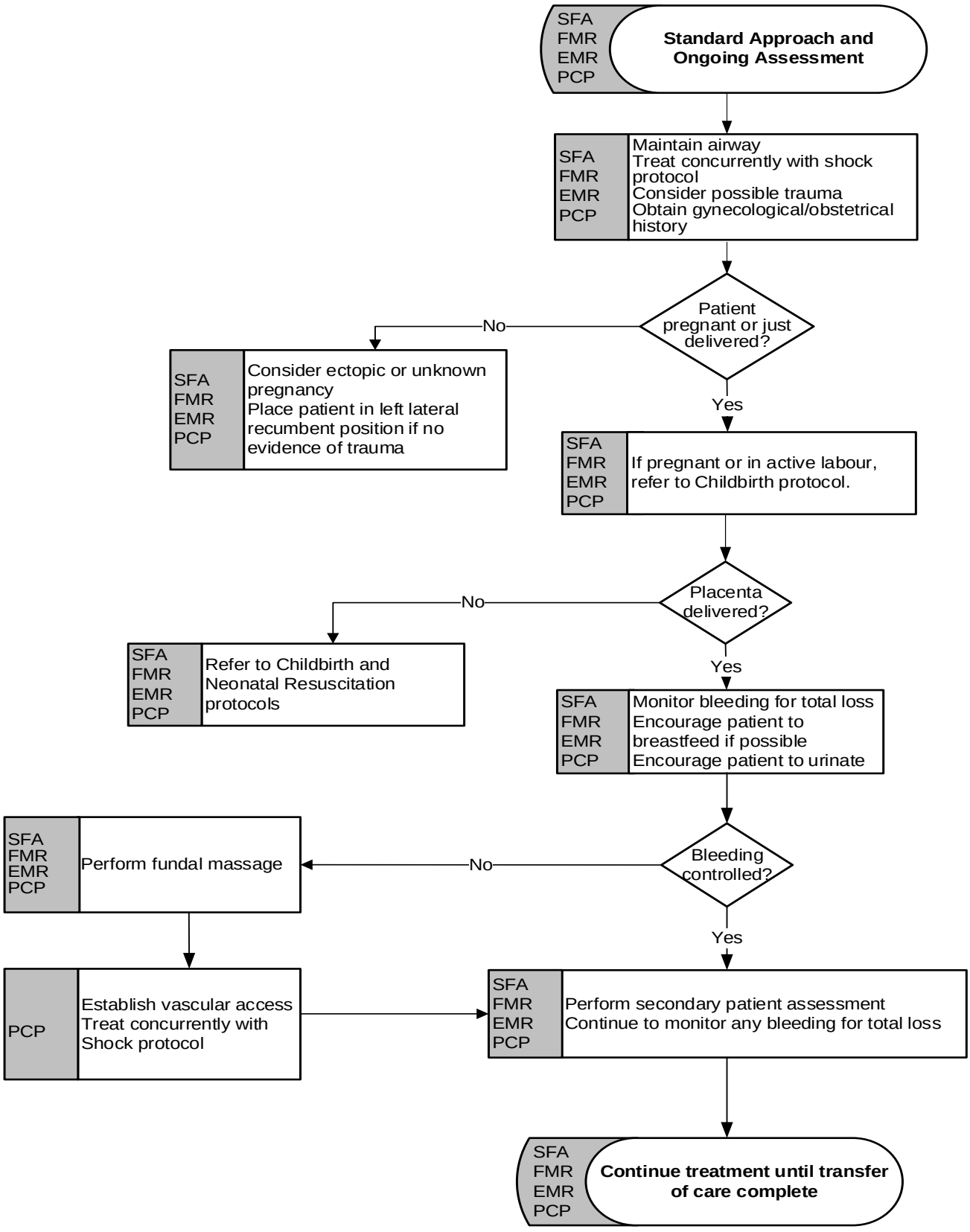
Post Partum Hemorrhage



Post Partum Hemorrhage

Etiology

The most common cause of dangerous vaginal bleeding is after labour and delivery. Post-partum hemorrhage is defined as persistent vaginal bleeding immediately following delivery. This is usually due to uterine atony or lack of uterine muscle tone. Ordinarily, after delivering the baby and placenta, the uterus begins to contract back to a smaller size. This contraction naturally compresses the site on the uterine wall where the placenta detached from, which stops the bleeding. However if the uterus fails to contract, the uterine wall can continue to bleed from the site where the placenta was attached.

