University Hospitals
Seidman Cancer Center

Patient and Family Education

Cytoreductive Surgery and Heated Intraperitoneal Chemotherapy (HIPEC)

What to expect

Table of contents

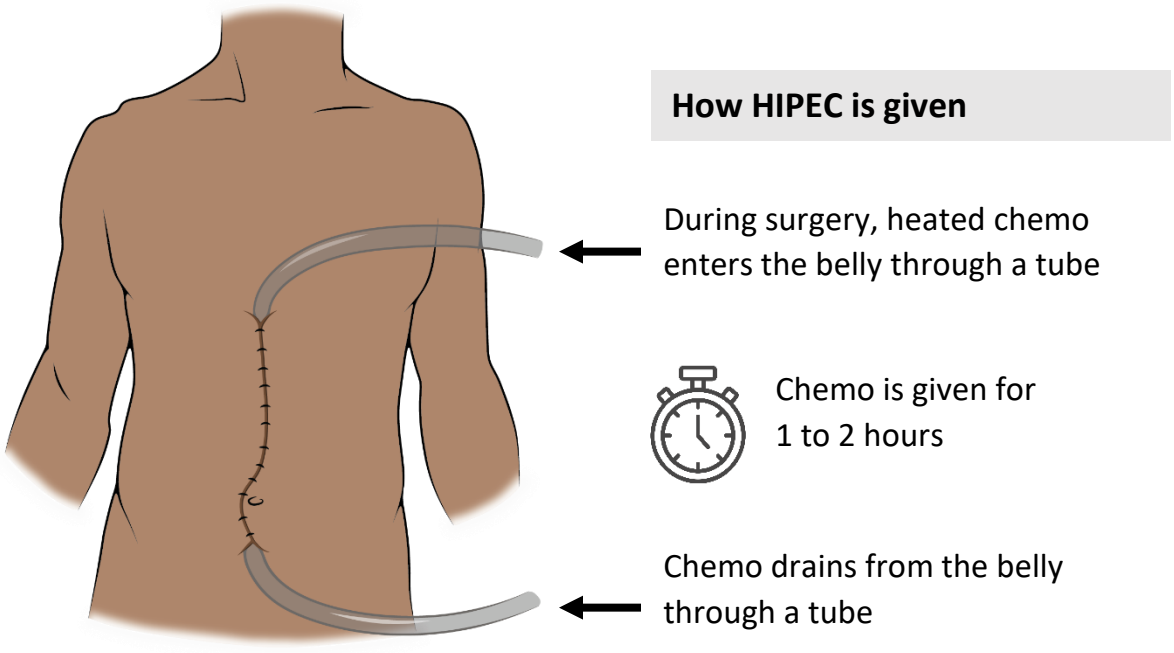
This information is a general resource. It is not meant to replace your doctor's advice. Ask your doctor or health care team any questions. Always follow their instructions.

Cytoreductive Surgery and HIPEC

HIPEC stands for hyperthermic intraperitoneal chemotherapy. During HIPEC, heated chemotherapy (chemo) drugs are infused into the abdomen (belly) through a tube. It is most often used as a treatment for cancers that spread to the peritoneum, which is the lining of the abdomen. Some cancers treated with HIPEC include colorectal, appendix and ovarian cancers.

HIPEC is given after a surgeon removes the cancer they can see from the belly. This process, called cytoreductive surgery, can take several hours. If cancer affects certain organs, they may be removed. Afterwards, heated chemo drugs are given to help kill any cancer cells that remain in the belly.

The surgery and HIPEC happen in the operating room, while you are asleep from general anesthesia. Since the surgery is a lengthy and involved process, it's common to stay in the hospital for about a week to recover.



Overview of cytoreductive surgery and HIPEC

1. You receive anesthesia to make you sleep.
2. Your surgeon removes visible cancer tumors in your belly. This is called cytoreductive surgery. It can take many hours based on which areas are involved. If cancer has spread to nearby organs, such as the colon (bowel) or pancreas, your surgeon may remove them.
3. The surgery incision is closed and 2 tubes called catheters are placed into the belly. One tube is for the chemo to enter the belly, and the other is for it to flow out.
4. Heated chemo is pumped through the tubes for 1 to 2 hours, based on the areas being treated.
5. After the HIPEC treatment is done, the tubes are removed.
6. The surgeon opens the incision to check that the area looks ok and rinses it with a salt-water solution. The incision is closed with staples or sutures (stitches).
7. You wake up from surgery and go to the intensive care unit (ICU) or nursing unit to begin your recovery.

