

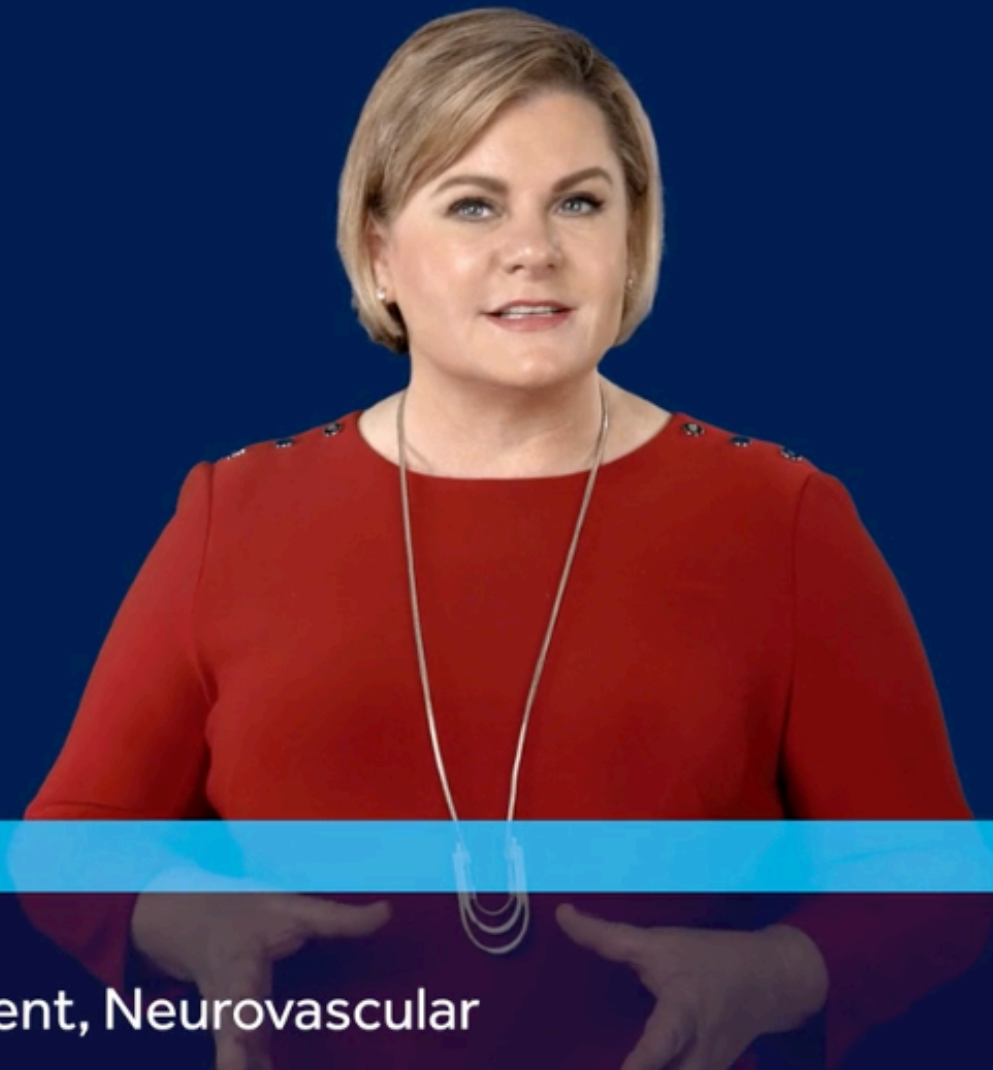
# Neurovascular

## Selected Graphics

**Medtronic**

**2020 Institutional Investor & Analyst Day**

October 14, 2020



INVESTOR DAY 2020

**Stacey Pugh**

Senior Vice President & President, Neurovascular

## STROKE

# 1

cause of disability  
globally

# 2

cause of death  
globally



Medtronic

**\$3.5 Billion**  
**Market**  
with **Double Digit**  
**Growth** for  
**6** Years



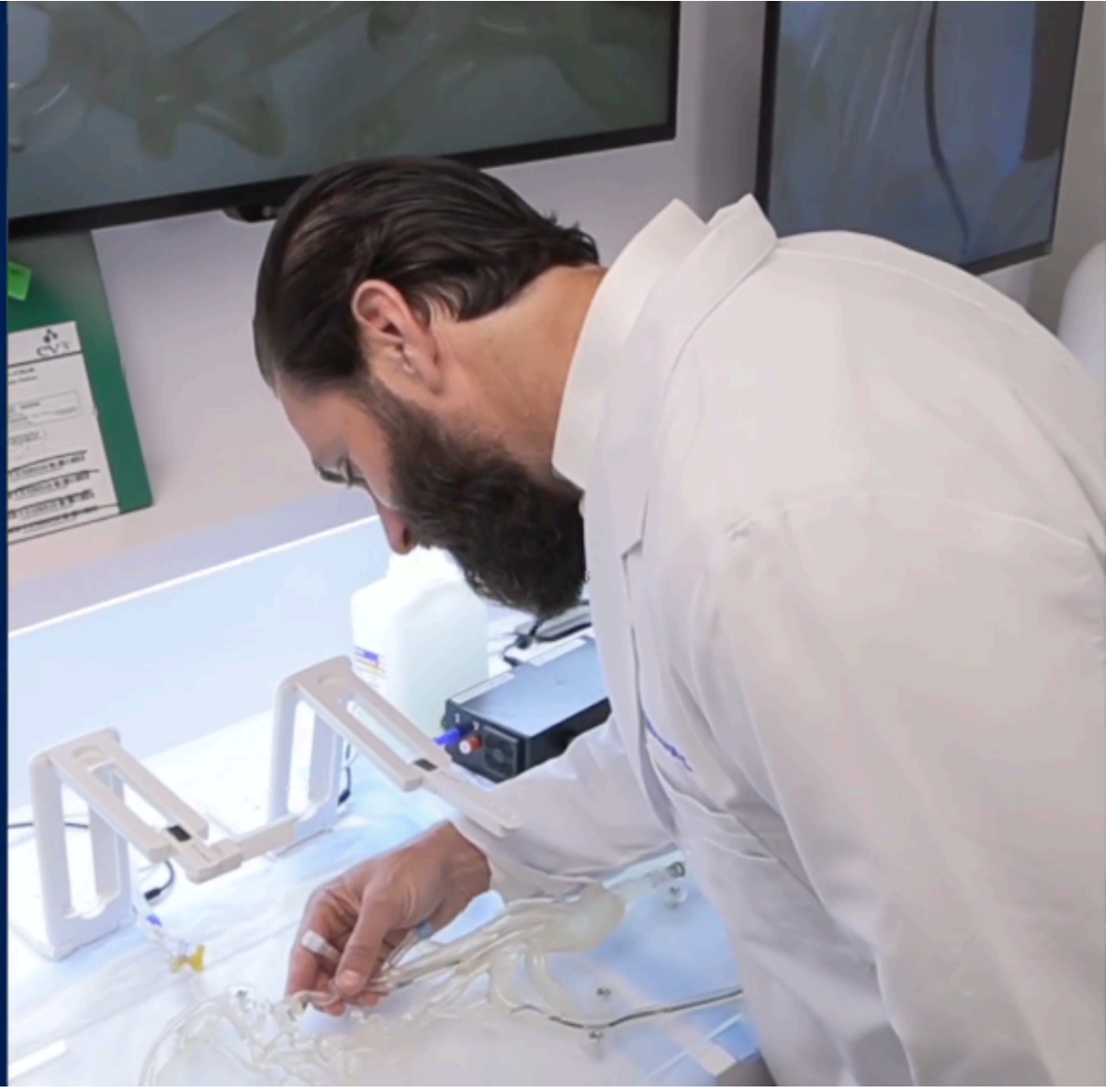
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Systems of Care  
are **Evolving**



**Medtronic**

# Transforming **Stroke Care**



# Comprehensive Stroke Portfolio

## Acute Ischemic Stroke



**Solitaire™ X**  
Revascularization Device



**Riptide™**  
Aspiration System

## Hemorrhagic Stroke



**Axium™**  
Detachable Coils



**Onyx™**  
Liquid Embolic System



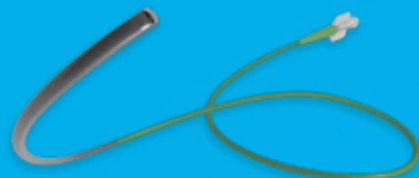
**Pipeline™ Flex**  
Embolization Device



