

Medtronic

Symlicity™

blood pressure procedure

Hypertension care, transformed

**A proven procedure for significant, safe,
and sustained blood pressure reductions.¹⁻⁴**

Results may vary.

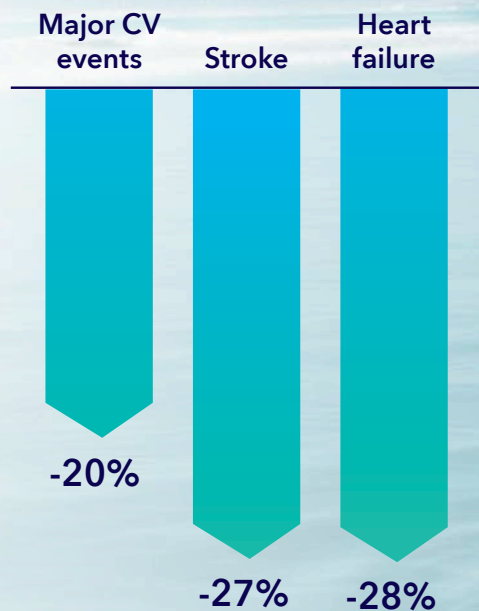
Managing hypertension can be challenging for you and your patients

Lifestyle changes, multiple medications, and side effects can leave patients feeling overwhelmed – and providers with limited options.⁵⁻⁸

Despite best efforts, **75% of hypertension patients remain uncontrolled.**⁶

Reduce blood pressure. Reduce risk.

A 10 mmHg reduction in office systolic blood pressure reduces the risk of cardiovascular events.⁹



Now, there's another option.

Go beyond lifestyle changes and medications alone

Symlicity™ blood pressure procedure

The **transformative** Symlicity procedure complements existing hypertension treatments to help patients achieve blood pressure control.



How renal denervation with the Symlicity Spyr™ system works

- A **minimally invasive** procedure with no device left behind.
 - For most patients, it's a **one-hour procedure**, not including procedure preparation and recovery time.
 - The Symlicity Spyr catheter delivers **precisely targeted radiofrequency (RF) energy** to the renal nerves.¹⁰
 - This energy **safely disrupts overactive nerves to help lower blood pressure**.¹⁰
- After procedure follow-up, the patient is returned to the managing clinician for ongoing care.

Adverse events include, but are not limited to, pain and hematoma. Results may vary.

Turn to a proven procedure for hypertension

Over 4000 patients studied in the SPYRAL HTN clinical program.^{†,1-3}

Significant, safe, and sustained blood pressure reductions

Significant

>9
mmHg

mean reduction in office SBP in patients **off and on medications** at **3-6 months**.^{‡,1,2}

Safe

<0.4%

major adverse events at composite endpoint.² (N = 253)

Sustained

17
mmHg

mean reduction in office SBP in real-world registry at **3 years**.^{§,3} (N = 1137)

Results may vary.

Significant

>9 mmHg

mean reduction in office SBP in patients **on and off medications** at primary endpoint follow-up.^{†,1,2}

Proven effective with or without medications in randomized, sham-controlled trials