Getting ready for surgery

Plan ahead

- ☐ Ask a family member or friend to be your main caregiver after surgery. You will likely need some help for at least a few days after you get home.

- ☐ Let your surgeon's office know if your caregiver needs any forms filled out for FMLA (Family Medical Leave Act). If eligible through their work, FMLA allows a parent or spouse to take unpaid, job-protected leave from their job to care for you. The human resources department at your caregiver's job can provide more details about FMLA, what forms need to be done and how often.

- ☐ Make sure you have a working thermometer. You will need it to check your temperature if you are not feeling well.

- ☐ Read and follow any instructions from your surgeon's office and pre-admission testing about how to prepare for your surgery. Call your surgeon's office if you have questions.

Think about you

- ☐ If you smoke, stop or cut down on smoking as much as you can. Stopping smoking 4 weeks before surgery can help you heal faster. It can also lower your chances of having breathing problems after surgery. Please note that we do not use nicotine patches after surgery because they can prevent wound healing. **If you need help to quit smoking,** talk to your surgeon or nurse.

- ☐ If you drink alcohol, stop drinking as much as you can. Doing so can help you heal faster and avoid problems like slow wound healing. **If you need help to stop drinking,** talk to your surgeon or nurse.

- ☐ If you or your family are feeling stressed or having a hard time coping, please tell us. We can refer you to a staff member who can talk with you and try to help.

Information for your family

Updates during surgery

Family can wait for you during surgery in our waiting area. Our staff updates them about your progress during and after surgery. The wait is long, so they may want to bring items to help pass the time such as books, music or a computer. They can bring food or drinks from home or go to the cafeteria while waiting.

Parking

The UH Drive parking garage is the closest garage to Admitting and the surgery waiting area. We have self-pay valet parking at the main entrances of Lerner Tower and the UH Seidman Cancer Center.

If your ride parks in the UH Drive garage, we can give them 1 free parking voucher. For all other visitors, the first hour in the garage is free but there is a fee if they stay longer or use valet parking. For current parking garage or valet rates, call 216-844-7275.

Food

The Atrium cafeteria is in the Humphrey Building and the Wolfgang Puck Café is in the lobby of Seidman Cancer Center. Your family can ask our staff about local restaurants and vending machines.