Other causes of post-partum hemorrhage include placenta previa, abruptio placentae, retained placental parts, clotting disorders, or vaginal and cervical tears (trauma). Vaginal bleeding can also occur in non-pregnant patients as a result of trauma, and it is important to note this can occur in patients of any age, including pediatric patients.

Management

In order to determine external blood loss, the patient should be asked how many pads they have soaked over the last 30 - 60 minutes. More than three pads in 30 minutes or more than five pads in 60 minutes are indicative of a serious hemorrhage. The total number should be recorded on the PCR and the EMS crew should be informed upon their arrival. The pads should be provided to the crew to turn over to the hospital. In any type of vaginal bleeding do not under any circumstances place dressings inside the vagina. Instead, apply bulky dressings externally. Refer to the shock MCP and adult childbirth MCP. If delivery is not imminent, place the patient into the left lateral recumbent position.

Interventions

Assessment of Bleeding

1. Treat concurrently with shock protocol.

2. Vaginal bleeding is usually easily observable, but estimating volume loss can be difficult. Monitor the bleeding by counting the number of sanitary pads used within 30 minutes to an hour.

3. Visually examine the perineum and vulva to determine if the bleeding could be caused by traumatic injury. This may appear as a laceration to the perineal area, or to the labia.

4. Palpate the head of the uterus to determine its condition, which can help you identify the source of bleeding. If the uterus feels firm, the bleeding may be the result of trauma. If the uterus feels doughy or soft, this is referred to as a “boggy” uterus, which is caused by the failure of the uterus to contract following delivery of the placenta.

Uterine contraction

1. Encourage urination as emptying the bladder may help the uterus to contact more effectively, and will allow more effective fundal massage to prevent further blood loss. Patients may be reluctant to urinate in position but assure them there is ample padding/absorption materials under them.

2. Encourage breastfeeding, which can also prompt more effective uterine contractions through the natural release of the hormone oxytocin.

3. Massaging the uterus (fundal massage) can help the uterus regain tone and contraction. This skill should not be performed by the MFR practitioner until the online training video and evaluation have been completed.
   To perform fundal massage, place one hand above the pubic bone to support the body of the uterus and cup the other hand above the body of the uterus (fundus) massaging in a circular motion until the uterus contracts.
   a. Downward motion must be avoided so as not to prolapse the uterus.
   b. Reassess every 15 minutes and repeat if the uterus feels boggy.

Traumatic causes of vaginal bleeding
Sometimes vaginal bleeding can be caused by trauma, such as a straddle injury. This is particularly common in pediatric or pre-pubescent patients and results when the vulva or perineum is hit by an object such as a bicycle or playground equipment. The force, in combination with the weight of the patient's body causes traumatic injury to the labia minora, labia majora, clitoris, urethra and perineum. While rare, this mechanism can also cause internal trauma to the vagina and hymen. In these circumstances, patient assessment may be difficult and if possible, a guardian should be present. Using anatomically correct language denotes professionalism, but bear in mind that some children (and adults) may not know the anatomical words for female external genitalia.

Another cause of vaginal, vulvar and perineal trauma can be assault and/or sexual assault in both pediatric and adult patients. If bystanders or guardians are still on scene and police are not dispatched or present already, and if the cause of the bleed is suspected abuse or assault, discretely contact dispatch to request police presence. After their arrival, ensure law enforcement is briefed discreetly and not in front of the patient or bystanders.

An assault or sexual assault victim may be traumatized and it is important to support these patients by ensuring every action and intervention is explained and consent is granted. Patients may feel safer with a female practitioner. Using soft voices and ensuring movements aren't sudden can create a more comforting and predictable environment. Keep in mind there may be evidence nearby, but always ensure patient care is the first priority.