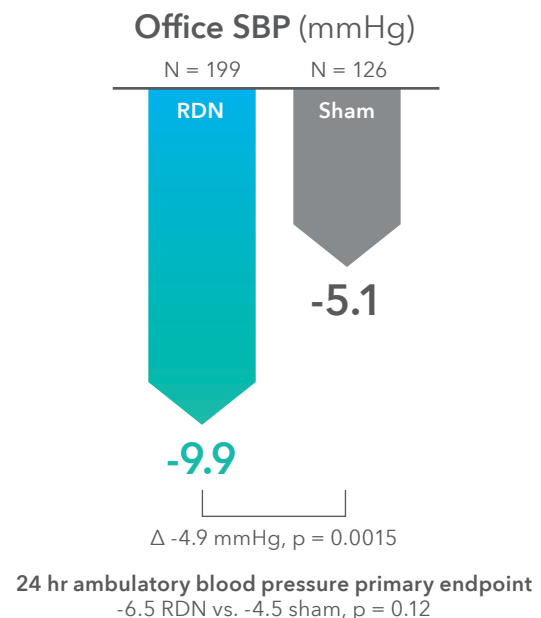
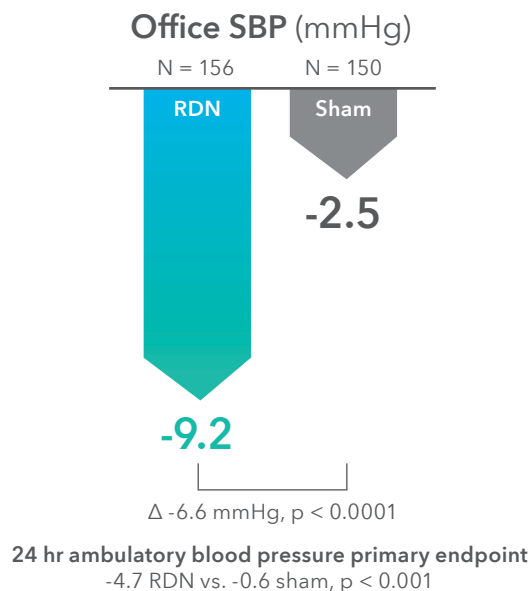
SPYRAL HTN-OFF MED Pivotal Trial¹

Significant blood pressure reductions in the **absence of medications** at 3 months.

SPYRAL HTN-ON MED Trial²

Significant blood pressure reductions in the **presence of medications** at 6 months.

Average baseline office systolic blood pressure (SBP) for both RDN and sham arms in both trials = 163 mmHg



20% lower medication burden at 6 months with the Symplicity procedure.²

(2.9 RDN vs. 3.5 sham, $p = 0.04$)

Safe

Pooled data from
SPYRAL HTN-ON MED and OFF MED Trials

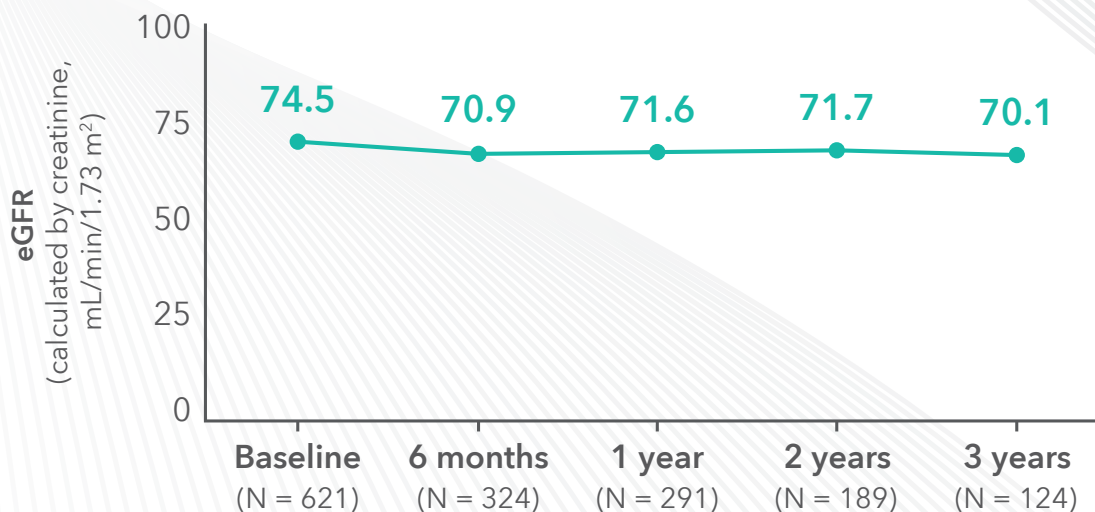
<0.4%

major adverse events
at composite endpoint.²
(N = 253)

No new incidence of renal artery
stenosis (> 70%) at 6 months.²

Global SYMPLICITY Registry
Real-world data

Stable kidney function at three-year follow-up¹¹



Excellent safety profile with low adverse
event rates and stable kidney function.^{2,11}