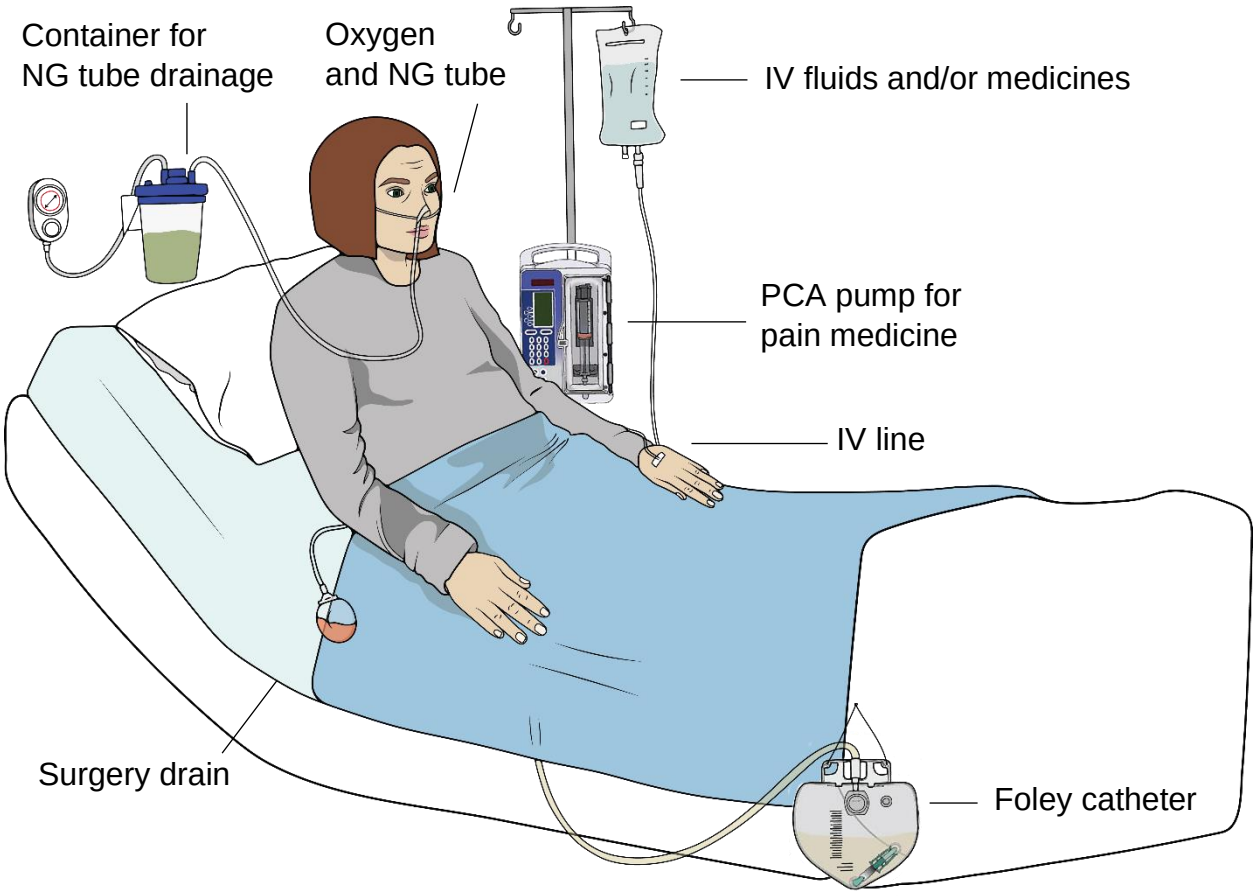
What to expect in the hospital

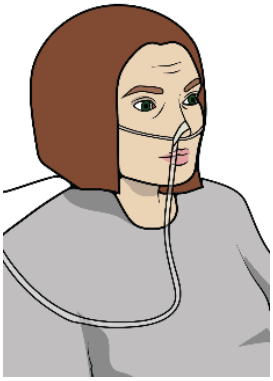
Surgery often takes all day. Plan to recover from surgery on the nursing unit or intensive care unit (ICU). As you wake up from anesthesia, it's normal to feel groggy.

Expect to have a large incision (wound) down the middle of your belly. The wound is most often closed with staples or sutures (stitches) and covered with a gauze bandage.

We use many special tubes, drains and machines for your care. Some of the most common ones are shown below and explained on the next few pages.

Some common items used shortly after surgery



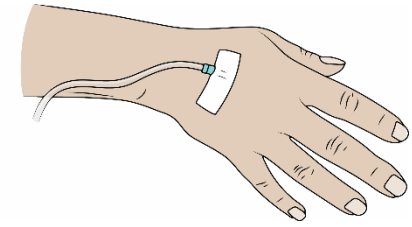


It's common to need oxygen as you wake up from surgery. It's often given through a thin tube placed in your nostrils.

A nasogastric tube (NG) is placed in the operating room – it goes through your nose into your stomach. An NG tube gives your stomach a rest and can help lessen nausea and vomiting. It is attached to a container that collects drainage from the tube.

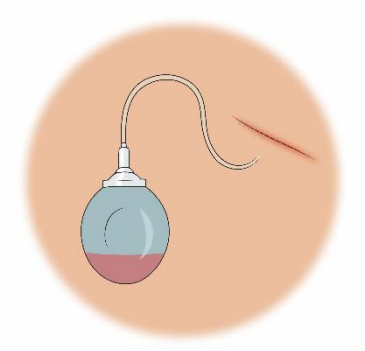
IV (intravenous) line

Most often placed in a vein in your hand or arm, an IV line is used to give you fluids and/or medicines.



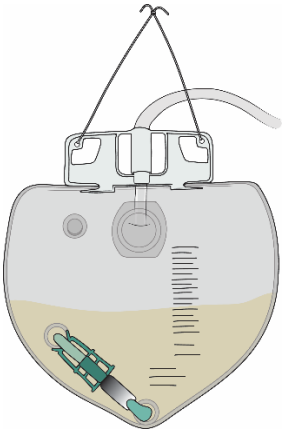
Surgery drains

Drains are placed under your skin near your wounds. They remove extra fluid from surgery and help the area heal. If needed, your doctor may place a drain during surgery.



Drains come in many shapes and sizes. Your surgeon decides when to remove them, based on how much drainage you have.

