control, effectiveness of diet or insulin treatment, encourage regularly scheduled activity and/or exercise
- Contact primary obstetrical provider with any questions regarding insulin requirements, change in dietary patterns, daily glucose measurements too high or too low, or signs and symptoms of hypoglycemia

Perinatal Infections

An infection caused by a bacteria or virus that can be passed from pregnant person to the baby during pregnancy or delivery is called a perinatal infection. These infections need to be treated to avoid further complications such as pre-term labor or transmission of the infection to the fetus or newborn.

Sexually Transmitted Infections (STIs) [7, 8]

Pregnant people with untreated STIs are at risk for preterm labor, premature rupture of the membranes and uterine infection after delivery. Syphilis, Gonorrhea and Chlamydia are often asymptomatic. The CDC recommends all pregnant people be screened for Chlamydia, Gonorrhea, Syphilis, Hepatitis B, Hepatitis C, and HIV.

When the individual has an STI, the risks to the newborn include stillbirth, low birth weight, conjunctivitis, pneumonia, neonatal sepsis, neurologic damage, blindness, deafness, acute hepatitis, meningitis, chronic liver disease, and cirrhosis, depending on which infection is present. Most of these problems can be prevented if there is appropriate prenatal care that includes initial screening tests for STIs, repeated screening in the 3rd trimester and appropriate treatment.

Ophthalmia Neonatorum [9]

A prophylactic antibiotic ointment can be instilled into the newborn's eyes within the first hours of life. It was first introduced to prevent blindness caused by undiagnosed gonorrhea infection, but it is now more common for infants to develop this condition related to undiagnosed chlamydia infection. In Minnesota, it is standard practice to administer this medication prophylactically to all newborns regardless of the pregnant person's infection status. It is possible to opt out of this administration.

Hepatitis B [9]

The CDC recommends all neonates born to people with a positive Hepatitis B Antigen (HBsAG) be given Hepatitis B immune globulin (HBIG) and hepatitis B vaccine within the first 12 hours of life. This is followed by completion of the Hepatitis vaccine series during the first year of life. These initial injections will be given to the newborn in the hospital before discharge.

Genital Herpes [8]

To prevent transmission of genital herpes to the neonate, the CDC recommends prophylactic treatment beginning at 36 weeks of pregnancy with an antiretroviral such as acyclovir. Active lesions in the genital area during labor are an indication for a cesarean section to decrease risk of transmission to the neonate. After thorough examination on admission, if no lesions are present, vaginal delivery is attempted.

HIV [8]

The CDC recommends that HIV positive individuals receive antiretroviral treatment during pregnancy, delivery and continued postpartum as appropriate. The risk for perinatal transmission can be reduced to less than two percent with proper antiretroviral treatment. Breast feeding is not advised in the U.S. for individuals who are HIV positive. Viral load should be assessed at term, and those with a viral load over 1000 copies/mL should be advised that a cesarean section will decrease the risk of transmission. The neonate typically begins treatment with antiretroviral medications between 6 and 12 hours after delivery and should be closely monitored. If the person is identified as HIV positive, treatment orders should be obtained from the provider.

Other Perinatal Infections

Group B Streptococcal Disease (GBS) [10]

GBS is the leading cause of early onset neonatal sepsis in the United States. Between 15-40% of pregnant people have GBS colonization in their genital tract and/or GI system. In healthy adults, GBS colonization is asymptomatic and does not result in infection. Typically, a urine sample is obtained at the beginning of pregnancy and sent for culture. If this urine culture is positive for GBS colonization, then the individual is presumed to have colonization at term, as colonization of the urinary tract is more persistent than colonization of the genital or GI tracts. If this culture is negative, a swab is collected from the vagina and rectum for GBS screening around 36 weeks gestation.

To prevent the transmission of group B streptococcal disease (GBS), the CDC recommends pregnant people who test positive for GBS colonization during pregnancy receive prophylactic antibiotic treatment during labor. The goal is to complete the administration of the antibiotic 4 hours or more prior to delivery. For individuals who decline treatment for GBS positive status or delivery their babies too quickly to receive treatment, the risk that the neonate will develop newborn sepsis is approximately 0.5-1%. [9]

Nursing Assessment and Intervention for Perinatal Infections

The presence of STIs or other perinatal infections most often requires no specific action by health personnel in correctional facilities. The screening and treatment of STIs is part of prenatal care.

- Administer medication as directed by provider
- Observe standard universal precautions in drawing and handling blood and other body fluids
- If someone comes to you and is symptomatic of infection, report these symptoms to the provider who will determine next steps
    - Some perinatal infections predispose individuals to preterm labor, more urgent consultation is warranted if an individual is also experiencing preterm labor symptoms
- If pregnant and not receiving prenatal care, follow agency guidelines to enroll the pregnant person in prenatal care in order to be screened and treated before delivery.
- If postpartum, ask if they were diagnosed with any STIs, HIV, Hepatitis or other infections during pregnancy

Preterm Labor [1]

Contact provider and ascertain what treatment if any is needed while in your facility The definition of preterm labor is onset of labor after 20 weeks but before 37 weeks of pregnancy. It can be a difficult diagnosis. When suspected, send the individual to the hospital for evaluation.

Preterm labor is more common in people with intrauterine infection, pyelonephritis, substance abuse (including tobacco), multiple gestation, history of cervical surgery, low socioeconomic status and stress (including untreated depression, anxiety and PTSD) among others. The most

predictive risk factor for preterm birth is if the individual has had a preterm delivery in a previous pregnancy. For these people, it may be recommended by their OB provider that they receive progesterone injections in 2nd and 3rd trimesters. While not causally linked, prompt treatment of vaginal and urinary tract infections can prevent further development into intrauterine infection and pyelonephritis.

Preterm Labor Signs and Symptoms:

- 6 or more contractions in an hour
- menstrual like cramps
- regular occurring tightening or pain in lower back or abdomen
- pelvic pressure, “feels like the baby is going to drop out”
- vaginal bleeding
- leaking fluid, clear to clear with white specks to green. Amniotic fluid does not smell like urine. Any suspicion of ruptured membranes or leaking amniotic fluid warrants transfer to the hospital

Nursing Assessment and Intervention for Preterm Labor

If pregnancy is between 20 and 37 weeks, with 6 or more contractions in an hour, vaginal bleeding or leaking fluid call the Labor & Delivery unit at the hospital where delivery is planned with nursing assessments to determine transport. It is difficult to predict how quickly transport should take place. The individual with more frequent contractions, lasting 40 seconds or more, with bleeding or loss of amniotic fluid requires immediate transfer.

- ❑ Obtain vital signs, blood pressure, and FHTs using doptone if available/within scope
- ❑ Assess contractions by palpating the uterus, frequency, duration in seconds and intensity (see Diagnosing Labor at Term for description of intensity)
- ❑ Observe perineum for bleeding and leaking fluid
  - Ask if they have experienced bleeding or leaking of any fluid.
  - Observe fluid for amount, color or odor.
- ❑ Assess for signs and symptoms of urinary tract infection (urgency, dysuria, blood in the urine)
- ❑ Assess symptoms of bacterial vaginosis (change in vaginal discharge, odorous discharge)
- ❑ Ask about precipitating events like falls, injuries, unusual amounts of exercise, exposure to heat for a prolonged period etc.
- ❑ Observe emotional state
- ❑ Document findings
  - Patient background-
    - Include gravida and para (G_P_), gestational age, contraction frequency, length, and intensity, vital signs
  - History of current episode- what, where, when, how
  - Exam findings - visible signs, emotional state
  - Pertinent negatives - denies loss of fluid, vaginal bleeding, painful urination, etc.

Ideally a nurse should stay with the individual while waiting for transport. Assure them that they will get to the hospital as soon as possible, ask them to lay on their left side and encourage slow deep breathing. Encourage them to drink 2 to 3 glasses of water. Walking around or increased agitation could augment their contractions, so encouraging rest and providing reassurance is important.

Perinatal Loss [11, 12]

Perinatal loss includes spontaneous abortion, stillbirth, intrauterine demise or newborn alive at birth, but dies within 28 days after birth. The cause of a perinatal death is often unknown or uncertain. They may be the result of genetic mutations or congenital anomalies that are not compatible with life. Intrauterine death can also be caused by infections, maternal diabetes, chronic hypertension, pre-eclampsia, Rh disease, or uterine rupture. Abnormal placenta attachment or separation, cord accident, substance abuse, or premature rupture of membranes may also result in fetal death. The neonate born prematurely is at greater risk for morbidity and mortality.

The response of the individual to a perinatal loss is dependent on a host of factors, many of which may not be disclosed to the jail nurse. Research has confirmed that the grief response can include physical symptoms, thoughts, feelings, functional limitations and spiritual reactions. Cultural patterns of grieving and traditional structures of social support will likely be interrupted by the person's incarceration and further exacerbate their grieving.[12]

A unique facet of loss that impacts incarcerated individuals is the feeling of loss from being separated from their child(ren). While a patient may give birth to a healthy baby, upon return to their jail facility without their baby, they may experience grief similar to those who have lost their child. Validating these feelings and being careful not to minimize their experience of loss is crucial. Although their child is healthy and being cared for, they are missing out on the early bonding and milestones and this loss real, too.