**Pipeline™ Shield**  
Embolization Device



**Cello™**  
Balloon Guide Catheter



**React™ 68**  
Catheter



**React™ 71**  
Catheter



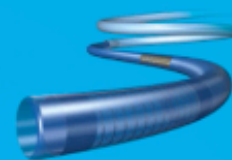
**Phenom™ 21/27**  
Catheter



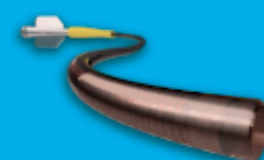
**Avigo™**  
Guidewire



**HyperForm™  
HyperGlide™**  
Occlusion Balloon Systems



**Phenom™ 17**  
Catheter



**Navien™**  
Intracranial  
Support Catheter



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INVESTOR DAY 2020

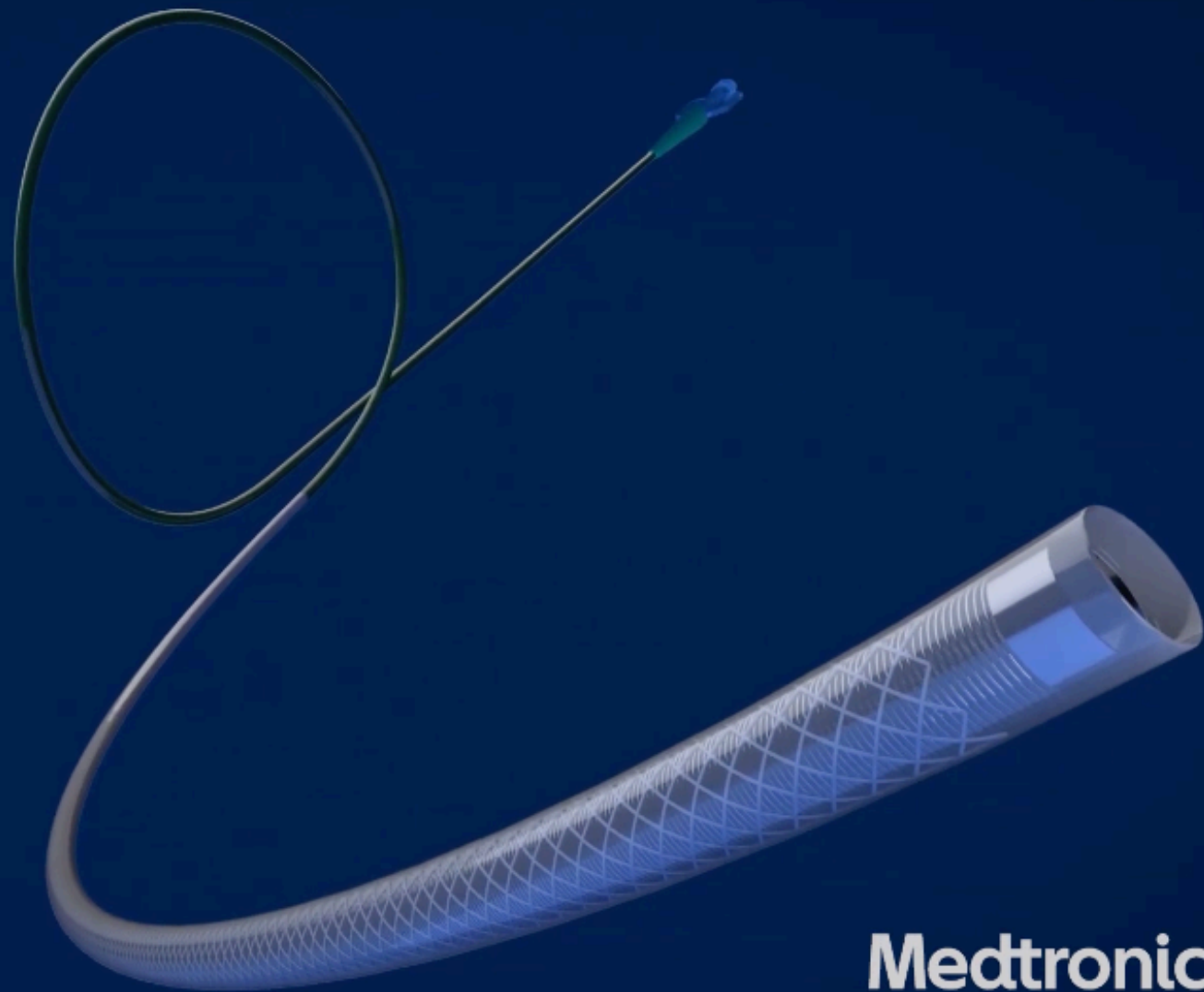
**Elad Levy, M.D.**

University at Buffalo Neurosurgery

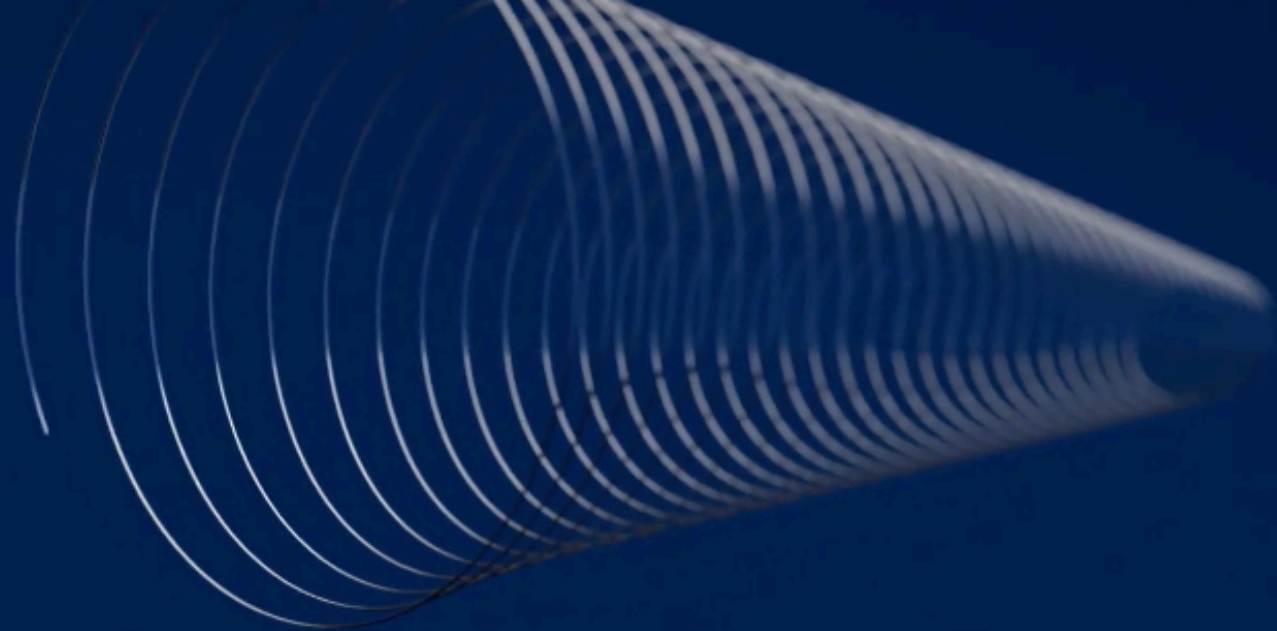


Levy, MD, MBA  