Other causes of vaginal bleeding

Ectopic pregnancy
All women of child-bearing age who are presenting with abnormal vaginal bleeding and/or abdominal pain should be considered to have an ectopic pregnancy – when a fertilized egg has implanted and started to develop outside the uterus, usually in one of the fallopian tubes - until proven otherwise. An ectopic pregnancy is a medical emergency. As the embryo grows, it can cause the fallopian tube to burst, resulting in life-threatening internal bleeding. In these instances, the embryo is not viable and the patient requires emergency surgery. These patients will often present with vaginal bleeding, a rigid abdomen, and sharp, lower abdominal pain that may be referred to the shoulder. The absence of these symptoms does NOT rule out ectopic pregnancy. Prompt on-scene assessment and treatment for shock are essential. The preferred position for a pregnant patient is in left lateral recumbent.

Spontaneous abortion (miscarriage)
Spontaneous abortion (miscarriage) is the unplanned loss of pregnancy and expulsion of the embryo/fetus before 20 weeks gestation. A potential spontaneous abortion may be indicated by vaginal

bleeding, backache, and abdominal pain and cramping. The products of conception, (meaning any tissue whether embryonic, fetal or placental) should always be saved for the EMS crew to transport to hospital with the patient.

While 10-20% of pregnancies end in spontaneous abortion, it can be a traumatic event for the patient and their loved ones. It is important to acknowledge any grief the patient may be feeling. Likewise, patients may exhibit relief or very little emotion at all. Take your cues from the patient for how to best support them.

Medical abortion
A medical abortion occurs when a person takes prescribed medication to end a pregnancy. This option is usually only available in the first 10 weeks of pregnancy and does not require surgical or invasive interventions. Complications are very rare but possible and include allergic reaction to the medications, retained products of conception in the uterus, blood clots in the uterus, bleeding, or infection and possible sepsis. Management is the same as other vaginal bleeding emergencies.

Surgical abortion
Surgical (also known as therapeutic) abortion occurs when a person ends their pregnancy through surgical intervention and is available until 20 weeks of gestation, before the embryo or fetus is able to survive outside the womb. Complications are uncommon but include retained products of conception, anesthesia complications, infection, perforated uterus, bleeding, blood clots, and bowel or bladder injury. Late-term abortions, which are performed in pregnancies greater than 20 weeks, are also surgical and only occur when the fetus is gravely or fatally impaired or when the patient's life or physical health is at risk. In all cases, it is important to support the patient with compassion, and to be empathetic and responsive to their emotional state.

Vaginal bleeding in the second and third trimester
Vaginal bleeding in the second and third trimester, unless otherwise confirmed, should be considered to be:

1. **Placenta Previa**
    a. Abnormal implantation of the placenta in the lower uterine wall resulting in partial or complete covering of the cervix.
    b. Bleeding occurs when the lower uterus begins to stretch and the cervix dilates in preparation for labour – this causes the placenta to tear away from the uterus resulting in bleeding.
    c. This condition is frequently identified by ultrasound during routine prenatal care.
    d. Presents with painless, bright red bleeding.

2. **Abruptio Placantae**
    a. Premature separation of the normally implanted placenta from the uterus. Potentially life-threatening for patient and fetus.
    b. Presentation varies depending on the type of separation. In marginal (partial) separation, there may or may not be bleeding and the patient may or may not experience abdominal, thigh or back pain. Sometimes the bleeding may be concealed as it collects between the placenta and uterus. This may present as sharp, tearing pain and the

development of a rigid, board-like abdomen. Complete separations are characterized by massive vaginal bleeding, severe pain and maternal shock.

Vaginal bleeding in the third trimester should always be regarded as a critical emergency. Bleeding may abruptly become very massive. Early notification of the incoming crew is important to ensure all potential resources are considered.

To determine external blood loss, the patient should be asked how many pads they have soaked over the last 30 - 60 minutes. More than three pads in 30 minutes or more than five pads in 60 minutes are indicative of a serious hemorrhage. The total number should be recorded on the PCR and the EMS crew should be informed upon their arrival. In any type of vaginal bleeding do not under any circumstances place dressings inside the vagina. Instead, apply bulky dressings externally. Refer to the shock MCP and if delivery is not imminent, place the patient into the left lateral recumbent position.

Patient dignity and special considerations
Assessing a patient with an obstetrical or gynecological emergency can be awkward or even distressing for those involved. It is important to make every attempt to preserve the patient's privacy and dignity. There are a few steps you can take to help reduce the discomfort the patient and bystanders may experience.

