

# Guided Conversations



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## Some Key Points

### IMPORTANT

*ANY GUIDED CONVERSATIONS USED OUTSIDE OF THE HOSPITAL SETTING SHOULD INCLUDE ADVICE TO IMMEDIATELY CONTACT PARAMEDICS IF MENTAL/EMOTIONAL OR PHYSICAL/SYMPTOMATIC WARNING SIGNS ARE EVIDENT (LOCALISE)*

Please consider the following when examining these guided conversations.

The digital human is asking the patient questions, not the other way around. When the digital human asks the patient a question, we generally acknowledge the answer and then continue along the same track no matter what the answer. The guided conversation is not a Q&A session where the conversation flows based on machine learning and selection of specific question/answer combinations. This is because we have specific aims in terms of assessing risk and educating the patient.

Too many diversions based on the patient answer would dilute both of these aims. A consistent approach produces a standardised conversation record (transcript) for easier and faster hospital review and for any subsequent legal purposes. It also ensures that the same content is delivered to every patient.

The inpatient guided conversations would be initiated by a staff member at an appropriate time. Ideally, this would be after admission but before surgery in non-emergency situations. The carer can converse with the digital human where the patient is unable to participate.

Rehab staff could also initiate a session for a patient in outpatient settings where required.

The guided conversations in this document are not stand-alone. The patient needs to be identified by the digital human prior to any conversations. That could be via a staff member supervising the conversation, a preamble conversation or, in later versions, via integration with the patient's electronic health record. Likewise, at the end of these conversations there would be a brief conversation where the digital human checks if there are any more concerns.

We have used the term 'interaction' to cover the series of guided conversations and Q&A in a particular session.

In other materials we have provided we show how guided conversations and Q&A can work together in an interaction.

For example, no matter what human and digital human interactions a patient has had in the hospital things are forgotten; we know that from my husband's experience.

Therefore, it is not uncommon for a patient to be at home and not remember everything they were supposed to do. If they say "I still can't remember why I am weighing myself every day" the digital human could run the inpatient heart failure guided conversation to reinforce the key actions a patient has to take rather than simply provide an answer to the daily weighing question. Q&A could then follow on specific aspects of daily weighing, including the use of videos in answers demonstrating the details of weighing – stable floor, same time every day, same clothes etc.

Also, don't underestimate the value of the guided conversations (and Q&A) to carers. My husband Allan decided that he would like to walk up and down several steep flights of stairs outside our condo in freezing cold weather to get a coffee at Starbucks; this was the day after discharge. He claimed it was ok and I was sure it wasn't (I was correct). It would have been great to be able to ask a digital human cardiac coach and both hear the answer together. He might have still sulked, but without justification!

In all seriousness though, this is the dilemma many carers face. The patient is the 'expert' because they have been told all these things in hospital or rehab and the carer is deeply concerned for the patient and wants to keep them safe. A knowledgeable umpire would be ideal.

In the heart failure guided conversation, we have used food names relevant to a US hospital and these themselves can vary by region. Localisation is important and you can substitute whatever foods are relevant to your hospital and region.

An important note, the patient presses the space bar on their PC in the conversations below when they are answering each question. Knowing this makes more sense of the flow.

Finally, the materials in this document are works in progress and so not all of the 'Tells' and 'Asks' make an appearance in the conversations. Use what we have provided as a guide to develop your own risks, tells and asks and adjust the conversations to suit. Always remember the design principles we have provided; guided conversations that are too long will be tiring for the patient and then miss key risks or not deliver the right messages.

We mention rehab in many of the guided conversations for one simple reason; rehab has been proven to work but only a small percentage of patients attend. By repeating a positive rehab message, we hope to lift the numbers and reap the benefits. Also, educational material that can't fit into an inpatient guided conversation should be covered in rehab.

## Heart Failure

### Introduction

This Heart Failure Guided Conversation is primarily conducted in the inpatient setting although it can also be initiated during the outpatient (rehab) or at home phases as follows:

- In response to a patient (or family/caregiver) concern or question
- Measurement reporting non-adherence or inaccuracies detected by a practitioner indicate problems with, say, the daily weighing process
- Integrated home IoT devices detect anomalies related to non-adherence

The objectives of the inpatient guided conversation transcript include:

- Identify risk areas for the patient once they leave the hospital setting to inform discharge planning
- Assist heart failure patient education especially need for fluid management, daily weighing etc
- Alert hospital dietician on patient needs for dietary advice (ahead of attendance at rehab) especially low sodium foods and drinks, healthy food swaps (snacks etc)

### Heart Failure Conversations

The potential heart failure guided conversations are:

- Inpatient – assess risk for discharge planning, support patient education before discharge
- Outpatient – same as inpatient except that rehab staff use the captured information to provide targeted patient education and support
- Home – same as inpatient except that video support is included (e.g. how to weigh yourself) as well as links to suppliers of healthy foods, drinks and snacks (as opposed to that provided by inpatient/outpatient dietician)

## Heart Failure Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Reduce patient health problems due to poor fluid management resulting from a high sodium diet</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• Existing high sodium diet</li> <li>• Existing high sodium drinks</li> <li>• No experience with daily weighing</li> <li>• No equipment for daily weighing</li> <li>• Poor technique daily weighing</li> </ul>
Enablers
<ul style="list-style-type: none"> <li>• Patient understands risks of current diet</li> <li>• Patient understands risks of current drinks</li> <li>• Accurate scales and knowledge to use</li> <li>• Patient understands cardiac rehab can help them</li> </ul>
Awareness Goals
<ul style="list-style-type: none"> <li>• Risks of high sodium diet and drinks</li> <li>• Current sodium risk</li> <li>• Low sodium choices / reducing salt in diet</li> <li>• Importance of daily weighing</li> <li>• How cardiac rehab can help</li> <li>• How to weigh daily</li> <li>• Effect of high sodium on HF patient</li> </ul>
Data Capture
<ul style="list-style-type: none"> <li>• Current sodium intake risks for dietician</li> <li>• Specific high-risk patient foods and drinks for dietician</li> <li>• Risk of daily weighing non-adherence or accuracy</li> <li>• Patient has been told they have high blood pressure</li> <li>• Patient has been told they have heart failure</li> <li>• Has patient registered for cardiac rehab</li> </ul>



## Heart Failure Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
Eat less salt	High blood pressure
Why too much salt is a problem	Confirm they have heart failure
Salt can come from what you cook and what you buy to eat	Going to rehab
Examples of foods and drinks that are high in salt	Identify high risk foods for sodium
How to reduce the amount of salt consumed	Identify high risk fluids for sodium
Fluid restrictions	Barriers to daily weighing
Drink water	Want extra information
Why daily weighing is important	Home cooking?
How to do a daily weigh	Eating out?
Importance of doing rehab	Take out?

## Heart Failure Guided Conversation (Inpatient)

### Opening

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about heart failure. Because you have heart failure you have to only eat and drink what your doctor lets you and weigh yourself every day.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Let me know when you're ready and we can get started.

Oh, by the way, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop.

Today I am going to talk to you about three very important things for heart patients.

All heart patients must eat less salt, be careful about what they drink and weigh themselves every day.

### Step 2: told about high blood pressure

Have you ever been told that you have high blood pressure?

Too much salt can cause high blood pressure, so that is why we will talk about it today.

### Step 3: told about heart failure

One of the most important questions I would like to ask today is, have you been told that you have heart failure?

Too much salt is very bad for heart failure patients.

It causes their body to retain water.

This can cause their bodies to swell and make it hard for them to breathe.

All heart patients must weigh themselves every day so that they can see if they are hanging onto water.

### Step 4: going to cardiac rehab

Do you know yet if you are going to cardiac rehabilitation?

When patients attend cardiac rehabilitation, they learn some very important things that they need to do every day to keep themselves healthy.

One of these things is to only eat foods that are low in salt and to not add salt to foods that you cook or buy.

Cardiac Rehab also teaches you about safe, healthy exercise.

I am going to ask you some questions today so that I can see whether you might be eating too much salt.

Some of the foods I ask you about might be your favourites but don't worry, the staff in cardiac rehab will talk to you about other tasty foods that you can eat.

Step 5: (salt) packed or frozen meals

Do you eat a lot of packaged," canned," or frozen meals when you're at home?

Step 6: (salt) eating out

Do you like to eat at restaurants or buy take out more often than once a month?

Step 7: (salt) salt on food

Do you like to add salt to your food at home or when you eat out?

Thanks for answering

Step 8: (salt) salt when cooking

Do you use salt when cooking?

Step 9: (salt) starting of low salt food education

If you answered yes to any of these questions you probably eat too much salt.

Salt can make your body swell and make it hard for you to breathe.

I'm now going to ask you some questions so that I can help you eat less salt.

The foods I am going to ask you about all have lots of salt in them.

Getting too much salt in your diet can cause your body to swell.

This is because it will hold on to more water than usual.

When your body holds on to too much water your organs can be constricted, making it harder for you to breathe.

Now I am going to ask you some more questions about the foods you eat.

This will help me to get an idea of how much salt you are getting in your diet.

Step 10: (salt) sausages

Do you eat sausages, hot dogs, bacon or deli meats?

Step 11: (salt) chips

Do you eat salted nuts or chips?

Step 12: (salt) cheese and butter

Do you eat biscuits and gravy or lots of cheese and butter?

Step 13: (salt) fried food

Do you like to eat foods such as ribs, barbecue, fried chicken, burritos, burgers, fries or tacos?

Step 14: (salt) summarise eating low salt food

If you answered yes to some or all these questions, you are eating too much salt.

I will now talk about some other food options with you.

We will make sure that you are getting fresh fruit and vegetables in your diet as well as reducing your salt intake.

Step 15: (salt) fried food

Would you like the hospital dietician to give you some ideas on buying and eating fruits and vegetables?

Step 16: (salt) dietician reference for lean meat

Lean fresh meats, chicken and fish that are grilled or broiled are also good.

Just make sure your meats have the fat cut off, as this is much healthier for your heart.

Boiled and poached eggs are also great if you want to eat less meat.

The hospital dietician can also give you some ideas on buying and eating lean fresh meats, chicken and fish.

Would you like me to arrange that?

Step 17: (salt) recommended low salt food

Of course, a lot of people are too busy to cook these days, but the good news is that there are a lot of healthy, low salt, frozen and packaged foods that you can buy from your local supermarket.

Healthy pre-packaged meals are now commonly available online also.

You can even have some of these delivered before you leave hospital so that they are there when you get home.

Home cooking can be hard to fit in with your daily routine, but there are options available to make life a bit easier.

Healthy, low salt, frozen and pre-packaged meals can be bought at your local supermarket or online.

They can be delivered directly to your door.

They could even be ready and waiting for you once you get home from hospital if you would like.

#### Step 18: (salt) list of low salt food

Would you like the hospital dietician to give you a list of healthy, low salt, frozen and packaged foods and snacks?

#### Step 19: (salt) finish salt questionnaire

It was great to talk to you today about how important is for you to eat less salt.

Do you now understand that too much salt can make you swell and gain weight quickly through water retention, and that this can cause breathing difficulties?

#### Step 20: (drinks) introduction to healthy drinks

The next thing I want to talk to you about is what you drink and how much.

Let me ask you some more questions.

#### Step 21: (drinks) Powerade

Do you drink sports drinks such as Gatorade and Powerade?

#### Step 22: (drinks) sodas

Do you drink sodas?

#### Step 23: (drinks) caffeine

Do you drink coffee and tea, or energy drinks such as Rockstar or Monster?

#### Step 24: (drinks) summarise unhealthy drinks

Okay. If you answered yes to any of these questions, you might be drinking too much salt and caffeine.

These can make your blood pressure higher and also cause your body to hold onto too much water.

Soda water and mineral water also have a lot of salt.

#### Step 25: (drinks) the right drink - Doctor recommendations

Do you know what heart patients should drink every day?

It's water!

If you have heart failure your doctor will tell you just what and how much you can drink every day. Add "Most heart failure patients should drink about 2 litres of fluid a day unless told otherwise by the care team. 2 litres of fluid is the same as 8 cups."

*Add "You may eat some foods that actually count towards your daily fluid intake. Fluid includes Jell-O, pudding, soup, ice cream, and even ice chips."*

You can only drink as much as they tell you to.

If you do not have heart failure, drinking plenty of water every day will keep you healthy.