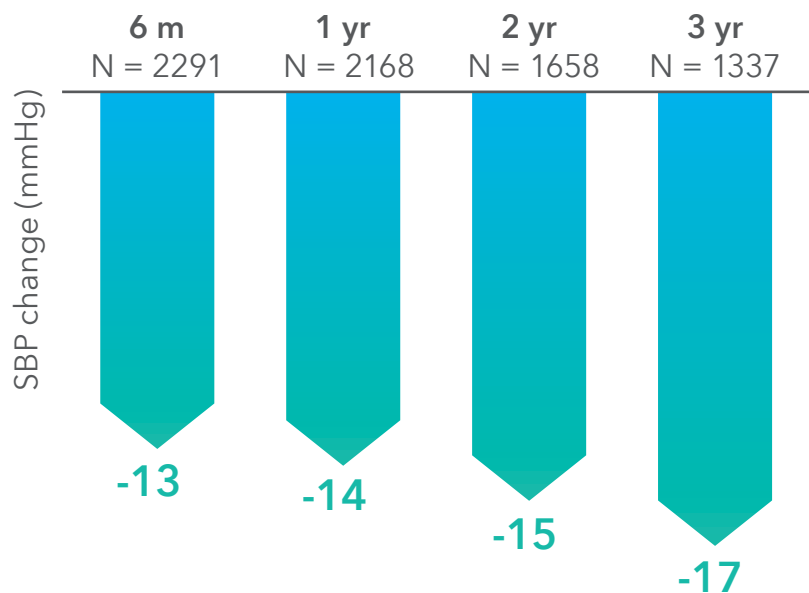
Results may vary.

Sustained

17_{mmHg}

mean reduction in office SBP in
real-world patients at **3 years**.^{‡,3}
(N = 1337)

Global SYMPLICITY Registry³ Real-world data



Baseline BP 165 ± 25 mmHg
 $P < 0.001$ at all timepoints vs. baseline BP

Durable results that
amplified over time.³

Results may vary.

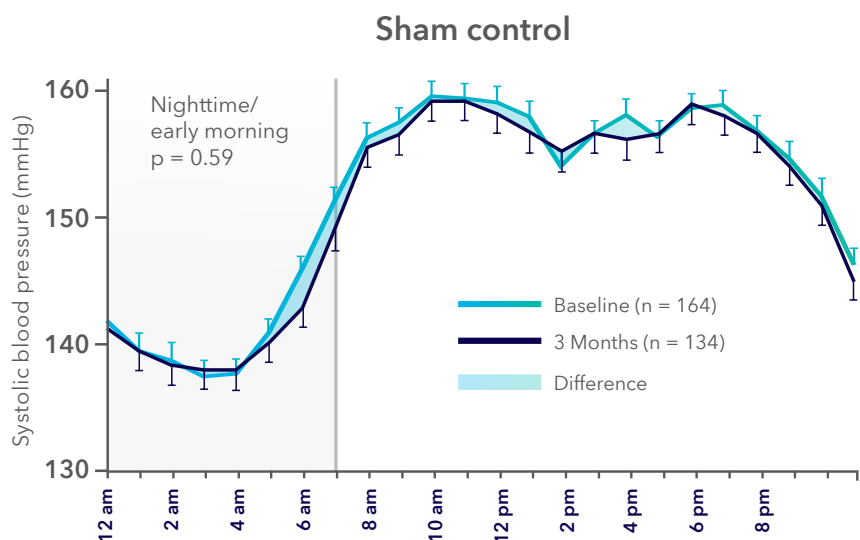
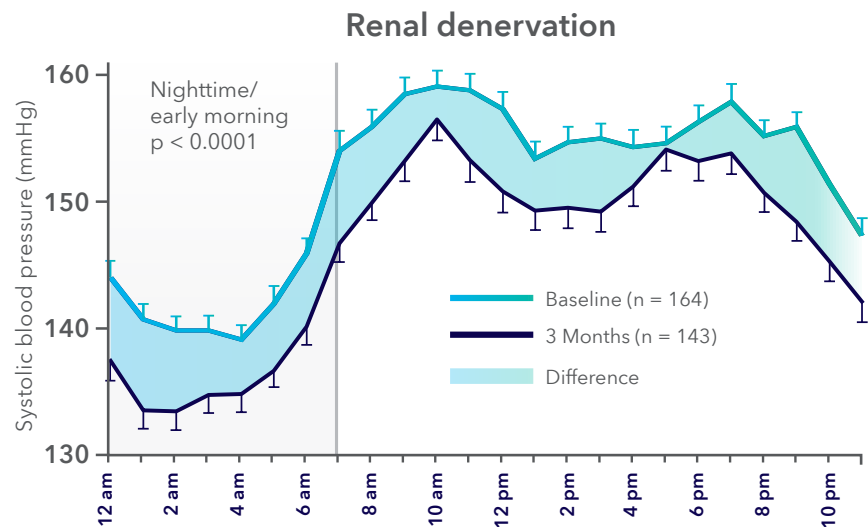
Note: GSR is an active registry. Patients treated < 3 years
will be continuously added to follow-up data.