1. Limit the number of responders in immediate attendance to only those needed to deliver patient care.

2. If possible, create a visual barrier such as hanging a sheet in front of the patient to create a more private space for assessment and monitoring.

3. At these types of emergencies, it is especially important to introduce yourself. "Hi, my name is Joe, and I am a medical first responder with the Fire Department. I will be helping you today while we wait for EMS."

4. Designate one or two responders to perform a visual assessment of the patient's vulvar region. Ideally, this should be the practitioner or practitioners most experienced in obstetrical and gynecological assessments.

5. Obtain *ongoing* consent. Ask the patient for permission before you perform any assessment or treatment and explain why. "With your permission, I am going to lift this sheet so that I can visually assess your bleeding and/or injuries. May I do that now?" Ongoing consent means you continue to ask for consent throughout your time with the patient, without assuming that previous consent is now implied for every assessment or treatment. "I do not see any traumatic injuries, but I can see that you're bleeding from your vagina. I would like to initiate intravenous access through an IV while we obtain your vital signs. The IV may be used later by EMS for medications, or for fluid replacement in the event you are bleeding too much. May I start an IV on you?"

6. Some cultures may be very uncomfortable with male practitioners attending to the patient. In these instances, consider designating a female practitioner to perform the visual assessments. In the event this isn't possible, do not force an assessment on the patient, or their family. Consider saying something like, "I understand your concerns. However, it's really important to know how much bleeding is occurring. My only priority is patient care. I will only look when necessary, and only for a short time. I will not be physically assessing or touching your vulva.

   May I take a look?" If the answer is still no, respect the patient's wishes and consider consulting OLMC.

7. Although not common, it is possible to encounter a patient with an obstetrical or gynecological emergency that does not identify as a woman or girl. It is important to ask these patients what pronouns they use, and to honour their gender identity. They may use a different name than is reflected on their identification, but ensure you use the name they wish to be addressed by. You can help set the tone for the incoming crew by introducing the patient during your handoff report when EMS arrives. "This is Joe, and they use them/their pronouns. They do not think they're pregnant, but they are experiencing vaginal bleeding."

8. Obtaining the pertinent history can be challenging in this setting, and patients may not feel comfortable answering questions in front of bystanders such as parental figures or partners. Creating an opportunity for bystanders to be elsewhere during history-taking may be advantageous. Look for signs that the patient may not be able to answer in front of bystanders such as speaking quietly, seeming uncomfortable or not making eye contact. Try and provide for the privacy to gather history alone with the patient, even if this requires you to ask the same questions a second time. Having a colleague ask the bystander(s) to gather medications or other supplies can provide this opportunity. If the patient does not want to speak about their experience, do not force them. Consider calling for law enforcement in the event you suspect assault, sexual assault or abuse.

Infection Prevention and Control (IP&C) Considerations

- Consider removing turnout gear or not donning turnout gear for childbirth and obstetrical emergencies. Turnout gear may have surface contamination, and additionally may be difficult to clean after a delivery. Street clothes and a gown is preferable to turnout gear if medical jumpsuits are not available to the medical first responder.
- Wear a procedural/surgical mask and safety glasses or face shield.
- Wear sterile gloves.
- Wear a gown.
- Remove sterile items from packaging just prior to use.
- Use aseptic technique during invasive procedures such as suctioning, cutting the umbilical cord, obtaining IV access.)

What to expect when EMS arrives

If a delivery has occurred, include the APGAR scores and placenta (if delivered) in your report to the incoming EMS crew. They will likely want to know how much blood the patient has lost and will likely administer an intramuscular shot of oxytocin to help the patient's uterus begin contracting. Be sure to include blood pressure and heart rate trends, and whether the patient was able to breastfeed or urinate yet.

Be ready to help carry or assist the patient in moving to the stretcher or ambulance. If OLMC is already engaged, don't hang up when EMS arrives as the physician may want to speak to the crew or vice versa. If the patient has a bag packed and ready for the hospital, it may be helpful to ensure it gets brought to the ambulance.

If preparing the ambulance to receive the patient and infant, turn up the heat in the patient compartment in advance taking care to close all doors to keep the heat in before the patient is loaded.