#### Step 26: (drinks) water quantity

Do you now understand that water is the best thing for you to drink and that if you have heart failure, your doctor will tell you how much is safe for you to drink?

#### Step 27: (weigh) do you weigh yourself

Just a few more questions and we are done!

So far, we have talked about eating less salt and drinking water to keep healthy.

The third thing I said we would talk about is weighing yourself every day.

Do you ever weigh yourself at home?

Hardly anyone likes weighing themselves at home.

Who wants to be reminded that they've put on weight?

But this is different!

All heart patients have to weigh themselves every day and as soon as they get up in the morning, "after they use the bathroom but before they eat or drink anything"

If you put on 3 pounds overnight or 5 pounds in a week you must tell your doctor because you might be retaining too much water.

That means that your body is storing more water than it should!

Don't forget, hanging on to too much water is dangerous and can send you back to hospital.

Add "The sooner you tell your doctor about your weight gain, the more likely medication adjustments can be made without you needing to come to the hospital."

### Step 28: Using Scales

Every morning you must weigh yourself after you urinate “but before you eat or drink anything”.

Make sure that your scales are on a flat stable surface like wood, tiles or concrete.

Do not weigh yourself on carpet or other soft surfaces.

Record your weights and the date “in a log or on a piece of paper and take this information with you to all of your doctor appointments “so that you can show your doctor any changes or progress.

Do you have a set of scales at home for weighing yourself?

If you do not have a set of scales at home, or if you are unsure, you can purchase some online, or from a local store.

If you need help with this just ask a nearby staff member for directions or information.

### Step 29: (weigh) help weighing

Every morning you must weigh yourself after you urinate but before you eat or drink anything.

Do not weigh yourself on carpet or other soft surfaces. A flat wood, vinyl or tile floor is best.

Record your weights and the date “in a log or on a piece of paper” so that you can show your doctor any changes or progress.

Okay, we’re nearly finished.

You need to weigh yourself first thing in the morning and after you urinate but before you eat or drink anything

Make sure you weigh yourself before you get dressed and before you have breakfast.

Your scales should be on a flat hard floor like tiles. Don’t weigh yourself on a carpet or a rug.

Finally, make sure you write the date and your weight down every day in the same place so that you can show your doctor.

### Step 30: (weigh) importance of weighing yourself

Ok, one last question and we are done.

Do you now understand how important it is to weigh yourself every day to see if you are hanging onto water?

[If needs help weighing]: I can organise hospital team to talk to you about it.

Step 31: Thank you for the answers

I'm just one small part of the team here at the hospital so I will pass on your answers, and any questions you had, to my human team members.

They will make sure that you get all of the information you need.

They will also tell me where I can do a better job of helping patients.

Thank you, and good luck with your recovery.



## Medications

### Introduction

Medications non-adherence is a massive problem for heart disease, and chronic diseases in general. Some patients never start taking their medications, others suddenly stop (either a drug holiday or permanently), and a third group gradually reduce the amount of their medications they take, reducing efficacy.

Concerns about medications dominate patient forums run by the British Heart Foundation (HealthUnlocked) and the American Heart Association.

Stopping or reducing some preventive medications (e.g. statins) does not result in immediate symptoms or other warning signs to the patient that they are no longer protected. This encourages them to reduce or stop other medications.

Patient forums suggest several problem areas that only occur once a patient is at home and each requires a guided conversation. These are:

- Unable to obtain supply, forgetting to take, wrong dosage etc
- Emotional/mental barriers such as psychosocial issues, unable to swallow meds, peer and media pressure and so on
- Concerns, real or imagined, about possible and actual side effects.

We have separately provided documents and spreadsheets summarising patient questions answers about medications.

### Medications Conversations

The potential heart failure guided conversations are:

- Inpatient – identify potential adherence risks, including barriers to adherence, and educate the patient to reduce these risks when they first arrive home
- Outpatient – same as inpatient but with a focus on capturing the actual (as opposed to predicted) barriers the patient has been experiencing
- Home phase medication conversations will consist of:
  - Logistics concerns and questions – how to obtain, remember, generics, payment, meds when travelling etc.
  - Emotional concerns – psychosocial factors, too many meds, peer pressure, media articles on effectiveness and safety etc.
  - Side effects – not diagnosis but helping triage into emergency, see doctor tomorrow or next appointment. Also deals with concerns meds not working and with confusion between side effects and disease symptoms. Classic example is confusion between sore muscles from statins and sore muscles from surgery/exercising for first time (DOMS – delayed onset muscle soreness)

## Medications Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Maximise medication adherence</li> <li>• Optimise medication effectiveness</li> <li>• Keep patient safe</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• Never takes medications</li> <li>• Deliberately reduce medications</li> <li>• Stop medications</li> <li>• Forget to take medications</li> <li>• Take wrong amount of medications – too many</li> <li>• Take wrong amount of medications – too few</li> <li>• Take medications at wrong time of day</li> <li>• Take medication holiday</li> <li>• Non-adherence not detected</li> <li>• Abuse medications</li> <li>• Interactions with over-the-counter medications</li> <li>• Interactions with vitamins</li> <li>• Interactions with herbals and supplements</li> <li>• Interactions with foods</li> <li>• Real side-effects from medications</li> <li>• Imagined side-effects from medications</li> <li>• Side-effects from medication not noticed</li> <li>• Side-effects from medication not reported</li> <li>• Other symptoms interpreted as side-effects</li> <li>• Peer pressure from family and friends</li> <li>• Media articles on medication risks</li> <li>• Media articles on medication effectiveness</li> <li>• Too many medications to manage</li> <li>• Can't afford medications (separate affordability guided conversation for care, food etc)</li> <li>• Can't access medications</li> <li>• Extensive travel for business or vacation</li> <li>• Don't understand the importance of medications</li> <li>• Forget to take medications</li> <li>• Taking medications that are no longer required</li> <li>• Misreading medication packaging</li> <li>• Not understanding medication packaging</li> <li>• Not having required pathology tests to assess medication effectiveness</li> <li>• Not having required pathology tests to assess medication levels in body</li> <li>• Not having required pathology tests to assess medication side-effects (e.g. liver damage from statins)</li> <li>• Not performing required measurements (e.g. BP, RHR) to assess medication effectiveness</li> <li>• Not reporting required measurements (e.g. BP, RHR) to physician to assess medication effectiveness</li> <li>• Not having regular medication reviews with physician</li> <li>• Taking unapproved generics or medications sourced from overseas</li> <li>• Have trouble swallowing medications</li> </ul>

<ul style="list-style-type: none"> <li>• Psychosocial issues</li> <li>• Accessibility issues</li> <li>• Shelf life expiry of medications</li> </ul>
Enablers
<ul style="list-style-type: none"> <li>• Medication Pre-Packaging</li> <li>• Medication apps</li> <li>• Weekly/daily pill boxes (self-pack)</li> <li>• Financial assistance pathways</li> <li>• Family awareness information</li> <li>• Online ordering &amp; delivery</li> <li>• Inpatient conversations with digital human and human team members</li> <li>• Discharge process</li> <li>• Advice on the importance of dedications</li> <li>• Advice on effective lower cost medication alternatives such as generics</li> <li>• Advice on financial support for medications</li> <li>• Advice on medication management including reminders</li> <li>• Digital applications for medication management including reminders</li> <li>• Physical packaging and pharmacy services for medication management</li> <li>• Advice on medication side-effects</li> <li>• Advice on medication interactions</li> <li>• Advice on travelling with medications - domestic and overseas</li> <li>• Advice on the initial an ongoing process for obtaining medications</li> <li>• Advice on pathology tests for medications</li> <li>• Advice on home measurements for medications</li> <li>• Ready access to diagnosis and treatment for side effects</li> <li>• Communicate a clear requirement to consult a physician before reducing, stopping or changing medications</li> <li>• Digital tools for accurately identifying medications and the packaging</li> <li>• Regular reminders</li> <li>• Trust in prescribed medications and processes to overcome family, peer and media pressure</li> </ul>
Awareness Goals
<ul style="list-style-type: none"> <li>• Importance of medications</li> <li>• Interaction risks</li> <li>• Side effects requiring emergency action</li> <li>• Not all 'side effects' from the meds</li> <li>• Educate family on importance of meds</li> <li>• Never stop or reduce without talking to doctor</li> <li>• Online ordering processes (discharge team)</li> <li>• How to manage medications</li> </ul>
Data Capture
<ul style="list-style-type: none"> <li>• Prior prescription meds experience</li> <li>• History of non-compliance</li> <li>• Reasons for non-compliance (if yes above)</li> <li>• Any side effects (refer to doctor/pharmacist)</li> <li>• Any non-adherence &amp; reasons</li> <li>• Any other concerns (e.g. taking too many meds)</li> </ul>

## Medications Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
When you leave hospital, you will be given some very important medications to take. These help you to keep your heart healthy and you will need to take them every day for the rest of your life.	Tell me, do you take any prescription medications now or have you taken them in the past?
Ok. When you leave hospital, we'll give you your medications to take home and explain how to get more before they run out.	Tell me, in the past, have you always taken prescription or other medications from your pharmacist every day?
Thanks for that. Some heart patients find it hard to remember to take their meds when they get home so before you leave hospital, we'll show you some ways to always remember to take your meds every day.	Do you take any OTC meds? Repeat for herbals and supplements.
Herbals etc can affect heart medications. Need to discuss with doctor or pharmacist before taking any of these after having left hospital	Did you know some foods can affect your meds?
Tell patient about some problem foods. Tell them they will learn more before leaving hospital.	Ask about other pain meds they are taking.
Tell doctor about other pain meds. Don't use with other drugs and alcohol.	Knows others taking heart meds.
Everyone's meds different, don't share meds	Check concerns about paying for meds
Tell them someone will talk to them about assistance pathways	Check if going to rehab.
Tell them they will learn more about their meds at rehab - important.	Aware of importance of meds and aware of need to ask doctor before stopping/reducing meds
	Ask if any other concerns and record them.

## Medications Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about medications. These are very important for all heart patients and you will be given medications when you leave hospital that you will need to take for the rest of your life. You cannot stop them or take less of them without your doctor's permission.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Are you ready to start now?

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about your medications. They help you get better from your surgery and will help keep you healthy if you take them every day.

### Step 2: prescription medication familiarity

First up, have you ever taken prescription medications for any reason?

### Step 3: medication adherence

Ok, thanks for that. If you have taken meds did you take them every day? Don't worry, I'm not checking up on you. Lots of patients forget to take their medications or don't take them for some other reason.

Your heart medications are very important. You must take all of your heart medications at the times you are told. Not taking them or taking less of them can make you very sick. You must talk to your doctor first if you have any concerns about taking your heart medications.

### Step 4: non-prescription medications

Do you take any over the counter medications? These might include cold and flu tablets, headache and other pain tablets, medications for heartburn and medications to help you sleep.

Some over the counter medications can stop your heart medications from working or make you very sick when you take them with heart medications. Before you leave the hospital, we will talk to you about any over the counter medications you take. If you need over the counter medications after you leave hospital you must talk to your doctor or pharmacist first so that they can see if they are safe for you.

### Step 5: dietary supplements and herbal remedies

Do you take any dietary supplements or herbal remedies? These might include vitamins, fish oil, calcium, ginseng and iron tablets?

Many dietary supplements and herbal remedies can stop your heart medications from working or make you very sick when you take them with heart medications. Before you leave the hospital we will talk to you about any dietary supplements and herbal remedies you take. If you need dietary supplements and herbal remedies after you leave hospital you must talk to your doctor or pharmacist first so that they can see if they are safe for you.

#### Step 6: foods that can affect heart medications

Did you know that some foods can't be eaten if you are on heart medications?

Some fruits and vegetables such as bananas, grapefruit and leafy greens like kale can affect heart medications. Black liquorice can affect medications taken by heart failure patients. Before you leave the hospital we will talk to you about some foods that might affect your heart medications.

#### Step 7: pain medications

Do you already take any pain medications?

You will be given pain medications to help while you recover when you go home after your surgery. You must be honest with the doctor about any other pain medications you are taking, or any drugs or alcohol. Having these with the pain meds you will take home can be very dangerous.

#### Step 8: other people you know taking meds

Do you know if any of your family or friends take heart medications?

