

Preparing for your Peripheral Artery Bypass Surgery

**Michigan Medicine
Frankel Cardiovascular Center**



**FRANKEL
CARDIOVASCULAR CENTER**
MICHIGAN MEDICINE

Michigan Medicine Phone Numbers

Billing	855-855-0863
	734-615-0863
Call Center	888-287-1082
Vascular Surgery (use Call Center)	888-287-1082
Cardiovascular Operating Room Desk	734-232-4553
Office of Clinical Safety (comments)	877-285-7788
Emergency Department	734-936-6666
Guest Assistance Program (GAP) (accommodations)	800-888-9825
Hospital Operator	734-936-4000
Lost & Found	734-936-7890
Mardigian Wellness Resource Center	734-232-4120
Parking & Transportation	734-764-7474
Registration & Insurance4 Verification	866-452-9896
Med-Inn (hotel)	800-544-8684
	734-936-0100
Tobacco Consultation Services	734-938-6222
Units (Patient Care):	
CVC-4 ICU	734-936-6514
CVC-5 Cardiac Surgery	734-232-4772
CVC-2A Cardiac Procedure Unit.....	734-232-4200

Other:

Michigan Quit Line (Smoking)800-784-8669

Address (mail):

Frankel CVC (room number/unit if known) or UH (room number/unit if known)

Person's Name

University of Michigan Health System

1500 E. Medical Center Drive

Ann Arbor, MI 48109

Building Location (visiting):

Samuel and Jean Frankel Cardiovascular Center

East Ann Street & Observatory Street

Ann Arbor, MI 48109

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What is Peripheral Artery Bypass Surgery?

Your doctor may recommend peripheral artery bypass surgery if you have a severe blockage in one or more arteries in your legs that cannot be treated effectively with a minimally invasive procedure, such as balloon angioplasty.

Peripheral artery bypass surgery creates a bypass or detour around a narrowed or blocked artery in one of your legs. To create a new path for blood to flow, one of your veins or a synthetic tube (known as graft) is sewn in above and below the blocked area.

What are my pre-operative medications instructions?

A member of your health care team will review your medications at your history and physical visit. They will tell you which medications to stop before surgery, and which to take on the morning of your surgery with sips of water.

Insulin: Your health care team will let you know if there are any changes to your dose(s) the night before and/or the day of surgery.

Do not smoke for 6 weeks before surgery

What about my blood thinners?

- Your care team will talk to you about your blood thinners. Tell them if you are on a blood thinner such as: warfarin (Coumadin®), rivaroxaban (Xarelto®), dabigatran (Pradaxa®), or apixaban (Eliquis®), edoxaban (Lixiana®).
 - You will have to **stop taking** your blood thinner. You may have to take a different blood thinner instead.
- Continue to take aspirin or clopidogrel (Plavix®) unless your surgeon tells you not to.

What about over the counter medications and supplements?

Below are common medications and supplements you need to discontinue before your procedure. Here are a few general rules that you should follow:

- **14 days before surgery:** stop taking Coenzyme Q10 (CoQ10)
- **7 days before surgery:** stop taking Non-Steroidal Anti-Inflammatory Drugs (NSAIDs):

Advil® (ibuprofen)	Aleve® (naproxen)	Anaprox® (naproxen)
Arthrotec® (diclofenac)	Cataflam® (diclofenac)	Clinoril® (sulindac)
Daypro® (oxaprozin)	Disalcidv® (salsalate)	Feldene® (piroxicam)
Haltran® (ibuprofen)	Lodine® (etodolac)	Medipren® (ibuprofen)
Midol® (ibuprofen)	Motrin® (ibuprofen)	Nalfon® (fenoprofen)
Naprelan® (naproxen)	Naprosyn® (naproxen)	Nuprin® (ibuprofen)
Orudis®(ketoprofen)	Relafen®(nabumetone)	Tolectin® (tolmetin)
Trilisate®(salicylate)	Voltaren®(diclofenac)	

- **7 days before surgery:** stop taking weight loss products and nutritional or herbal supplements:

Alpha-Lipoic Acid	Acetyl- l-carnitine	Cinnamon	Chamomile	Creatine
Echinacea	Ephedra	Fish Oil	Garlic	Ginger
Gingko Biloba	Ginseng	Glucosamine-Chondroitin	Glutamine	Goldenseal
L-carnosine	Licorice	Kava Kava	Milk Thistle	Multivitamin
Omega-3	Resveratrol	Skullcap	St. John's Wort	Vitamin E

- **Note:** the medications listed are selective and do not include all medications that affect bleeding. You should always follow your health care team's directions about taking medications.