Nursing Assessments and Interventions for Perinatal Loss

When there has been a perinatal loss that you are aware of

- Take time to assess their emotional state
  - For some experiencing unplanned pregnancy, there may be mixed emotions about an early pregnancy loss/miscarriage; perhaps relief followed by guilt, unexpected sadness as they “thought they didn’t want it”, etc. The only way to know how they are feeling is to ask.
- Validate the emotions that the individual is experiencing grief, sadness, relief, uncertainty, anger, confusion, frustration, etc.
  - It may be appropriate to express sympathy, but be cautious not to assume how the individual is feeling as it may provoke feelings of shame
    - If you say, “I’m so sorry for your loss”, but the patient was feeling relieved about a miscarriage, the message may be “your reaction isn’t normal, you shouldn’t feel that way”

- Offer the counsel of someone who is skilled on grief counseling in jails, such as a jail chaplain or mental health practitioner, whomever your facility utilizes for these services
- Offer services of psychiatrist if available or referral if behavior is severe

Document assessments with description of behavior or statements from the individual, include time frame and if action was taken.

Depression during Pregnancy and Postpartum

Legal Requirements in Minnesota's Carceral Settings

Current state statutes relating to access to mental health screening, treatment can be found here: [Prenatal and Postpartum Mental Health Requirements (https://www.revisor.mn.gov/statutes/cite/241.89)](https://www.revisor.mn.gov/statutes/cite/241.89)

The law requires that every pregnant or postpartum individual has access to mental health assessment, diagnosis and treatment. The importance of this was highlighted above in the discussions about outcomes related to specific mental health conditions. The tools linked below can help screen for depression in pregnancy and postpartum. One way to ensure that each person is receiving the appropriate services is to discuss the options with them. Depending on the length of time someone is in custody, this process may look different. For short term stays, it may be a public health nurse referral. For longer stays, it will likely require some case management to ensure that they are seen by providers who can meet the requirements of the statute (prescription of psychotropic medications and/or therapeutic care) depending on their situation. Consider what policies and procedures your institution has in place for mental health care and consider adapting them or creating new ones to best suit this population and legislated requirements.

Depression During Pregnancy [17–20]

The incidence of depression during pregnancy is approximately 15% and is most common in the third trimester.[19] Pregnancy does not protect against depression or mood disorders. Depression may first be experienced and diagnosed during pregnancy or pre-existing depression may be aggravated with pregnancy. It is also known that maternal depression adversely affects child development.[17] Screening for depression during pregnancy and after delivery is considered a part of routine prenatal care.

One of the most effective ways for the nurse caring for pregnant people in jail to learn about their mood, is to ask. How have you been feeling? Are you sleeping and eating okay? Learn what the corrections officers have observed.

Risk factors for depression during pregnancy include:

- Being incarcerated
- Pre-existing depression
- Life stress
- Poor social support
- Poor marital/partner relationship

- Single
- Family history of depression
- Prior pregnancy loss (still born or fetal death)
- Unresolved ambivalence about pregnancy
- History of postpartum depression

Signs or symptoms of depression in pregnancy (diagnostic criteria DSM 5):

Every day or nearly every day experiencing 5 or more of the following during a 2-week period:

- Depressed mood most of the day as evidenced by statement from the individual that they feel sad or empty or by observation made by others, e.g., appears tearful.
- Markedly diminished interest or pleasure in all or almost all activities
- Significant weight loss or weight gain without intention
- Insomnia or hypersomnia
- Fatigue or loss of energy
- Psychomotor agitation or retardation, as observed by others (not just feeling sluggish)
- Feelings of worthlessness or excessive or inappropriate guilt (may be delusional)
- Diminished ability to think or concentrate or indecisiveness
- Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

Treatment of Depression in Pregnancy

If pre-existing depression and the person in taking selective serotonin reuptake inhibitors (i.e., Fluoxetine, sertraline), the provider will determine with the individual the benefit versus the risk of continuing the antidepressant or making a change in their medication. For newly diagnosed depression during pregnancy, the provider and patient must weigh the risk versus the benefit of taking medication. Hypothyroidism can also contribute to a depressive state. Thyroid levels can be checked by their OB provider. In addition to antidepressant medication, the individual may be encouraged to seek talk therapy or counseling. A balanced diet, regular exercise and a good support group are also suggested to manage depression.

Nursing Assessment and Intervention for Depression During Pregnancy

- Clarify medications ordered are from a physician who knew they are pregnant
- Assess for signs and symptoms (given above) of depression daily
- Ask the pregnant person how they are feeling. See signs and symptoms of depression noted previously.
- Screen for risk for suicide:
    - Do you have thoughts of harming yourself?
    - Do you have a plan? Is the plan vague or well defined?
    - Do you have the means to carry out the plan?

    - People are at greatest risk if they have rehearsed a well thought out plan in their head.
    - Asking about suicide does not increase likelihood of attempts or completions
    - Many people do not want to commit suicide but cannot bring themselves to ask for help; asking them about suicidal ideation, plan and intent may be the only way it will be addressed
    - Follow agency guidelines for reporting, monitoring and safety measures for persons depressed or have thoughts of suicide.

- Contact provider with nursing assessments to determine next steps. Anticipate provider will want to see them to determine a diagnosis and develop a treatment plan
  - Treatment may include medication with or without talk therapy
  - Inpatient care might be warranted for severe symptoms

Resources and Further Reading

PHQ-9 (Patient Health Questionnaire-9) (https://www.mdcalc.com/phq-9-patient-health-questionnaire-9)
Interactive Patient Health Questionnaire

Patient Health Questionaire-9 (PHQ-9) (https://www.apa.org/depression-guideline/patient-health-questionnaire.pdf)
PDF copy of PHQ-9

American College of Obstetricians and Gynecologists (ACOG) - During Pregnancy (https://www.acog.org/womens-health/pregnancy/during-pregnancy)
FAQ sheets about pregnancy conditions, complications, considerations

CDC - During Pregnancy (https://www.cdc.gov/pregnancy/during.html)
CDC website with steps to take for a healthy pregnancy

MDH Women and Infants (https://www.health.state.mn.us/people/womeninfants/index.html)
List of Minnesota-specific resources through the Minnesota Department of Health

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Chapter 7: Diagnosing Labor at Term

Assessing cervical change requires a pelvic exam and it is not expected that nurses attending the health needs of pregnant persons in the jail setting possess this skill. Therefore, it is important to be able to recognize the signs and symptoms of labor and transfer patients to a hospital when appropriate.

Developing a Plan for Labor

Prior to labor, each pregnant person in your facility who is greater than 24 weeks should have a delivery plan. Include in the plan:

- Where delivery will take place
- How long will it take to transport?
- Know the telephone number of the labor and delivery unit at the hospital, and who to call with questions or when the person is in labor
    - Sometimes it is a clinic phone number, sometimes it is the hospital labor unit
- Transport options including who will accompany the inmate to the hospital and under what security measures

Signs and Symptoms of Prelabor (Formerly "False Labor") at Term [1]

- Contractions can be irregular or regular, may or may not be painful, more likely to decrease or subside with walking or lying down
    - Can last for a few hours or intermittently over multiple weeks; it can be an exhausting time
- Bloody show by itself does not indicate labor
    - It occurs when there is breakdown of the mucus plug that blocks entrance to the uterus. Bloody show tends to have mucus entwined in the blood and is typically noted when the individual wipes after urinating
        - It can come out over the course of multiple days and can also regenerate, which is why it is not a particularly reliable indicator
    - It may be difficult to differentiate bloody show from bleeding or spotting from the vagina.
        - It is always prudent to have a pregnant person assessed by a physician when there is blood from the vagina.

Stages of Labor [1]

Labor is traditionally divided into three stages: first, second and third stage. Your goal is to have the person safely transported during the first stage of labor. First stage is further divided into 2 phases: latent (0 to 6 cm dilated) and active (6 to 10 cm dilated). Second stage begins when the individual is completely dilated and ends when the baby is delivered. Third stage begins when the baby is born and ends with the delivery of the placenta.

Signs and Symptoms of Labor at Term (37 to 42 Weeks) [1]

Contractions

Experienced as the uterus tightens and relaxes. These pains may start as irregular sensations of tightening beginning in the back and radiating to the front of the abdomen or as menstrual cramps felt more in the suprapubic area. Most often labor pains become more regular, frequent, last longer and are increasing in intensity. The stronger the contractions become, the harder it is to talk or walk through the pain. Depending on the position of the fetus, an individual may experience more intense pain in their lower back during a contraction. This is thought to be caused by the fetal head being pushed against the sacrum during contractions.