Sometimes family or friends will tell you that they stopped taking their medications or take less of them and they are okay. Stopping your heart medications suddenly can make you very sick. You must talk to your doctor if you are thinking of stopping or reducing your medications. Also, every patient is given different medications and you must not take someone else's medications or give them yours to take.

#### Step 9: paying for medications

Are you worried about paying for your medications?

Some patients worry how they will pay for their medications and want to know about generics, cheaper options and help with paying. We will talk to you about this before you leave the hospital. There are lots of ways patients can be helped to get their heart medications. It is very important that you take your medications so that you can recover and stay heart healthy.

#### Step 10: cardiac rehabilitation

Are you booked into cardiac rehabilitation yet?

Patients learn a lot about medications at cardiac rehab including how to remember to take them. You will also learn more about foods you shouldn't eat with your medications.

Step 11: check understanding

That's all I wanted to ask you about medications today. Before we finish though I just want to ask if I have helped you to understand how important it is to take your medications?

Ok, got that. And have I also helped you understand that you must talk to your doctor before stopping your medications or taking less of them?

Thank you for answering my questions about your medications today. One of the hospital team will talk to you about your medications before you leave hospital including how to get them and how to remember to take them. Do you have any other concerns you want me to tell them about?

Step 12: close

Okay, I will pass all of this onto the hospital team. Thank you once again for helping to train me today.

## Home Safety

### Purpose

Most heart patients are in a physically weakened state after heart surgery. Contributing factors can include:

- Surgical wounds to the chest and limbs and general joint stiffness
- Remnant surgical drugs
- Cumulative effect of the lack of quality sleep during the hospital stay
- The fatigue effect of pain killers taken during early recovery
- The effect of other heart medications
- Emotional stress causing fatigue
- Any pre-existing infirmities due to age, comorbidities etc
- Low task concentration
- Breathing difficulties until lungs clear

Stamina, strength and balance are all affected making any physical activity risky. Physical activities can be therapeutic (mobilising joints, clearing lungs, beginning walking etc) or lifestyle related (household chores, travel etc).

Risky activity avoidance is important and can range from supportive home and travel care to sleeping downstairs to reduce stair climbing. Patients need to be educated on how to safely perform activities that cannot be avoided.

Patients with ongoing infirmity (e.g. heart failure) will require occupational therapy that is not part of the digital human cardiac coach skillset for the foreseeable future.

### Home Safety Conversations

The potential heart failure guided conversations are:

- Inpatient – assess risk for discharge planning, support patient education before discharge and activate community care and transport where applicable
- Outpatient – guided conversation supported by video on safe performance of physical tasks
- Home – ability to replay the outpatient (rehab) guided conversation



## Home Safety Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Increase patient safety when at home</li> <li>• Increase patient safety when travelling</li> <li>• Early planning for required services – transport, home care etc</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• No appropriate transport home from hospital</li> <li>• Patient tired from surgery and medications.</li> <li>• Patient physically weak.</li> <li>• Risk of sternum injury.</li> <li>• Risk of falls.</li> <li>• No or limited appropriate transport to and from medical appointments</li> <li>• No or limited transport for other excursions away from home</li> <li>• No one at home to perform household tasks</li> <li>• No one at home to cook</li> <li>• No one at home in case of falls or other injuries (e.g. in shower)</li> <li>• No one at home to help with lifting</li> <li>• Doesn't know who to call or what to do when things go wrong</li> <li>• Doesn't know who to call with questions about wound care, bathing, food, exercise etc</li> <li>• Too busy to attend scheduled medical appointments</li> <li>• Afraid to go home from hospital</li> <li>• Nothing prepared at home for patient (clean, healthy foods stocked etc)</li> <li>• Doesn't know what to expect at home</li> <li>• Stairs at home for access, reach bedrooms etc</li> <li>• Trip and access hazards at home</li> <li>• No aids such as bed ropes, shower chairs etc</li> <li>• Doesn't know how to care for wound</li> <li>• Doesn't know how to clear lungs</li> <li>• Doesn't know how to mobilise joints</li> <li>• Doesn't know how to safely wash themselves until wound is healed</li> <li>• Returns to work too soon</li> <li>• Doesn't know how to transition back to normal activities</li> <li>• Lifts or moves things that are too heavy</li> <li>• Doesn't understand that housework and gardening aren't suitable when first home</li> <li>• Unaware of travel restrictions, especially flying</li> <li>• Unaware of risks of high altitude, excess heat or cold</li> <li>• Unaware of need to wear loose climate appropriate clothing and footwear (closed in to avoid cuts/infection with blood thinners)</li> <li>• Uses unapproved treatments, coverings on wound to avoid scarring</li> <li>• Lives alone</li> <li>• Travel - home, appointments etc</li> <li>• Stairs - home access, bedroom</li> <li>• Lifting/pushing - bags, children, cooking</li> <li>• Bathing - falls, burns, wound care</li> <li>• Can't afford support and equipment</li> </ul>
Enablers

- NOTE: knowledgeable and capable full-time home carer is the key enabler for home safety
- NOTE: safe transport with assistance to get home and to medical appointments is also a key enabler for home safety
- Education and awareness whilst an inpatient, at discharge and through cardiac rehab
- Alternatives to rehab for those that cannot or will not attend rehab
- Advise how to obtain aids either through hospital (provided or purchased from pharmacy), purchased at external pharmacy or online for delivery
- Advise how to order and have delivered healthy frozen or prepared meals to reduce outings and risks from cooking (moving/lifting) if no home care
- Advise how to safely move and lift items including clear limits
- Advise how to safely use stairs – reduce number of times per day they are climbed (e.g. rest on couch downstairs during the day and only sleep upstairs at night), rest part way, don't pull up with arms whilst sternum healing etc
- Instructions with pictures or videos on wound care, bathing etc that can be accessed/replayed at home as reminders and for carers to learn from
- Schedule with key milestones and/or assessments before adding activities
- Fall activated alarms to call family / emergency (note: waterproof watch or on lanyard for showers)
- Advise on travel including flying, altitude, cold, heat etc
- Advise car alternatives such as ride sharing, taxis etc if there is someone who can travel with them to help with safety and carrying and to sit in back with cushion between chest and safety belt
- Scheduled reminders for repeated tasks
- Ability to call up explanations and advice when advice/procedures forgotten or not well understood
- Companion - driving, lifting etc
- Equipment - shower chair etc
- Stock freezer with frozen healthy meals
- Paid home care or care facility

#### Awareness Goals

- Travel hazards and restrictions and need for assisted safe transport home from hospital and to appointments
- Home hazards and restrictions and need for knowledgeable and capable full-time carer for first few weeks
- Process for gradually and safely increasing activity within these restrictions during the first few weeks - delivered by staff and not Coach?
- Tips for home preparation before going home (e.g. mobility/safety aids, frozen foods etc ordered online and delivered) – delivered by staff and not Coach?
- How to use stairs safely
- How to lift/push safely
- How to travel safely
- Bathing and wound care
- Procedure for getting help or advice

#### Data Capture

- Does the patient have a knowledgeable and capable full-time home carer?
- Does the patient have access to safe transport with assistance to get home and to medical appointments?
- What are the key risks for the patient including home environment (e.g. stairs), transport, foods etc?

- Status of carers and other supports
- Overall home safety - stairs etc
- History of falls/overall strength

## Home Safety Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
When you leave hospital you will be very sore and tired for a few weeks. You will also still be recovering from your surgery and not allowed to lift or push anything over a few pounds. You also aren't allowed to drive until your doctor says so. Is it ok if I ask you a few questions now to help you be safe at home?	Have you ever fallen at home or when out. Do you get dizzy when standing or in the shower?
You are not allowed by law to drive until cleared by your physician and will need someone you know to safely drive you home and to medical appointments. The driver must also be able to assist you with carrying any bags and if you fall ill whilst travelling. Ride share and taxi drivers won't be able to help you walk from the car into buildings for appointments or to carry items for you.	Do you live with someone or know someone else who can pick you up and safely drive you home from hospital and to medical appointments? They must be able to carry items for you such as bags and be able to assist you when walking if needed or call for help if you fall ill when travelling.
You are not allowed to lift, move or carry items weighing over 5 lbs until cleared by your physician. Also, for several weeks you will be very tired from your surgery and medications. You will need someone at home who is strong enough to cook, clean and perform other household tasks for you. They should also be available to call for help when you are showering as you might get dizzy and fall.	Do you live with someone or have someone who can visit every day for a few weeks who is strong enough to cook, clean and perform other household tasks for you including lifting and moving items over 5 lbs?
Tell patient about main risks at home – stairs, falling especially in shower, getting in and out of chairs and bed etc.	Do you live with someone or have someone who can be in the home when you are showering etc. who can call for emergency assistance of you fall?
Tell patient about wearing appropriate clothing for weather and clothes/shoes that aren't too tight.	Do you have stairs at home that you will need to use? Is your bed very low or very high off the ground and might be difficult for you to get in and out of? Do you have a comfortable chair that you can rest in during the day that is easy to get in and out of?
If your home companion can't drive you can use a taxi or ride share and they can travel with you for support. Don't forget that when travelling in a car you need to sit in the back with a pillow or cushion between your chest and the seatbelt. This protects your chest wound in the case of sudden stop.	Tell me, do you live with someone who is strong enough to look after you at home for a few weeks. They need to be able to do household chores and cooking
If you have to use stairs try and make it just once or twice a day. Stop to rest every few steps and don't use your arms to pull yourself up. This can hurt your chest.	Now, do you have someone who can drive you home from hospital and take you to your medical appointments for a few weeks? It can be the same person helping you at home. They need to be able to help you by carrying any

	bags and support you walking to and from the car.
You have to shower until the doctor says its ok to have a bath and this means no spas, saunas etc too. Don't have the water too hot and make sure you have a shower chair in case you are tired or dizzy. Finally, make sure a family member or your care companion is home in case you faint or fall.	Tell me, do you need to use stairs to get into your home or to go upstairs in your home?
Procedure for getting help – emergencies and just advice	Do you normally take a bath or a shower when washing yourself?
Before you leave hospital, make sure you and your family are clear about what you have to do to care for yourself at home.	Do you now understand how important it is to have someone to look after you at home and to drive you until your doctor says you can do these things yourself?
Before you leave hospital, make sure you understand what medication you need and when to take it.	<b>1. Safety – Is your home a safe place for your recovery?</b> Think about any stairs, steps, or other mobility challenges inside your home and create a plan for how you will deal with them. Will friends or family be there to assist you? If not, consider hiring a professional caregiver – whether for a few hours a week or every day – to help you with a safe and comfortable recovery.
Make sure you know what activities you will not be able to do yourself at home. Organise to get help with these activities if you need it, for example, nursing care or Meals on Wheels.	<b>2. Transportation – How will you get home from the hospital?</b> Plan your transportation home before it's time to leave. Ask for a ride from a family member, friend, or caregiver who can drive you, or talk to the hospital staff about arranging a taxi. It is also important to think about how you will get to doctor's appointments and other activities once you get home.
Write down all your follow-up appointments and tests.	<b>3. Food – Do you have food and other necessities at home?</b> While you're recovering, doing errands may be especially difficult. If your refrigerator is not currently stocked, ask if a friend or family member could bring what you need to the house before you arrive. Consider your meals for the first week or two of your recovery and plan who will help you with shopping or meal preparation.
Make a list of people and services you can call on at home for medical and emotional support.	<b>4. Medication – Do you have all the medications you'll need?</b> Has there has been any change in your medications during your hospitalization? Be clear on your medication schedule and dosage before you head home, and make sure you have what you need. If you are unable to visit