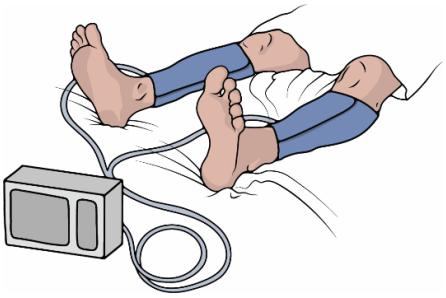
Foley catheter



This device uses a small tube to drain urine (pee) from your bladder. It is placed during your surgery and attached to a drainage bag.

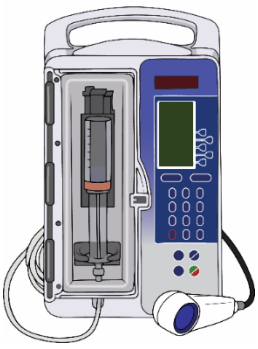
A foley catheter is often removed within the first 48 hours after surgery.

SCDs (sequential compression devices)



SCDs are sleeves that wrap around your legs and fill up with air to help prevent blood clots. You should wear them when you are in bed or sitting in a chair.

PCA pump



A PCA pump is a machine used to give you pain medicine through your IV line. You can press a button on the PCA pump to give yourself pain medicine.

To learn more about how we help control your pain, see page 8.

Your hospital care team

Your surgeon is the **attending doctor** who is in charge of your care during your stay, but you may also receive care from these team members:

- **Nurse practitioners and physician assistants** – staff with advanced training in how to diagnose and treat illness. Also call Advance Practice Providers.

- **Resident doctors** – doctors in training who are done with medical school.

Daily rounds

You can expect to see your surgery team each day during their **daily rounds**. Rounds are often early in the morning and involve visits and exams from doctors and nurses. The team updates your attending doctor each morning after early morning rounds. On most days, your attending doctor sees you later in the day.

It is very helpful when you and your family take part in rounds. Rounds are a great time to ask questions, take notes, share thoughts or concerns and set goals for your care.

Pain control

Pain after surgery is normal and your health care team has many ways to help manage your pain. It will be easier to walk around and do your breathing exercises if your pain is managed. We try to limit the use of pain medicines called opioids or narcotics because they can cause many side effects, like nausea, throwing up and constipation.

After surgery, we use several ways to help control your pain such as:

- IV (intravenous) pain medicine, regional and local anesthesia and pain pills
- Tylenol (acetaminophen), Advil/Motrin (ibuprofen) and narcotic pain medicines
- Muscle relaxers

The goal is to control your pain enough so that you can breathe easily, cough, get out of bed and walk. As your pain improves, we shift from using IV medicines to pain pills.

Frequent visits from staff

The hospital is a busy place, and it is common to have frequent visits from our staff throughout the day. This includes your surgery team, but also the staff who draw blood for lab work, clean your room and transport patients to and from tests and procedures. The unit is often quieter in the evening, night and on weekends.

Your room

Each hospital room in the UH Seidman Cancer Center has:

- a private bathroom and shower
- access to wireless internet access, local TV stations and cable
- a small safe – although we ask that you leave any items of value at home
- closet and a couch that 1 guest can sleep on overnight

Eating and drinking

After surgery your gut needs to rest, so you will not be allowed to eat solid food right away. Your surgeon decides when you can start drinking fluids and eating. Their decision is based on the type of surgery you had and how you are doing afterwards.

Each day your team looks for signs that your bowel function is returning. Once it is, they advance your diet, slowly letting you have more kinds of liquids and foods.

You can eat solid foods after you're able to drink liquids without problems. It is important not to eat too much. You may find that you feel best if you eat small, frequent meals, even after you go home.

If you want to speak with a dietitian during your stay, please tell your nurse.

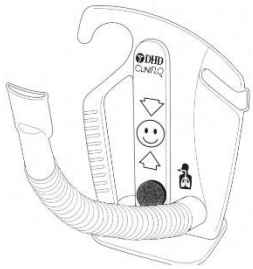
Activity

Plan for our staff to help you get up and moving shortly after surgery. Most people start by sitting on the edge of the bed, before moving to a chair, then walking as often as you can each day. Movement speeds up your recovery and can help prevent problems like pneumonia and blood clots. It can also help your bowels get moving again, so that you're pooping. If needed, your team may ask a Physical Therapist to work with you.

Breathing exercises

Breathing exercises help inflate your lungs and keep them clear of fluid. Your nurse can teach you how to exercise your lungs with a small plastic device called an incentive spirometer.

Use the incentive spirometer 10 times each hour you are awake.