Continuous blood pressure reductions



The **Symlicity™ blood pressure procedure** provides an “always-on effect” with continuous blood pressure reductions – **all day, every day** – including high-risk early morning hours.

SPYRAL HTN-OFF MED Pivotal Trial¹ 24-hour systolic ABPM trend at three months



Results may vary.

The nighttime/early morning period is a “high-risk zone” associated with increased risk for stroke and cardiovascular events.

Recommended by cardiovascular experts

The **2023 Society for Cardiovascular Angiography and Interventions (SCAI)**

position statement recognizes renal denervation as a promising therapy for treating hypertension.

[Access the SCAI statement now](#)

Read the full statement to review recommendations for success, including:

- Patient selection
- Operator competence
- Training and techniques
- Organizational recommendations

The **2024 American Heart Association (AHA)** Scientific Statement also recognizes renal denervation as a promising new therapeutic approach.

[Access the AHA statement here](#)

Read the complete statement for additional considerations, including:

- Patient selection
- The role of shared decision-making

Your patients may benefit from the Symplicity™ procedure if they:



Have uncontrolled hypertension

Consider patients where lifestyle modifications and antihypertensive medications haven't adequately controlled blood pressure. This may include patients with the following:

- On medications that are not adequately lowering blood pressure
- Unable to adhere to medication
- Unable to tolerate the side effects of medication
- Are already on medication for comorbidities that may not be compatible with antihypertension medication



Are willing to undergo an interventional procedure

Consider patients who opt for the Symplicity procedure following shared decision-making and an attempt at lifestyle modifications and medical therapy.

1 in 3

patients would consider the Symplicity procedure vs. taking one additional anti-hypertensive medication¹²

Symlicity™ patient screening considerations

Screening patients for the Symlicity procedure may be performed by your team or the Symlicity care team working directly with a proceduralist.

Consider the following:



Assess lifestyle modifications



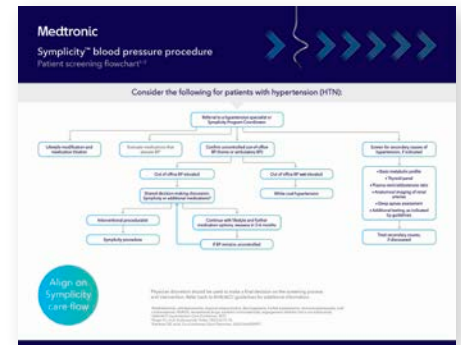
Evaluate medications



Measure out-of-office blood pressure
(home or ambulatory)



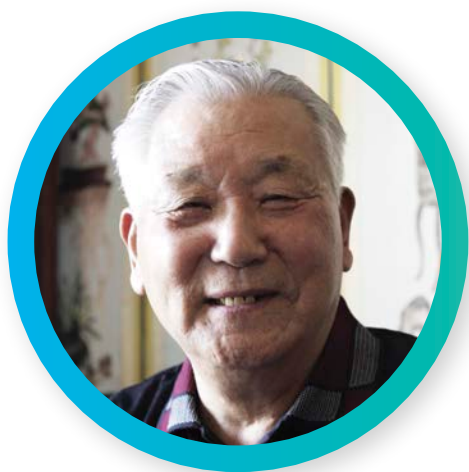
Screen for secondary causes of hypertension
(if indicated)



[View the patient screening flowchart](#)

Types of patients to consider for the Symplicity™ procedure

When adopting a new therapy to your practice, we understand how important it is to know which patients may be the right fit. When it comes to the Symplicity blood pressure procedure, we can help.



