

Reproduction Basics

A Lesson Plan from Rights, Respect, Responsibility: A K-12 Curriculum

Fostering responsibility by respecting young people's rights to honest sexuality education.

NSES ALIGNMENT:

Students will be able to:

PR.8.CC.1 – Define sexual intercourse and its relationship to human reproduction.

TARGET GRADE:

Middle School - Lesson 4

TIME: 50 Minutes

MATERIALS NEEDED:

- Projector and screen
- Computer with PowerPoint
- PowerPoint: *"Fertility and the Menstrual Cycle"*
- *"Human Reproduction Sample Definitions"* Teacher Resource
- *"SPERM"* page (5 copies)
- *"BIRTH CONTROL"* page (one copy)
- 28-day Menstrual Cycle cards (one set)
- Three pieces of butcher paper
- Masking tape
- Markers (one per student)
- Two medium-sized bouncy balls (red, rubber balls typically used in P.E. class are perfect if you can borrow them or most dollar stores sell them)
- **Homework:** *"Reproduction Myth vs. Fact"* (one per student)
- *"Reproduction Myth vs. Fact"* Answer Key

ADVANCE PREPARATION FOR LESSON:

- Prepare the butcher paper with the following headers, one per sheet:
 1. **Sexual intercourse is when. . .**
 2. **A pregnancy can start when . . .**
 3. **A pregnancy can't start when . . .**
- Post the three pieces of butcher paper in different places on the wall with enough room between them so that a small group of students can gather and write on them. Tape the bottom edge of each sheet up over its top, folding it in half, so that students cannot see what's written on them until you are ready to do the activity.
- Make five copies of the *"SPERM"* page.
- Print one set of the 28-day Menstrual Cycle cards. Cut each sheet of paper in half to have a full set of 28 cards.
- Review the *"Human Reproduction Sample Definitions"* Teacher Resource. You should be familiar with the functioning of the reproductive system and human reproduction in order to lead the class activities and respond to students' questions. A review can also be found at <http://www.sexualityandu.ca/sexualhealth/all-about-puberty/sexual-reproduction>.

LEARNING OBJECTIVES:

By the end of this lesson, students will be able to:

1. Describe the process of human reproduction by identifying the correct order of the steps involved with conception. [Knowledge]
2. Define sexual intercourse. [Knowledge]

A NOTE ABOUT LANGUAGE:

The terms "boy" and "girl" are used intentionally in this lesson to make it accessible for middle school students, who are more concrete learners than older students. While we use terms "male" and "female" when referring to particular anatomy (the "male" or "female" reproductive systems, for example), it is important to remember that someone can have a penis even if they don't identify as a boy or a vulva even if they don't identify as a girl. More inclusive language such as "a person with a penis" or "a person with a vulva" can also be used if you are comfortable with these terms.

PROCEDURE:

STEP 1: Say, **"Today we are going to discuss human reproduction. This is a topic that some of you might know a lot about and some**

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of you might be learning about for the first time. Let's start by seeing what the class already knows about the topic of reproduction."

Point out the three pieces of butcher paper that you have hung around the room. Walk to the closest piece of paper and remove the tape revealing what is written on it. Explain to students that each piece of paper has a different sentence starter. They are to walk around and write down the first thing that comes to mind for each page. Explain that you are just looking to see what students have heard about these topics and that you expect all of their responses to be appropriate for school. Distribute the markers and tell them to be sure to write small enough to allow room for others to contribute as well. Invite students to stand up and move around to each paper, writing their responses. Tell students they have about five minutes total to write on each paper. Once they are done, tell them to return to their seats. Ask three students to help by each bringing one of the papers to post at the front of the room so the whole class can see them. (8 minutes)

STEP 2: Starting with the first piece of butcher paper, read the answers that students wrote, clarifying any misconceptions and confirming accurate information. If students have not written it, make sure to say, **"Vaginal sex, sometimes called sexual intercourse, is when an erect penis is inserted into a lubricated vagina. If this results in ejaculation, semen is released from the penis into the vagina. Semen contains hundreds of millions of sperm, so if an egg is present, a sperm and egg can unite. That's called 'fertilization.'** The fertilized egg then keeps going and, if it implants into the wall of the uterus, it becomes a pregnancy. If it doesn't, it results in a menstrual period. We'll talk more about this in a minute." Continue in this manner with the other two pieces of newsprint making sure to provide the appropriate information and/or definitions as needed.

Note to the Teacher: *If you need some help providing age-appropriate definitions, please use the "Human Reproduction Sample Definitions" Teacher Resource.* (10 minutes)

STEP 3: Next say, **"Now that you have some general definitions for key terms related to human reproduction, I want to make sure you understand the steps involved from start to finish."** Start the PowerPoint *"Fertility and the Menstrual Cycle"* and review each phase of the menstrual cycle by saying the following:

Slide 1 – "This is a female's uterus. You can see that it's in the abdomen next to the stomach. The uterus is where menstruation occurs."

Slide 2 – "The average menstrual cycle is generally about 28 days but varies from person to person, sometimes being much shorter or longer than 28 days. Someone can get their first period anywhere between 9 and 15 years old, and generally it will take the body a couple of years to figure out what will be a typical cycle."

Slide 3 – "Each month an ovary releases an egg, also called an ovum, into the fallopian tube. The trip down the fallopian tube usually takes a couple days."

Slide 4 – "While the ovum is on this journey, if it unites with sperm, the egg becomes fertilized and may implant in the lining of the uterus. Once a fertilized egg implants inside the uterus, a pregnancy has begun. If the pregnancy continues, typically 40 weeks later (approximately 9 months) a baby will be born. If a baby is born more than

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three weeks before the baby is due (before the 37th week), the birth is considered 'premature' and sometimes the baby will need medical help to remain healthy."

Slide 5 – "If there are no sperm in the fallopian tube while the ovum is there, then the ovum dissolves and is reabsorbed by the body. The ovum is only able to unite with a sperm for a couple of days before it dissolves."

Slide 6 – "In order to prepare for a potential pregnancy, the lining of the uterus grows each month to create a good environment for a potential fetus."

Slide 7 – "If the egg does not unite with a sperm, hormones tell the body to prepare for menstruation, also called having a period."

Slide 8 – "Menstruation is when the body rids itself of the extra lining inside of the uterus because there was no fertilized ovum. About two tablespoons of blood and some tissue slowly leave the vagina during a menstrual period."
(10 minutes)

STEP 4: Say, "Since the average menstrual cycle is 28 days, I have 28 cards and each one represents one day of the cycle. I am going to hand out a card to each of you. Once you have your card, please tape them to the board in the correct order. Then we will look at the menstrual cycle again, this time starting with menstruation at Day 1." Distribute one card to each student and have them use the masking tape to post them on the white board.