How can I prepare for my hospital stay?

- Review the preoperative folder and bring it with you the hospital. Include the light blue Blood Bank form if indicated.
- Assign a family member or friend as your driver, you will not be able to drive yourself home. Taking a cab or bus alone is not acceptable unless someone you know is with you.
- **Quit smoking and vaping!** The sooner you quit before surgery, the better. People who smoke up until the day of surgery have a higher risk of developing complications during and after surgery. If you continue to smoke you will be more likely to have:
 - A longer stay in the hospital
 - A greater chance of needing intensive care
 - Increased risk of poor wound healing
 - Increased risk of death

If you want assistance to quit smoking before surgery, ask for a referral to the MHealthy Tobacco Consultation Service or call them yourself at **(734) 998-6222**.

Other resources:

- The Michigan Tobacco Quit line: 1-800-QUIT-NOW
- The Truth Initiative: www.becomeanex.org
- US Department of Health and Human Services: www.smokefree.gov

What do I bring to the hospital?

- Leave all jewelry at home. Including wedding bands, hair clips, body piercings, earrings and watches.
- Bring any documents related to advance directives.

Plan to bring any special equipment you use at home:

- Glasses, dentures, and hearing aids with storage cases. Make sure you label these items with your name.
- CPAP and/or BiPAP machine if you have sleep apnea.

- Walker or cane, labeled with your name.

Pack a suitcase with these items for your family/friends to bring to you after your surgery. You will not need the suitcase until you are transferred to the moderate care unit.

- Loose, comfortable clothing. Button down shirts are preferred.
- Robe.
- Comfortable walking shoes.
- Toiletry items: toothbrush, comb, etc.
- A list of medications and doses that you are currently taking including vitamins and herbal supplements. Do not bring the actual medications with you.

How will I prepare for surgery?

Instructions for **the day before** surgery:

- **Do not** drink alcohol 24 hours before surgery.
- On the last business day (Monday-Friday) before your procedure, you will need to confirm the day and time of your procedure. Make sure you follow these steps:
 - If your surgery is in the:
 - **CVC Operating Room** on level 4:
 - Call the surgery phone line at **(866) 983-9090** between 7:30am and 11:30am.
 - If your procedure is on Monday, call the Friday before. If your procedure is the day after a holiday, call on the last business day (M-F) before the holiday.
 - On the answering machine leave your name and phone number. Be sure to spell your name clearly and slowly.
 - A preoperative nurse will call you back between in the afternoon before 5:00pm to give you the following instructions:

- The time your procedure starts and what time you should arrive the day of your procedure.
 - When to stop eating food and drinking liquids.
 - Medications you should take on the day of your procedure.
- **CVC Hybrid Operating Room** on Level 2A:
- A preoperative nurse from the cardiac procedure unit will call you after 2:00pm to give you the following instructions:
 - The time your procedure starts and what time you should arrive the day of your procedure.
 - When to stop eating food and drinking liquids.
 - Medications you should take on the day of your procedure.
 - If your procedure is on Monday, call the Friday before. If your procedure is the day after a holiday, you will get a call on the last business day (M-F) before the holiday.

Who do I contact if I'm not feeling well the day before my surgery?

Report any symptoms of flu, cold or infection to your surgeon. It is important that you be in your best health possible for surgery.

- To report any of these symptoms before 4:30pm call **(888) 287-1082** Monday - Friday and ask to speak to the Vascular Surgery Nurse.
- To report symptoms after 4:30pm, please call **(866) 983-9090** and leave a message.

What activities should I avoid after midnight the night before my surgery?

- Do not eat gum, hard candy, or food of any kind
- You may have sips of water with your morning medications up to (2) hours before your arrival time.

How do I shower and get ready for my surgery?

On the night before and morning of your surgery, you will be asked to shower using Chlorhexidine (CHG) 4% antiseptic soap which is a surgical soap that reduces the amount of germs on your skin.