Rupture of membranes

When the membranes rupture there may be a gush of fluid followed by continuous leaking of fluid from the vagina. In some labors the rupture is small and the presenting head pushes against the ruptured membrane, not allowing fluid to pass. The individual in this case may notice a trickle of fluid followed by little to no fluid from the vagina. The amniotic fluid should be clear with occasional white specs. Fluid that is colored green or dark yellow indicates passage of stool by the fetus in utero. This is more common when the pregnancy is past 41 weeks gestation but can be a sign of fetal distress.

Gastrointestinal Symptoms

While not diagnostic, many individuals experience a short course of nausea/vomiting/diarrhea in the hours or days before labor begins. If these symptoms are not better explained by a more systemic GI illness, this may be an indicator of impending labor. It may be a function of changing hormone levels and increasing prostaglandins, but it is not well studied.

Energy Spurt/Nesting

Some people feel an increased amount of energy in the days leading up to labor. It is colloquially termed “nesting”, as the individual often feels compelled to finish up and last-minute preparations for baby and get their living space in order.

Signs of progressing labor include

- Bloody show; pink/brown/red tinged mucus
    - Increasing in amount, in conjunction with contractions and/or other signs of labor
- Unable to walk or talk through a contraction
- Vocalizing during the contraction (ranging from a low moan/hum to screaming, all are appropriate)
- Unable to be still or seated during the contraction
- Hesitant to change positions due to pain
- Increasingly irritability
- Not wanting to be touched
- Pleading for pain medication

This is by no means an exhaustive list. Overall change in demeanor from the individual's baseline can be a good indicator of labor progression in the presence of regular contractions. Some people find an internal zone and seem to be hardly noticing the events around them and other externalize and cope through verbalization. There is a wide range of emotional reaction to the pain of labor, highly influenced by the person's culture, views of birth, and their own response to pain of any kind.

Nursing Assessment and Interventions for Diagnosing Labor at Term

Assess for the following:

- Contractions that are 5 minutes apart and lasting 40 to 60 seconds for one hour
- Rupture of membranes, color and amount
- Change in typical demeanor
- Vaginal discharge
  - Bloody show
  - Rupture of membranes/amniotic fluid
  - Vaginal bleeding
    - Small amounts of vaginal bleeding can be normal
    - Any brisk bleeding requires **emergency transportation** to the hospital
    - Could be a sign of placental abruption

Intervention:

- Contact labor and delivery unit at the hospital where delivery is planned or the on-call nurse for the OB provider
  - Review above nursing assessments with RN to determine next steps.
- Arrange for transport if advised to do so by the labor and delivery RN
- Stay with the laboring person until transport arrives
- Remain calm, assist the individual with slow breathing to relax or sips of water between contractions
- Obtain vital signs including fetal heart rate if possible or ask if they have felt the baby move since contractions began
  - Don't become alarmed if they haven't felt movement at this time, some individuals do not feel movement during labor due to labor pains/sensations
  - Palpate for fetal movement between contractions
- Assure them that transport will be here to take them to the hospital (share time with them if allowed)
- Assure them they will be taken care of while waiting for transport
- If unable to determine frequency, duration or intensity of contractions, err on the side of caution and call the labor and delivery unit/on call number to discuss next steps
- When calling, give them the information you have about the labor

  - Individual's name and age, general practitioner, weeks' gestation, when contractions began, how long they last, and their intensity on palpation (mild, moderate or strong)
    - This may not correlate with amount of pain patient reports; some have strong contractions with "mild" pain, and others have mild contractions with excruciating pain
  - Have membranes ruptured/water broken, color of fluid, any vaginal bleeding
  - Complications with pregnancy, if you have this information.
  - Note individual's ability to cope with contractions at this point
  - Vital signs and fetal heart rate or reported/palpated fetal movement

Hints to determine strength/intensity of uterine contractions

Place the palm of your hand on the upper portion of the gravid uterus. When you feel a contraction (tightening), push with 2 fingers midline.

- A mild contraction allows you to easily indent the uterus during a contraction; described as touching your lips.
- A moderate contraction resists indentation and feels more like the tip of your nose.
- Strong contractions allow little to no indentation and feels like touching your forehead.

It is best to determine the strength at the peak of the contraction. If you are uncertain about feeling contractions, ask the individual to tell you when they feel a contraction beginning and when it is over.

Resources and Further Reading

Contractions and Signs of Labor (https://www.marchofdimes.org/pregnancy/contractions-and-signs-of-labor.aspx#:~:text=When%20you're%20in%20true,your%20belly%20and%20lower%20back.)
March of Dimes resource for assessing labor signs and symptoms

Do This- Not That- During a Contraction (https://www.lamaze.org/Giving-Birth-with-Confidence/GBWC-Post/do-this-not-that-during-a-contraction-1)
Lamaze resource for coping strategies during labor

When to go to the Hospital (https://healthy.kaiserpermanente.org/health-wellness/maternity/labor-delivery/when-to-go)
General recommendations for when to go to the hospital in labor. This may vary depending on how close your facility is to a hospital and any specific instructions from the provider.

1. Neal, J. L., Lowe, N. K., Ryan, S. L., Hunter, L. A. First Stage of Labor. In: King, T. L., Brucker, M. C., Osborne, K., Jevitt, C. M., eds. *Varney's Midwifery*. Jones & Bartlett Learning, LLC; 2018.

Chapter 8: Nursing Assessments and Documentation

Initial Intake Assessment [1]

Ideally when a pregnant person enters your facility, they have received prenatal care and grant permission for their records to be transferred and information shared between health care personnel in the jail and their obstetric provider. With their current prenatal record available, the nurse can gather basic information about medical history (chronic illnesses such as diabetes, hypertension), obstetrical history (previous vaginal or cesarean births, term or pre-term, pregnancy or fetal losses, newborn complications), relevant family history (preeclampsia in mother or sisters, preterm births) and the current pregnancy.

Note the following regarding the current pregnancy:

- Gravida and parity
    - Gravida: how many times have they been pregnant
    - Parity: how many births past 20 weeks gestation
    - G_P_
        - **G**ravida: number of total pregnancies, including current one
        - **P**arity: number of deliveries past 20 weeks gestation
    - G_T_P_A_L
        - **G**ravida: number of total pregnancies, including current one
        - **T**erm: number of babies born living, at term gestation
        - >37w0d gestation
        - **P**reterm: number of babies born living, at preterm gestation
        - ≥ 20w0d gestation; ≤ 36w6d
        - **A**bortions: number of spontaneous or induced abortions
        - ≤19w6d gestation
        - **L**iving: number of living children currently
        - Stillborn neonate would be added as a delivery either term/preterm but not added as a living child
- Was pregnancy planned? Mistimed? Unwanted?
    - Assess emotional state, desire to continue pregnancy
- Date of first prenatal visit, preferably in the first 12 weeks of pregnancy
- Expected date of delivery, number of weeks gestation currently
- All medications including supplements, prescriptions, OTC meds, etc.
- Use of alcohol, tobacco or illicit substances
    - Use in early pregnancy?
    - Continued use?
- Significant findings from screening or diagnostic tests such as ultrasound, HIV & STI testing, genetic screening/testing and depression inventories
- Prenatal laboratory findings such as hemoglobin, Hepatitis B and C antigen, Blood type and Rh factor

- Identified problems such as anemia, hypertension, preeclampsia, urinary tract infections, pre-term labor, gestational diabetes, previous cesarean section, etc.
- Date of next prenatal visit

In the less-than-ideal situation, gather whatever information is available. Identify how the information was obtained (from the individual, family, former provider, etc.) and document clearly where the information comes from.

Sample Summary of the Prenatal History

> *"AD is a 21 y/o G3 P1112, began prenatal care at 12 weeks gestation, unplanned pregnancy. Now 34 weeks, EDC 5/27/22. Taking prenatal vitamins daily with calcium supplements and Prozac for depression, 20 mg daily. Alcohol daily until 10 weeks gestation. US at 20 weeks, normal findings. Blood type A positive, Hepatitis B and C negative. No complications of current pregnancy, history of 2015 delivery at 32 weeks, infant in NICU for one month, 2020 delivery at 39w3. Next prenatal visit scheduled 4/12/22 at 2 pm at Somewhere Clinic, Pleasantville, MN."*

Sample Problem Documentation

When the individual presents with a problem, the nurse will assess the complaints and organize the findings to report and document. For example, continuing with the person's history from the sample summary:

> *"AD, 21 y/o G3 P1112 at 34 weeks with history of preterm delivery at 32 weeks. Reports of a terrible itching rash "since I got up this morning" 3 hours ago. Requesting to be taken to the hospital. Temperature 98, pulse 74, respirations 16, blood pressure 135/85. FHTs 134 bpm. Ate breakfast. Denies any allergies. Denies taking any new medication or eating anything new. Rash examined; common to individuals wearing jail uniforms. Advised the individual to use the anti-pruritic lotion available in the facility and will follow-up in 2 to 3 hours. Denied request for transport to hospital. Informed AD that they will be examined when the provider comes for rounds."*

In this case, because of familiarity with the rash, the nurse can act on their assessments without consult. Rashes can be difficult to discern between those that are common or induced by pregnancy or a reaction to another substance in the environment. If you suspect scabies or an allergic reaction, report findings to the provider to determine next steps. If at any time you are unsure if a rash or other concern is related to pregnancy, err on the side of caution and report findings to the OB provider as soon as reasonably possible. When a situation is urgent or emergent, you want to arrange transportation first, stabilize the situation, and then document the findings that have prompted your call.