Note to the Teacher: If you have more than 28 students in your class, have students pair up to work on one card together. If you have less than 28 students, give a few students two cards to work on. (5 minutes)

STEP 5: Say, "Now we can see an average 28-day menstrual cycle with Day 1 being the first day of the period. Next I'd like to show you when a person is most likely to become pregnant if sperm and an egg unite. Each of these two bouncy balls will represent one day when the egg is in the fallopian tube and able to unite with a sperm." Ask for two volunteers and give each one a bouncy ball. Have one student stand under Day 14 and the other student stand under Day 15. Say, "Now whenever the egg is traveling through the fallopian tube pregnancy can happen if there are sperm present. Remember from the PowerPoint that the egg or ovum is only viable (i.e., able to be fertilized) for about two days. So these two bouncy balls will represent when the egg is traveling and able to unite with a sperm." (5 minutes)

STEP 6: Next, ask for five volunteers and give each one copy of the "SPERM" page and say, "Sperm can live inside another person's body for up to five days. So let's see what happens if there is sperm in the uterus during different points of the menstrual cycle." Have each student with a sperm page stand under Days 24–28. Say, "You can see that sperm in the body during this time is not as likely to start a pregnancy because it's less likely there is an egg around."

Next, have the people holding the five "SPERM" pages move to stand under Days 11–15. Say, "You can see how if there is sperm present either BEFORE or DURING the same time when the egg—the bouncy balls in our case—are present, that is the time when a pregnancy is most likely to happen." Lastly, ask for one other volunteer and give them the

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“**BIRTH CONTROL**” page. Ask them to stand between the students holding the bouncy balls and the students with the “**SPERM**” pages and to physically block the two from meeting. Ask students, “**What is the birth control doing?**” Take some responses and make sure to tell students the following, “**Birth control, if used correctly and consistently, prevents the sperm and egg from uniting by either blocking the sperm or preventing an egg from leaving the ovary.**” (7 minutes)

STEP 7: Have the volunteers return the bouncy balls, “**SPERM**,” and “**BIRTH CONTROL**” pages to you and return to their seats. End by asking, “**What does this tell you about when pregnancy is most likely to happen?**” Take a few responses and clarify any lingering misconceptions. End the lesson by saying, “**Since this is just a typical menstrual cycle and we know that everyone is unique, if someone chooses to have vaginal sex but does not want to become pregnant or get their partner pregnant, it is most effective to either postpone vaginal sex or to use an effective form of birth control consistently and correctly.**” Distribute and explain the homework. (5 minutes)

RECOMMENDED ASSESSMENT OF LEARNING OBJECTIVES AT CONCLUSION OF LESSON:

The 28-day Menstrual Card activity will meet Learning Objective 1 and the stem sentence activity on the butcher paper and discussion will meet Learning Objective 2.

HOMEWORK:

The homework is a short quiz intended for students to complete with a parent/caregiver in order to facilitate a conversation about reproduction.

Reproduction Myth vs. Fact
Homework (Middle School Lesson 4)

Name: _____ Date: _____

Instructions:

- With a parent or caregiver, talk through the following four statements.
- Together, decide whether you believe the statement is a MYTH or FACT and circle that answer.
- Then, watch the 3-minute Sex Myths Video to check your answers.

MYTH	FACT	1. If two people have vaginal sex standing up, then pregnancy is not possible because the sperm will just fall out.
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MYTH	FACT	2. If two people have sex in certain positions, then pregnancy is not possible because of gravity.
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MYTH	FACT	3. If two people have vaginal sex in a swimming pool, pregnancy is not possible.
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MYTH	FACT	4. If someone jumps up and down after unprotected vaginal sex, the sperm inside will get confused and be unable to reach an egg.
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Sex Myths Video – <http://pub.etr.org/sexmyths.html>

Human Reproduction Sample Definitions

Teacher Resource

The following are key terms for the explanation of human reproduction and a sample definition appropriate for use with 8th graders. It is important to review these definitions prior to teaching the lesson.

Please note: This is for your reference only and should not be distributed to students.

Vaginal Sex

Vaginal sex, sometimes called sexual intercourse, is when an erect penis is inserted into a lubricated vagina. If this results in ejaculation, semen is released from the penis. Semen contains hundreds of millions of sperm, only one of which is needed to cause a pregnancy. If the couple is not using a contraceptive method, like condoms or the pill, the sperm in the semen can join with an egg, if one is present. If the fertilized egg implants in a uterus, it creates a pregnancy.

Conception

The beginning of a pregnancy. A sperm and egg must first join and implant into the lining of the uterus to result in a pregnancy. A fertilized egg cannot survive without implantation.

Human Reproduction

Human reproduction is a cycle in which a sperm and egg join and then implant into the lining of the uterus. Typically after 40 weeks (approximately nine months) of growth, a baby is born.

Implantation

The process by which a fertilized egg attaches itself to the lining of the uterus. Once an egg is fertilized it doesn't always implant, but may leave the body with menstrual blood and tissue.