1. Take a shower the night before your surgery.
 2. Use regular soap to wash your face.
 3. Use regular shampoo to wash your hair. Make sure to rinse your hair completely after shampooing.
 4. Use the chlorhexidine body wash from the neck down. Lather your body for at least 5 minutes with a freshly-laundered wash cloth:
 - First, wash your surgical site area and all surrounding skin with the CHG soap.
 - Then wash your underarms, chest, under your breasts, stomach/belly button, hips, groin and buttocks.
 - Rinse thoroughly.
 - Do not use the body wash on your face, eyes, ears, mouth or hair.
 - Do not use in your genital area (“private parts”).
 5. Rinse your body completely and pat your skin dry with a freshly laundered towel.
 - Do not apply make-up, deodorant, lotions, sprays, gels, creams, ointments or powders after showering with the CHG soap.
 - After showering, use freshly-laundered bed linens.
 6. On the morning of your surgery, use a new freshly-laundered washcloth and towel and repeat steps 1-5.
 7. Put on clean underwear, socks and clothing.
- **Remove** nail polish from your hands and feet.
 - **Do** brush your teeth and rinse your mouth. This reduces your chances of pneumonia after surgery.
 - **Do not** wear contact lenses to the operating room.

What happens when I arrive at the hospital?

Park in Cardiovascular Center (CVC) Visitor Parking Structure P5.

1. Enter the Cardiovascular Center on Level 3 from the parking structure
2. If your surgery is in the:
 - **CVC Operating Room** on Level 4:
 - Take the elevator to Level 4.
 - “Surgery Check In” is on the right hand side after you exit the elevator.
 - **CVC Hybrid Operating Room** on Level 2A:
 - Take the elevator to Level 2A.
 - “Surgery Check-In” is on the left hand side after you exit the elevator.

Address to use for GPS directions to the
Frankel Cardiovascular Center:
1425 E. Ann St.
Ann Arbor, MI. 48109

Valet service is available for patients, families, and other visitors for a \$5.00 fee at the circle drive main entrance to the Cardiovascular Center. Valet Service is available:

- Monday through Friday 5:30 a.m. to 7:00 p.m.
- Saturday and Sunday 8:00 a.m. to 6:00 p.m.

What will my hospital stay be like?

After your surgery, you will be admitted to the CVC-5 moderate care unit. Our team will help you recover here from your surgery. When you arrive to the unit, your nurse and patient care technician will meet you and orient you and your family to the unit. Most people are discharged home the day after surgery before lunch.

Our visitation policy

- In alignment with Michigan Medicine, the Cardiovascular Center welcomes the presence of loved ones.
- Family members are welcome at your bedside 24 hours/day. We want you to feel supported, not only by the care we provide but by your loved one's presence as well.
- "Family" (for purpose of visitation) is defined by you. It is usually 1 or more individuals who play a significant role in your life. Family members may be related in any way- biologically, legally or emotionally. Your family member may include a person(s) who is not legally related to you.
- At times, we may ask your family members to step outside of the room if procedures or other necessary interventions need to be done. Your family will be welcomed back as soon as possible.

What type of monitoring will I need while I'm here?

When you arrive on the unit a portable heart monitor called a telemetry unit will be attached to your chest. The unit will send your heart rate and rhythm to monitors located at your bedside and at the nursing station. This portable monitor allows you to walk in the halls freely. Other care you will receive includes:

- The nurses and techs will regularly check your blood pressure, heart rate temperature, and incision.
- You will have your blood drawn for lab tests.
- We will measure how much you drink and urinate. We will provide a container for you to urinate into for measurement. We will also ask that you keep track of the amount of fluid that you drink and report it to your nurse or tech.
- You will be weighed daily.
- A member of your care team will enter your room to assess your needs hourly.

Pain and discomfort after your surgery

What kind of pain or discomfort will I feel after my surgery?