When it is necessary to contact a provider or the ED, or the labor and delivery unit, the nurse will want to present pertinent information, succinctly and efficiently. If you are not in a facility that sees many pregnant people, you can explain this to the provider/hospital staff and they can help guide you. **If you want the patient to be seen and further assessed or monitored, be clear that is what is wanted.**

Resources and Further Reading

1. Openshaw, M., Jevitt, C. M., King, T. L. Prenatal Care. In: King, T. L., Brucker, M. C., Osborne, K., Jevitt, C. M., eds. *Varney's Midwifery*. Jones & Bartlett Learning, LLC; 2018.

Chapter 9: Postpartum Care

The postpartum period is often discussed as the time from delivery of the baby through the following six weeks. During this time physical and physiological changes of pregnancy are expected to be resolved. Although it is not medically classified as the postpartum period, it can take much longer for people to begin to feel like they are back to "normal". There are many physical, social, and psychological changes that are not complete at the conclusion of the 6-week postpartum period. The following is an overview of the changes that take place during the 6-week postpartum recovery period but note that some of these changes may continue well into the first year postpartum or beyond.

Returning to the Nonpregnant State: What to Expect [1]

During the postpartum weeks the individual's body is returning to its nonpregnant condition. Physical changes include the involution of the uterus and resolution of lochia (bleeding). The rate of involution and color and amount of lochia will depend on many factors. During the first weeks postpartum, people may note an increase in lochia or in bloody discharge if they have an infection or have retained placenta parts (see Bleeding and Infections below). The flow can also increase if the individual is too active. Bleeding will subside when the individual rests. For people who are not lactating it may take longer for involution to be complete, as the oxytocin released during breastfeeding produces contractions to aid in involution. Even with variations in activity, nutrition, and breastfeeding, the uterus completes involution and the lochia ceases by six weeks.

Activity in the days and weeks following delivery can be increased gradually. They should avoid strenuous activity, heavy lifting (greater than 25 pounds), and aerobic exercise the first 4 weeks postpartum. Most people are ready to assume all activities by 4 to 6 weeks. An indication that they are overdoing it is the presence of bright red vaginal bleeding. Activity should be curtailed until bleeding ceases.

Abdominal Changes

The abdomen will feel spongy and lack muscle tone after delivery. There may be slight bloating and tenderness around the incision after a cesarean. For some, it may appear that they are still pregnant when they stand. No masses will be palpable except for the involuting uterus.

Most people cannot wear the clothes they wore before pregnancy at the time they are discharged from the hospital. Some of the changes in pregnancy, like ribcage expansion, may cause permanent clothing size changes. Abdominal stitches or staples from a cesarean are likely to be removed before they are discharged from the hospital, or they may use dissolvable sutures and skin closure adhesive.

Uterine Changes

The uterus decreases in size by approximately 1 to 2 fingerbreadths each day postpartum until day 7 to 10 when it will not be palpable in the abdomen.

- Day 1 postpartum, the uterus is felt as a firm, hard globular mass at the umbilicus or 1 finger breadth below
- Day 2 postpartum, 2 finger breadths below the umbilicus and so on

- The uterus should feel firmly contracted, not boggy beneath the umbilicus.
    - If an individual has a large body habitus, it may be a challenge to palpate the uterus. If they are not bleeding excessively, the uterus is likely to be contracted.
- The uterus should be found midline.
    - If it is deviated to the left or right or is higher in the abdomen than expected, ask them to empty their bladder and reassess the uterus. A full bladder can displace the uterus to either side and lift it higher in the abdomen.

Perineum: Lacerations and Episiotomies [7]

Lacerations of the perineum during vaginal delivery are relatively common, especially with first deliveries. Episiotomies were a routine procedure at one point in time, but they are now rarely used. Sutures will be used to repair these injuries. Patient should have minimal swelling and no complaints of severe pain. Minimal bruising may be present. The sutures used for the repair will self-absorb. Initial healing is completed in 2 to 3 weeks. There is no need to routinely examine these sutures unless the patient is concerned about infection or is having increased pain.

If there were small lacerations not needing sutures, the individual may feel pain when they start to urinate as the urine encounters the open tear. A washcloth soaked in warm water can be squeezed over the perineum when voiding to dilute the urine and decrease the pain.

Ice to the perineum is often applied for 12 to 24 hours after delivery to decrease swelling and provide pain relief. The perineum should be cleansed daily with warm water.

Lochia - AKA Postpartum Bleeding [1]

Most postpartum people will wear a moderate size maternity pad in the first few days postpartum. As the lochia decreases in amount they can change to regular pads or even mini pads. Lochia may have a musty odor, but never a foul odor. Foul odor can indicate a uterine infection.

Expected changes in the lochia:

- Days 1 to 5, rubra (red) with a few small clots
- After day 5 it is expected that the lochia moves to serosa (pinkish brown), which can last from a few days to almost a month
- Following serosa is lochia alba (white/yellow)
    - It will likely be a gradual transition from serosa to alba, and then to normal vaginal secretions
- Amount of lochia decreases each day
- Lochia will resolve completely between 4 and 6 weeks.

Some people experience a temporary increase in bleeding somewhere between days 7 and 14 as the scab covering the placental site sloughs off. If bright red bleeding returns after being absent, ask them to void and assess the firmness of the uterus. If they have been particularly active in the past few days, encourage them to rest. If bleeding continues to increase, contact

the OB provider. If they are soaking more than a large-sized pad in one hour, for two consecutive hours, they should be seen in the ED.

Rectum

Hemorrhoids are a common finding post-delivery, and they can be treated with comfort measures such as hemorrhoid ointments, sitting on soft surfaces, increasing fiber intake, etc. If large, swollen, bleeding, or exceptionally painful, contact provider for further treatment.

Normal bowel movements resume anytime between days 1 and day 5. Drinking 8 or more glasses of water daily and eating a well-balanced diet with fiber will assist in keeping stools soft. This will help avoiding straining and constipation. Many people are fearful of tearing sutures with a bowel movement. They can be assured this will not happen.

Extremities [8]

Postpartum people are at increased risk for blood clots in the postpartum period. They have a 21- to 84- fold increased risk compared to non-pregnant people.[8] Early ambulation helps decrease the risk. Inspect the lower extremities for tenderness, warmth, edema and redness.

Common Discomforts of the Postpartum Period [1]

Common discomforts during the 6 weeks postpartum include constipation, hemorrhoids, excessive sweating (without fever), after pains/cramps (from uterine contractions/involution), pain from abdominal incision after a cesarean and perineal pain from stitches. Pain should be getting better, not worse. Any worsening pain should be promptly reported to the provider.

Vaginal vs. Cesarean delivery

If someone enters jail after a cesarean section, it is important to realize that they are recovering from major abdominal surgery. The surgical incision should be closed, not draining and free of signs of infection (see "Wound Infections" below). They are likely to experience abdominal pain coupled with after-pains/cramps and may be more fatigued than someone who has had a vaginal delivery, especially if they were in labor prior to their delivery.

Emotional state

Because of the significant physical and physiological changes during this period, a postpartum person's emotional state is also affected. For people in jail, they may be experiencing grief related to being separated from their newborn. The risk for depression is higher for people who have a history of depression or have been on anti-depressants during pregnancy and for those who have little social support. Medication for depression or other psychotropic drugs should be continued postpartum per their physician's order.

Immediate Postpartum (2-3 days following delivery)

Assessment of the postpartum person in this timeframe includes monitoring vital signs including blood pressure, the uterine fundus and location in relation to the umbilicus, lochia, episiotomy and perineum. These are typically done every 8 hours or as directed by the provider. Ask if they are voiding without problems and in "normal" amounts. No further postpartum monitoring is needed unless nursing assessments indicate otherwise.

Postpartum visits

Some providers see all postpartum patients, both vaginal and cesarean deliveries, around both 2 and 6 weeks post-delivery. Some providers only see people for a 2 week visit if they had a cesarean section.

Postpartum Nutrition [2]

An additional 500-700 calories per day is required if the postpartum person is lactating. Those who are not breastfeeding do not require a special diet. They should continue prenatal vitamins or iron supplements as ordered by their provider.