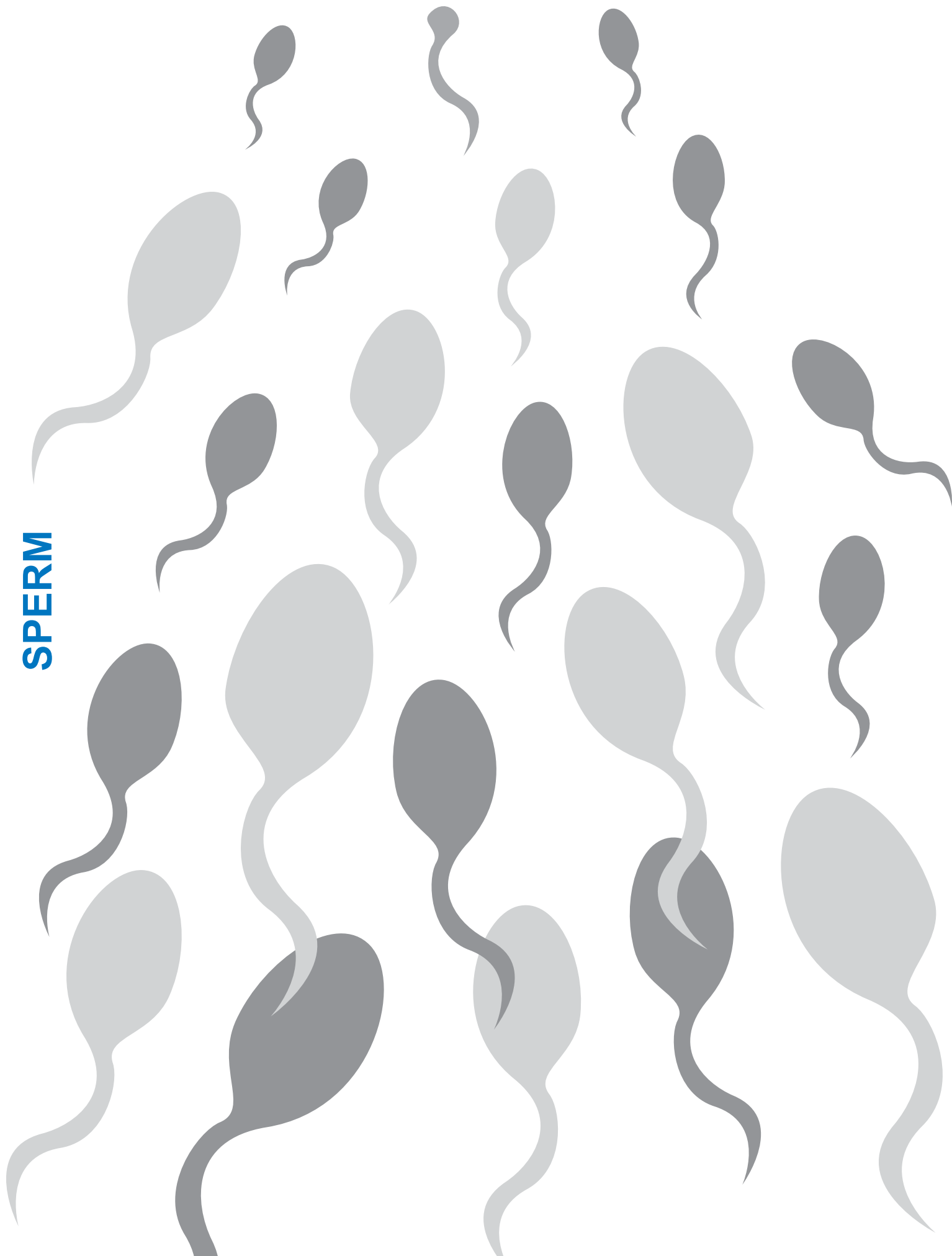
Fetus

The medically accurate name for the developing pregnancy prior to birth.

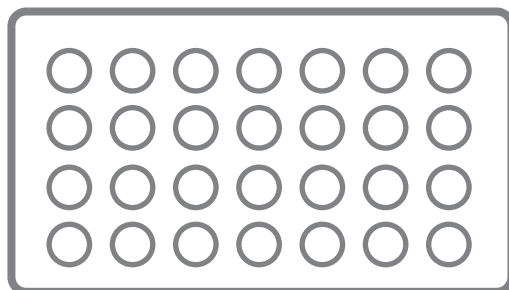
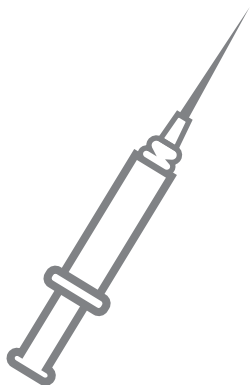
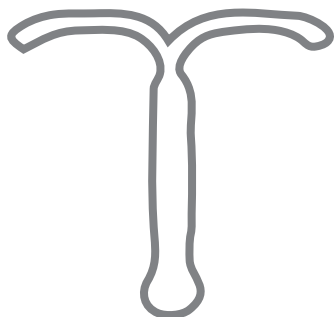
Pregnancy

Once a fertilized egg successfully implants in the lining of the uterus, a pregnancy has begun. Typically a pregnancy lasts for 40 weeks but can terminate for many reasons including spontaneously (called a miscarriage) or by choice or medical necessity (called an abortion).

SPERM

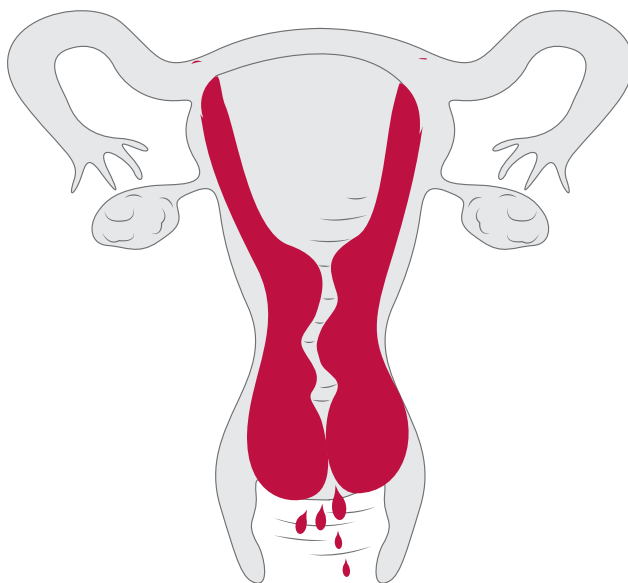


BIRTH CONTROL



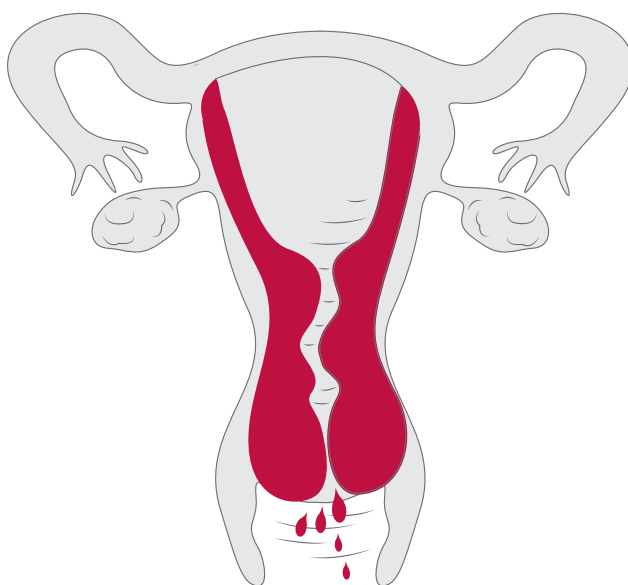
1

Menstrual period begins.