	the pharmacy, ask the hospital to discharge you with all your medications.
If you want to leave hospital early or do not feel ready to go home on your discharge date, talk with your healthcare professional or hospital social worker.	<b>5. Doctor's Appointments – What is your follow-up care?</b> Talk to your doctor about the next steps in your medical care. Ask if and when you need a follow up appointment and with which doctor. Be sure to write down the important information, or ask a loved one to take notes on your behalf.
Make sure you understand anything you have to do before leaving hospital – this might include going over your hospital discharge plan, picking up any aids or equipment you need for your recovery (for example, a walking stick) or filling a prescription.	<b>6. Home Health Care – Are you eligible?</b> Home Health Care includes skilled nursing, physical therapy and other related medical services you can receive at home. Discuss with your hospital team whether you are eligible for Home Health Care – if you are, it can be reimbursed through Medicare. A doctor must make the referral so be sure to ask them to refer you while you are still in the hospital.
Be clear about anything you have to do at home to help you recover. This may include doing certain exercises, avoiding heavy lifting, drinking lots of fluids, changing your dressing or taking medication. Ask as many questions as you need to make sure you understand. It may also help to take some notes so you do not forget important information.	<b>7. Equipment – Do you need any medical equipment at home?</b> Will you need a commode, a shower chair, a walker? If so, discuss your needs with the hospital and ask them to arrange for you to leave with any necessary equipment.
Ask what activities you will be able to do once you get home, such as driving, bathing and climbing stairs.	<b>8. Daily Routines – What changes or adjustments will you need to make?</b> Make sure you are clear on post-hospitalization instructions such as medication changes, dietary restrictions, or activities you should avoid. In addition, take note of any activities you need to add to your daily routines such as exercises, physical therapy or other post-hospitalization care.
Understand what the warning signs might be that will mean you have to call a healthcare professional or return to hospital.	<b>9. Household chores – Will you need help with cooking, cleaning, or laundry?</b> Managing a household after a hospitalization can be especially difficult. Especially if you live alone, bringing in temporary home care can take stress off you. Seniors At Home caregivers can help with meal preparation, personal care, housekeeping, and transportation.
Check if there are any follow-up appointments you need to make with your healthcare professional or at an outpatient clinic. Record these dates in your phone or diary, along with any special instructions for these appointments (for example, not eating before a blood test).	<b>10. Care Management – Will you need assistance managing your care?</b> A hospitalization can be disorienting, and it is common to require some help managing all your care needs while you get back on your feet. A professional care manager can take the stress off of you and your loved ones by helping you plan and get to doctor's appointments,

	helping you navigate insurance and healthcare decisions, and communicating with your family and medical team.
advice about any further tests you might need	
details of when you will need to see your GP or attend an outpatient clinic	
any X-rays and all your personal belongings	
information about your special needs at home such as hand rails, wheel chair, preventing falls, diet	
information about any exercises you might need to continue at home.	
Do not take a tub bath until your incisions (cuts) are healed. This will take at least 4 to 6 weeks after surgery.	
Upright. For the first few weeks post-surgery, while your breastbone heals, sleeping upright in a bed or recliner can provide the most comfort. ...	
Climbing stairs is OK if your doctor says it is, but it's not a good idea to do it several times a day	
You may climb stairs. Be sure to go slowly at first. Take your time. Remember that it takes more energy to climb stairs than to walk. If you become tired or short of breath as you climb, stop, rest, and then continue. Use the stair railing only for balance. Do not pull yourself up the stairs.	
Do not drive a car until after your visit with your surgeon. This office visit is most often four weeks after surgery. A car accident could hurt your breast bone (sternum). You may ride in a car. Either ride in the back seat, or if riding in the front seat, move the seat back as far as possible. Use a pillow between your chest and the seat belt for comfort and to avoid irritation. Do not take long trips until your doctor says you may. When you are allowed to travel, it's important to stop frequently to walk and stretch your legs.	
Shower daily. Do not take tub baths. Avoid very hot water, which may make you feel dizzy or light-headed. Try to have another person nearby the first few times you take a shower. Avoid scrubbing your wound. After showering, you may want to take a short rest before you dress. This will help to prevent you from tiring out.	
Many patients are worried about resuming sex after surgery. It often depends on how you feel physically and mentally. Most doctors agree on	

these guidelines: When you can climb two flights of stairs without getting too tired or short of breath, you are physically able to resume sex.	
<p>Recovering from heart surgery also involves emotional healing. Remember that healing takes time. You will have good days and bad days. As you increase your daily activity, follow your exercise plan and get plenty of rest. In this way, you will help yourself on the road to emotional recovery.</p> <p>During this time, you are likely to feel different kinds of feelings. You may feel fear, anger, denial, frustration, and sadness. If you go through this, it's important to realize that these feelings are very normal. Not only our bodies, but also our feelings go through a time of adjustment with a change in our health.</p>	



## Home Safety Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about being safe at home and when travelling whilst you recover from hospital.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Are you ready to start now?

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. I will record our conversation so that the hospital team can help you get ready for going home.

### Step 2: driving

The law says that you are not allowed to drive until your doctor says it is ok. It might be a few weeks before you can drive. You will need someone reliable who can safely drive you home from hospital and take you to all of your medical appointments. You will be tired and weak so they must also be able to carry your bags and help you walking. Do you have someone like that who can drive you around for a few weeks?

Ok, I've got that and will let the hospital team know.

### Step 3: help at home

The first few weeks at home can be hard. You might be sore and tired from your surgery and medications. You will have to remember new things like taking care of your chest wound and doing exercises to clear your lungs and get your arms and legs moving again. It is also very important that you don't lift or move anymore over 5 lbs until your doctor says it is ok. Do you live with someone who is strong enough to cook, clean and do other household chores for you?

Thanks, I've made a note of that for the team.

### Step 4: general questions

Okay, I've got that. Do you have to use stairs to get into your home or is your bedroom upstairs?

Before you go home, we will check that you can climb a few stairs by yourself. Patients with upstairs bedrooms find it easier to sleep on a couch downstairs during the day and only go upstairs sleep at night. Heart failure patients might need to have their bed moved downstairs until they recover.

#### Step 4: getting home from hospital

Do you have someone who can drive you home from hospital. They must be strong enough to carry your bags because you're not allowed to lift anything heavier than five pounds until told to by your doctor.

You will also need someone to drive you to appointments after you get home. You can use a taxi cab or ride share such as Uber if it is safe and you aren't too drowsy or sick. Heart failure patients might need a driver for several months and need someone to help them when travelling.

#### Step 5: what to wear home

Do you have someone who can bring some loose clothes and shoes into the hospital for your trip home? All heart patients are sore and have some swelling when they leave hospital. Their normal clothes might be too tight and uncomfortable.

Make sure that the clothes you have to wear home match the weather, not too hot or too cold. A hat and sunglasses are a good idea in summer. You will need loose comfortable clothing until you recover.

#### Step 6: equipment for home

Do you have a shower chair at home?

Heart patients are not allowed to take a bath until told it is safe by their doctor. You will need a shower chair so that if you feel dizzy you can sit down and not fall over. If you don't have one they can be ordered online for delivery. If you have heart failure you might need mobility aids such as a walking stick or walking frame. The hospital team will talk to you about these before you go home.

#### Step 7: food and cooking

When you first get home everyone including your family will be tired and stressed? No one will feel like cooking. Would you like some ideas for frozen or take out foods that are healthy? Most of the healthy frozen foods can be ordered online and delivered.

We will make sure that you have some good food ideas before you leave the hospital. Heart failure patients have to eat low salt foods when they go home and have to be careful of what they drink.

#### Step 8: cardiac rehabilitation

Are you booked into cardiac rehabilitation yet?

Patients learn a lot about healthy foods at cardiac rehab. They learn about buying healthy groceries and healthier ways of cooking. They also learn about healthy foods for when they dine out or buy take out. Patients also get helpful tips for what to eat when travelling.

#### Step 9: check understanding and close

That's all I wanted to ask you about going home today. Do you feel like you have learned a bit more about how to get ready for going home?

Ok, got that. I'm just one small part of the team here at the hospital so I will pass on your answers, and any questions you had, to my human team members. They will make sure that you get all of the information you need. They will also tell me where I can do better job of helping patients. Thank you, and good luck with your recovery.

## Cardiac Rehabilitation

### Purpose

Cardiac rehabilitation has proven to be highly effective in helping heart patients to recover from heart surgery and to lower the risk of future events or surgeries. Despite its effectiveness, across the world there is generally low attendance at cardiac rehabilitation. This is especially true for women and ethnic patients.

Furthermore, patient health illiteracy can lower understanding and recall of rehab education, and patients seldom have access to up to date educational materials. Recommendations for medications, diet and exercise all change but these changes are not always communicated to patients or understood by them. The impacts can range from missed opportunities to improve quality of life through to gaps in therapeutic treatments.

The cardiac rehabilitation guided conversations are critical to overcoming these problems by improving access to, and understanding and recall of, up-to-date information and treatment recommendations.

NOTE: The digital human cardiac coach supports but does not replace the education component of cardiac rehab.

### Cardiac Rehabilitation Conversations

The potential heart failure guided conversations are:

- Inpatient:
  - Assesses where patient has experience with some of the lifestyle recommendations (e.g. has exercised extensively before surgery) and gaps (patient eats poorly) and captures these to inform rehab team. Also promotes rehab attendance.
  - Help patient overcome barriers to rehab attendance such as time, location, perceived relevance etc. Would conclude with action to enrol.
- Outpatient:
  - Addresses concerns during rehab such as time or travel issues, perception of results, lack of motivation, concerns about what next.
  - Carer conversation to understand what rehab is and how they can help the patient maximise the benefit they will realise from rehab.
  - Checks adherence throughout rehab to identify areas where rehab team might need to provide extra assistance. Prompts virtual check-in with doctor or pharmacist with push to 911/ED if certain conditions reported.
  - Prompts for required daily measurements and reporting. Identifies any procedural or knowledge issues so rehab team can deal with (e.g. having trouble weighing myself or taking blood pressure). Prompts virtual check-in with doctor or pharmacist with push to 911/ED if certain conditions reported.
- Home:
  - Guided conversations on demand when family etc want to understand what the patient needs to do so they can support them. These conversations could replay rehab educational videos from pharmacy, psychology, dietician and exercise physiologist.
  - Guided conversations on demand when the patient needs to be reminded of what to do - especially important if a patient has taken an 'adherence break'. These

conversations could replay rehab educational videos from pharmacy, psychology, dietitian and exercise physiologist. Prompts virtual check-in with doctor or pharmacist with push to 911/ED if certain conditions reported.

- Regular overall checks for adherence and issues. Conversation initiated by digital human. Would activate if patient hasn't used digital human cardiac coach for a few days. Prompts virtual check-in with doctor or pharmacist with push to 911/ED if certain conditions reported.
- On demand conversation triggered by Q&A on lifestyle issues such as travelling with meds in USA and overseas, travel insurance, dining out etc. Will connect to GCs on medications, food and exercise to keep these on track. Prompts virtual check-in with doctor or pharmacist with push to 911/ED if certain conditions reported.

### Cardiac Rehabilitation Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Increase attendance at cardiac rehabilitation including completing the entire program.</li> <li>• Increase understanding and recall of rehab patient education.</li> <li>• Making current information and recommendations available to rehab graduates.</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• Not offered cardiac rehab</li> <li>• Can't afford cardiac rehab</li> <li>• Can't get to cardiac rehab</li> <li>• Too busy to do cardiac rehab</li> <li>• Unaware of the importance of cardiac rehab</li> <li>• Thinks cardiac rehab isn't for them</li> <li>• Afraid of doing cardiac rehab</li> <li>• Psychosocial issues</li> <li>• Accessibility issues</li> <li>• Cultural issues</li> <li>• Religious issues</li> <li>• Family pressure</li> <li>• Peer pressure</li> <li>• Gender issues</li> <li>• Doesn't understand what cardiac rehab is for</li> <li>• Embarrassed to exercise in front of others</li> <li>• Doesn't know how to register for cardiac rehab</li> <li>• Doesn't know when to do cardiac rehab</li> <li>• Doesn't know what cardiac rehab covers</li> <li>• Thinks there are risks with doing cardiac rehab</li> <li>• Think they are too old for cardiac rehab</li> <li>• Think they are too young to cardiac rehab</li> <li>• No one to support them at cardiac rehab</li> <li>• Poor support from physician</li> <li>• Too tired</li> <li>• Too sore</li> <li>• Poor language skills</li> <li>• Thinks cardiac rehab is a one size fits all</li> </ul>

<ul style="list-style-type: none"> <li>• Unaware of options of where to do cardiac rehab</li> <li>• Concerned about qualifications of cardiac rehab staff</li> <li>• Wants to leave cardiac rehab before graduating</li> <li>• Has comorbidities such as cancer, stroke or diabetes</li> <li>• Think they are too fit for cardiac rehab</li> <li>• Think there are too healthy for cardiac rehab</li> <li>• Still have heart symptoms</li> <li>• Using out of date rehab education materials</li> <li>• Can't remember what they were taught at rehab</li> <li>• Didn't understand what they were taught at rehab</li> </ul>
Enablers
<ul style="list-style-type: none"> <li>• Ability to replay updated rehab education at home by patient and by family</li> <li>• Ability to have a conversation about the recommendations in rehab education whilst attending and after graduation</li> </ul>
Awareness Goals
<ul style="list-style-type: none"> <li>• Importance of cardiac rehab to recovery and secondary prevention</li> <li>• Relevance of cardiac rehab to everyone regardless of gender, ethnicity, age, comorbidity, disability etc</li> <li>• Different ways of attending cardiac rehab</li> <li>• Rehab education changes at its important to keep up to date</li> </ul>
Data Capture
<ul style="list-style-type: none"> <li>• Attended rehab previously?</li> <li>• Personal barriers to attending rehab – location, time poor, cost, comorbidity, attitude etc</li> </ul>

## Cardiac Rehabilitation Tells and Asks Worksheet

Tells	Asks (Data Capture)
Do rehab (again) because it changes	Previous attendance at rehab
Eating healthy food is important – rehab will tell you how	Exercise history and currency
Exercise is important – rehab will tell you how	Healthy eating?
Sleep and relaxation are important – rehab will tell you how	Knows how to relax
Rehab can help with social adjustment	Home social support
Staff will book you into rehab if not already going	Exercise goals

## Cardiac Rehabilitation Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about cardiac rehabilitation. Patients go to cardiac rehabilitation to learn about how to stay heart healthy. Rehab also helps patients do safe simple exercise to recover from hospital. It's also a great place to meet other patients for support.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Rehab - Step 1: permission to start

Are you ready to start now?