Common medications used in the postpartum period

- Analgesics for pain (breast engorgement, after pains/cramping, perineal, hemorrhoid pain or abdominal pain after a cesarean section).
  - A person who has had a normal vaginal birth generally does not require anything stronger than ibuprofen or Tylenol.
  - The person who has a cesarean or extensive repair/episiotomy or other complication of labor and delivery may need an analgesic with a narcotic for pain up to 1 or 2 weeks.
- Mild laxatives for constipation
- Prenatal vitamins or a multivitamin may be continued.
  - If they experienced a hemorrhage after delivery, they may be supplemented with iron.

Postpartum Vital Sign Parameters

- Blood pressure returns to pre-pregnancy range.
  - Hypotension needs evaluation for bleeding
- Temperature less than 100.4° F
- Pulse 60 to 100 bpm
- Respirations 12 to 16 bpm
- New onset hypertension should be evaluated promptly by a provider and triaged in the same manner as discussed in the section on preeclampsia
  - Preeclampsia and HELLP syndrome can occur postpartum
  - Postpartum preeclampsia and HELLP syndrome most commonly present in the first 2 days after delivery
  - Postpartum preeclampsia can occur up to 6 weeks after delivery

Lactation [2]

Ideally incarcerated people who are lactating will be able to pump and save their milk for the baby. This is often difficult to accomplish in the corrections setting. If the individual wants to continue lactation after release, they can manually express their milk, use a manual breast pump or use the electric breast pump that is covered by insurance. Manual expression does not require any equipment. It will take a lot of time and effort for the person to maintain their milk supply, but it is possible.

The options for milk expression will likely depend on the facility's policy. Using an electric breast pump will provide the best results for milk supply long term. It is advisable to express or pump each breast for 15 minutes every 3 hours while awake. This is the best way to continue their milk supply until they are reunited with their infant. The more they stimulate their nipples and express their milk, the greater their chances of sustaining their milk supply for their infant.

Benefits of Breastfeeding [3–5]

Breast milk is the best source of nutrition for babies from birth to one year old. There are numerous health benefits for both lactating parent and infant.

Benefits for the infant include:

- Reduced risk for acute and chronic illnesses
  - Lower rates of asthma, obesity, type 1 and type 2 diabetes, childhood leukemia, necrotizing enterocolitis, and SIDS
  - Fewer ear infections and stomach bugs
- Antibodies are passed through breast milk which helps them fight infections
- Promotes bonding and provides comfort in new situations
- Higher intelligence scores later in life [4]

Benefits for the parent include:

- Decreased risk of breast and ovarian cancer
- Decreased risk of type 2 diabetes
- Decreased risk of hypertension

While an infant nursing from the breast provides the benefit of bonding and attachment formation, the rest of the benefits of breast milk consumption come directly from the milk itself. Breastmilk can be pumped and stored in the refrigerator for up to 4 days and stored frozen for 6- to 12 months. The National Commission on Correctional Healthcare recommends that lactating individuals be provided the opportunity to express milk at least every four hours, as well as access to appropriate breastmilk storage containers and refrigeration/freezing so that they can provide milk to their babies. They also encourage providing opportunities for visits that allow direct skin-to-skin contact and feeding. To accomplish this, they suggest that facilities develop policies, procedures and infrastructure that will allow breastmilk expression, storage and retrieval of milk by a third party.[6]

Breast Changes [2]

Breasts may feel full or soft to touch. There should be no skin puckering or reddened areas that feel warm to the touch or are painful (see "mastitis" section below). There may be a yellow gold or thin watery discharge from the nipples. This is normal, it is colostrum changing to milk. As milk comes in, breasts can become tender and engorged. Engorged breasts are very firm to the touch and have diffuse warmth throughout the breast. For individuals who are planning to express breast milk, relief can be achieved by pumping or hand expressing milk. Cold compresses and Advil/Tylenol can be helpful for pain.

If the individual does not want to produce milk, do not stimulate the nipples. Wearing a properly sized and snug fitting bra can help with comfort and decreasing milk production. Breasts may fill with milk on day 2, 3, or 4 even though they have not fed the infant or stimulated the nipples. This can lead to engorgement. Engorgement is the term used to describe the breasts that have filled with milk. They increase in size and are very firm to the touch. The individual may complain of painful breasts. Expect engorgement to take several days to resolve completely.

Avoid standing in a warm shower and letting the water run over the engorged tissue and nipples; this can stimulate milk ejection/let down and encourage further milk production. Cold compresses can be helpful for comfort. If absolutely necessary, express a tiny amount of milk to relieve the pressure of engorgement but understand that this may prolong the amount of time it takes for the milk to stop completely. Engorgement is not accompanied by fever. If fever develops, consider the possibility of mastitis.

Complications in the Postpartum Period

Postpartum Depression [9]

According to the DSM-5, a major depressive episode occurring within 4 weeks of childbirth is termed postpartum depression. Research suggests that most often symptoms present in the first 6 to 12 weeks following delivery, but symptoms may extend up to 12 months after birth. Postpartum depression can also be precipitated by a miscarriage or other pregnancy loss.

Risk for postpartum depression:

- History of depression, anxiety, bipolar disorders
- Depression or anxiety disorder with pregnancy
- Previous postpartum depression
- Family history of psychiatric disorders
- Alcohol abuse
- Personal or family history of suicide attempts
- Stressful life events during pregnancy
- Adolescent age
- Low level of social support
- Separation from newborn, experiencing grief or loss

Signs and symptoms of postpartum depression:

Symptoms of depression listed above, as well as:

- Severe anxiety or panic attacks
- Disinterest in their new infant or extreme fear that some harm will come to their baby
- Insomnia, particularly difficulty falling asleep
- Overwhelming feelings of guilt about being a "bad" parent

Postpartum Blues [9]

50 to 85% of people experience an adjustment reaction with depressed mood that is mild and short lived, a few days to 2 weeks after birth. This is more often seen after the first birth as opposed to subsequent births.

Symptoms:

- Mood swings
- Irritability
- Weepiness
- Appetite change
- Overwhelmed
- Difficulty sleeping
- Feeling let down
- Anxious and/or forgetful
- Fatigue
- No specific set of criteria to diagnose

Nursing Assessment and Intervention for Postpartum Blues

- Postpartum blues resolves within 2 to 3 weeks after birth
  - Symptoms lasting longer than 2 to 3 weeks may be postpartum depression
- Administer the EPDS or PHQ-9 to aid in diagnosis
- Offer support, rest, someone to share their feelings with
- Encourage patients to engage with peers, chaplaincy/mental health counseling, family/friends outside of the jail if possible
  - Social support is helpful for transition into parenthood

Postpartum Psychosis [9]

Postpartum psychosis is a rare event occurring in approximately 0.5 of every 1,000 live births.[20] Symptoms typically begin between 2 and 4 weeks postpartum but may begin as early as 2-3 days after delivery and often progresses rapidly. These individuals are at significant risk for suicide or infanticide (4-5%).

Risk factors:

- Previous psychosis
- Previous bipolar disorder, treated or untreated
- Autoimmune thyroid disease
- Severe prenatal stressors

Nursing Assessments and Interventions for Postpartum Psychosis

Presenting symptoms include:

- Illogical, delusional and disordered thinking
- Poor judgment
- Hallucinations - hearing voices, instructing them to harm the baby
- Delusions - clearly out of touch with reality
- Agitation
- Safety is the priority (from hurting themselves or others)
- MEDICAL EMERGENCY contact provider and ED, immediate transport for hospital admission
- Document observations.

Abnormal Vaginal Bleeding [10]

As discussed above, lochia is the name of the bleeding that occurs after the delivery of the neonate. There is a wide range of normal during this time and varies depending on individual and their unique circumstances. The following will discuss how to assess for **abnormal** bleeding in the postpartum period.

