

心脏主动脉手术

手术后的护理

本讲义解释了在华盛顿大学医疗中心（UWMC）接受心脏主动脉手术后的护理情况。

心脏主动脉手术

患者姓名: _____

手术名称: _____

手术日期: _____

手术医生: _____

复诊信息

复诊日期: _____

日期

时间



用您的手机扫描此
二维码。即可获得
此讲义的电子版



如对心脏主动脉手术后的恢复有任何疑问或顾虑，请咨询您的心脏专科医生。

何种情况下需要与医生联系

如出现以下任何症状，请致电 206.598.8060 联系心脏外科诊所护士。平时工作日：上午 8 点至下午 4:30

下班后以及周末和假日：如有**紧急问题或症状**，请致电 **206.598.6190** 并要求联系值班的心脏外医生。

- 体温高于华氏 101°F（摄氏 38.5°C）
- 伤口周围发红、肿胀或疼痛加剧
- 伤口开裂或该部位流液
- 血压高于 120/80 或低于 90/60（或按照医务人员的嘱咐）
- 休息时心率低于每分钟 60 次，或每分钟超过 100 次（或按照医务人员的嘱咐）
- 5 天内体重增加 3 磅或以上，或体重渐增
- 感到胸部有“啪啪”或“咔哒”声，请致电心脏外科团队。
- 呼吸发生变化或呼吸困难
- 新发的心悸（心律不齐）或心跳偷停
- 又发生胸痛、或严重的腹部、背部疼痛
- 脚或脚踝肿胀加剧
- 胃部感到不适、恶心或呕吐
- 服药困难

自我护理

- 每天淋浴并用肥皂和水轻清洗伤口、拍干。
- 记录体重、体温、心率、血压及伤口的外观。将这些数字记录在第 7 页和第 8 页的每日“日志”图表上。
- 每天步行 4 次。慢慢地增加活动量。
- 避免会导致心跳或呼吸加速的活动。
- 依照活动指南（本讲义的第 4 页）
- 使用第 9 页和第 10 页的“锻炼日志”来记录日常活动。
- 当有疼痛时、请使用第 11 页的“疼痛日志”做记录、并注明如何应对当时的疼痛，

前往“心脏中心”的复诊

心脏主动脉外科团队将在手术后的 30 天内监测患者的护理。该团队包括外科医生、高级医疗服务提供者（APP）和护士。

患者大约在手术后 1 到 2 周需要来看外科医生、或高级医疗服务提供者 APP。此次门诊订在华大医疗中心（UWMC）的“心脏中心”，地址为 1959 N.E. Pacific St., Seattle, WA 98195。在这次复诊中，外科医生或高级医疗服务提供者 APP 将检查愈合的情况和进展。这次复诊也会拆除任何余留的缝线。

如没有预约好复诊、或需要重新安排时间：请在工作日上午 8 点至下午 4:30 致电 206. 598. 8060 联系心脏外科门诊护士。

复诊时需要携带的物件

在复诊时请携带以下物件：

- 所有目前正在服用药物的药瓶。
- 此讲义中的每日“日志”、“锻炼日志”及“疼痛日志”。
- 希望与心脏外科团队咨询的问题。

定期复诊

在第一次复诊后，我们会不时监测患者的心脏主动脉。其他复诊时间取决于患者的诊断、手术情况及护理的需求。

复诊护理的时间表

下面的时间表显示了患者通常需要的后续护理项目。心脏外科医生可能会给患者一个不同的时间表，他们也可能安排额外的门诊或检查。

手术类型	后续护理计划表
急诊 手术(非预先计划)：主动脉夹层（主动脉内壁撕裂）手术	• 1 个月内做胸部“计算机断层扫描血管造影（CTA）” • 1 个月内门诊看诊 • 手术后 1 年做“计算机断层扫描血管造影 CTA”及看门诊 • 每年做扫描造影检查和看门诊
选择性 （预先计划）主动脉修复手术	• 1 个月内做胸部“计算机断层扫描血管造影（CTA）” • 1 个月内看门诊 • 手术后 1 年做“计算机断层扫描血管造影 CTA”及看门诊 • 每年做扫描造影检查和看门诊
选择性 修复主动脉手术和 David V 手术	• 3 至 4 个月后重复做“计算机断层扫描血管造影（CTA）” • 3 到 4 个月后做“有限超声心动图（echo）” • 3 到 4 个月后看门诊 • 手术 1 年后做超声心动图 echo 检查和看门诊 • 每年做一次超声心动图 echo，看心脏科专科医生