Experiencing pain after surgery is normal. You may be surprised where you feel pain after surgery. Often your incision site is not the only area of discomfort. Please tell a member of your healthcare team about the pain you have, which can include:

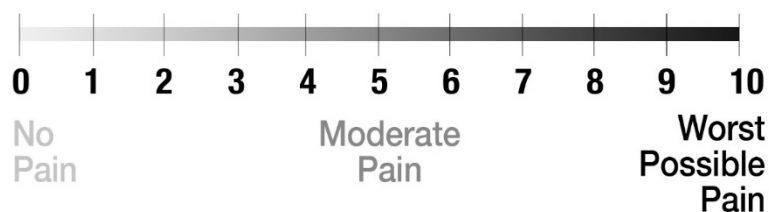
- **Muscle pain:** You may feel muscle pain in your chest, back neck, shoulders or legs. This is from lying on your back on the operation table.
- **Incision discomfort:** You may feel numbness along your incision line, jaw and your earlobe.
- **Throat discomfort:** Your throat may feel sore or you may notice changes in your voice (hoarseness).

What can I do to help keep my pain under control?

You doctor will order effective medications to keep your post-surgical pain under control. Your nurse will ask you about your pain regularly throughout your recovery. You shouldn't hesitate to ask for pain medication if needed.

Throughout your hospital stay, the nurses will monitor your need for pain medication. You can use the numeric pain rating scale below to measure your pain. This is a helpful tool you can use to describe how much pain you are feeling and to measure how well treatments are relieving your pain. You will be asked to rate your pain using a 0-10 pain scale. 0 means "no pain." 10 means the "worst pain possible."

Numeric Pain Rating Scale



Why is it so important to control pain after surgery?

Having good pain control not only helps you feel more comfortable, but also helps you recover faster and may reduce your risk of developing certain complications such as pneumonia and blood clots. If your pain is well managed, tasks such as sitting, walking coughing, deep breathing and eating will be easier.

What exercises will I do after surgery?

Exercise is an important part of the recovery process after surgery. Below are activities you will be expected to perform during your hospital stay:

- **Deep breathing and coughing**

Use your breathing machine (incentive spirometer) 10 times every hour while you are awake. For example, if you like to watch TV, you should be using your incentive spirometer 2-3 times during commercial breaks.

Tips when using the incentive spirometer:

- Do not get discouraged if you do not reach the number marked for you. You will improve with practice as your body heals.
- If you start to feel dizzy or light-headed, remove the mouthpiece from your mouth and take some normal breaths. Once you feel better, continue using the incentive spirometer.



How to Use an Incentive Spirometer

[By BruceBlaus - Own work, CC BY-SA 4.0](#)

- **Activities on the day of surgery:**
 - Get out of bed to a chair in the evening if your doctor allows
 - Wear your Sequential compression devices (SCDs) while in bed or sitting in a chair

- **Activities for the rest of your hospital stay:**
 - Sit in the chair 3 times a day
 - Walk the hallway 4 times a day
 - Do physical therapy exercises (as needed)
 - Wear SCDs when in bed or sitting in a chair

- **Repositioning:**

To prevent pressure injuries during your hospital stay, you need to change your body position. The following recommendations will help you reposition yourself:

While in bed:

- Turn your body at least every 2 hours from side to side.
- Keep the head of your bed at a 30-degree angle or lower to prevent too much pressure on your bones.
- Place a pillow between your ankles and knees when lying on your side.
- Place a pillow under your lower legs to elevate the heels when lying on your back.

When sitting:

- Change your position every 15 minutes by tilting your body forward or to the side so that your bottom lifts off the seat.
- Stand up or do “pushups” by using arms to raise off the seat every hour.

What will my diet be after surgery?

Your food will be low in fat and cholesterol and will not have any added salt or sugar. Although this food may be different than what you are used to eating at home, this change in diet is very important in the healing process.

Guidelines:

Eat a balanced diet of:

- Carbohydrate-rich foods high in fiber
- A variety of fruits and vegetables
- Low-fat dairy products
- Lean meats
- Protein-rich foods very important for wound healing. Good source of protein includes: fish, eggs, dairy, beans and nuts.

Room service is available at any time of the day. Your nurse will bring you a menu so you can choose what you would like to eat. Your nurse will check to see if you ordered food and will assist you if needed.

If you are diabetic or insulin dependent, your nurse will ask you to call them before you eat so they can check your blood sugar. It is fine for your family to bring food from home but it should be low in salt and low to moderate in fat.