Nursing Assessment and Intervention for Abnormal Vaginal Bleeding [8,10]

When concerns about vaginal bleeding are reported, assess the following:

History:

- Length of time since delivery; how many days/weeks postpartum?
    - Vaginal or cesarean delivery? Any additional procedures such as dilation and curettage for retained placenta?
    - Did they experience a postpartum hemorrhage after delivery?
        - This is a known risk factor for late postpartum hemorrhage
- How much bleeding, for how long?
    - Soaking through pads? How many/how often?
    - Has it been consistent since delivery?
    - Did it decrease for a few days and then suddenly increase?
        - Recall that there may be a transient increase in bleeding between approximately 7-14 days postpartum as the scab covering the placental site sloughs off
    - Any notable increase in activity from the individual's normal?
        - Transient increase in bleeding can be seen with overexertion
- Current medications? History of heavy periods or bleeding disorder?
- Abdominal pain or cramping (may be due to uterine contractions).
    - This can be a good sign that the uterus is attempting to involute
        - Severe pain or tenderness to palpation can indicate infection

Physical Exam

- Observe the perineum for obvious active bleeding, ask to see blood-soaked pads or clothes
  - Soaking a full-size pad (not a mini pad) in an hour, or observing free flowing blood from the vagina is an urgent situation and calls for transport to the hospital emergently
- Palpate the uterus:
  - Place your non-dominant hand just above the symphysis pubis, cupping the lower abdomen.
  - Using your dominant hand, begin palpating for the uterine fundus just below the level of the umbilicus, moving toward the symphysis pubis
  - By postpartum days 10-14, the fundus is typically no longer palpable above the symphysis pubis
    - If you can palpate the uterine fundus, massage it with firm but gentle pressure; assess for passage of clots or gushes of blood with this massage
- Ask them to lie down, obtain vital signs (temperature, pulse, respirations and blood pressure).
  - If the individual has active bleeding, elevated pulse, lowering blood pressure or signs of shock, obtain transfer to ED immediately.
- If patient is stable but experiencing an increase in vaginal bleeding that does not soak through a pad an hour and is not free flowing at the introitus, notify provider as soon as possible of nursing assessments to determine the next steps.
  - Pain or uterine tenderness may be concerning for endometritis (uterine infection) and/or retained products of conception
- Document your findings and send information with the individual if the decision is made to transport them to the hospital. You may consider calling ahead to provide report to the ED staff.
  - Example: *"21y/o G1P1 vaginal delivery 7 days ago. Reported increased vaginal bleeding for 3 hours, soaking a pad every hour. No abdominal pain or cramping. Uterus not palpable, frank bleeding from vagina. Temperature 97 P100 respirations 14 blood pressure 90/62, alert and talking, transported by gurney to ambulance. Due to arrive at ED in 15 minutes."*

Red Flag Abnormal Bleeding Symptoms [8]

- Hemodynamic instability or shock
- Passage of large clots; volume of a golf ball or larger
- Passage of tissue from the vagina
- Soaking 1 large pad per hour for two hours
  - At the two-hour mark, this is no longer a transient increase
- Frank bleeding observed at the introitus
- Fever, tender uterus, non-palpable fundus (if fewer than 7 days from delivery)

These symptoms should prompt emergent evaluation by a provider and close monitoring for progression of symptoms. If any doubt, err on the side of caution and transport to the hospital for evaluation.

Postpartum Infections [8]

Symptoms of infection in the postpartum population are similar to those of infection in the general population. These include fever, chills, tachycardia, localized pain, foul smelling exudate, and overall feeling of malaise. While symptoms are similar, and it is possible that the patient has an infection not related to their postpartum status, it is important to rule out obstetric causes of infection. In the postpartum population, the threshold for fever is lower than what we would typically be concerned about in the general adult population; 100.4° Fahrenheit or greater is considered a fever.

Endometritis [8]

This is an infection of the uterine lining, or endometrium. Presenting symptoms can include fever, tachycardia, chills, uterine tenderness, persistent low back pain, malodorous lochia and general malaise. If left untreated, an infection can spread to nearby tissues or to the bloodstream resulting in sepsis. This is more commonly seen in individuals following cesarean section (11-27%, depending on preprocedural antibiotic prophylaxis) than following vaginal delivery (1-2%). There are a number of pathogens that can cause this condition. Notably. Untreated chlamydia and gonorrhea at time of delivery increases the risk of infection from those pathogens. IV antibiotics will likely be needed, which will require hospital admission. If a patient shows signs of sepsis, emergent transfer to the hospital is required.

Wound Site Infections [8]

If the patient experienced vaginal, perineal, or labial lacerations during vaginal delivery, or received an episiotomy, they are at risk for infection of the wound site. If the patient delivered via cesarean section, there is risk for wound infection at the surgical site. Patients may present with localized pain and/or edema at the wound site, purulent or serosanguineous drainage from the wound, warmth and redness, and fever. Some discomfort after delivery is to be expected, regardless of vaginal or surgical birth, but the discomfort should continue to improve over time; worsening pain should be assessed for other signs of infection. If there is suspicion for wound infection, the patient should be seen by an OB provider as soon as reasonably possible; if they develop worsening symptoms or signs of sepsis, emergent transport to the hospital is warranted. Treatment for wound infections will be dependent on the type of wound and degree of infection. Options include wound debridement, antibiotic therapy, wound drains, and surgical intervention.

Urinary Tract Infections [8]

While any patient can develop a UTI, postpartum patients are particularly at risk. Their renal system is in the process of returning to normal but is still under some of the hormonal influences that make pregnant people more susceptible to UTI. In addition, those who delivered vaginally may have experienced trauma to their urethra. Symptoms in the postpartum population have an interesting presentation. They often lack the symptoms of urinary frequency, urgency and dysuria that is commonly associated with UTI in the general population. Instead, postpartum patients may present with fever, lower abdominal pain, CVA tenderness

and nausea/vomiting. Any postpartum individual presenting with fever should be assessed for UTI.

Mastitis [2]

The lactating patient may develop an infection of the breast. Individuals who have decided not to express milk after delivery will still experience lactation and are at risk for mastitis. An important distinction here is that this is and infection of the breast tissue, not the breast milk; patients should continue to express milk and can feed it to their baby. It is an uncommon occurrence during the first week postpartum but may be more common in individuals who are not expressing milk as milk stasis is a common precursor to infection. Individuals often present with mild to moderate pain in the affected breast (usually unilateral), flu-like symptoms such as muscle aches, headache, fatigue, general malaise, elevated temperature, increased pulse rate, chills, and a painful, swollen, reddened area on the breast.

When mastitis is suspected, the individual needs to be evaluated by a physician, and if confirmed, treated with antibiotics. Mastitis does not resolve on its own and can lead to a breast abscess if not promptly treated. Some providers may treat based on symptoms and history of current illness. In addition to antibiotics, frequent emptying of the breasts and adequate nutrition/hydration are important components of treatment. If symptoms do not improve within 48 hours of treatment, the patient should be reassessed.

Nursing Assessment and Interventions for Postpartum Infections

If someone in the postpartum period presents with any signs of infection, it is important to consider the diagnoses listed above.

Initial Assessment [8]

History

- How many days/weeks post-delivery?
  - Type of delivery
- Delivery complications?
- Complications with postpartum course?
- Lactating?
- Eating/drinking enough? difficulty with urination or bowel movements?
- When did symptoms start? What are they?
  - OLDCARTS
- Any other symptoms, even if they think they are unrelated?
  - Increased vaginal discharge/bleeding, passage of tissue, clots?
    - Patients may not connect flu-like symptoms and increased bleeding/clots as having the same origin, but may be signs of retained tissues/endometritis
- Medical/surgical history, relevant family history?

Physical Exam

- Assess overall appearance, pallor, grimacing, diaphoresis, shivering, etc.
- Vital signs
    - Any vital sign instability warrants emergent transfer
- Pain
    - Location of pain will help focus further assessment
        - Visualize the location where their pain is located
            - Assess for signs of infection; redness, warmth, edema, drainage, smell, pain with palpation (if appropriate)
                - Specific location points to wound/breast infection
                - Generalized abdominal pain points toward UTI/endometritis
                    - Consider urine dipstick to assess for UTI, if available in your facility

Red Flag Warning Signs for Postpartum Infection [8]

- Any fever in the postpartum period warrants consultation with the on-call provider
    - Fever over 102.2° F requires urgent assessment, possible transfer to ED
- Patient should be seen in the ED if fever is accompanied by the following symptoms:
    - Symptoms of sepsis
    - Heavy vaginal bleeding
    - Vital sign instability
    - Severe pain

Comfort Measures for Postpartum Discomfort/Infection

If it is determined that the patient's condition is stable enough to remain at your facility, the following comfort measures can be considered:

- Wound discomfort
    - Rest in a comfortable position
    - Warm or cold compress to the area
    - Encourage good nutrition and hydration
    - Request order for Advil/Tylenol to manage pain
- Breast discomfort
    - Warm, moist compress to the affected area
    - Massaging breast tissue during milk expression to relieve any clogged ducts
    - Appropriately sized, supportive bra
    - Request order for Advil/Tylenol to manage pain

- Abdominal discomfort (without infection, or with treated infection)
    - Warm or cold compress to the area
    - Rest as much as possible
    - Encourage good nutrition and hydration
    - Request order for Advil/Tylenol to manage pain
        - Can manage residual fever for treated infection

Resources and Further Reading

Edinburgh Postnatal Depression Scale (EPDS) (https://perinatology.com/calculators/Edinburgh%20Depression%20Scale.htm)
Interactive web-based version

Edinburgh Postnatal Depression Scale (EPDS) (http://www.perinatalservicesbc.ca/health-professionals/professional-resources/health-promo/edinburgh-postnatal-depression-scale-(epds))
Edinburgh questionnaire in multiple languages, available as downloads

Pregnancy and Postpartum Support MN (https://ppsupportmn.org/)
Minnesota-specific resources for both families and healthcare providers

How to Hand Express Your Breast Milk When Needed (https://www.medela.us/breastfeeding/articles/how-to-hand-express-your-breast-milk-when-needed)
For individuals who would like to express milk but unable to use a manual or electric breast pump

Hand Expressing (https://www.llli.org/breastfeeding-info/hand-expressing/)
La Leche League, a breastfeeding support group. Guide for hand expression of breast milk.