转移到心脏专科医生的护理

手术后约 30 天、**心脏专科医生**（心脏医生）或初级医疗服务提供者（PCP）将开始管理患者的药物并接管长期的护理服务。

主动脉手术后定期接受心脏专科医生的复诊非常重要。患者**必须**有一位医生来管理降血压药。患者需要终生控制血压，以降低主动脉出现问题的风险。

如还没有心脏专科医生： 可以请心脏外科护理团队、初级医疗服务提供者（PCP）或保险公司协助找一位在居家附近的心脏专科医生。

药品补充

出院回家后，心脏外科团队可能会开一些新的药物。如这些药物的用量不足，请在两周的复诊时告诉心脏外科医生。看初级保健医生或心脏专科医生时，请向他们的诊所咨询药物补充的事宜。

心脏康复

心脏康复是一项特殊的康复计划，可帮助患者在术后恢复并重获心脏健康。

- 如患者**仅**接受了心脏主动脉手术，则不符合参加心脏康复计划的条件。
- 如患者接受了涉及**心脏主动脉及心瓣膜**的手术，则可被转介到心脏康复计划。

符合心脏康复计划条件的患者： 在通常情况下，理疗团队会在患者住院期间将患者转介到康复中心。在手术后 4 到 6 周左右开始心脏康复治疗。大多数患者每周做 1 到 3 次康复训练，最长可持续 12 周。

康复计划将根据患者的需求而定。如有疑问，请咨询护理团队。

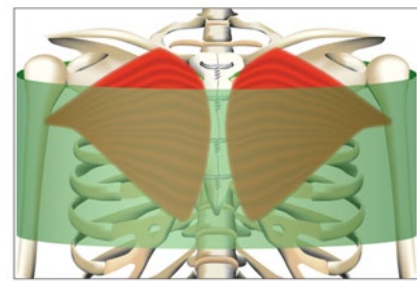
活动的指南

手术后、胸骨大约需要 3 个月才能愈合。为了帮助恢复，请患者记住在 **12 周内**将其动作限制在“圆筒”内。

“将活动范围限于圆筒内”是一个比喻短语，为的是协助患者记住在手术后愈合期间如何使用手臂以减轻**胸骨**的受力。（请参看下一页的图示）

其目的是在做负重动作时、**保持上臂紧贴身体**。做非负重动作时可将手臂移到“圆筒”外。理疗师将帮助调整各种活动以适应个别患者的要求。

- 对于所有负重运动，例如举重物、推或拉，请保持上臂靠近胸部（在“圆筒”内）并同时使用双臂。
- 在执行不涉及提拿、推或拉的任务时，可以自由移动手臂。但应该慢慢地移动，并倾听身体发出的信息。疼痛是停止或改变某活动的信号。
- 没有提拿重量的限制，但应该慢慢地进入各种活动。疼痛是停止或改变活动的信号。我们预计疼痛不会突然急剧增加。但酸痛是预期的。
- 4 周内切勿驾车。



“圆筒”区域是围绕上臂、胸骨及其相关肌肉的区域。

心脏主动脉手术后的饮食

心脏手术后食欲不振是很常见的。但摄取有营养的食物来帮助身体愈合是很重要的。请遵循下列饮食建议以获得最佳恢复效果：

- **多吃蛋白质。** 蛋白质有助于伤口愈合。高蛋白食物包括鱼、鸡肉、豆类、豆类植物、奶酪、牛奶、酸奶和鸡蛋。还可以喝 **Boost** 或 **Assure** 等蛋白质饮料，或用水果、牛奶和蛋白粉制作蛋白质奶昔。
- **多吃纤维及饮水** 以防止便秘。含纤维的食物包括水果、蔬菜和全谷物。
- **限制饱和脂肪、反式脂肪、胆固醇及钠。** 烹饪时采用橄榄油、菜籽油、蔬菜油或葡萄籽油。避免食用加工食品。许多加工食品，如熟的肉类和冷冻餐，它们钠的含量都很高。
- **避免添加糖。** 避免汽水、糖果和糕点。限制面包、米饭和土豆。体内多余的糖份会转化为脂肪。这会导致体重增加，减慢愈合速度，并导致胆固醇增高的问题
- **如有糖尿病。** 除非医生另有指示，否则请遵循美国糖尿病协会 (ADA) 的饮食规则。确保在饭前和睡前测试血糖。良好的血糖控制对治疗非常重要。如在控制糖尿病和血糖方面遇到困难，请咨询初级医疗服务提供者。