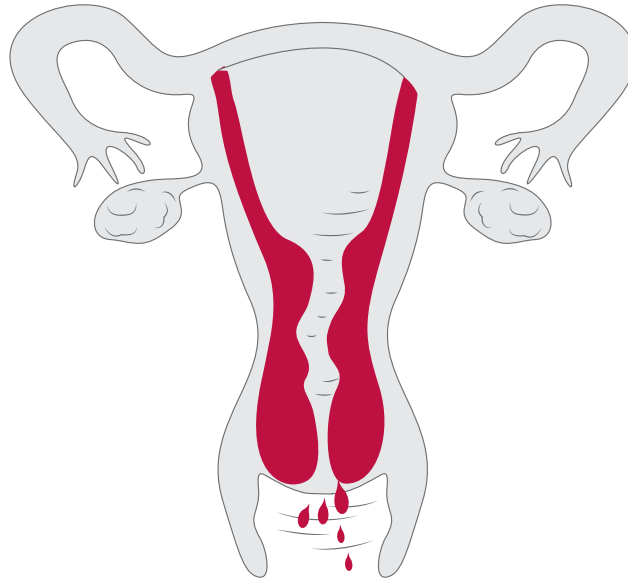
2

Menstrual period continues.



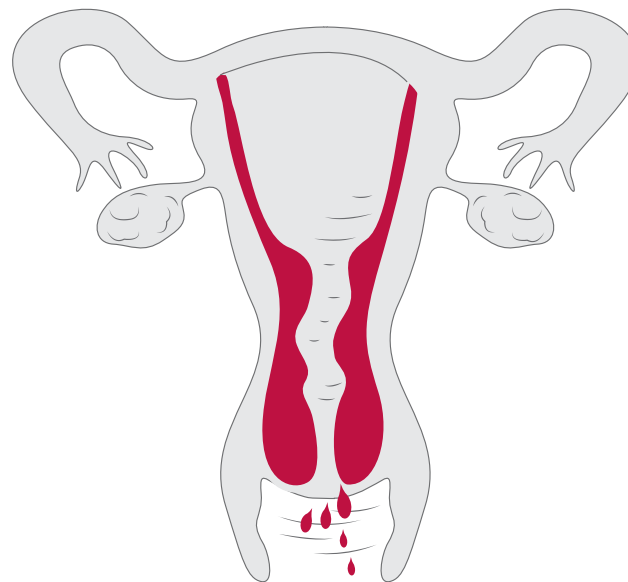
3

Menstrual period continues.



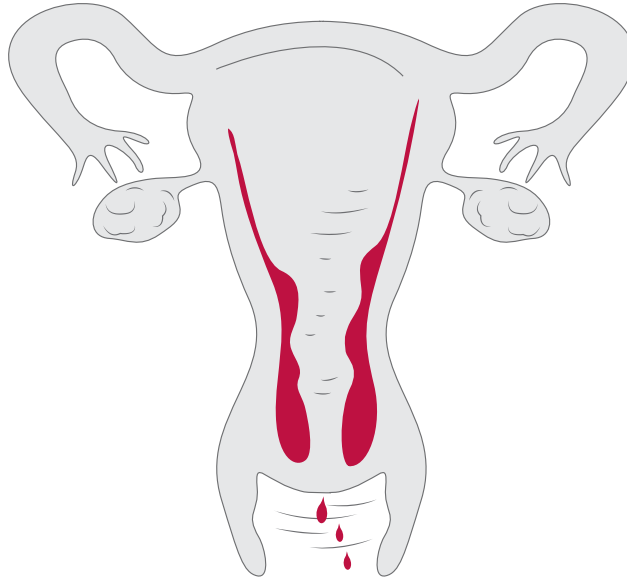
4

Menstrual period likely continues.



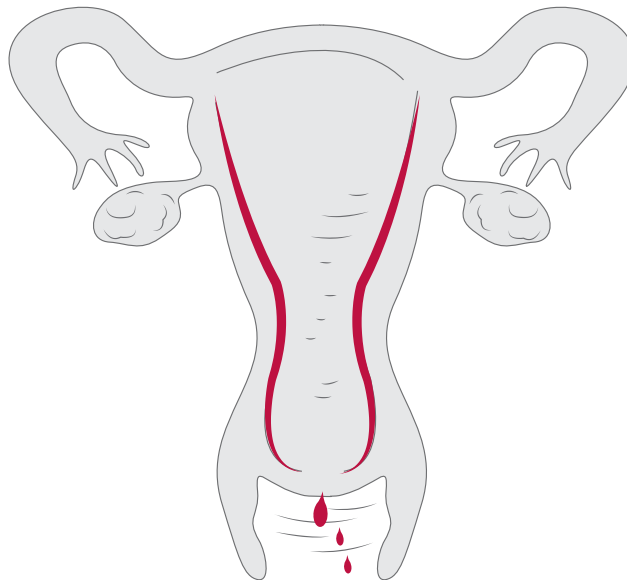
5

Menstrual period may continue/may be finishing.



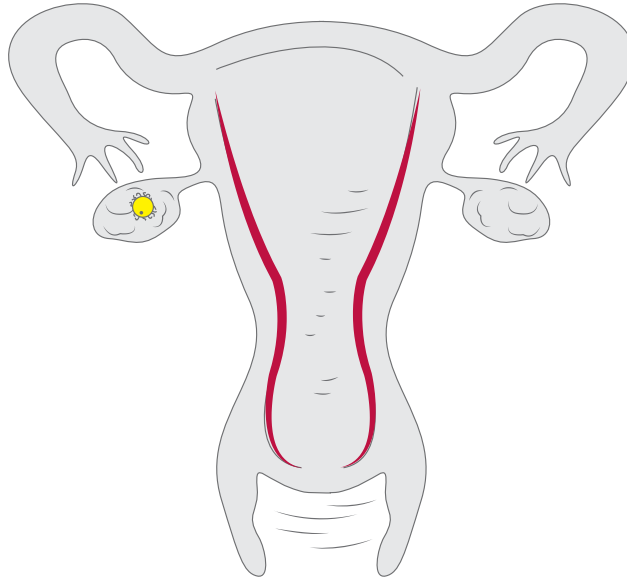
6

Menstrual period ending/ended and lining of uterus starting to grow again.

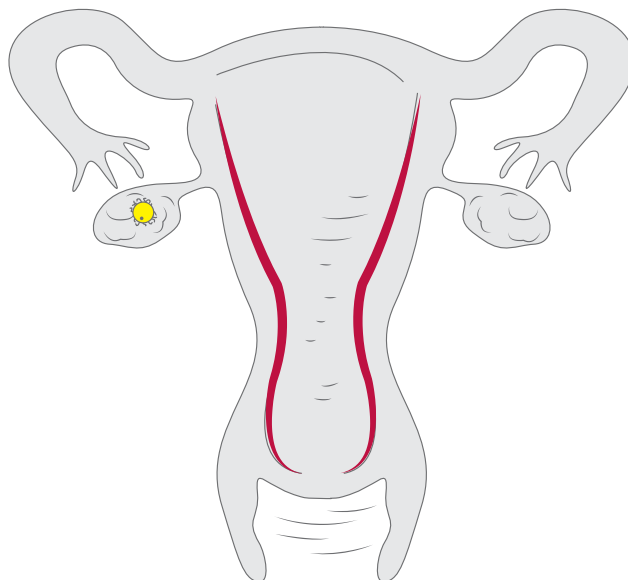




Menstrual period ending/ended and lining of uterus starting to grow again.