Cardiovascular comorbidities

Mark

74-year-old male
BP 178/96

On three medications

Mark is diligent about taking his medication, but his history of MI has made controlling his blood pressure more urgent. Mark has an eGFR of 50, and he is prediabetic.



Treated, not controlled

Estelle

68-year-old female
BP 170/92

On five medications, including diuretics

Estelle is on five medications, including one diuretic, and is using breakthrough hydralazine during the day. She's had two hospitalizations due to hypertension-related crises. The swelling in her legs from ACE inhibitors makes getting around challenging.

Results may vary.
Case descriptions for educational purposes; not real patient cases.



Non-adherent due to side effects

Henry

48-year-old male

BP 154/105, with BP variability during non-adherent periods

Tried five medications; Currently on one

Henry was diagnosed with hypertension at 38 when he started experiencing severe headaches. He's tried several medications and is currently on clonidine. Fatigue and other side effects of the medication, however, have taken a toll on the busy father of three, and in turn have made him less adherent to his medication.



Patient preference

Gabriela

59-year-old female

BP 160/91

On three medications

Both of Gabriela's parents had hypertension, and one of them passed away from a stroke. Since then, she's been careful to remain active and maintain a good diet, but she's been frustrated to see her blood pressure remain high.

Anxiety around her blood pressure is starting to make Gabriela fearful of doing things she likes to do, like travel. She is open to any options, including procedural, to help supplement all she's done to improve her condition.



Medication allergies

Jake

36-year-old male

BP 160/95

Tolerates two medications after trying several others

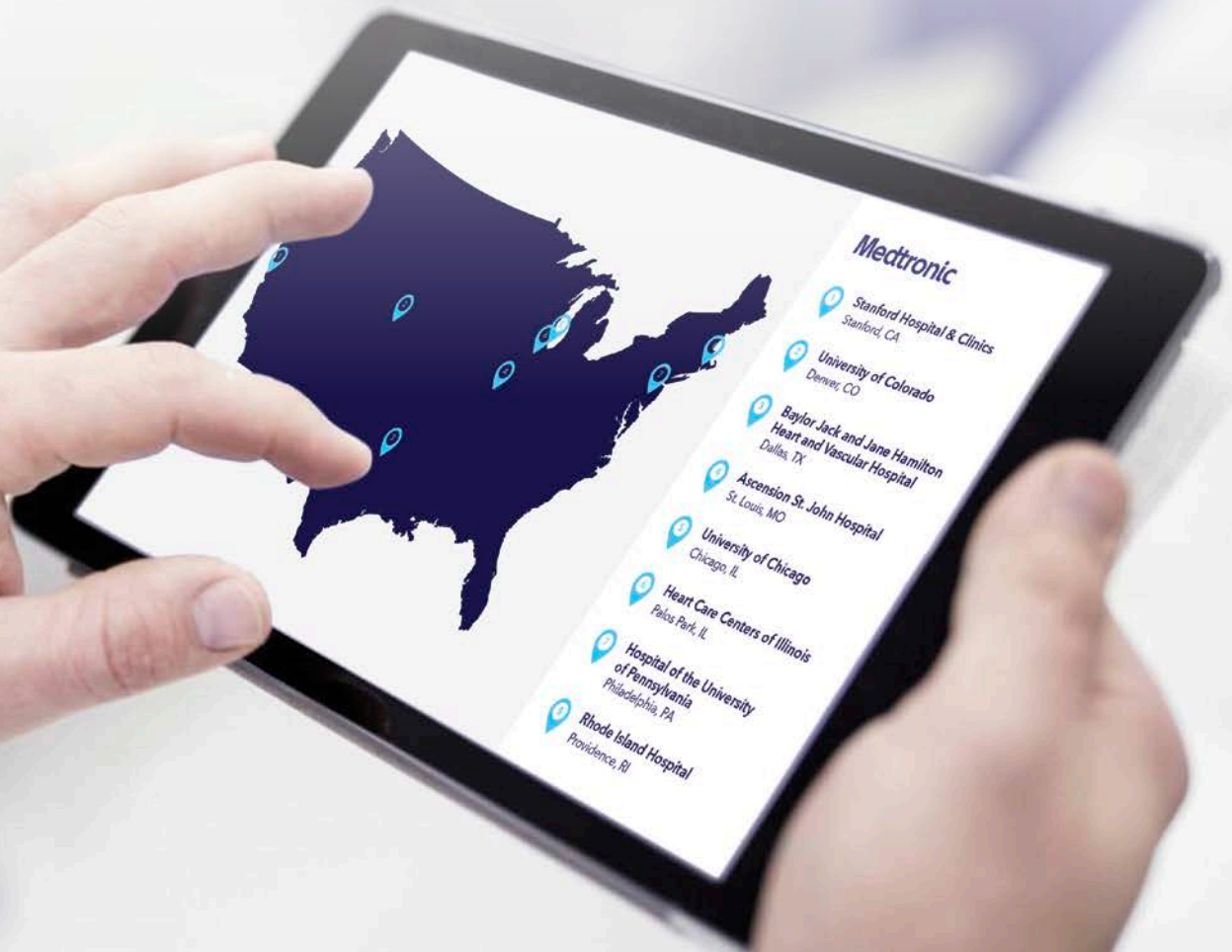
Jake was diagnosed with high blood pressure one year ago. Despite trying diet and lifestyle modifications, he has struggled to get it under control. Jake is allergic to many of the medications available.