1. Kantrowitz-Gordon, I. Postpartum Care. In: King, T. L., Brucker, M. C., Osborne, K., Jevitt, CM, eds. *Varney's Midwifery*. Jones & Bartlett Learning, LLC; 2018.
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3. CDC. Five Great Benefits of Breastfeeding. Centers for Disease Control and Prevention. Published July 27, 2021. Accessed August 12, 2022. https://www.cdc.gov/nccdphp/dnpao/features/breastfeeding-benefits/index.html
4. World Health Organization. Breastfeeding. Accessed August 12, 2022. https://www.who.int/health-topics/breastfeeding
5. US Department of Health and Human Services. Making the decision to breastfeed, Office on Women's Health. Published February 22, 2021. Accessed August 12, 2022. https://www.womenshealth.gov/breastfeeding/making-decision-breastfeed

6. National Commission on Correctional Healthcare. Breastfeeding in Correctional Settings (2018). National Commission on Correctional Health Care. Accessed August 12, 2022. https://www.ncchc.org/breastfeeding-in-correctional-settings-2018/
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9. Graves, B. W. Mental Health Conditions. In: King, T. L., Brucker, M. C., Osborne, K., Jevitt, C. M., eds. *Varney's Midwifery*. Jones & Bartlett Learning, LLC; 2018.
10. King, T. L. Anatomy and Physiology of Postpartum. In: King T. L., Brucker, M. C., Osborne, K., Jevitt, C. M., eds. *Varney's Midwifery*. Jones & Bartlett Learning, LLC; 2018.

Chapter 10: Discharge Planning

Ideally the discharge plan will begin on admission to your facility. Within 24 to 72 hours of admission, consider securing written consent to obtain release of records from their obstetrical provider and consent to share records with public health nurse (PHN) or other medical provider upon discharge. For the pregnant person, the discharge plan should include information to assist them in establishing or continuing prenatal care (PNC) in the community and offer a PHN home visit to assist them in reconnecting with services pertinent to their pregnancy. Beginning the paperwork within 72 hours of admission increases the likelihood that the plan will be in place when they are released, especially on short notice.

If discharge planning is not consistently done in your facility, this is an opportunity to initiate a process that facilitates health care as individuals re-enter the community.

Release from Jail

Public Health Nurse Referral

A referral to public health nursing can be initiated within 72 hours of admission to your facility. Consider obtaining consent to share medical record with PHN nursing on admission.

In the referral, be as specific as needed to clarify the purpose of the referral:

- Contact or visit within 48 to 72 hours of release from jail
- Assistance as needed to reconnect or follow-through with Medical Assistance application
- Obstetrical provider's contact information, date and time of next scheduled appointment (if known and individual consents to information being shared)
- Reconnect individual with case worker, community health worker, or social worker as appropriate
- Assist in application for WIC as needed

  Include a brief history of the pregnancy course while in your facility. Include any unresolved problems or concerns that require follow-up.

  Call and/or send referral to the PHN agency.

Prenatal Care

Encourage the individual to establish or continue prenatal care visits. Provide them with their next scheduled appointment and contact number for the clinic or provider (if known). The public health nurse can also help facilitate the contact or continuance with prenatal care.

Medications

The ability to provide the pregnant individual with their unused medications when released will vary between facilities. If able, including prenatal vitamins and other prescriptions the individual is currently taking will increase their chances of completing prescription course as ordered.

Guidance for the Pregnant Person

Providing information about what to expect and necessary next steps will help the pregnant person to be comfortable with their plan of care, and perhaps be engaged with decisions and next steps in the plan. If able, provide the following:

- The contact number for the local public health nursing service in their community
  - If known, include when they can expect contact from or a visit by the PHN
- Resources for community pregnancy support. Developing a list of resources in your area and having it on hand when needed is ideal.
  - Consider using the resources below as a starting point for your resource list. Consider adding location-specific resources as you encounter them.

For Release to Another Facility

- Obtain consent to release medical records
- Document the course of pregnancy during their incarceration in your facility and send to the facility they are being transferred to
- Case Scenario: *"Jane was at our county jail for 3 weeks. G2 P1001, approximately 28 weeks today. First child, 6 y/o, is cared for by Jane's parents. Pregnancy course during their stay has been uncomplicated. No bleeding or spotting, no hypertension, no pre-term labor. Eats and sleeps without problems. They are followed for prenatal care at North Clinic, Somewhere, MN and has their next appointment on (date). Only medication is prenatal vitamins once a day."*

Resources and Further Reading

Pregnancy and Postpartum Support Minnesota (https://ppsupportmn.org/)
Local mental health resources focusing on pregnancy and postpartum. Information for individuals, families, and healthcare providers.

WIC Program (https://www.health.state.mn.us/people/wic/)
Minnesota Specific

Medical Assistance (https://mn.gov/dhs/people-we-serve/adults/health-care/health-care-programs/programs-and-services/medical-assistance.jsp)
Minnesota Specific

Everyday Miracles (https://www.everyday-miracles.org/)
Childbirth Education & Doula Support

Minnesota Prison Doula Project (https://www.mnprisondoulaproject.org/prg)
Resources specific to individuals who are or have been incarcerated during pregnancy and postpartum. Assistance for reintegration as well.

Chapter 11: Non-healthcare Personnel Handling Health Concerns from Pregnant People

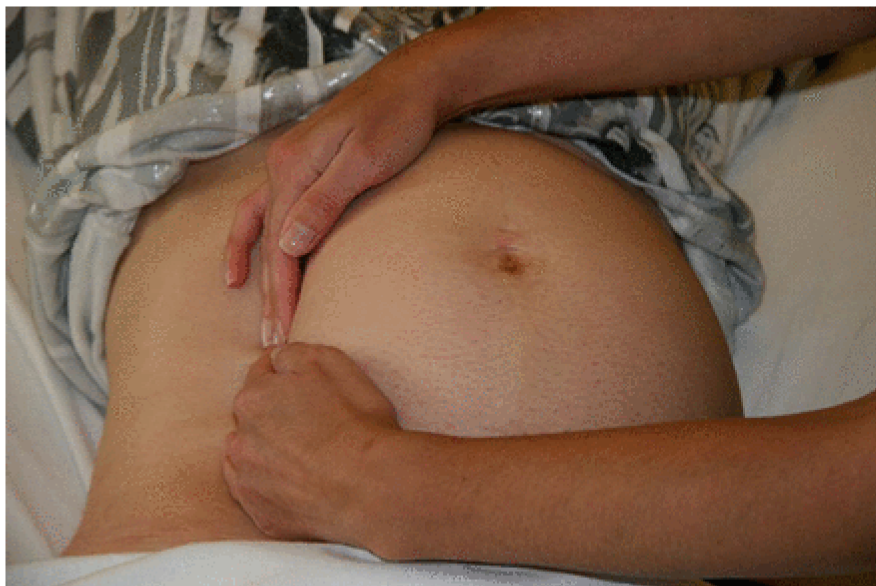
This chapter will present selected topics that non-health personnel, primarily the correction officers, address when a health professional is not in-house. The same policies and procedures of an individual institution apply to the assessment of a pregnant individual, however there are a few additional considerations when working with the pregnant population. The following are areas where care or assessment may need to be modified for these individuals.

Cardiac Arrest

As with any incarcerated person, if a pregnant individual is not breathing and has no pulse, begin Cardiopulmonary resuscitation (CPR). The challenge with pregnancy is the enlarged uterus. Pregnant people greater than 20 weeks gestation (5 months) will require modification in delivering chest compressions. In addition to beginning CPR, call 911 for immediate transport to the nearest Emergency Department.

CPR for Pregnant People [1]

- Airway
  - No modifications.
- Breathing
  - No modifications.
- Circulation
  - Ideally: Have a second rescuer kneel next to the individual's left side and pull the pregnant uterus laterally, towards the second rescuer. This maneuver will relieve pressure on the inferior vena cava.
    - If no other rescuers are available, focus on high-quality chest compressions



Defibrillation

- No modifications in dose or pad position.
- Defibrillation shocks transfer; no significant current to the fetus.

Responding to a Health Concern from Pregnant or Postpartum People

It is safe to advise that all health complaints from pregnant people require a call to the provider on-call. The fact that the individual is incarcerated places the pregnancy at high risk. Pregnancy is a unique state of being with two lives involved, one depending on the other for health and well-being.

Red Flag Symptoms Requiring Immediate Assessment by Healthcare Staff

- Vaginal bleeding
- Leaking of amniotic fluid ("My water broke")
- Labor contractions
- Severe abdominal pain
- Seizures
- Sudden, severe headache
- Sudden, persistent vision changes (blurring, spots/stars/flashing lights)

If the on-call provider (MD, NP, DO, PA, PHN, RN) is not available in-house, obtain immediate transport to the nearest Emergency Department or labor and delivery unit at the hospital.