尼古丁、抽烟及电子烟

尼古丁会减少流向组织的血液。这会使伤口难以愈合。

如患者抽烟、吸电子烟或使用任何类型的烟草，**我们强烈建议戒烟**。如需要帮助，请咨询家庭医生或华大医疗中心 UWMC 的医疗团队中的某一位。



我们强烈建议戒除烟、电子烟或任何含有尼古丁的产品。

性生活

当觉得可以时，就可以恢复性活动。请务必遵循本讲义中的所有说明。保持伤口清洁安全。

手术后疼痛的管理

在康复期间控制疼痛非常重要。患者需要能够四处走动、步行和深呼吸，以防止肺炎或血栓等问题。

回家后，我们会在您恢复期间给您开一些止痛药。处方中可能包括泰诺（Tylenol）等止痛药和羟考酮（oxycodone）等阿片类（opioids）药物。

如果需要，我们还可能会给您开一些放松肌肉或缓解神经疼痛的药物。回家前，我们会给您一份最新的药物清单。

在服用任何其他药物（即使是布洛芬 ibuprofen 或其他非处方药）**之前**，请先与心脏手术团队沟通。医疗服务提供者会告诉您服用这些药物是否安全。

除了服药，还有其他方法可以缓解疼痛。尝试热疗、轻柔的伸展运动、散步、冥想和聆听平静的音乐。请向我们索取“控制疼痛：非药物疗法 Managing Pain: Non-medicine options”和“控制心脏手术后疼痛 Managing Pain After Heart Surgery”手册。



如**对控制疼痛有任何疑问，请咨询护理团队**

阿片类药物（Opioids）

如医生开了阿片类止痛药（如羟考酮 oxycodone）的处方，请**仅在需要时**服用。如泰诺、热敷或冰敷等其他非药物方法有助于缓解疼痛，则无需服用阿片类药物。

我们会解释如何**逐渐减少**（慢慢停止）阿片类药物。患者可在手术后 1 到 2 周开始逐渐减量。大多数患者在 2 周后复诊来看外科医生时已经不再服用阿片类药物。阿片类药物的处方药在用完**后**通常不会补充。

如在手术后无法控制疼痛，请咨询心脏外科诊所的护士。

您有疑问吗？

我们很重视您的提问。如您有任何的疑问或顾虑，请咨询您的医生或医疗服务提供者。

工作日：上午 8 点至下午 4:30：
请致电心脏外科护士专线
206.598.8060.

如在周末、假日或下班后有紧急情况：请致电：206.598.6190 要求与当值的心脏外科医疗服务提供者联系。

非紧急情况：请经由 **MyChart** 与您的医护团队联系。

日志

请使用此表格记录体重、体温、静息时的心率、血压和伤口的外观。请务必：

- 每天使用相同的磅秤、在同一时间（早上第一件事）称体重。
- 服用心脏和血压药物后 2 到 4 小时检查血压和心率。

Date 日期	Weight 体重	Temperature 体温	Heart Rate at Rest 静息时的心率	Blood Pressure 血压	How Your Incision Looks 伤口的外观

日志

请使用此表格记录的体重、体温、静息时的心率、血压和伤口的外观。请务必：

- 每天使用相同的磅秤、在同一时间（早上第一件事）称体重。
- 服用心脏和血压药物后 2 到 4 小时检查血压和心率。

Date 日期	Weight 体重	Temperature 体温	Heart Rate at Rest 静息时的心率	Blood Pressure 血压	How Your Incision Looks 伤口的外观

锻炼日志

Date 日期	Type of Exercise 锻炼项目	How Long You Exercised 锻炼了多长时间	Your Pace 锻炼的节奏 <i>slow, moderate, difficult</i> 缓慢、适度、有难度	Resting Heart Rate 静息时的心率	Heart Rate After Exercise 锻炼后的心率

锻炼日志

Date 日期	Type of Exercise 锻炼项目	How Long You Exercised 锻炼了多长时间	Your Pace 您的节奏 <i>slow, moderate, difficult</i> 缓慢、适度、有难度	Resting Heart Rate 静息时的心率	Heart Rate After Exercise 锻炼后的心率