Results may vary.

Case descriptions for educational purposes; not real patient cases.

Connect your patients with a proceduralist experienced in the Symplicity™ blood pressure procedure

Find a Symplicity
proceduralist



Education, patient resources, and support – exclusively provided by Medtronic

Clinician education

- Comprehensive, on-demand education at **Hypertension Headquarters**
- Best practices for integrating the **Symplcity™ blood pressure procedure** into your practice

Find resources

Sign in or create a
Medtronic Academy
account

Patient resources

- Tools to help you **educate patients** about the prevalence of hypertension and associated health risks
- Resources to support **shared decision-making** and the Symplcity blood pressure procedure

One-on-one support



Experienced **sales representatives** providing case support and product training



Accomplished **market development specialists** helping overcome barriers and expand patient access to care



Expert **field medical education representatives** sharing deep technical knowledge



Seasoned **regional economic managers** providing comprehensive reimbursement support



† Study follow-up is ongoing. Data does not represent follow-up for all patients.

‡ Results may vary across patients.

§ Includes Symplicity Spyral™ and Flex catheters.

1. Böhm M, Kario K, Kandzari DE, et al. Efficacy of catheter-based renal denervation in the absence of antihypertensive medications (SPYRAL HTN-OFF MED Pivotal): a multicentre, randomized, sham-controlled trial. *Lancet*. May 2, 2020;395(10234):1444-1451.
2. Kandzari DE, Townsend RR, Kario K, et al. Safety and Efficacy of Renal Denervation in Patients Taking Antihypertensive Medications. *J Am Coll Cardiol*. November 7, 2023;82(19):1809-1823.
3. Mafoud F, et al. Outcomes following radiofrequency renal denervation according to antihypertensive medications: subgroup analysis of the Global SYMPPLICITY Registry DEFINE. *EuroPCR* 2023.
4. Mahfoud F, Kandzari DE, Kario K, et al. Long-term efficacy and safety of renal denervation in the presence of antihypertensive drugs (SPYRAL HTN-ON MED): a randomised, sham-controlled trial. *Lancet*. April 9, 2022;399(10234):1401-1410.
5. U.S. Department of Health and Human Services. The Surgeon General's Call to Action to Control Hypertension. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; 2020.

Indications

The Symplicity Spyral™ renal denervation system is indicated to reduce blood pressure as an adjunctive treatment in patients with hypertension in whom lifestyle modifications and antihypertensive medications do not adequately control blood pressure.

Contraindications

The Symplicity Spyral system is contraindicated in patients with any of the following conditions: • Renal artery diameter < 3 mm or > 8 mm • Renal artery fibromuscular dysplasia (FMD) • Stented renal artery (< 3 months prior to RDN procedure) • Renal artery aneurysm • Renal artery diameter stenosis > 50% • Pregnancy • Presence of abnormal kidney (or secreting adrenal) tumor • Iliac/femoral artery stenosis precluding insertion of the catheter.