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about cardiac rehabilitation. In cardiac rehabilitation patients learn what they need to do to stay heart healthy for the rest of their lives. They also do some simple and safe exercises to get their bodies moving again after their surgery. I will record our conversation so that the hospital team can help you get everything ready for cardiac rehabilitation.

### Rehab - Step 2: have you done rehab before

First up, have you done cardiac rehab before?

Okay, I've got that.

Rehab is important even if you have done it before because what you are taught changes all the time.

I am now going to ask you a few questions that will help the cardiac rehab team personalise your program for you. And don't worry this isn't a test.

### Rehab - Step 3: food

The first thing that I want to talk about is food. Everybody needs to eat. Well, except me! First off, do you or your family buy fresh groceries and cook them at home?

Okay, I'll tell the rehab team that. Patients that buy fresh groceries cooked at home find it easier to eat heart healthy. Processed foods can contain a lot of fat and sugar without any of the good things you need like protein and fibre. You will learn about those at rehab.

My next question is do you dine out or buy take out every week or even every day?

What you eat out can have a lot of fat and sugar without the good things you need in your diet. The good news is that there are a lot of heart healthy foods and snacks that you can eat when you are



out or buy to take home. You will learn all about these at cardiac rehab. A lot of patients are surprised to learn that there are even healthy pizza options. In fact there are healthy options for most foods including Mexican, Asian and European.

#### Rehab - Step 4: exercise

Thank you for talking to me about food, I am now going to ask you a couple of questions about exercise. Don't forget this is a test it's just to let the rehab team know so that they can help you. Firstly, have you ever played much sports or worked out in a gym or been a runner or cyclist?

Good, thanks for that. It helps the rehab team to know who hasn't exercised much before because they might need more help doing the rehab exercises.

Tell me, were you still playing sports or exercising before your surgery or did you stop a few years ago?

That's good to know. Patients that haven't exercised for a while can take a bit longer to recover from surgery. The rehab team will make sure you take it easy while you are getting your strength and fitness back. Don't forget though that as soon as you get home from hospital you can watch as much sports as you want while you are resting!

One more question on exercise. Is there a sport that you have always wanted to try?

I'll let the rehab know that. Heart patients around the world like to try all sorts of sports or exercise for the first time. It is fun to talk to other patients and find out what they want to do when they graduate from rehab.

#### Rehab - Step 5: relaxing

All this talk about shopping for groceries, cooking and exercise has made me tired!

One of the most important things a heart patient can do is to learn how to relax and sleep well at night. Do you have trouble relaxing and find it hard to sleep the night?

Thanks for sharing that.

When you get enough sleep and are relaxed you eat healthier and have the energy to exercise. You also don't get stressed as much and it is easier to not smoke and drink less.

#### Rehab - Step 6: support and companionship

My last question is do you live with family or friends or do you live alone?

One of the best things about cardiac rehab is that you get to spend time with other patients. You can share your story and how you are feeling with them and the rehab team. This is a very important part of your recovery. Some patients don't want to talk to their families about their feelings. Patients who live alone might have no one to talk to about how they are feeling. Cardiac rehab is a safe place to learn and to share your thoughts and feelings. Many patients even make friends at rehab that they can share a coffee with and a piece of low-fat cake.

#### Rehab - Step 7: check understanding

That's all I wanted to ask you about cardiac rehabilitation today. Do you feel like you have learned a bit more about rehab and how it can help you to recover and stay healthy?

Ok, I'll let the rehab team know and if you aren't already booked into rehab they will help you get started.

END OF CONVERSATION

## Movement

### Purpose

Movement is critical to recovery, rehabilitation and secondary prevention. Many heart patients have limited experience with structured exercise and this, combined with general health illiteracy, makes it difficult for them to follow early instructions on mobilising joints and the progression through simple cardiovascular exercise to a balanced lifestyle program that provides functional fitness.

Importantly, daily exercise has been shown to have beneficial effects on mental health and can help patients deal with the stress of their surgery and recovery.

One of the increasing challenges is that many heart patients are younger than previous patient populations and this increases the risk of too much exercise, especially in the early months. Many of these patients feel better faster and want to return to team sports or embrace them for the first time to make up for lost time.

### Movement Conversations

The potential heart failure guided conversations are:

- Inpatient – assess risk for discharge planning, support patient education before discharge, especially on sternum protection, clearing lungs and joint mobilisation
- Outpatient – same as inpatient except that rehab staff use the captured information to provide targeted patient education and support especially walking and introducing simple bodyweight exercises
- Home – same as inpatient except that video support included (e.g. how to perform certain exercises) as well as links to community-based exercise programs

## Movement Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Move for recovery from surgery – clear lungs, mobilise joints, protect chest</li> <li>• Move to regain strength and fitness</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• Heart failure</li> <li>• No prior exercise experience</li> <li>• Poor knowledge of exercise</li> <li>• Doesn't understand the importance of exercise</li> <li>• Existing sports or other injuries</li> <li>• Long-term side-effects of previous injuries</li> <li>• Restrictions from most recent surgery</li> <li>• Afraid of exercising alone</li> <li>• Inclement weather events outdoor exercising</li> <li>• Unaware of risks associated with heat, cold and altitude</li> <li>• Life too busy</li> <li>• Doesn't enjoy your exercise</li> <li>• Wants to return to previous sports or exercise as soon as possible</li> <li>• Wants to try sports or exercise previously impossible</li> <li>• Peer pressure</li> <li>• Family pressure</li> <li>• Religious restrictions</li> <li>• Cannot assess own perceived rate of effort</li> <li>• Unaware of exercise risks</li> <li>• Unaware of sternum restrictions</li> <li>• Unaware of mobilisation requirements</li> <li>• Unable to assess distance or time walked</li> <li>• Unable to attend cardiac rehabilitation</li> <li>• Unrealistic expectations</li> <li>• No access to exercise equipment or facilities</li> <li>• No access to exercise instruction</li> <li>• Morbid obesity</li> <li>• Extreme fatigue</li> <li>• Inadequate nutrition</li> <li>• Doesn't want to exercise in front of others</li> <li>• Frustration at reduced strength, endurance and flexibility after surgery</li> <li>• Constant travel</li> <li>• Fear of injury</li> <li>• Fear of re-triggering heart condition</li> <li>• Access to medical help in remote areas</li> <li>• Cultural factors</li> <li>• Gender factors</li> <li>• Psychosocial factors</li> <li>• Accessibility factors</li> <li>• Affordability of exercise clothing</li> <li>• Motivation</li> <li>• Side effects of medications</li> </ul>

<ul style="list-style-type: none"> <li>• Concerns about sex</li> <li>• Wants to get back to sports</li> <li>• Exercising at altitude</li> <li>• No prior exercise experience</li> <li>• Low base strength and flexibility</li> <li>• Existing injuries/restrictions</li> <li>• No motivation to exercise</li> <li>• Heart failure</li> <li>• Family also unfit and unmotivated</li> <li>• Very hot / cold / wet climate - unsafe area</li> <li>• Not attending cardiac rehab</li> <li>• Co-morbidities e.g. neurological - dystonia, tremors</li> <li>• Hospital / Surgery Identified Risks</li> </ul>
Enablers
<ul style="list-style-type: none"> <li>• Start rehab in hospital</li> <li>• Referral to physiotherapist for injuries etc</li> <li>• Cardiac rehabilitation</li> <li>• Fitness wearables / apps</li> <li>• Cardiac walking / exercise groups</li> <li>• Supportive family</li> </ul>
Awareness Goals
<ul style="list-style-type: none"> <li>• Importance of recovery exercises</li> <li>• Importance of overall fitness</li> <li>• Warning signs when exercising</li> <li>• Educate family on importance of exercise</li> <li>• Broader benefits of exercise / quality of life</li> <li>• Talk to doctor before resuming sports, gym</li> </ul>
Data Capture
<ul style="list-style-type: none"> <li>• Prior exercise experience</li> <li>• Existing injuries / restrictions</li> <li>• Barriers to exercise</li> <li>• Co-morbidities and their impact</li> <li>• General environment</li> <li>• Exercise goals / preferences</li> </ul>

## Movement Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
Importance of exercises to mobilise joints and clear lungs at home	Exercise and sports history – past and just prior to heart even/surgery
Importance of protecting sternum	Short- and long-term activity goals
Importance of gradually increasing cardiovascular exercise for heart health	Specific concerns about exercise
Exercise precautions - heat, cold etc	Family/friends support for exercise – might be a need for a community walking group etc
Reminder of PRE scale, check BP etc	Previous or existing injuries, disabilities or comorbidity factors
Importance of resistance training and flexibility (stretching)	Locational barriers to exercise – safety, weather, hills etc
When to take a break from exercise (sick, tired etc)	Other barriers such as time
When to call emergency or see a physician	Equipment – exercise shoes, fitness watch?

## Movement Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about movement. This can be any activity such as housework, exercise or sports. When you leave hospital you might be tired and sore but after a few weeks you will have more energy to do things you enjoy.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

NOTE: Not asking about activities such as housework and gardening here as help with those is covered in Home Safety

### Step 1: permission to start

Are you ready to start now?

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about movement. Movement can be exercise or other activities such as sports, gardening and so on that keep you active. Being active every day helps keep your heart healthy.

### Step 2: exercise history

Have you always exercised or played sports, or did you stop when you left high school or college?

Everyone has to start slowly after surgery. For the first few weeks at home you will need to be careful with things like cooking, carrying groceries, climbing stairs and playing with any children or grandchildren.

Your doctor will tell you when you start to do sports again if you are interested.

### Step 3: cardiac rehab

Are you booked into cardiac rehab?

Cardiac rehab is very important. The rehab team will show you how to move your arms and legs to stop them going stiff and how to clear your lungs to make breathing easier.

They will show you how to safely carry and move things at home whilst your chest wound is healing and will work with you to slowly rebuild your strength and energy.

### Step 4: who is it for

Do you know who rehab works best for?

If you answered everyone you are correct. The rehab team has exercises that work for all ages and for those with disabilities or injuries.

#### Step 5: goals

Many heart patients set goals such as trying a new activity. Are there any things you have thought of trying when you are better? If you can't think of any for now maybe have a talk to other patients at rehab and see what they are excited about trying.

#### Step 5: other conditions

Some heart patients have other illnesses or injuries that make exercising hard. Do you have anything that will make exercising hard?

Your doctor can talk to you about easier exercises and rehab has lots of good exercise ideas for everyone.

#### Step 8: at home

Is there someone at home who can walk with you when you start recovering? Also, are there safe areas where you can walk?

Some areas have walking groups for patients, your rehab team might know of some. Patients often walk around their local mall for safety and this helps if it is too hot, cold or wet outside.