Many patients experience constipation after surgery due to inactivity and pain medication. Eating a diet rich in fiber, drinking enough fluids, walking the halls and taking a stool softener will help your bowels move. Sometimes a suppository or laxative is needed to help aid this process along.

Our registered dietitians are food and nutrition experts. They are available to discuss heart healthy choices and salt alternatives or salt reduction. They provide sound, easy-to-follow nutrition advice. If you are interested in speaking to a dietician, ask your nurse to arrange a visit.

How will I care for myself while in the hospital?

- Wash your hands or use hand sanitizer or sanitizer wipes after using the bathroom, before eating and after touching objects or surfaces in your hospital room. Hand hygiene is the number one way to prevent the spread of infection.
- Bathe daily with the assistance of a staff or family member.
- Do not touch, scratch, or rub your incision to prevent infection.

What can I expect on the day of discharge?

- Ask a family member or friend to arrive at 9:00am to review final discharge instructions with you and your nurse.
- Your case manager nurse will be in contact with you to explain your final discharge plans.
- Your nurse will review all discharge instructions with you. During this time, ask any questions that you may have about your care after discharge.
- Be sure to understand:
 - Your medications and prescriptions
 - Incision care
 - Before you go home, look at your incision in the mirror so you will know if there are any changes when you check it at home.
 - Activity and restrictions
 - Diet
 - Reasons to call your doctor
 - Follow up appointment information
- At home you will need to monitor your temperature until your next appointment. Please make sure that you have a thermometer and scale before you are discharged.
- If you have a long drive home, make sure to get up and stretch at least once an hour to help prevent blood clots.

Discharge tips:

Please make sure to have all the items that you brought with you.

- Glasses, dentures and hearing aids
- CPAP machine
- Walker or cane
- All technology devices and chargers
- All medications

When do I need to seek emergency care?

Call 9-1-1 immediately if:

You have any of the following **symptoms of a stroke**:

- Sudden confusion, trouble speaking or understanding others
- Sudden trouble seeing in one or both eyes
- Sudden numbness or weakness of the face, arm, or leg, usually on one side of your body
- Sudden trouble walking, dizziness, loss of balance or loss of coordination
- Sudden or severe headache with no known cause

If you have any of the symptoms list below:

- Sudden onset of chest pain
- Shortness of breath not relieved by rest
- Uncontrolled bleeding from your incision site
- Sudden coolness, numbness, of your operative leg
- You believe you are experiencing a true emergency

When do I need to call my doctor?

- Under the tongue temperature above 101.5° F
- Bleeding, redness, swelling, or increased pain near your incision site
- Persistent clear fluid drainage from your incision site
- Incisions that open up after you leave the hospital

- Increased shortness of breath/difficulty breathing
- Trouble urinating
- Nausea, vomiting, or diarrhea
- Stomach pain or bloating
- Chills or excessive sweating
- A vague feeling that something is wrong

What is the number to call?

- Call **(888) 287-1082** Monday through Friday from 8:00am to 4:30pm:
 - Ask to speak to the Vascular Surgery Nurse.
- Call **(734) 936-6267** after 4:30pm or on weekends or holidays:
 - Ask the hospital operator to page the Vascular Surgery Medical Resident on call. You will receive a call back from the Resident.

What type of follow up care will I receive?

You will have a post-operative visit in the Vascular Surgery Clinic after your procedure. You will receive your appointment information before you are discharged from the hospital. If you did not receive an appointment for your return visit, please call **(888) 287-1082**.

What steps should I take to monitor my health at home?

You will need to perform and record the following self-checks daily:

- Check your incisions daily for signs of infection including:
 - Increased redness
 - Tenderness
 - Swelling
 - Warmth or drainage
- Keep your incisions clean and dry.
- Take your temperature each morning before eating or drinking and any time you think you may have a fever.

Follow these guidelines to care for your incision while bathing:

- You may shower after returning home, but don't allow the shower spray to hit your incisions directly.
- Wash your surgical incision(s) with your usual bath soap and water every day. Do not scrub your incisions.
- Pat incisions dry and leave open to air.
- Use a freshly laundered wash cloth and towel each time you shower.
- **Do not** put any creams, lotions, powders or ointments on your surgical incision(s) until they heal.
- **Do not** soak in a bathtub, hot tub or swim in a pool /lake for the next 4 weeks.