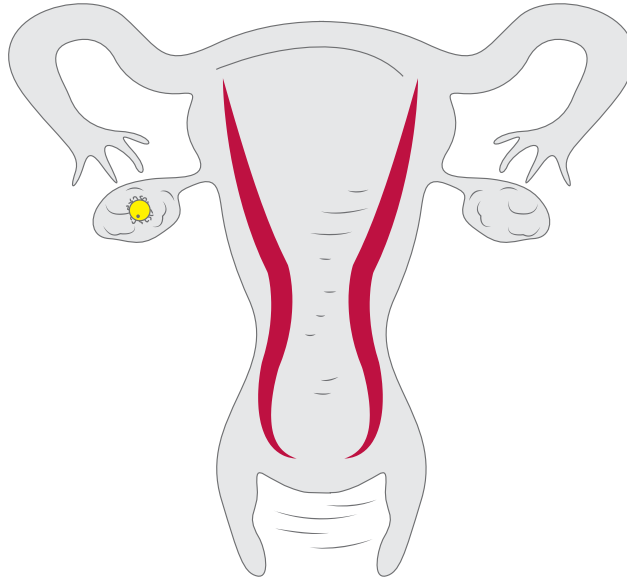


Lining of uterus continues to grow and one egg is preparing to be released.



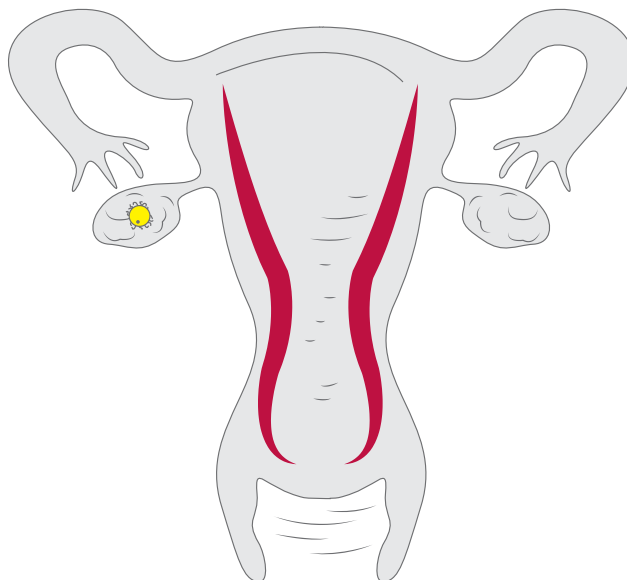
9

Lining of uterus continues to grow and one egg is preparing to be released.



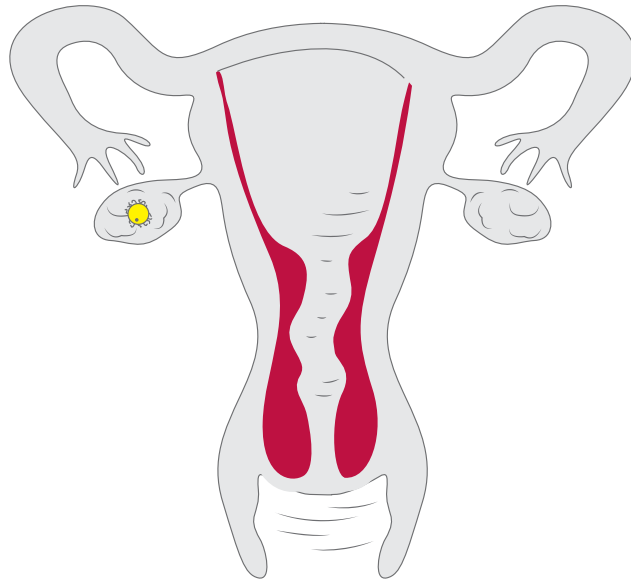
10

Lining of uterus continues to grow and one egg is preparing to be released.



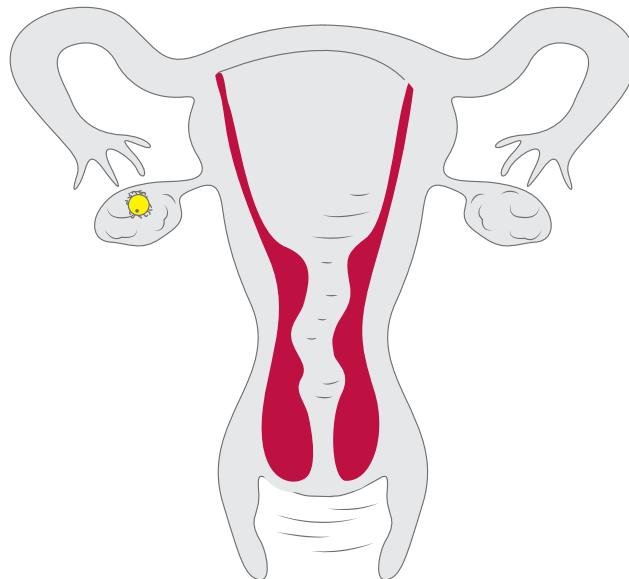
11

Lining of uterus continues to grow and one egg is preparing to be released.



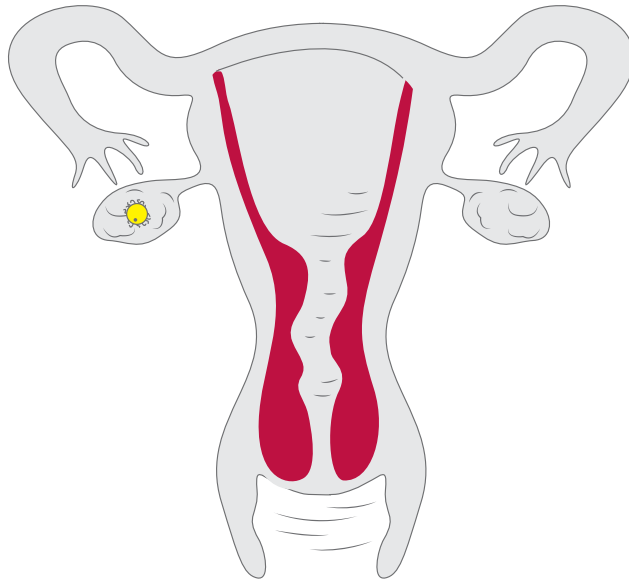
12

Lining of uterus continues to grow and one egg is preparing to be released.