#### Step 9: check understanding

That's all I wanted to say to you about movement today. Before we finish though I just want to ask if I have helped you to understand how important it is move more whilst you are recovering and then to stay heart healthy?

Ok, got that. And do you now know that you can learn all about safe exercise at cardiac rehab. Don't forget, rehab is for everyone.

Finally, don't forget that you need to be very careful when you first get home and to build up your activity slowly. Talk to your rehab team or doctor if you need advice on safe activity.

#### Step 10: close

Thank you once again for helping to train me today.



## Healthy Eating

### Purpose

Healthy eating has been proven to be beneficial for the prevention and treatment of many chronic diseases and is especially important for heart disease.

There are three major risks in the early part of recovery at home:

- adverse interactions between common foods and newly prescribed medications - this is dealt with in the medications guided conversations but is an ongoing lifestyle risk and therefore also covered in the guided conversations and Q&A on healthy eating
- adverse reactions between common nutritional supplements and newly prescribed medications – this is dealt with in the medications guided conversations but is an ongoing lifestyle risk and therefore also covered in the guided conversations and Q&A on healthy eating
- inadequate nutrition for recovery and ongoing health– insufficient macronutrients (fats, protein and carbohydrates) and micronutrients (e.g. vitamins). Many patients will immediately start very restricted diets, and some will try and remove all fats. These can cause significant problems for recovery
- continuing or even adding to poor pre-surgery diets – there are emotional, supply and lifestyle causes for this; food addictions are a problem, many patients simply do not have ready access for cost or other reasons to healthy foods or don't know how to meal plan and cook, and many are simply too busy to prepare healthy meals

### Healthy Eating Conversations

The potential heart failure guided conversations are:

- Inpatient – assess risk for discharge planning, support patient education before discharge
- Outpatient:
  - same as inpatient except that rehab staff use the captured information to provide targeted patient education and support
  - supplement rehab education with either a traditional or Ornish focus
- Home:
  - early guided conversation to support nutrition during recovery and rehabilitation
  - guided conversations, Q&A and links to community resources to improve skills in planning, sourcing and preparing meals
  - additional lifestyle guided conversations and Q&A on take out, dining out, eating when socialising, travelling etc

## Healthy Eating Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Nutrition for recovery from surgery and hospital stay</li> <li>• Nutrition for heart health</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• Insufficient calories for recovery</li> <li>• Excess calories leading to weight gain</li> <li>• Macro-nutrient deficiencies for recovery</li> <li>• Micro-nutrient deficiencies for recovery</li> <li>• Insufficient fibre</li> <li>• Insufficient soluble fibre</li> <li>• Excess sodium</li> <li>• Excess macronutrients</li> <li>• Excess micronutrients</li> <li>• Interactions with medications</li> <li>• Any amount of banned/limited dietary ingredients (e.g. trans fats, caffeine)</li> <li>• Inadequate nutrition for gut biome</li> <li>• Allergic foods</li> <li>• Hard to digestive aids</li> <li>• Under cooked foods – contamination risks</li> <li>• Over cooked foods – poor nutrition</li> <li>• Affordability of healthy foods</li> <li>• Affordability of home delivered fresh meals</li> <li>• Affordability of healthy frozen foods</li> <li>• Dining out</li> <li>• Take out</li> <li>• Limited range of foods</li> <li>• Too much meat</li> <li>• Not enough vegetables</li> <li>• Too many unhealthy snacks</li> <li>• Poor portion control</li> <li>• Don't understand the importance of good nutrition</li> <li>• Can't access healthy foods</li> <li>• Can't physically cook</li> <li>• Don't know how to cook</li> <li>• Can't store frozen foods</li> <li>• Can't meal plan</li> <li>• Lots of travel</li> <li>• Working long hours</li> <li>• Family pressures</li> <li>• Cultural preferences</li> <li>• Emotional eating</li> <li>• Peer pressures</li> <li>• Don't drink enough water</li> <li>• Too many caffeinated drinks</li> <li>• Drink too many sodas</li> <li>• Alcohol</li> </ul>

<ul style="list-style-type: none"> <li>• Undiagnosed allergies</li> <li>• Religious restrictions – permanent</li> <li>• Religious restrictions – temporary (e.g. festivals)</li> <li>• Psychosocial issues</li> <li>• Shift work</li> <li>• Can't read menus</li> <li>• Can't read recipes</li> <li>• Can't read food nutrition labels</li> <li>• Don't know how to shop for groceries</li> <li>• Don't know how to store groceries</li> <li>• Food addictions</li> <li>• Innumerate – can't calculate servings etc.</li> <li>• Unaware of healthy food swaps</li> <li>• Doesn't know what the Mediterranean diet is</li> <li>• Follows Atkins diet</li> <li>• Follows Paleo diet</li> <li>• Doesn't know about the Ornish program</li> </ul>
Enablers
<ul style="list-style-type: none"> <li>• Understanding of importance of healthy eating</li> <li>• Understanding what healthy eating is – nutrition, portion control etc</li> <li>• Ability to meal plan, buy healthy foods and cook including reading recipes</li> <li>• Ability to deal with challenges as they arise – social situations, ill health, travel etc</li> <li>• Tools – dieticians, apps, diaries, recipes, programs (e.g. WeightWatchers)</li> </ul>
Awareness Goals
<ul style="list-style-type: none"> <li>• Importance of healthy eating to recovery and staying healthy</li> <li>• What is healthy eating – protein, carbs, fats etc</li> <li>• Eating first few weeks at home for recovery</li> <li>• Healthy options when unable to prepare healthy meals – frozen foods, take out etc</li> <li>• Healthy snacks</li> <li>• Healthy dining out</li> <li>• Caution about fad diets</li> <li>• Good programs – Ornish, Mediterranean diet etc</li> <li>• Interactions with medications</li> <li>• Tips on healthy eating</li> <li>• Situations to be careful in – watching TV, tailgating etc</li> </ul>
Data Capture
<ul style="list-style-type: none"> <li>• Pre-surgery eating patterns and challenges</li> <li>• Individual patient barriers to healthy eating including when at work, at home and socializing</li> <li>• Home environment – family support</li> <li>• Preferences/favourites so healthy alternatives can be offered</li> <li>• Cultural preferences and challenges</li> <li>• Stomach or other issues that limit diet e.g. IBS, FODMAP, diverticulitis</li> </ul>

## Healthy Eating Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
Foods that protect against heart disease – oily fish (Omega-3s), protective vegetable oils	Fad diets/programs tried
Need for protein, carbs and fats	Any conditions – IBS, FODMAP, diverticulitis etc that limits certain foods
Good fats/bad fats	Food likes/dislikes – cultural, religious and individual
Eat plenty of fruits and vegetables, which are naturally low in sodium. Choose fresh foods, including lean meats, fish, poultry, dry and fresh legumes (or rinsed canned beans), eggs, milk, yogurt, plain rice, pasta and oatmeal. Avoid using the salt shaker.	Pre-surgery eating patterns and challenges
A diet rich in fruits, vegetables and whole grains can help protect your heart. Aim to eat beans, low-fat or fat-free dairy products, lean meats, and fish as part of a healthy diet. Avoid too much salt and sugars in your diet. Limiting certain fats is also important.	Individual patient barriers to healthy eating including when at work, at home and socializing
Cardiologist top foods to avoid and why – soda, chips, bacon, alcohol, energy drinks, ice cream, cookies, sugary treats, canned foods (poor people need these so guidelines required), too much cheese, hot dogs, cold cuts, choose grilled over fried	Home environment – family support
Diet is an important risk factor in coronary heart disease.	Who prepares meals at home
Food-related risk factors include obesity, high blood pressure, uncontrolled diabetes and a diet high in saturated fats	How often do you dine out, eat take out
A low-saturated fat, high-fibre, high plant food diet can substantially reduce the risk of developing heart disease	Social eating – tailgating etc
Many frozen vegetables are healthy because they retain nutrients provided no added salt etc	Do you mainly eat fresh, frozen or canned
Specific challenges in each cuisine (e.g. ghee in Indian cooking), cheese in Italian etc	
What to look for when dining out – healthy options	

## Healthy Eating Guided Conversation (Inpatient)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about healthy eating. Eating healthy foods is one of the best things you can do for your heart. And it's not hard to do.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Are you ready to start now?

Yes

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about healthy eating. Healthy food helps you get better faster and can help keep you heart healthy.

### Step 2: favourite eating

What are your favourite foods? Not just special treats but the things you like to eat every day or every week.

You won't have to give up all of your favourites and eat food you don't like. When you attend cardiac rehab you will be taught healthy ways to eat chicken, BBQ, burgers and even pizza. Talk to your doctor if you don't want to wait until you start rehab. Your doctor can arrange for a food specialist, called a dietician, to talk to you.

### Step 3: what cooked foods do you eat at home

Tell me, do you eat a lot of meals cooked at home? Do you eat mainly fresh food, frozen or cans?

Cooking at home helps you eat healthy because you decide what to eat. Lots of vegetables and fruit are great choices. Lean meats and dairy are also good. Lean just means not much fat. If you are in a hurry frozen foods and cans can be okay. Just pick foods that are low in fat, salt and sugar. Most supermarkets and online stores have healthy food sections so it is easier to find good foods to eat.

### Step 4: when not cooking

What sort of take out do you buy when no one feels like cooking or when you are on the road?

Rehab and your doctor can help with healthy take out. Many Asian foods are a good choice. Look for stir fried vegetable with a little bit of chicken or fish and choose brown rice not white if they have

it. A simple red sauce pizza with vegetables on top and not much cheese is ok. A veggie burger is a great choice and try sweet potato chips not fries.

#### Step 5: cardiac rehab

Some patients can't cook or don't have anyone to cook for them. Many don't know what healthy foods are. Patients can learn a lot about buying and cooking healthy food at cardiac rehab. Are you booked into cardiac rehabilitation yet?

Make sure you go and attend all the sessions. You will learn useful things about foods that will help you stay heart healthy but still eating foods that you enjoy.

#### Step 5: other conditions

Some older heart patients have other problems that make eating difficult. Do you know if you have any stomach problems such as diverticulitis or irritable bowel syndrome?

Even if you don't have these there are always days when you will feel a bit sick and don't know what to eat. Talk to the rehab staff or your doctor about what you can eat on days you feel sick. Sometimes some mashed pumpkin or sweet potato with a boiled egg on top works for me.

#### Step 8: fad diets

Have you ever tried diet programs like Paleo or Atkins or other celebrity diets?

Most celebrity diets are not good for heart patients. They are often low in healthy vegetables and high in fats, meats and cheeses. They can make you very sick. The American Heart Association, British Heart Foundation and Australian Heart Foundation (use whichever one is appropriate to country where Coach will be used) all have great advice on healthy eating. Look them up online or give them a call. They often have booklets they can send to you.

#### Step 8: bad foods

Do you know what foods can be bad for heart patients?

Heart doctors say to avoid are soda, chips, bacon, alcohol, energy drinks, ice cream, cookies, sugary treats, salty canned foods (poor people need these so guidelines required), too much cheese, hot dogs, cold cuts, and fried foods.

#### Step 8: cuisines/cultural foods

Do you have any cultural food preferences or favourite cuisines?

Every culture has healthy and unhealthy foods. Try to stick with foods that are baked not fried and go for lots of vegetables with a small amount of lean meat. Also keep away from creamy sauces. Try a squeeze of lemon juice or light clear sauces that aren't too salty.

#### Step 9: check understanding

That's all I wanted to say to you about healthy eating today. Before we finish though I just want to ask if I have helped you to understand how important it is to eat healthy foods whilst you are recovering and then to stay heart healthy?

Ok, got that. And do you now know that a diet rich in fruits, vegetables and whole grains can help protect your heart and that you should aim to eat beans, low-fat or fat-free dairy products, lean meats, and fish as part of a healthy diet.

Finally, don't forget to keep salt and sugar down and avoid bad fats and see your doctor and the rehab team to learn more about healthy eating.

Step 10: close

Thank you once again for helping to train me today.

## Sleep and Relaxation

### Purpose

Adequate sleep and relaxation are critical to recovery but can be difficult for patients to achieve in the first few weeks at home. Surgical pain, emotional stress, new routines and so on are all factors. Fortunately, there are a number of enablers that can be activated by a guided conversation. These include reducing visitors and outings, changed sleeping positions and aids, and simple meditative exercises.