See Appendix

Information Gathering for Non-Healthcare Staff

If the pregnant person is not experiencing a "red flag" sign, it will be important to gather information to best inform the on-call provider when they are contacted. Any complaint from a pregnant person should be passed along as soon as possible to the on-call healthcare staff. Prior to calling them, gather the following information:

- How many weeks/months pregnant is the person
- Have they had any problems during this pregnancy? Past pregnancies?
- Are they taking any medications?
- What is primary complaint?
    - When did the symptom(s) start?
    - Has this happened before? When?
    - How long has it been going on?
    - Describe they symptom
        - "sharp pain in my lower right side"
    - What makes it worse? Better?
    - What have you tried to fix it?
        - Laying down, drinking water, taking a nap, etc.
    - How bad is the symptom?
        - Pain: 1-10 scale

      Interfering with activities? Sleep?

Restraining Pregnant People Experiencing Incarceration

Additional measures need to be taken when caring for pregnant people who is handcuffed or otherwise restrained. In 2015, legislation was instituted to place limits on when restraints are utilized, what types are permissible and for how long. It also established a mandatory annual report to detail each occurrence of the use of restraints on pregnant people, people in labor, and those who have given birth in the preceding three days, who are incarcerated in state and local correctional facilities during the preceding calendar year.

These restrictions are not to provide preferential treatment or to make the correctional officer's job more difficult, but to protect the individual and their fetus from injury. It also addresses the unique needs of individuals while giving birth, which differs from other medical treatment in a number of ways including the need for movement and use of extremities during the birthing process and the innate desire to be in a safe place to birth the infant.

The Minnesota state statutes regarding the shackling of pregnant inmates can be found here: MN statute 241.88; Restraining an Incarcerated Pregnant Woman (https://www.revisor.mn.gov/statutes/cite/241.88)

What the statute says:

- No representative of a correctional facility should restrain a pregnant person unless it is deemed reasonably necessary for the legitimate safety and security needs of the individual, the correctional staff, other incarcerated people or the public.
  - Restraints should be the least restrictive possible
- During transport of a pregnant individual, no restraints that utilize waist chains or other devices that cross or touch the individual's abdomen are not to be used. If wrist restraints are used, they are not to be placed behind the back.
  - Wrist restraints, if used, must allow for the pregnant person to protect themselves in the event of a forward fall
    - This protects the pregnant abdomen from injury; abdominal trauma is a leading cause of placental abruption and has a significant risk of fetal death and maternal medical complication

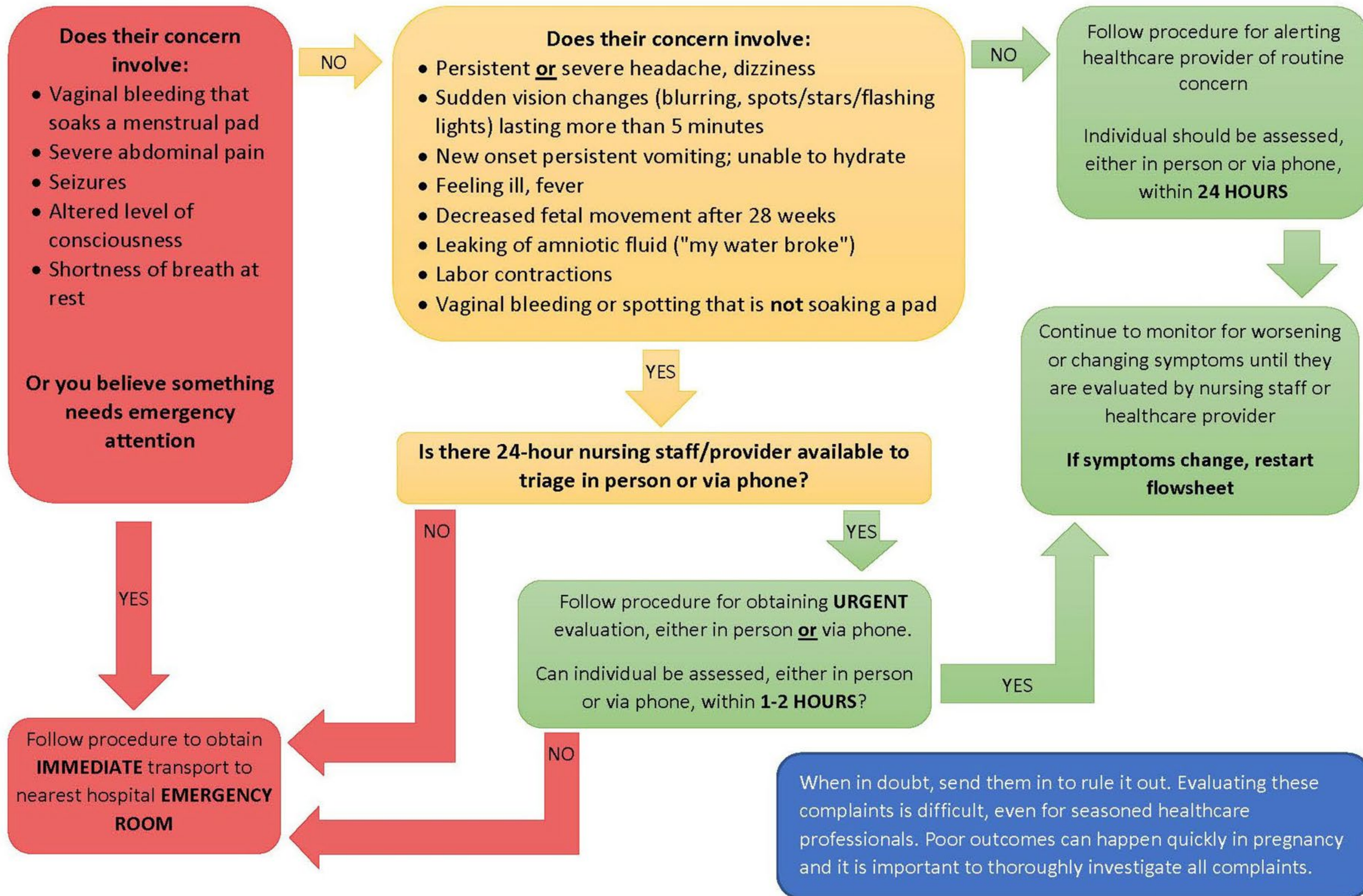
Restraints during labor are only to be used if all of the following are true

- Substantial flight risk, extreme security threat, or risk of injury to self or others
- Determination is made that the restraint is necessary to prevent injury/escape
- There is no objection from the medical care provider
- The restraints are the least restrictive type and used in the least restrictive manner

Resources and Further Reading

2020 AHA Updates on Maternal Resuscitation from Cardiac Arrest (https://avive.life/blog/2020-aha-updates-on-maternal-resuscitation-from-cardiac-arrest/)
CPR for pregnant people.

1. ACOG Practice Bulletin No. 212: Pregnancy and Heart Disease. *Obstetrics & Gynecology*. 2019; 133(5): e320. doi:10.1097/AOG.0000000000003243.
2. Farida, M. Jeejeebhoy. *Circulation*. Cardiac Arrest in Pregnancy, Volume 132, Issue 18, Pages: 1747-1773, doi:10.1161/CIR.0000000000000300.


Red Flag Signs During Pregnancy
For non-healthcare personnel
Does their concern involve:
• Vaginal bleeding that soaks a menstrual pad
• Severe abdominal pain
• Seizures
• Altered level of consciousness
• Shortness of breath at rest
Or you believe something needs emergency attention
NO
Does their concern involve:
• Persistent or severe headache, dizziness
• Sudden vision changes (blurring, spots/stars/flashing lights) lasting more than 5 minutes
• New onset persistent vomiting; unable to hydrate
• Feeling ill, fever
• Decreased fetal movement after 28 weeks
• Leaking of amniotic fluid ("my water broke")
• Labor contractions
• Vaginal bleeding or spotting that is not soaking a pad
NO
Follow procedure for alerting healthcare provider of routine concern
Individual should be assessed, either in person or via phone, within 24 HOURS
Continue to monitor for worsening or changing symptoms until they are evaluated by nursing staff or healthcare provider
If symptoms change, restart flowsheet
YES
Is there 24-hour nursing staff/provider available to triage in person or via phone?
NO
YES
YES
Follow procedure for obtaining URGENT evaluation, either in person or via phone.
Can individual be assessed, either in person or via phone, within 1-2 HOURS?
YES
NO
Follow procedure to obtain IMMEDIATE transport to nearest hospital EMERGENCY ROOM
When in doubt, send them in to rule it out. Evaluating these complaints is difficult, even for seasoned healthcare professionals. Poor outcomes can happen quickly in pregnancy and it is important to thoroughly investigate all complaints.