Incentive Spirometer

Ostomy

During surgery, your surgeon may need to make an opening in your belly that connects part of your bowel to the skin outside your body. This opening is called a stoma. It is used to get rid of poop through a plastic ostomy bag. Most ostomies are temporary. After a few months of healing, your surgeon may be able to reconnect the bowel and close the stoma. If you need an ostomy, a wound care nurse can teach you how to care for it at home.

Complications

Sometimes unplanned problems called complications can happen after surgery. Our goal is to prevent these problems. If they do happen, your team works hard to manage them and help you recover as fast as possible.

Leaving the hospital

In order to leave the hospital, your team wants you to be:

- ✓ Moving – walking around the nursing unit as much as you can each day, with your pain under control
- ✓ Passing gas and peeing
- ✓ Eating and drinking – without nausea or throwing up

Most people go home after surgery. Sometimes, a short stay in a nursing facility is needed, but the goal is to get you home.

Staying safe in the hospital

Blood clots

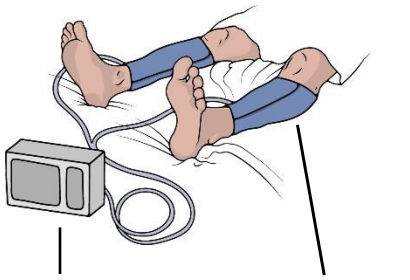
Your surgeon may order certain treatments to help prevent blood clots. This is often done when someone has surgery or is in the hospital. These things can raise your chances of having a blood clot because you may not feel well enough to move around as much as you do at home.

Some ways to prevent blood clots include:

Stop smoking.

Taking any blood thinning medicines your doctor orders. Your doctor may order a low dose of blood thinning medicine (anticoagulant) to help prevent a blood clot.

Wearing sequential compression devices, called SCDs, are special sleeves that wrap around your legs. They attach to a pump that fills them with air to gently squeeze your legs every few minutes. This helps return the blood in your legs to your heart. SCDs should only be taken off when walking or bathing. SCDs may not be comfortable, but they can save your life.



Wearing compression stockings are like a long sock but they squeeze the legs to increase blood flow in veins.

Walking helps move the blood in your legs. If you are in the hospital and your doctor says it is ok, try to walk in the hall at least 5 times a day. Ask a staff member to help you get up, so that you don't fall.

SCAN ME

Scan the QR code or visit www.bit.ly/UHDVT to watch a short video about how to prevent blood clots in the hospital.

Infections

Germs can cause infections that make us sick. Frequent handwashing can help prevent infections from germs. Always wash your hands with soap and water for 20 seconds **before** doing any self-care. Ask your family and friends to do the same before they enter your room or help care for you.

Falls

When you're in the hospital, your chances of falling are higher than at home. Some common reasons you could fall include being in a new place, medicine side effects, medical devices and changes in your normal routine.

We need your help to prevent falls. Press the nurse call light anytime you need help. Wait for staff to arrive. For added safety, we may use a bed alarm and stay nearby when you use the bathroom.

Self-care at home

Your hospital discharge papers should provide more details about how to care for yourself at home after surgery, but here are some basic guidelines:

Wound care

- Look at your wound once a day for signs of infection.
  Call your surgeon right away if you have any of the problems listed on page 19
- Showers are ok. Dry your wound gently with a clean, soft towel
- Do not swim, soak in a tub or take a bath until your surgeon says it is ok
- Do not put lotions, powders, ointments or salves on your wound unless your surgery team tells you to
- Wear loose clothes that do not rub on the wound

Activity

- Do not push, pull or lift anything that weighs more than 10 pounds for 6 weeks
- Walking and using the stairs is ok. If you want to do more, call your surgeon's office and talk with the nurse first

For the safety of you and others, do not drive if you are taking pain meds

Diet

After a major surgery, it's normal to need to adjust your diet. It may be harder for your body to digest some foods, which can lead to gas and discomfort. Below are some basic guidelines. If you would like more advice about your diet, ask your care team to refer you to a dietitian.

- Stay away from raw fruits and vegetables. Eat cooked vegetables and canned fruits instead.
- Avoid eating tough pieces of meat like steak. This is hard to chew and for your stomach to break down.
- Eat small meals throughout the day instead of 3 big meals. Do this until your appetite returns.
- Stop eating and leave the table when you are full.

Constipation

Constipation is when bowel movements (poop) become less frequent and they are hard, dry and not easy to pass. It may be painful to poop and you may feel bloated or sick to your stomach. This problem is common after surgery, especially if you are taking narcotic pain medicines.

