DIABETES AND HEART DISEASE



Action plan

Your action plan for managing diabetes and protecting your heart

Diabetes can harm your heart and blood vessels. If you have type 2 diabetes, you are more likely to develop heart disease too. In fact, having type 2 diabetes doubles one's chance of dying from a heart attack or stroke. It's also a contributing factor to heart failure, a condition in which the heart does not pump as well as it should. Similarly, diabetes can make existing heart disease worse.

Protecting your heart health should be a priority when it comes to managing your diabetes now and in the future.

The good news is that you can take steps to both manage your diabetes and lower your risk of heart disease, heart attack and stroke.

Use this workbook to write down your goals and map out a plan that you can stick with to lower your risk of diabetes-related heart problems. Remember to ask questions and talk openly about any concerns. A few examples include getting to and from appointments or taking medications.

You and your care team can work together to best meet your needs.



Name:	Age:	
Your core health care	team	
	Name of clinic or clinician	Phone number
Primary care		
Who primarily oversees your diabetes care?		
Who manages your heart health (for example, existing heart disease, blood pressure, cholesterol)?		
Managing diabetes means taking nanaging diabetes. What about ttack or stroke? Write down you . What matters most to you where the stroke is t	your goals for lowering you ir thoughts now or before yo	r risk of heart disease, a heart our next visit.
on your diabetes?		
		h
 What worries you most abou (or worsening of existing hea 	•	neart problems

3.	Но	w important is it that your treatment (check which ones are most important):
		Keeps your blood sugar under control Are you aiming for a certain number?
		Helps ease symptoms Which are most bothersome?
		Improves your ability to do certain activities Which activities are most important to you?
		Lowers the chance of having a heart attack or stroke Lowers the likelihood of other complications Which ones are you concerned about?
		Helps you live longer Other goals or things you would like to be able to do:

	hat questions do you still have about: How diabetes affects your heart health
•	What we can do to lower the chance of heart-related problems

The diabetes and heart connection

4.

Often with diabetes, treatment has focused on lowering the amount of sugar (glucose) in the blood. Routine blood sugar testing, yearly eye exams and daily foot care are important. But people with type 2 diabetes also need to be mindful of their heart health too.

When you think about managing your diabetes, you must also take steps to protect your heart - and kidney - health too.

Diabetes and heart disease share many risk factors:

- High cholesterol levels
- High blood pressure
- Being overweight or obese
- Sitting for extended periods of time or not exercising regularly
- Tobacco use or breathing in tobacco smoke



Reviewing your personal heart health and risks

Not every person with type 2 diabetes has the same risk for heart disease or cardiac events. In general, the longer you've had diabetes, the greater your chance of developing heart disease.

It's also helpful to review your health history to assess your personal cardiovascular risk (a term for how likely you are to have a heart attack or stroke).

more likely (check all that apply):
 Age 65 or older High blood pressure High cholesterol Current tobacco use Little or no physical activity Family history of heart disease, especially at younger ages Diabetes or high blood pressure during pregnancy
Have you had (check all that apply and jot down the month and year):
 Chest pain, heart attack or heart failure that resulted in a recent hospital stay or emergency department visit (within the last year) Heart surgery or stents placed to open blocked arteries Heart attack (more than a year ago) Stroke
Do you have (check all that apply):
■ Blockages in your heart's arteries ■ Heart failure ■ Atrial fibrillation or other heart rhythm problem ■ Peripheral artery disease (PAD) or blockages in the arteries of the arms or legs ■ Chronic kidney disease ■ Other health conditions:

Keeping tabs on your blood sugar – and other numbers

With diabetes, the main focus is often on your blood glucose - that is, how much sugar is circulating in your blood. Your A1C (also known as HbA1c), a test that measures blood glucose control over the past two to three months, is a key target that helps guide treatment specific to managing blood sugar.

But your cholesterol and blood pressure numbers are important, too. Knowing them gives a more complete picture of your heart health. This is often called the ABCs of diabetes.

	Yes / No	Notes
A1C - Is diabetes well controlled?		
Is B lood pressure at a healthy level?		
Is C holesterol at a healthy level?		
Do you s moke or use tobacco products?		

Tip:

Even when your blood sugar is reasonably controlled, the risks to your heart can still persist. Diabetes care must go beyond controlling blood sugar alone to protect your heart and blood vessels too.

Ask about how to best protect your heart and blood vessels - even if your blood sugar levels are in check.