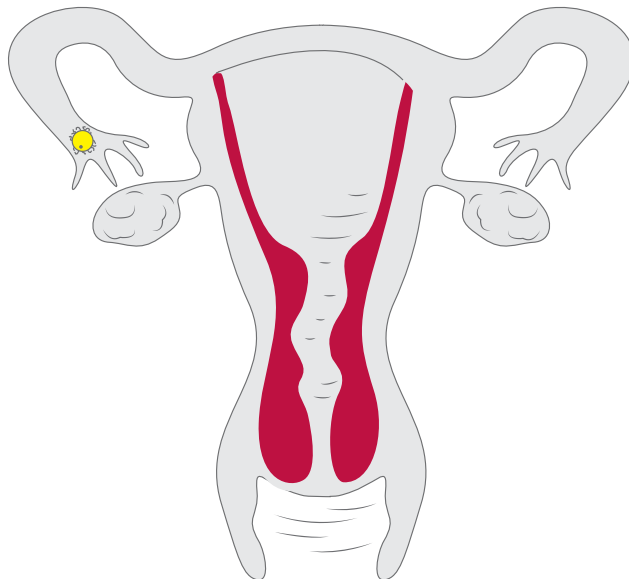
13

Lining of uterus continues to grow and one egg is preparing to be released.



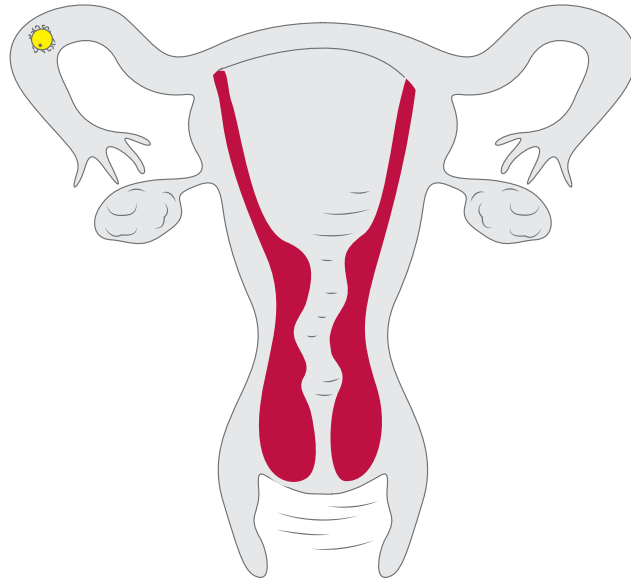
14

Ovulation is most likely to occur, meaning an egg is released from an ovary and starts to travel down a fallopian tube.



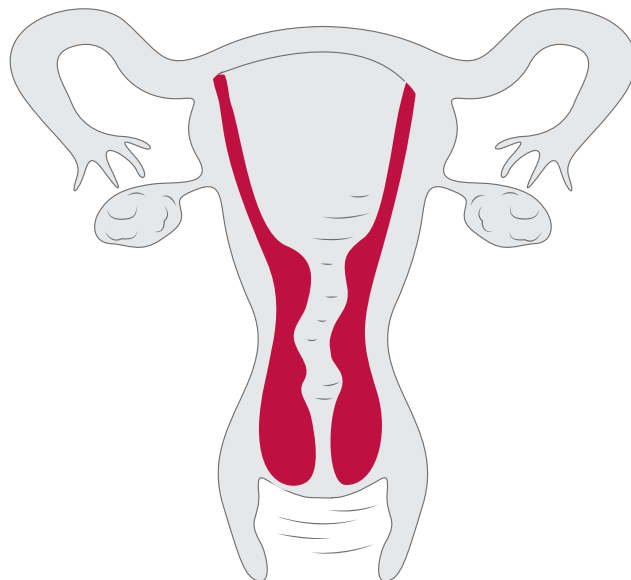
15

The egg, if it does not unite with a sperm by the end of Day 15, will dissolve and no longer be viable.



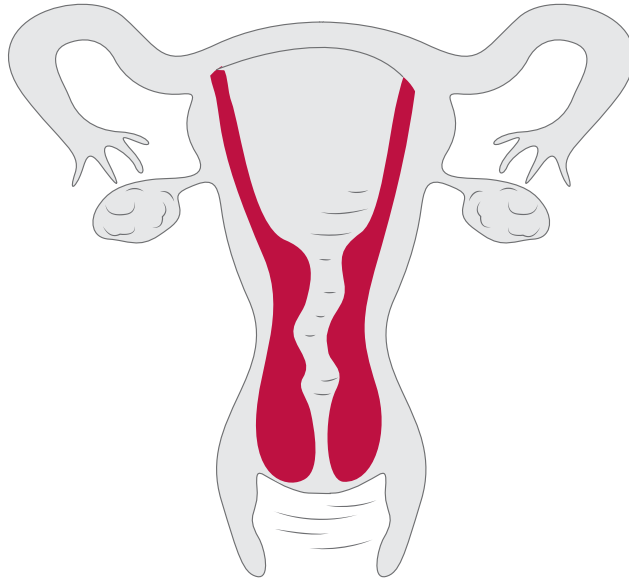
16

The egg has dissolved and will leave the body during the menstrual period.



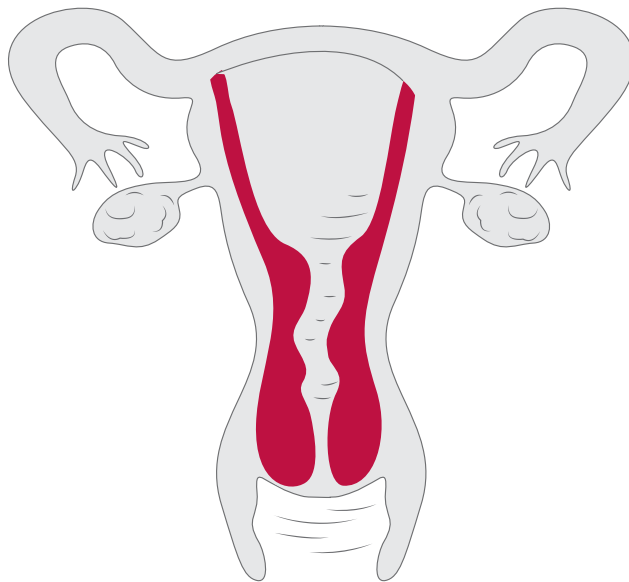
17

Lining of uterus continues to grow,
just in case it's needed.