Some things you can do to help prevent constipation:

- Drink at least 8 cups (64 ounces) of water or other fluids each day.
- Drink warm or hot fluids like coffee or tea, or fruit juices like prune juice.
- Try to walk at least 4 times a day
- If your team prescribes medicine for constipation when you leave the hospital, take it as directed

Post-op visit

The date and time of your post-op visit with your surgeon should be on your discharge papers and MyChart. This visit is often 2 to 3 weeks after surgery. If you have staples or stitches, they are removed at this visit.

Questions to ask at your visit:

- ✓ When can I go back to work?
- ✓ When can I drive?
- ✓ What sports or activities can I start doing again?

Support and resources

PMP pals

Offers support groups and education for patients and caregivers living with appendix cancer, pseudomyoxa peritonei (also known as PMP) and related peritoneal surface cancers. Visit www.pmpals.net or call 408-909-7257

Appendix cancer pseudomyxoma peritonei research foundation

Offers a new patient guide, education events and support group for people with appendix cancer and/or PMP. Visit www.acpmp.org or call 833-227-6773

Foundation for women's cancer

Offers education materials and free courses, plus webinars for people with gynecologic cancers. Visit www.foundationforwomenscancer.org

Free local cancer support services

These cancer wellness centers offer many free services for patients and families. Services include support groups, education programs and much more:

- **The Gathering Place -** In Beachwood and Westlake
  To learn more, call 216-595-9546 or visit touchedbycancer.org

- **Stewart's Caring Place** - Serving the Akron area and nearby counties
  To learn more, call 330-836-1772 or visit stewartscaringplace.org

- **Aunt Susie's Cancer Wellness Center** – In Canton
  To learn more, call 330-400-1215 or visit auntsusies.org

- **Yellow Brick Place -** In Youngstown; serves Mahoning, Trumbull and Columbiana counties
  To learn more, call 234-228-9550 or visit yellowbrickplace.org

UH Seidman Cancer Center resources

We offer several resources to help support you and your family.
Please let us know if you would like to learn more about:

- Art therapy
- Music therapy
- Spiritual care
- Social work
- Palliative care
- Integrative oncology
- Dietitian
- Pet therapy visits

MyChart

MyChart lets you view your University Hospitals personal health records, appointments, bills and more, all in one place. To get started, visit www.uhhospitals.org/mychart and click on the Sign Up or Login button. Once you create an account, you can access MyChart.

For help using MyChart, call their help line at 216-286-8960.

Money concerns

Our Financial Counselors can discuss payment plan options and see if you might qualify for financial aid based on your income. To reach a financial counselor, call 1-866-771-7266.

When to call your surgeon or 911

Do not use MyChart to message your team if you have any of these problems.

Call your surgeon right away if you have signs of infection such as:

- swelling, redness or warmth around wound (incision) or drain
- fever of 100.4°F (38°C) or higher
- chills or shaking
- pain that is new or getting worse
- drainage from your incision or drain that changes color, looks thick or cloudy or smells bad

Other reasons to call your surgeon

- signs of a blood clot such as pain, swelling, redness or warmth in your leg or arm
- new bleeding or bruising
- feel sick to your stomach or throwing up
- constipation - not pooping for 2 days
- diarrhea – 3 or more loose, watery bowel movements in 24 hours
- if you have any other questions or concerns

Reasons to call 911 right away:

- chest pain or problems breathing
- coughing up blood
- uncontrolled bleeding
- any other problems you think are an emergency

Spotting blood clots

Deep vein thrombosis, or DVT, is a blood clot that forms in a vein under the skin.

A pulmonary embolism, or PE, is a blood clot that breaks free and gets stuck in an artery with the lung. Pulmonary embolisms are very serious. Be on the lookout for signs of a PE if you had a recent blood clot.

Common signs of DVT blood clots

Call your health care team or go to the Emergency room if you have:

- Ongoing cramps in your calf - may feel like a charley horse
- Swelling in 1 arm or leg
- Arm or leg feels heavy, painful or warm when touched
- Arm or leg is red or aches
- Swelling in the face, neck or collarbone - if the clot is in these areas

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Common signs of PE - pulmonary embolism

- Sudden or continued shortness of breath
- Sharp chest pain
- Fainting or feeling faint
- Fast breathing, uneasy or anxious feeling
- Fast heartbeat, new cough with bloody mucus

Call 911 right away if you have any of these problems