Tools to manage diabetes-related heart risks





Medications

Because diabetes can make someone more prone to heart disease, heart attack or stroke, medications that lower the likelihood of these events happening will play an important role in your overall treatment in addition to lifestyle choices.

Below is a list of medications commonly used to treat diabetes and heart disease, along with a very simple explanation for how they work. We can use the medication list on Page 14 to write down the name of the medications you should be taking.

Medications	How they work	Make note of the medications you are taking or ones that are discussed as options for you.
To lower blood sugar		
Metformin	Allows the body to recognize and use insulin better	
Insulin	Replaces the amount of insulin your body doesn't make or recognize	
Dipeptidyl peptidase 4 (DPP-IV) inhibitor	Works to lower the amount of sugar in the blood	
Sulfonylureas	Stimulates the body to produce more insulin	
Sodium-glucose cotransporter-2 inhibitors, known as SGLT2 inhibitors (for example, canagliflozin, dapagliflozin, and empagliflozin)	Lowers the amount of blood sugar that gets reabsorbed by the body by releasing it in urine	
Glucagon-like peptide-1 receptor agonists, known as GLP1 receptor agonists (for example, semaglutide, dulaglutide, and liraglutide)	Helps the body use insulin more efficiently and slows down how quickly your sugar rises after meals	

SGLT2 inhibitors and GLP1 receptor agonists, initially developed to lower blood sugar, have been shown to lower heart risks, too, and are recommended for people at risk for heart disease and stroke.

Medications that may be used (continued)

To help protect you from heart disease, lowering the chance of a heart attack or stroke, which commonly occur in people with diabetes.					
Statin	Lowers cholesterol, but also reduces cardiovascular risk				
SGLT2 inhibitors OR	Several SGLT2 inhibitors have been shown to lower heart disease risk and death from any cause; recent data also show SGLT2 inhibitors may help protect the kidneys and improve the heart's size, shape and function in people with heart failure				
GLP1 receptor agonists	Select GLP1 receptor agonists have been shown to reduce heart attack, stroke and cardiovascular-related death. This class of medications may also help with weight loss in addition to blood sugar lowering				
	To address other heart conditions, depending on if you have high blood pressure, high cholesterol, heart failure, or blockages in the arteries that supply the heart with blood.				
Angiotensin-converting enzyme inhibitors, or ACE inhibitors (for example, lisinopril, enalapril, captopril)	Widens and relaxes arteries, helping to lower blood pressure and making it easier for the heart to pump blood and can protect the kidneys				
Angiotensin II receptor blockers, or ARBs (for example, losartan, olmesartan, valsartan)	Like ACE inhibitors, ARBs help widen blood vessels so that blood can flow more easily, easing extra strain on the heart and can protect the kidneys				
Antiarrhythmics	Treats problems with how the heart beats (for example, palpitations, fast or irregular heartbeats, fainting, shortness of breath) by slowing electrical signals in the heart and helping it beat more regularly				

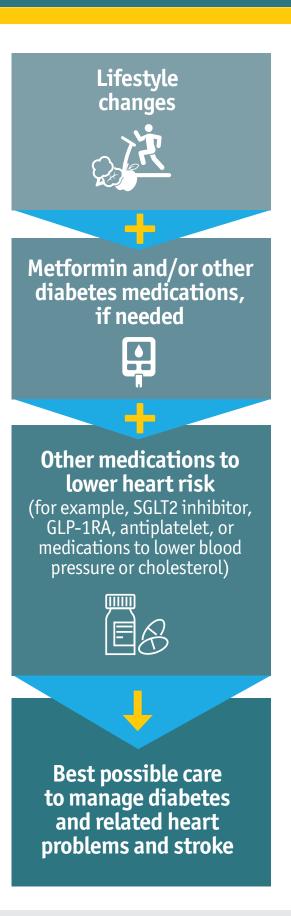
Medications that may be used (continued)