疼痛日志

Date and Time 日期时间	Describe Your Pain 描述您的疼痛 Where is it? What does it feel like? 哪里痛? 哪种痛的感觉	Pain Level 痛的指标 From 1 to 10, with 10 being the worst pain 从 1 到 10 的指标; 10 为最痛	Pain Triggers 疼痛触发的因素 Such as activity, deep breathing, sleep 活动、深呼吸、睡眠	Pain Medicine Taken 服用了哪些止痛药	Pain Level 1 Hour After Taking Medicine 服药后 1 小时后的疼痛指标	Other Pain Relief 使用其他缓解疼痛的方法 Such as heat, ice, stretching 如热敷、冰敷或伸展操

After Aortic Surgery

Your recovery and follow-up care

UW Medicine
UNIVERSITY OF WASHINGTON
MEDICAL CENTER

This handout explains recovery and follow-up care after having aortic surgery at University of Washington Medical Center (UWMC) - Montlake campus.



*Scan with your
phone camera for
a digital copy of
this handout.*

Your Cardiac Surgery

Patient: _____

Surgery: _____

Surgery date: _____

Surgeon: _____

Your Follow-up Visit

Follow-up visit: _____

Day and Date

Time



Talk with your heart doctor if you have any questions or concerns about your recovery after aortic surgery.

When to Call

For urgent concerns or symptoms after hours and on weekends and holidays, call **206.598.6190** and ask to page the Cardiac Surgery provider on call.

Weekdays from 8 a.m. to 4:30 p.m., call your Cardiac Surgery clinic nurse at 206.598.8060 if you have any of these symptoms:

- Fever higher than 101°F (38.5°C)
- New redness, swelling, or tenderness around your incision(s)
- An opening in your incision, or new drainage from the site
- Blood pressure higher than 120/80, or lower than 90/60 (or what your doctor tells you)
- Resting heart rate less than 60 or more than 100 beats per minute
- Weight gain of 3 pounds or more over 5 days, or steady weight gain
- “Popping” or “clicking” feeling in your chest
- Breathing changes or shortness of breath
- New *palpitations* (irregular heartbeat) or skipped beats
- Return of chest pain, or severe pain in your belly or back
- Increased swelling in your feet, ankles, or belly
- Feeling sick to your stomach, feeling nauseated, or vomiting
- Trouble taking your medicine

Self-Care

- Shower every day. Gently wash your incision with soap and water. Pat dry.
- Keep track of your daily weight, temperature, resting heart rate, blood pressure, and how your incision looks. Write these numbers in the *Daily Record* on pages 7 and 8 of this handout.
- Walk 4 times a day. Slowly increase your activity.
- Avoid activity that increases your heart or breathing rate.
- Follow activity guidelines (see page 4 of this handout).
- Use the “Exercise Log” on page 9 of this handout to track your daily activity.
- Use the “Pain Log” on page 10 of this handout to track when you have pain, and how you treat it.

Follow-up Visits at the Heart Institute

The Aortic Surgery team will monitor your care during the first 30 days after surgery. Your care team includes your surgeon, advanced practice providers (APPs), and nurses.

You will need to see your surgeon or APP 1 to 2 weeks after you go home from the hospital. This visit will be at the Heart Institute at UWMC - Montlake, 1959 N.E. Pacific St., Seattle, WA 98195. At this visit, we will check your healing and progress. We will also remove any sutures (stitches) that you still have.

If you do not have a follow-up appointment or need to reschedule: Call your Cardiac Surgery clinic nurse at 206.598.8060 weekdays from 8 a.m. to 4:30 p.m..

What to Bring

Bring these items to your follow-up visit:

- Bottles of all the medicines you are currently taking
- Your “Daily Record”, “Exercise Log”, and “Pain Log” from this handout.
- A list of questions you want to ask your Cardiac Surgery Team

Regular Follow-up

After your follow-up visit, we will keep monitoring your aorta from time to time. The timing of other visits will be based on your diagnosis, surgery, and care needs.

Follow-up Care Schedules

The schedules below show the follow-up care patients usually have. Your surgeon may give you a different schedule, or they may schedule additional clinic visits or tests.