Warnings and Precautions

A thorough understanding of the technical principles, clinical applications, and risks associated with vascular access techniques and percutaneous transluminal catheterization in renal arteries is necessary before using this device. The safety and efficacy of the Symplicity Spyral system has not been established in patients with isolated systolic hypertension or in patients with prior renal artery interventions including renal stents, renal angioplasty, or prior renal denervation. The Symplicity Spyral system has not yet been studied in patients who are breastfeeding, under the age of 18, or with secondary hypertension. • Avoid treatment with the Symplicity Spyral™ catheter within 5 mm of any diseased area or stent. • Implantable pacemakers (IPGs) and implantable cardioverter defibrillators (ICDs) or other active implants may be adversely affected by RF ablation. Refer to the implantable device's *Instructions for Use*. • The patient's heart rate may drop during the ablation procedure. • Proper pain medication should be administered at least 10 min before ablating renal nerves.

6. Centers for Disease Control and Prevention (CDC). Vital signs: awareness and treatment of uncontrolled hypertension among adults—United States, 2003-2010. *MMWR Morb Mortal Wkly Rep*. September 7, 2012;61:703-709.
7. Jung O, Gechter JL, Wunder C, et al. Resistant hypertension? Assessment of adherence by toxicological urine analysis. *J Hypertens*. April 2013;31(4):766-774
8. Market research. Data on file, Medtronic. 2024.
9. Ettehad D, Emdin CA, Kiran A, et al. Blood pressure lowering for prevention of cardiovascular disease and death: a systematic review and meta-analysis. *Lancet*. March 5, 2016;387(10022):957-967.
10. Coates P, Tunev S, Trudel J, Hettrick DA. Time, temperature, power, and impedance considerations for radiofrequency catheter renal denervation. *Cardiovasc Revasc Med*. September 2022;42:171-177.
11. Schlaich M, et al. Long-term safety and efficacy of renal denervation with the Symplicity Spyral catheter in the Global SYMPPLICITY Registry. Presented at American Society of Nephrology Kidney Week, San Diego, CA. November 4-7, 2021.
12. Kandzari DE, Weber MA, Poulos C, et al. Patient Preferences for Pharmaceutical and Device-Based Treatments for Uncontrolled Hypertension: Discrete Choice Experiment. *Circ Cardiovasc Qual Outcomes*. January 2023;16(1):e008997. San Diego, CA. November 4-7, 2021.

Potential Adverse Events

Potential adverse events associated with use of the renal denervation device or the interventional procedures include, but are not limited to, the following conditions: • Allergic reaction to contrast • Arterial damage, including injury from energy application, dissection, or perforation • Arterial spasm or stenosis • Arterio-enteric fistula • AV fistula • Bleeding • Blood clots or embolism • Bruising • Cardiopulmonary arrest • Complications associated with medications commonly utilized during the procedure, such as narcotics, anxiolytics, or other pain or anti-vasospasm medications • Death • Deep vein thrombosis • Edema • Electrolyte imbalance • Heart rhythm disturbances, including bradycardia • Hematoma • Hematoma – retroperitoneal • Hematuria • Hypertension • Hypotension (may cause end organ hypoperfusion) • Infection • Kidney damage including renal failure or perforation • Myocardial infarction • Nausea or vomiting • Pain or discomfort • Peripheral ischemia • Pulmonary embolism • Proteinuria • Pseudoaneurysm • Radiocontrast nephropathy • Renal artery aneurysm • Skin burns from failure of the dispersive electrode pad • Stroke • Other potential adverse events that are unforeseen at this time.

Please reference appropriate product *Instructions for Use* and *User Manual* for more information regarding indications, contraindications, warnings, precautions, and potential adverse events.

CAUTION: Federal (USA) law restricts this device to sale by or on the order of a physician.

For further information, please call and/or consult Medtronic at 800-633-8766 or the Medtronic website at [medtronic.com](https://www.medtronic.com).

See how we're transforming
hypertension care

visit [medtronic.com/SymplicityProcedure](https://www.medtronic.com/SymplicityProcedure) to learn more.

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