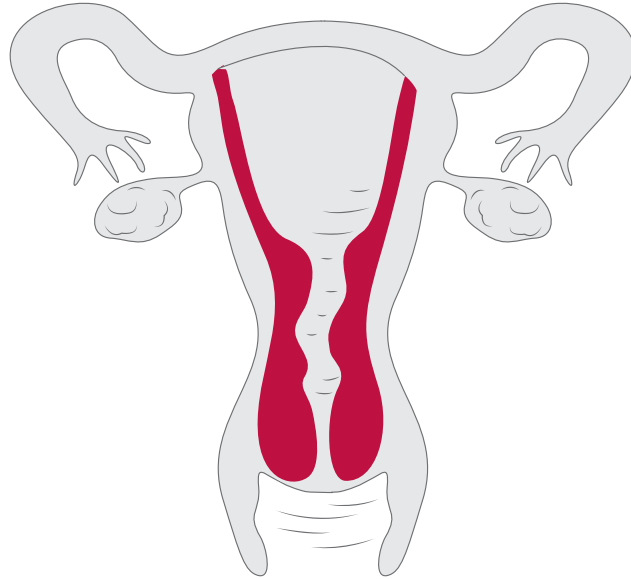
18

Lining of uterus continues to grow,
just in case it's needed.



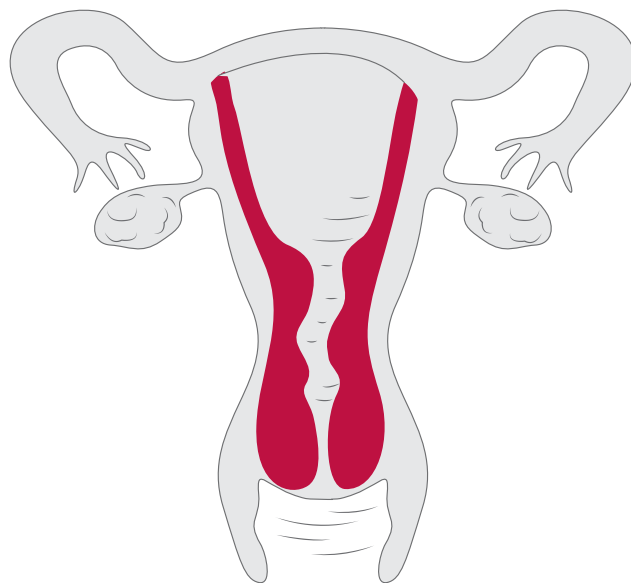
19

Lining of uterus continues to grow,
just in case it's needed.



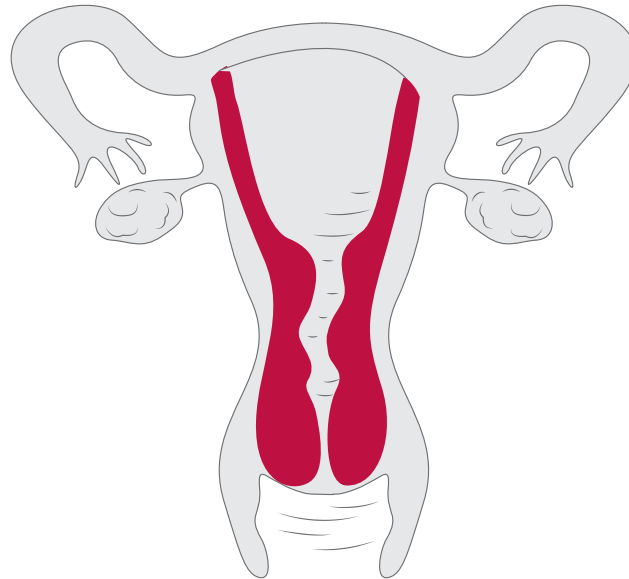
20

Lining of uterus continues to grow,
just in case it's needed.



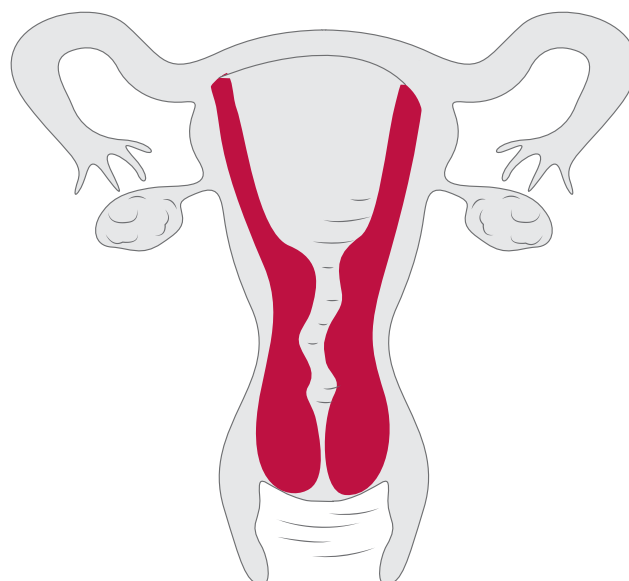
21

Lining of uterus continues to grow,
just in case it's needed.



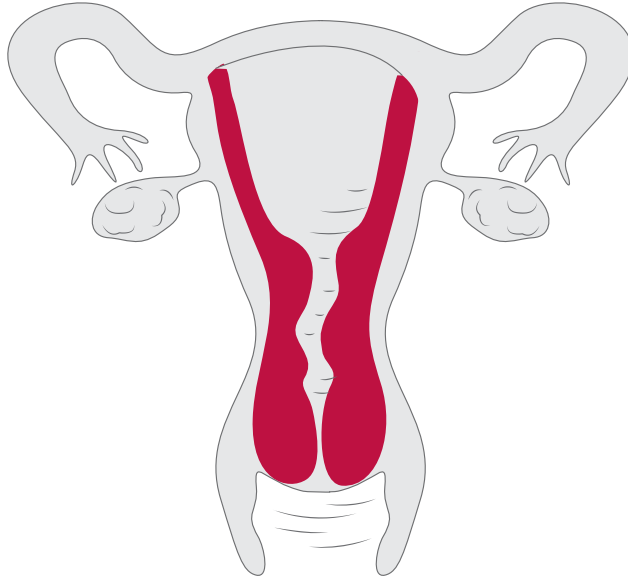
22

Lining of uterus continues to grow,
just in case it's needed.