Your Surgery	Follow-up Care Schedule
Emergent (unplanned) surgery for an <i>aortic dissection</i> (a tear in the aorta’s inner wall)	• A new computed tomography angiogram (CTA) of your chest in 1 month • Clinic visit in 1 month • CTA and clinic visit 1 year after your surgery • Yearly monitoring with imaging and clinic visit
Elective (planned) surgery to repair your aorta	• A new computed tomography angiogram (CTA) of your chest in 1 month • Clinic visit in 1 month • CTA and clinic visit 1 year after your surgery • Yearly monitoring with imaging and clinic visit
Elective surgery to repair your aorta AND A David V procedure	• Repeat CTA of your chest in 3 to 4 months • Limited echocardiogram (echo) in 3 to 4 months • Clinic visit in 3 to 4 months • Echo and clinic visit 1 year from your surgery • Yearly echo and visit with your cardiologist

Transitioning to Your Cardiologist for Care

About 30 days after your surgery, your *cardiologist* (heart doctor) or primary care provider (PCP) will start to manage your medicines and take over your long-term heart care.

It is important to have regular follow-up visits with your cardiologist after aortic surgery. You **must** have a provider who manages your blood pressure medicines. **You will need to control your blood pressure for the rest of your life to reduce the risk of problems with your aorta.**

If you do not have a cardiologist: Ask your Cardiac Surgery Care Team, PCP, or insurance company to help you find a cardiologist in your area.

Medicine Refills

Your cardiac surgery team might start new medicines when you go home from the hospital. If you are running low on these medicines, please tell your cardiac surgery provider at your 2-week follow-up visit. When you see your PCP or cardiologist, ask their office for medicine refills.

Cardiac Rehab

Cardiac Rehab is a special *rehabilitation* (rehab) program that will help you recover and regain your heart health after surgery.

- If you had surgery **only** on your aorta, you do not qualify for cardiac rehab.
- If you had surgery that involved **both your aorta and a heart valve**, you may qualify for a referral to cardiac rehab.

If you qualify for Cardiac Rehab: Usually, your physical therapy team will refer you for rehab while you are still in the hospital. You can start cardiac rehab about 4 to 6 weeks after your surgery. Most patients have rehab sessions 1 to 3 times a week for up to 12 weeks.

Your rehab plan will be based on your needs. Please ask your care team if you have questions.

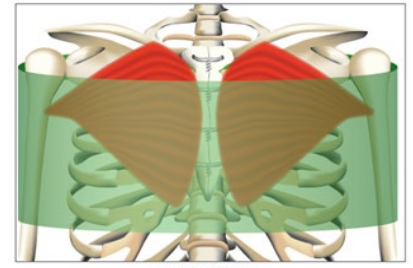
Activity Guidelines

After surgery, it will take about 3 months for your breastbone (sternum) to heal. To help your recovery, remember to keep your movements “in the tube” **for 12 weeks**.

“Keep your Move in the Tube” is a phrase to help you remember how to use your arms and reduce stress on your *sternum* (breastbone) while it heals after surgery (see picture on the next page).

The goal is to **keep your upper arms close to your body** with load-bearing movements. You can move your arms outside the tube with non-load-bearing movements. Your therapists will help you modify activities specific to you.

- For all load-bearing movements such as lifting, pushing, or pulling, keep your upper arms close to your chest (in the tube) and use both arms.
- When performing tasks that do not involve lifting, pushing, or pulling, you can move your arms freely. Move slowly and listen to your body. Pain is a signal to stop or change the activity.
- There are no weight restrictions, but you should ease slowly into activities. Pain is a signal to stop or change the activity. We do not expect a sudden, sharp increase in pain. We do expect soreness.
- Do **not** drive for 4 weeks.



The “tube” is the area around your upper arms, sternum, and the attached muscles.

Your Diet After Aortic Surgery

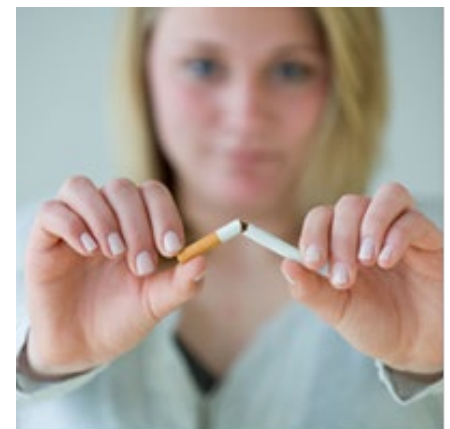
Most patients have a lower appetite after aortic surgery. But it is important to eat healthy foods to help your body heal. Follow this recovery diet for best healing:

- **Eat plenty of protein.** Protein helps with wound healing. Foods high in protein include fish, chicken, lean cuts of beef, peanut butter, beans, legumes, cheese, milk, yogurt, and eggs. You can also drink a protein drink like Boost or Ensure, or make protein shakes with fruit, milk, and protein powder.
- **Eat lots of fiber and drink fluids** to prevent constipation. Foods with fiber include fruits, vegetables, leafy greens, and whole grains.
- **Limit saturated fat, trans fat, cholesterol, and sodium.** Cook with olive, canola, vegetable, or grapeseed oil. Avoid processed foods. Many processed foods like deli meat and frozen meals are high in sodium.
- **Avoid added sugar.** Avoid soda, candy, and pastries. Limit breads, rice, and potatoes. Extra sugar in the body is turned into fat. This causes weight gain, slows healing, and causes problems with your cholesterol.
- **If you are a diabetic,** follow the American Diabetes Association (ADA) diet, unless your doctor tells you otherwise. Be sure to check your blood sugar before meals and at bedtime. Good blood sugar control is important for healing. If you are having trouble managing your diabetes and blood sugars, please talk with your PCP.

Tobacco, Smoking, and Vaping

The nicotine in tobacco reduces blood flow to your tissues. This makes it hard for your wound to heal.

If you smoke, vape, or use tobacco of any kind, we strongly recommend that you quit. If you need help quitting, talk with your UWMC care team or your PCP. There are many resources available to help you quit.



We strongly advise you to quit smoking, vaping, or using any products that contain nicotine.

Sexual Activity

You may resume sexual activity when you feel ready. Make sure you follow all the instructions in this handout. Keep your incisions clean and safe.

Managing Pain After Surgery

It is very important to manage your pain while you recover. You need to be able to move around, walk, and breathe deeply to prevent problems like pneumonia or blood clots.

When you go home, we will give you medicine to help with pain while you recover. Your prescriptions might include pain relievers such as Tylenol, as well as opioids such as oxycodone.

If needed, we may also prescribe medicines to relax your muscles or to help nerve pain. We will give you an updated medicine list to follow when you are home.

Talk with your cardiac surgery team **before** you take any other medicine, even ibuprofen or other over-the-counter medicines. Your provider will tell you if it is safe to take these.

There are other ways to help your pain besides taking medicine. Try heat therapy, gentle stretching, walking, meditation, and listening to calming music. Ask for our handouts “Managing Pain: Non-medicine options” and “Managing Pain After Heart Surgery.”



Talk with your care team if you have any questions about managing your pain.

Opioids

If you get a prescription for opioid pain relievers (such as oxycodone), take them **only** as needed. You do not need to take opioids if other options such as Tylenol, heat, or ice help your pain.

We will explain how to *taper* (slowly stop) your opioids. You will start to taper 1 to 2 weeks after surgery. Most patients are no longer taking opioids by the time they see their surgeon at their 2-week follow-up visit. Opioid prescriptions are not usually refilled once you run out.

If you are having problems managing your pain after surgery, please talk with the Cardiac Surgery clinic nurse.

Questions

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

Weekdays 8 a.m. to 4:30 p.m.:
Call your Cardiac Surgery Clinic nurse at 206.598.8060.

For urgent concerns on weekends, holidays, and after hours: Call 206.598.6190 and ask to page the Cardiac Surgery provider on call.

For non-urgent questions:
Please contact your care team through MyChart.

Daily Record

Use this chart to record your weight, temperature, resting heart rate, blood pressure, and how your incision looks. Be sure to:

- Weigh yourself at the same time (first thing in the morning) and use the same scale every day.
- Check your blood pressure and heart rate **2 to 4 hours after** you take your heart and blood pressure medicine.

Date	Weight	Temperature	Heart Rate at Rest	Blood Pressure	How Your Incision Looks

Daily Record

Use this chart to record your weight, temperature, resting heart rate, blood pressure, and how your incision looks. Be sure to:

- Weigh yourself at the same time (first thing in the morning) and use the same scale every day.
- Check your blood pressure and heart rate **2 to 4 hours after** you take your heart and blood pressure medicine.

Date	Weight	Temperature	Heart Rate at Rest	Blood Pressure	How Your Incision Looks

Exercise Log

Date	Type of Exercise	How Long You Exercised	Your Pace <i>slow, moderate, difficult</i>	Resting Heart Rate	Heart Rate After Exercise