Beta blockers (for example, atenolol, metoprolol, propranolol)	Slows heart rate so it beats with less force, lowers blood pressure and may reverse some heart damage	
Blood thinners, antiplatelets or anticoagulants (aspirin, warfarin and apixaban are common examples)	Prevents blood clots from forming	
Calcium channel blockers (for example, amlodipine, diltiazem, verapamil)	Helps the body control high blood pressure, chest pain or heart rhythm issues, often given with a beta blocker or diuretic	
Digoxin	Slows heart rate and strengthens heart muscle contractions (how it squeezes) to pump more blood	
Diuretic (water pill)	Helps the body get rid of excess water (fluid buildup) taking workload off the heart and kidneys	
Aldosterone inhibitors (for example, spironolactone, eplerenone)	Another type of diuretic that helps the body remove excess water and sodium through the urine, but prevents the loss of potassium and eases stress on the heart	
Other cholesterol-lowering medications, including ezetimibe or PCSK9 inhibitors	Statins are typically used first, but these may be recommended in addition to or instead of a statin; they help further lower LDL cholesterol and the chance of a heart attack or stroke	
Other medicines for heart failure, including an angiotensin receptor-neprilysin inhibitor (ARNI) instead of an ACE inhibitor or an ARB	An ARNI is not to be used with ACE inhibitors or ARBs. It works by widening vessels and decreasing water reabsorption	

Medication reminders

- Medication should always be coupled with healthy lifestyle choices.
- Be sure you know why each medicine is recommended and how it benefits your heart and health.
- You may start taking a new medication at a low dose (amount). Your clinician will gradually increase the dose based on how you are doing.
- You also may be prescribed more than one medication to help lower your cholesterol or blood pressure. Together these medications work in different ways to improve your heart health.
- Always take your medications as prescribed.

Speak up if you have questions or concerns. For example, remembering to take your medicines, difficulty paying for them, and/or not understanding why some are needed.



Key considerations for SGLT2 inhibitors and GLP1 receptor agonists

Interestingly, these medications were initially developed as diabetes medications to lower blood sugar. But they are not just for diabetes. Many studies show they have clear heart benefits, too, especially among people who have had a heart attack, stroke or are at high risk for heart disease complications.

In clinical trials, both have also been linked to losing weight and lowering blood pressure, which also help protect the heart.

	SGLT2 inhibitors	GLP1 receptor agonists	
How it's taken	By mouth	Self-injection under the skin	
Things to keep in mind	 Stay hydrated Report feeling dizzy or faint Report any foot ulcers and wounds that don't seem to be healing Watch for signs of yeast and/or urinary tract infections (UTIs), which can result in increased urge to urinate, pain with urination, blood in the urine Practice good hygiene to prevent problems 	 Report any vomiting or abdominal pain Remember that this medicine slows how quickly food leaves your gut and is processed into glucose in your bloodstream If you eat too much or too quickly, you may feel overly full or nauseous You will be started on a lower dose, or amount, of the medication. As the amount is increased, you may want to eat smaller meals to see how it affects you. These symptoms usually get better once you've been on the medications for a period of time 	

Other considerations

- If you take other medications that also lower your blood sugar, you
 may need to check your blood sugar levels more often and watch for
 signs that your blood sugar level is too low (called hypoglycemia).
 Common signs include weakness, dizziness, confusion, fast heart rate,
 and sweating.
- It's not "just another diabetes medication." If an SGLT2 inhibitor or GLP1 receptor agonist is recommended for you, it's more to help protect your heart and kidneys (for SGLT2 inhibitor) and guard against a heart attack, stroke or worse.
- The cost of these medications is still high, but they are being covered more by insurance companies. Share any worries you have about paying for these medications.
- You'll likely be taking these along with a statin and perhaps other medications to lower your cholesterol and heart risks. Speak up if you have any questions about side effects from statins. There is a lot of misinformation about them.

▶ My medication list

Keep an updated copy of this list in your purse or wallet.

Also, write down any questions or topics about your medications that you want to remember to talk about.

		ı	Γ		
Side effects to watch for, report					
What to do if I miss a dose					
How often Time of day to (for example take it and how 1/ day, 2/ day) (w/ or w/o food)					
How often (for example 1/ day, 2/ day)					
Target dose (amount)					
Starting dose (amount)					
Start date					
Reason for taking					
Medication name					



Making and keeping up with healthy lifestyle changes

Making healthy choices every day can add up both in terms of helping to keep your diabetes in check and supporting your overall heart health.



Adopting a healthy lifestyle - whether it's being more active, eating healthier, not using tobacco, or sleeping better - all are important when it comes to managing diabetes, strengthening your heart, and guarding against a first or second heart attack or stroke.