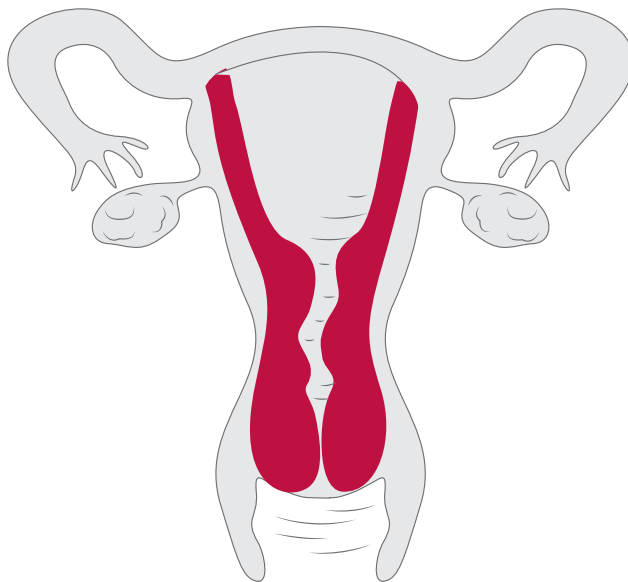
23

Lining of uterus continues to grow,
just in case it's needed.



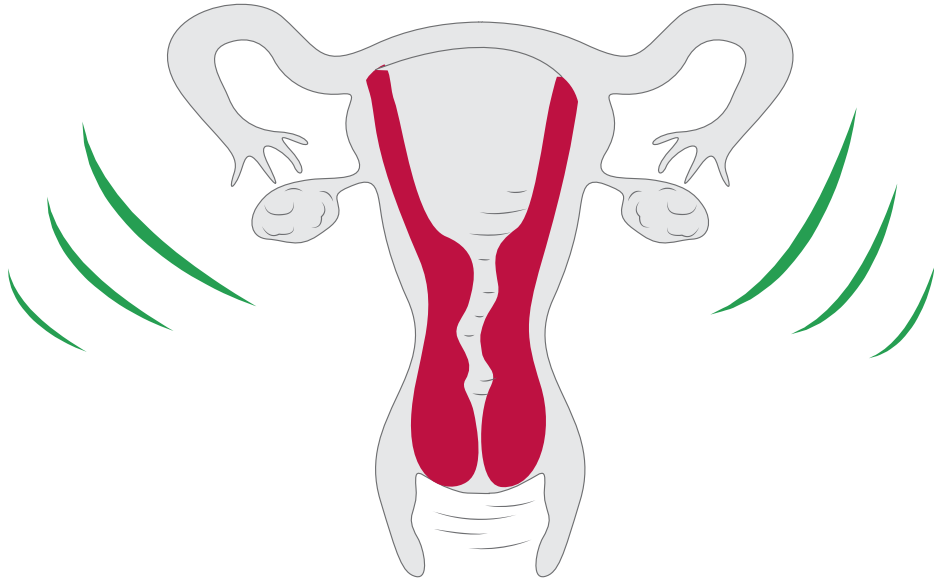
24

Lining of uterus continues to grow,
just in case it's needed.



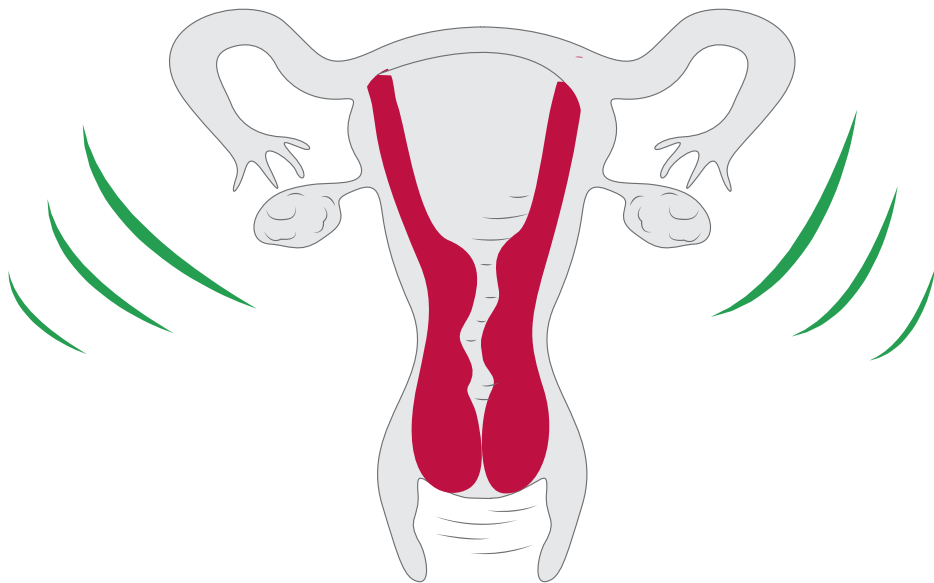
25

Lining of uterus continues to grow and hormones signal body to prepare for next menstrual period.



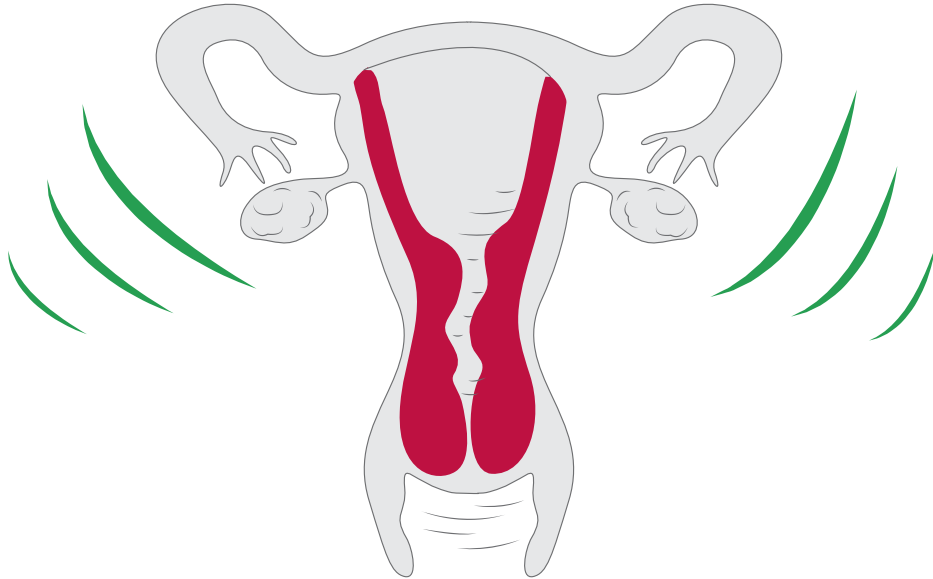
26

Lining of uterus continues to grow and hormones signal body to prepare for next menstrual period.



27

Lining of uterus continues to grow and hormones signal body to prepare for next menstrual period.



28

Lining of uterus continues to grow and hormones signal body to prepare for next menstrual period.