### Sleep and Relaxation Conversations

The potential heart failure guided conversations are:

- Inpatient – assess risk for discharge planning, support patient education before discharge
- Outpatient – same as inpatient except that rehab staff use the captured information to provide targeted patient education and support
- Home:
  - guided conversation on reducing sources of stress – too many visitors or outings, excess noise, alcohol and caffeine etc
  - guided conversation and Q&A on relaxation including sleep, meditation etc



## Sleep and Relaxation Risk Resolution Worksheet

<b>Objectives</b>
<ul style="list-style-type: none"> <li>• Enable patients to achieve adequate sleep for recovery</li> <li>• Enable patients to relax to reduce stress and aid recovery</li> </ul>
<b>Risks</b>
<ul style="list-style-type: none"> <li>• Home too noisy</li> <li>• Too many visitors</li> <li>• Pain not managed</li> <li>• Bed too high to access</li> <li>• Bedroom too cold or hot</li> <li>• Going out too often</li> <li>• Trying to do too much too soon</li> <li>• No routine</li> <li>• Unaware of importance of sleep</li> <li>• Unaware of the importance of relaxation</li> <li>• No home help during early weeks</li> <li>• Anxiety</li> <li>• Depression</li> <li>• Unaware of recommended sleeping position</li> </ul>
<b>Enablers</b>
<ul style="list-style-type: none"> <li>• Understands importance of sleep and relaxation</li> <li>• Information on how to sleep better</li> <li>• Information on how to relax</li> <li>• Sleep aids – bed pillows etc</li> <li>• Meditation/yoga etc</li> <li>• Sleep apps such as rain sounds, white noise</li> <li>• Foods that promote sleep</li> <li>• Reduce foods and drinks that increase alertness</li> </ul>
<b>Awareness Goals</b>
<ul style="list-style-type: none"> <li>• Importance of sleep and relaxation</li> <li>• How to sleep better – usual advice from psychologists plus specific to heart patients</li> <li>• Information on how to relax - usual advice from psychologists plus specific to heart patients</li> <li>• Reduce visitors</li> <li>• Reduce outings</li> <li>• Reduce stimulants – energy drinks, coffee etc</li> <li>• Reduce pain to relax/sleep better – use prescribed painkillers, mobilization exercises etc</li> <li>• Gradual approach to increasing activity</li> </ul>
<b>Data Capture</b>
<ul style="list-style-type: none"> <li>• Home environment relevant to sleep and relaxation</li> <li>• Barriers to sleep and relaxation</li> <li>• Usual ability to relax and sleep</li> <li>• Use of stimulants</li> <li>• Current pain level</li> </ul>

## Sleep and Relaxation Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
After heart surgery, your body must heal for several weeks. The best way to regain your normal activities at home is to use a slow, progressive plan. Over time you should be able to do routine household tasks, take part in recreational activity, and return to work.	How well do you normally sleep
Get up and get dressed each morning. Don't stay in bed.	Do you find it easy to relax
Wear casual or comfortable clothes each day to help you get back into a regular daily routine.	Is your home normally fairly quite or very busy and noisy
Break up long tasks into shorter parts, and space them over the day.	Do you have to use sleeping pills to get a good night's sleep
Stop your tasks before you get tired. If you do too much, you'll likely be tired the next day and need to rest.	Do you drink coffee or energy drinks during the day or at night
During the day, balance your activity with rest times. Your body may give you signals that show you need to rest. These signals include symptoms such as:	What things make it hard for you to sleep
Try to plan ahead for short rest times so you will not become too tired.	What things make it hard for you to relax
How to sleep better – usual advice from psychologists plus specific to heart patients	Does your surgery pain make it hard for you to sleep
Information on how to relax - usual advice from psychologists plus specific to heart patients	What things help you to relax
Reduce visitors	What do you do when you can't sleep
Reduce outings	
Reduce stimulants – energy drinks, coffee etc	
Reduce pain to relax/sleep better – use prescribed painkillers, mobilization exercises etc	
Gradual approach to increasing activity	

## Sleep and Relaxation Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about sleep and relaxation. You will get better faster after your surgery if you are less stressed.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Are you ready to start now?

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about your medications. They help you get better from your surgery and will help keep you healthy if you take them every day.

### Step 2: how well do you sleep

Do you normally find it easy to get a good's night's sleep or do you often have trouble sleeping? What things keep you awake at night?

It is difficult to sleep in hospital but once you get home sleep is important to help you get better. Your pain meds will make it easier to sleep and you can try using a few extra pillows for support in bed so you don't roll over onto your sore bits.

### Step 3: can you relax

Tell me, do you often feel stressed and unable to relax?

Stress can cause heart problems and will make it difficult to get better. In the first few weeks at home just try and focus on what you need to do to get better. Ask the hospital or your doctor about counselling if you need help with stress.

### Step 4: drugs, sleeping pills, alcohol

Some people think they should use alcohol or sleeping pills to help them relax and sleep but these are very dangerous after your surgery, especially if you are taking pain killers prescribed by the hospital or your doctor. Talk to your doctor about alcohol and sleeping pills before using these at any time as they can be bad for your heart health.

### Step 5: caffeine etc

Do you drink coffee, soda with caffeine or energy drinks?

If you have heart failure you cannot drink these at all. They are also a bad idea for other heart patients, especially whilst recovering from surgery. They can make it hard to relax and sleep and can also affect your heart rate and blood pressure.

#### Step 6: home

Is your home normally quiet or is it often busy and noisy?

It's best to not have many visitors and to not go out much when you get home. These can both make you tired but too tense to relax or sleep. Ask someone you trust, a family member or friend, to call people and let them know how you are going and that they will keep them up to date whilst you are recovering

#### Step 7: cardiac rehabilitation

Are you booked into cardiac rehabilitation yet?

Patients can learn a lot about their relaxation and sleep at cardiac rehab.

#### Step 8: check understanding

That's all I wanted to talk to you about relaxation and sleep today. Before we finish though I just want to ask if I have helped you to understand how important it is to relax and get a good night's sleep whilst you are recovering at home?

Ok, got that. And do you know who to contact if you need help with relaxing and sleep?

Don't forget, your doctor and the rehab team can both help you with relaxing and sleep.

#### Step 9: close

Thank you once again for helping to train me today.

## Smoking

### Purpose

Smoking and diet are two of the hardest changes for patients to make because of their addictive nature. There are many 'quit' programs, aids and alternatives available and hospitals generally provide strong support for smokers to quit. The 'weak link' though is that patients are not always honest about their progress when asked and therefore miss out on additional support.

As evidenced with SimCoach, digital humans can build rapport through trust, and this increases disclosure and the likelihood of taking action to quit smoking. In addition, this guided conversation forms part of the overall tracking of hospital to patient communications for legal purposes.

### Smoking Conversations

The potential heart failure guided conversations are:

- Inpatient – assess risk for discharge planning, support patient education before discharge
- Outpatient – same as inpatient except that rehab staff use the captured information to provide targeted patient education and support e.g. patient has resumed smoking after discharge
- Home – initiated by digital human as a check-in and to provide support if required

## Smoking Risk Resolution Worksheet

<b>Objectives</b>
<ul style="list-style-type: none"> <li>• Identify if patient smokes and, if not, advise to avoid passive smoking</li> <li>• Assess risk of patient smoking after discharge</li> <li>• Identify barriers to patient quitting smoking</li> <li>• Monitor adherence and provide support</li> </ul>
<b>Risks</b>
<ul style="list-style-type: none"> <li>• Doesn't stop smoking – affects pulmonary recovery</li> <li>• Resumes smoking – affects cardiovascular risk</li> <li>• Wants to manage stress</li> <li>• Can't beat addiction</li> <li>• Family pressure</li> <li>• Peer pressure</li> <li>• Unaware of importance of quitting smoking</li> <li>• Doesn't know how to quit smoking</li> <li>• Doesn't know what quit smoking services are available</li> <li>• Doesn't know how pharmacists can help with quitting smoking</li> <li>• Doesn't tell physician still smoking</li> <li>• Thinks reducing to one or two a day is enough</li> <li>• Thinks okay to start smoking once feels better</li> <li>• Psychosocial issues</li> <li>• Lives in a house of smokers</li> </ul>
<b>Enablers</b>
<ul style="list-style-type: none"> <li>• Quit smoking programs and support</li> <li>• Quit smoking aids – patches etc</li> <li>• Patient recognises need to quit</li> <li>• Patient acknowledges when still smoking and seeks help</li> </ul>
<b>Awareness Goals</b>
<ul style="list-style-type: none"> <li>• Importance of not smoking for recovery especially when lungs compromised</li> <li>• Importance of not smoking for ongoing heart health</li> <li>• What to do if having trouble quitting</li> <li>• Where to go for help</li> <li>• Removing barriers to quitting smoking</li> <li>• Creating a smoke free environment e.g. avoiding social situations where smoking is prevalent</li> </ul>
<b>Data Capture</b>
<ul style="list-style-type: none"> <li>• Smoking history including previous attempts to quit</li> <li>• What has helped with quitting on previous attempts</li> <li>• What hasn't helped</li> <li>• Current smoking status</li> <li>• Home and social environment</li> </ul>

## Smoking Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
Importance of not smoking for recovery especially when lungs compromised	Have you ever smoked, if so, how long for (probably not necessary as hospital should only give this conversation to smokers)
Importance of not smoking for ongoing heart health	Do you smoke now
What to do if having trouble quitting – meditation, patches etc, therapy	Is there a risk that you might start smoking again
Where to go for help - needs to be localized for hospital, pharmacy and other programs	Have you tried to quit before
Removing barriers to quitting smoking – reduce alcohol consumption, avoid smoking situations	What has helped with quitting before
Creating a smoke free environment at home – encourage family etc to quit with you	What hasn't helped with quitting
Ways that the savings can be used to improve quality of life	Do others smoke in your home
Go to rehab for additional support	Do you socialise with people who smoke or in environments where others smoke

## Smoking Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about quitting smoking. Smoking makes it very difficult to recover from surgery and can undo any benefits.

Even if you don't smoke it is important for you to avoid being near others who are smoking.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Are you ready to start now?

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about your medications. They help you get better from your surgery and will help keep you healthy if you take them every day.

### Step 2: what have they been told

Has your doctor or the hospital told you how important it is to stop smoking and never start again?

Smoking is one of the biggest causes of heart disease and is very dangerous after heart surgery because breathing can be very difficult.

### Step 3: smoking history

Tell me, have you smoked for most of your life?

### Step 4: attempts at quitting

Ok, thanks for that. And tell me, have you tried quitting before?

### Step 5: what didn't work

Can you tell me what made you smoke again?

### Step 6: what has worked

And was there anything that helped you when you were trying to quit.

### Step 7: home



Do others smoke in your home?

It can be hard to quit when others around you smoke so have a talk to them about quitting too. Make sure you tell them that their smoking can hurt you while you are recovering from your surgery and that if they have to smoke, they should do it outside.

#### Step 8: stress and smoking

Do you smoke more when you are stressed?

Ok, I'll let the hospital team know. They can talk to you about ways to relax and reduce stress.

#### Step 8: social and smoking

Do you smoke more when you are socialising with others who smoke?

You will likely be too tired to go out when you first get home but as you start to feel better you will want to escape home for a while. Try and go to places where people don't smoke.

#### Step 9: cardiac rehabilitation

Are you booked into cardiac rehabilitation yet?

Patients can learn a lot about quitting smoking at rehab and get a lot of support to quit.

#### Step 10: check understanding

That's all I wanted to talk to you about quitting smoking today. Before we finish though I just want to ask if I have helped you to understand how important it is not to smoke and to be away from second hand smoke?

Ok, got that. And do you know who to contact if you need help with quitting smoking?

Your doctor and the rehab team can both help you with quitting smoking.

#### Step 11: close

Thank you once again for helping to train me today.

## About My Condition

### Purpose

There is strong evidence that patients that understand their condition achieve increased health outcomes. They are better able to put into practice the various recovery, rehabilitation and secondary prevention therapeutic and lifestyle regimes recommended to them because this helps them overcome health illiteracy. They might also be more motivated because they understand how these regimes can be effective in increasing their quality of life.

Patients are usually told about the various heart conditions in cardiac rehab but in a group setting this can be confusing to health illiterate patients, especially if they didn't earlier understand what they were told by their doctor or surgeon in hospital.

This guided conversation can be useful for family members as patients often have trouble providing any details.