Key lifestyle changes Personal recommendations or notes (check all that apply) Aim to get _____ minutes of moderate activity on Stay or be more active most days of the week. Most adults with diabetes Exercise has many health benefits, should aim for 150 minutes or more a week. including lowering List three activities that count as moderate exercise blood sugar, blood that you enjoy and can do on a regular basis (for pressure and cholesterol; example, swimming, biking, brisk walking, playing strengthening the heart; a sport): and boosting your energy level, mood and outlook. Note other recommendations (for example, using an app or tracker to count your steps, joining a group exercise program to help you stick with it, strength training):

Eat a heart-healthy, nutritious diet Several eating plans are known to be good for the heart.	 Eat a diet rich in vegetables, fruits, fish and healthy sources of protein. Limit processed or packaged foods. Other recommendations (for example, limit sodium/ salt, seek nutrition counseling):
Maintain a healthy weight or lose weight, if needed, especially around the belly Losing just 5% of body weight (for example, 10 pounds if you weigh 200 pounds) has benefits.	 Find easy ways to cut calories (for example, not adding cream and sugar to coffee or tea, cutting back on sweets, limiting alcohol and sugar-sweetened drinks, all of which have empty calories). What three things can you realistically do to curb calories: 1
Quit using tobacco It's not easy, but there are resources to help.	 Set a date when you plan to quit: Get help quitting - Call 1-800-QUIT-NOW (1-800-784-8669) Try to avoid other people's smoke. Ask your care team about medications and nicotine replacement therapies that can help.

Coping and managing stress Keep an eye on stress levels and let your care team know if you are feeling unusually sad. Look for ways to help you feel more in control of your health.	☐ Try deep breathing exercises or yoga. ☐ Seek counseling with a mental health professional. (Recommended name: ☐ Find a local or online peer support program. ☐ Other ways to destress:
Get quality sleep	 □ Aim for hours of sleep a night and have a regular bedtime routine to wind down. Adults should be getting 7-8 hours of solid shut-eye. □ Stick to the same bedtime routine. Limit technology and exercise within two hours of going to sleep. □ Pay attention to and report any regular sleep disruptions. Let your care team know if you snore to the point that you wake yourself up, if you never feel rested, or if a sleep mate notices that you have pauses in your breathing.

Diabetes care and education specialists can help with many aspects of your care plan and put you in touch with local resources to help.



Staying up-to-date with follow-up visits, tests and vaccines

Keeping regular follow-up medical visits, including checks of your blood sugar levels and other cardiovascular risk factors, is very important.

els and other cardiovascular risk factors, is very important.
Monitor your blood sugar You may be asked to do this daily, but your A1c will be checked every 3 months if your diabetes is not in control and every 6 months if it's well managed.
Routine checks of blood pressure and cholesterol Step up efforts to get them under control if elevated.
Regular foot care Examine your feet and legs for: Numbness, sores or cuts that won't heal Changes in skin color or temperature
Annual eye exams
Get vaccinated against the flu, pneumonia, and COVID-19 These illnesses place added strain on the heart.
Manage any other health conditions
List main ones:
Stay in tune with your health Know what symptoms and changes to watch for in between visits, and when and whom to call.
Know what symptoms and changes to watch for in between visits, and when and
Know what symptoms and changes to watch for in between visits, and when and whom to call.

Planning ahead to better stick with your care plan

It is helpful for your health care team to know what might get in the way when it comes to your treatment plan. For example:

- You might find it hard to take your medications as directed either because you take too many or the cost is too high
- Work demands or home life may make it hard for you to keep up with follow-up appointments, routine blood tests and imaging tests
- You may need more information about how to eat healthy or find an exercise routine that works for you

Set yourself up for success by thinking about what might affect your ability to follow your treatment plan. Write them down to share with your care team so they can help find solutions to support you.

	What makes it hard	What seems to help
Eating heart healthy	(Example: not having healthy options to choose from)	(Example: when my family joins me in choosing healthy food options)
Getting regular physical activity/exercise	(Example: lack of time)	(Example: joining a group class)
Taking medications	(Example: side effects, taking too many, not knowing why certain medicines are needed)	(Example: using a pillbox, setting an alarm)
Paying for medications		
Understanding how diabetes can affect my heart health		
Making it to my medical visits or follow-up tests		
Other:		

From now until your next visit Write down the top 3 reasons you want to take better care of your diabetes and heart health.
1
2
3
What can you start doing today that will help you feel better and in the driver's seat when it comes to lowering your risk of heart disease or stroke?
NOTES: Use this page to jot down questions or things to remember to tell your care team.

More information and resources to help



Diabetes & Heart Disease:

What You Need to Know



Diabetes and Your Heart

CardioSmart.org CardioSmart.org/DiabetesandHeartDisease



10 Steps to Lower Your Chance of **Diabetes-Related Heart Problems** (checklist)



Lifestyle questionnaire

Risk Assessment