What are other things I should keep in mind?

Your surgeon may replace your blocked artery with a long tube made of man-made (synthetic) graft material. It is recommended you take a preventive antibiotic before invasive procedures to prevent infection in this graft. These procedures include: dental appointments, diagnostic procedures such as colonoscopy or surgical procedures. The doctor or dentist recommending or performing the procedure will prescribe the antibiotic.

What are my activity instructions?

After your surgery, you should gradually and consistently increase your physical activity. You may tire more easily than before surgery. This is normal. Your strength and energy level will increase as your body heals.

Restrictions

- **Do not** lift, push or pull any objects 10 pounds after surgery. As a reference, a gallon of milk weighs approximately 8 pounds. Your doctor will let you know when this precaution is lifted.

- **Do not** return to work until you have seen your doctor at the first follow up clinic visit.
- **Driving:**
 - Your doctor will discuss with you when you can drive again.
 - **Do not** drive if you are taking narcotic (opioid) pain medication.
 - You can ride as a passenger in a car at any time, but, as always, you should wear your seatbelt.

Activities

- Walk every day (find an indoor setting during bad weather).
- You may climb stairs but take them at a slow pace.
- Limit the number of times you take the stairs until you feel well.
- Divide your time and spread activities throughout your day. Do not try to do everything at once.
- Use your incentive spirometer at least four times a day (10 breaths each time) until you return for your clinic visit.

How will I manage my pain and comfort at home?

Your goal at home is to control your pain enough so you can do the things you need to do to heal. Pain is normal after surgery and everyone feels pain differently.

You may receive prescriptions for pain medication (opioids) to take at home. These may or may not be the same pain medications you took in the hospital. *We are careful about using pain medication (opioids) after surgery because they have been shown to be addictive, cause harm, and even cause overdose if used incorrectly or abused.* We will work closely with you to create a plan for managing your pain after surgery.

Below are a few tips to help with pain relief:

- Remember to take your pain medication before activity.
- Be sure to get enough rest. If you are having trouble sleeping, talk to your doctor.
- Use pillows to support yourself while you sleep and when you do your coughing and deep breathing exercises.
- Ask your doctor if it is okay to use over the counter acetaminophen (Tylenol®) or ibuprofen (Motrin®, Advil®).
- Try using alternative methods: heating pads or cold therapy, guided imagery, listening to soft music, or changing your position in bed.

What are my medication instructions?

- When you are discharged from the hospital, you will receive a complete list of the medications that you should take at home.
- Your medication list will include the following information:
 - Medication name(s)
 - Dose of the medication
 - Number of times to take the medication each day
 - The last time you took each medication
 - The next time that you should take each medication
- Your doctor will give you new prescriptions for your recovery before you leave the hospital. Contact your heart doctor or primary care provider if you need refills for your ongoing medications.
- Have your insurance cards with you to help speed up the filling of your prescriptions.
- Take your medicine exactly as your doctor prescribes.
- Do not take other medication without telling your doctor.
- Keep a current list of your medicines, dosages, and times to be taken in your wallet or purse.

How do I handle my emotions after I get home?

Feeling like yourself again after surgery may take a while. People who have had surgery commonly experience mood swings, feel depressed or down after returning home. You may find yourself crying for no clear reason or feeling more emotional or sentimental than normal. Even though you may feel drained emotionally, follow the guidelines for good self-care. As you resume your normal activities, you should notice gradual improvement in your mood and positive outlook.

- If you find yourself still feeling unmotivated, unusually fatigued, weepy, angry, hopeless, or sad after 3 weeks, be sure to call the CVC Social Worker at (734) 232-1559 or your Primary Care Doctor to make an appointment to talk about how you are feeling.
- If you have thoughts of hurting yourself call the National Suicide Prevention Lifeline at (800) 273-8255. This service is available 24 hours a day every day. Chat options are also available through their website <https://suicidepreventionlifeline.org/>

When can I return to sexual activity after surgery?

It is normal for you and your partner to be worried about resuming sexual activity after surgery. You should refrain from having sexual intercourse until after your first follow-up office visit. Your doctor will let you know when you it is safe to resume sexual activity.

Disclaimer: This document contains information and/or instructional materials developed by Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.

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Peter Henke, MD

CVC Control #1149

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