### About My Condition Conversations

The 'About My Condition' guided conversation can be delivered to patients or their family/caregivers. It is the same conversation regardless of what phase it is delivered in. Ideally the conversation would capture some patient data and insights, introduce a standard video for each condition, and then check for questions and understanding. The value of using the guided conversation with the video is that the digital human can:

- Immediately redirect the patient to medical assistance if indicated as necessary by the patient's language (or emotional state when this functionality is activated).
- Capture any questions to improve patient understanding of their condition and to feed back into the core guided conversation (where this question is common).
- Check understanding as part of the overall tracking of hospital to patient communications for legal purposes.

## About My Condition Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Provide health illiterate patients with a basic understanding of their condition</li> <li>• Provide health illiterate patients with a basic understanding of their surgery</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• Doesn't understand their heart condition</li> <li>• Lacks literacy to understand the heart condition</li> <li>• Doesn't understand what caused their heart condition</li> <li>• Unaware of why they had surgery</li> <li>• Doesn't understand secondary prevention</li> <li>• Doesn't know what they need to do to recover</li> <li>• Doesn't understand what their condition means for their life</li> <li>• Worried about the effect on their family</li> <li>• Wants sternum wires removed</li> </ul>
Enablers
<ul style="list-style-type: none"> <li>• Simple diagrams and videos</li> </ul>
Awareness Goals
<ul style="list-style-type: none"> <li>• NOTE: need separate conversations for bypass/angioplasty, valve surgeries, electrical problems and surgeries</li> <li>• What the condition is</li> <li>• Causes of the condition</li> <li>• What the surgery is</li> <li>• How the surgery helps</li> <li>• How rehab helps</li> <li>• How lifestyle changes help</li> <li>• How medications help</li> <li>• What to say to family and friends</li> </ul>
Data Capture
<ul style="list-style-type: none"> <li>• General understanding of heart health (e.g. has doctor explained any of this to you and did you understand what they said)</li> <li>• Prior related surgeries</li> <li>• Other surgeries (general surgery/hospital experience)</li> <li>• Been to rehab before</li> <li>• Currently take heart meds</li> <li>• Did you understand the video</li> <li>• Do you have any other questions/concerns</li> </ul>

## About My Condition Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
What the condition is	Has your doctor explained your heart condition to you and did you understand what they told you
Causes of the condition	Has your doctor explained your heart surgery to you and did you understand what they told you
What the surgery is	Have you ever had heart surgery before
How the surgery helps	Have you ever had other surgeries
How rehab helps	Have you ever attended cardiac rehabilitation
What to say to family and friends	Did you understand the video
	Do you have any other questions/concerns

## About My Condition Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about your heart condition and surgery. Understanding a little bit about these can help you get better faster. It will also help you when your family and friends ask what has happened to you.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Are you ready to start now?

Yes

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about your medications. They help you get better from your surgery and will help keep you healthy if you take them every day.

### Step 2: familiarity with condition

First up, has your doctor or someone at the hospital explained your heart condition to you and did you understand what they told you?

### Step 3: familiarity with heart surgery

Ok, thanks for that. And tell me, has your doctor or someone at the hospital explained your surgery to you and did you understand what they told you?

I've made a note of that. And have you had other heart surgery before? If you have, can you tell me what it was?

### Step 4: other surgery

I've made a note of that. And have you had any other surgeries in hospital before on other parts of your body

### Step 5: cardiac rehabilitation

Are you booked into cardiac rehabilitation yet?

Patients learn a lot about their condition and surgery at cardiac rehab. Your partner and other family can attend so they better understand what has happened to you and how they can help.

#### Step 6: video

I'm now going to show you a short video about your condition and surgery. At the end I'll ask you about it.

Show video

#### Step 7: about video

What did you like most about the video? Was there something you learnt that you didn't know before?

Thanks for that, I'll let the hospital team know.

#### Step 8: other questions

Was there anything in the video you didn't understand?

Ok, I'll let the hospital team know.

#### Step 9: check understanding

That's all I wanted to talk to you about your condition today. Before we finish though I just want to ask if I have helped you to understand a bit more about your condition and surgery?

Ok, got that. And is there anything you still don't understand that you need help with?

Ok, I'll pass all of your comments and questions onto the hospital team.

#### Step 12: close

Thank you once again for helping to train me today.

## Tracking

### Purpose

Tracking has several important components:

- daily measurements including BP, RHR, weight that provide early signs of problems be they the return of symptoms or inadequate medications or recommended lifestyle adherence
- regular physician scheduled blood and other tests that reveal problems not revealed by daily measurements such as increases in lipid markers of heart disease or symptoms caused by medications (e.g. statins and the liver)
- ad hoc measurements/tests/scans required by the physician to support investigation into patient issues

The guided conversations for tracking are important because measurements and tests are poorly understood, especially by health illiterate patients, and this can lead to low adherence. Many patients rely on how they feel as an indicator of their recovery and not understand the short- and long-term risks of measurement/test non-adherence including repeat surgeries and even sudden death.

### Tracking Conversations

The potential heart failure guided conversations are:

- Inpatient – assess risk for discharge planning, support patient education before discharge
- Outpatient – same as inpatient except that rehab staff use the captured information to provide targeted patient education and support
- Home – focus on digital human initiated check-ins and guided conversations to check adherence and motivate patients towards adherence. Provide advice (including videos/diagrams) on how to take and report measurements.

## Tracking Risk Resolution Worksheet

Objectives
<ul style="list-style-type: none"> <li>• Adherence to daily and other frequent physiologic measurements</li> <li>• Adherence to physician managed tests including blood tests, scans etc</li> </ul>
Risks
<ul style="list-style-type: none"> <li>• Unaware of importance of taking measurements</li> <li>• Doesn't know how to take measurements</li> <li>• Doesn't know how to report measurements to physician</li> <li>• Doesn't have the equipment to take measurements</li> <li>• Doesn't know what BP is</li> <li>• Doesn't know what heart rate is</li> <li>• Lacks numerical skills to read measurements</li> <li>• Doesn't take measurements properly</li> <li>• Doesn't take measurements at right time of day</li> <li>• Stops because of peer pressure</li> </ul>
Enablers
<ul style="list-style-type: none"> <li>• Understanding of why the measurements and tests are required</li> <li>• Home access to accurate measuring equipment and knowledge of how to use it</li> <li>• Reporting of home physiologic measurements to physician for analysis and action</li> <li>• Regular contact with physician for scheduling of tests</li> <li>• Adherence to preparation requirements for measurements (weight before breakfast etc) and tests (fasting for blood lipids etc)</li> </ul>
Awareness Goals
<ul style="list-style-type: none"> <li>• Importance of taking and reporting physiologic measurements</li> <li>• Importance of tests and scans</li> <li>• How to perform physiologic measurements</li> <li>• Need for regular physician appointments so that they can schedule tests etc</li> <li>• Basic understanding of each physiologic measurement (e.g. BP, RHR), lipids etc appropriate to health literacy level</li> </ul>
Data Capture
<ul style="list-style-type: none"> <li>• Prior experience with physiologic measurements including problems, non-adherence</li> <li>• Prior experience with physician supervised tests and scans</li> <li>• Level of understanding of physiologic measurements, lipids etc</li> <li>• Access to measurement equipment</li> <li>• Barriers such as remote location, travel, infirmity, disability</li> </ul>



## Tracking Tells and Asks Worksheet

Tells (Awareness)	Asks (Data Capture)
Importance of taking and reporting physiologic measurements	Barriers such as remote location, travel, infirmity, disability
Importance of tests and scans	Do you weigh yourself every day or week
How to perform physiologic measurements	Have you ever measured your own blood pressure – did you have problems doing it (this part of the question is more important in the outpatient conversation because it checks adherence and problems)
Need for regular physician appointments so that they can schedule tests etc	Have you ever measured your own heart rate – did you have problems doing it (this part of the question is more important in the outpatient conversation because it checks adherence and problems)
Basic understanding of each physiologic measurement (e.g. BP, RHR), lipids etc appropriate to health literacy level	Has your doctor ever sent you for blood tests
Where to buy measuring equipment – pharmacy etc	Has your doctor ever sent you for scans or x-rays
Need to have doctor check BP and RHR etc regularly to compare against home measurements	Do you have a good set of bathroom scales at home
How to report physiologic measurements	Do you have a smartwatch or sports watch that can measure your heart rate
What readings require some sort of action – call doctor etc	Do you know what blood pressure is
Importance of doing same time/conditions every day	Do you know what resting heart rate is
What to do if ill (flu etc) when measuring and reporting	Do you have an electronic blood pressure monitor at home

## Tracking Guided Conversation (Inpatient)

### Opening (triggered by greetings)

Hi, I'm Coach and I'm a digital human cardiac coach at the hospital. Thank you for taking the time today to help train me. Don't worry if I don't understand what you say, I'm still learning, but the more patients like you I talk to the better I will get at my job. What we talk about today will be given to the hospital team so that they better understand where to help you. They will also help you with the things I couldn't answer.

Today I want to talk to you about tracking after your surgery. Your doctor will help you with this. Tracking helps your doctor make sure that your medications, diet and exercise are working. It can also find any other health problems that need fixing.

(optional) Most of the questions I will be asking only need "yes or no" answers so you don't have to worry about providing details.

### Step 1: permission to start

Are you ready to start now?

Yes

Great, just say "Coach, I'm tired" or "Coach, I need a break" if you want to rest or need to stop. Today I am going to talk to you about your medications. They help you get better from your surgery and will help keep you healthy if you take them every day.

### Step 2: familiarity with regular weighing

First up, you need to weigh yourself every day when they get home from hospital. Any sudden changes in your weight up or down can be a serious problem.

Tell me, do you have bathroom scales at home and weigh yourself sometimes?

### Step 3: heart rate

Ok, thanks for that. Tell me, have you ever measured your own heart rate or do you wear a fitness watch that measures your heart rate?

Your heart rate shows how hard your heart is working. Your resting heart rate is your heart rate when you first wake up in the morning or have been sitting still for a while. Everyone's resting heart rate is different so don't worry if someone you know has a higher or lower resting heart rate than you.

### Step 4: blood pressure

Have you had your blood pressure measured before? Your doctor might take your blood pressure when you visit.

Blood pressure is a bit like a fire hose. If the pressure is too low it won't put out a fire and if it's too high it can burst the hose.

Some of your heart meds help your blood pressure so its important to take them. They aren't magic though. You still need to make time to relax, eat healthy food and get a bit of exercise.

#### Step 5: blood tests

Has your doctor ever sent you for blood tests?

Blood tests are very important. They tell the doctor how your medications are working and if you have recovered from your surgery.

Make sure you talk to your doctor about when you will need to do a blood test.

#### Step 6: scans etc

Have you ever had an x-ray or scan?

Most heart patients have scans and x-rays in hospital and your doctor might ask you to have some after you have left hospital. These can tell if you have any problems that you might need to help with, so it is important that you do them.

#### Step 7: other barriers

Do you have a disability or other condition that might make it hard for you to weigh yourself or get to your doctor for your blood tests?

Thanks for that, I'll let the hospital team know.

#### Step 8: other illnesses

Do you get colds and flu? Maybe you have other things wrong that make you feel sick like stomach problems?

Your blood pressure and heart rate, even your weight, can change if you are sick. Make sure you let your doctor know if you were sick when you were taking a measurement or if they have asked you to do a scan or blood test.

#### Step 9: what to do if something wrong

Do you know who to call when you get home if you have a problem?

If your weight, heart rate or blood pressure don't look right or have changed a lot since yesterday make sure you call your emergency contact and tell them. They can then tell you if you should see your doctor or go to hospital.

#### Step 10: cardiac rehabilitation

Are you booked into cardiac rehabilitation yet?

Patients learn a lot about tracking and how to take their measurements at cardiac rehab.

#### Step 11: check understanding

That's all I wanted to ask you about tracking today. Before we finish though I just want to ask if I have helped you to understand how important it is to take your measurements and do tests that your doctor asks for?

Ok, got that. And have I also helped you understand that you must give your measurements to your doctor and to call them if you notice something wrong?

Thank you for answering my questions about your tracking today. One of the hospital team will talk to you about your tracking before you leave hospital. Do you have any other concerns you want me to tell them about?

#### Step 12: close

Okay, I will pass all of this onto the hospital team.