Professor and Chair  
Neurological Surgery

**REACT**<sup>™</sup>  
CATHETER

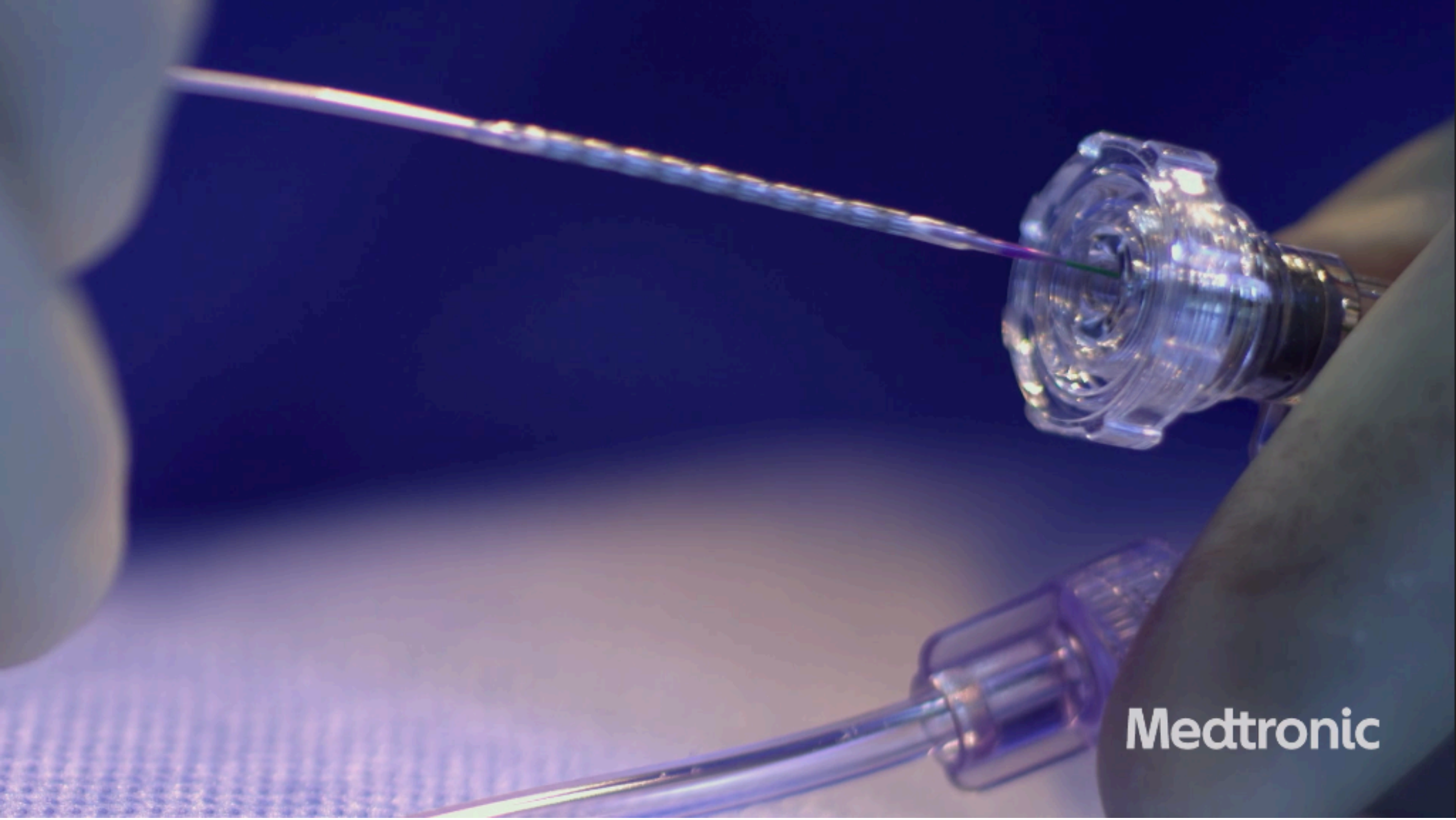


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**NAVIGABILITY**  
OF A COIL.

**Medtronic**



**Medtronic**



COMPATIBLE WITH  
**SOLITAIRE™**  
**REVASCLARIZATION**  
**DEVICE**

**Medtronic**

# Growth Areas



INNOVATION



PARTNERSHIP



GLOBALIZATION

Medtronic

# Continuous Innovation



**2009**  
**Solitaire™ FR**  
Revascularization  
Device  
Europe



**2009**  
**Rebar™**  
Reinforced  
Micro Catheter



**2010**  
**Solitaire™ FR**  
Revascularization  
Device  
United States



**2011**  
**Cello™**  
Balloon  
Guide Catheter



**2012**  
**Solitaire™ 2**  
Revascularization  
Device



**2016**  
**Solitaire™ Platinum**  
Revascularization  
Device

# Continuous Innovation



**2017**  
**Solitaire™ Platinum**  
Revascularization  
Device  
6x40



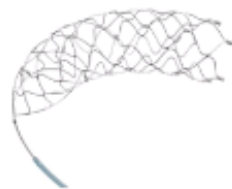
**2017**  
**Riptide™**  
Aspiration  
System



**2018**  
**React™ 68**  
Catheter



**2018**  
**React™ 71**  
Catheter



**2019**  
**Solitaire™ X**  
Revascularization  
Device

**2020 and Beyond**  
**New Stent Retriever**  
**New Aspiration**  
**New Stroke Access**





# 2020 & Beyond

Positioned  
for the  
**Future**

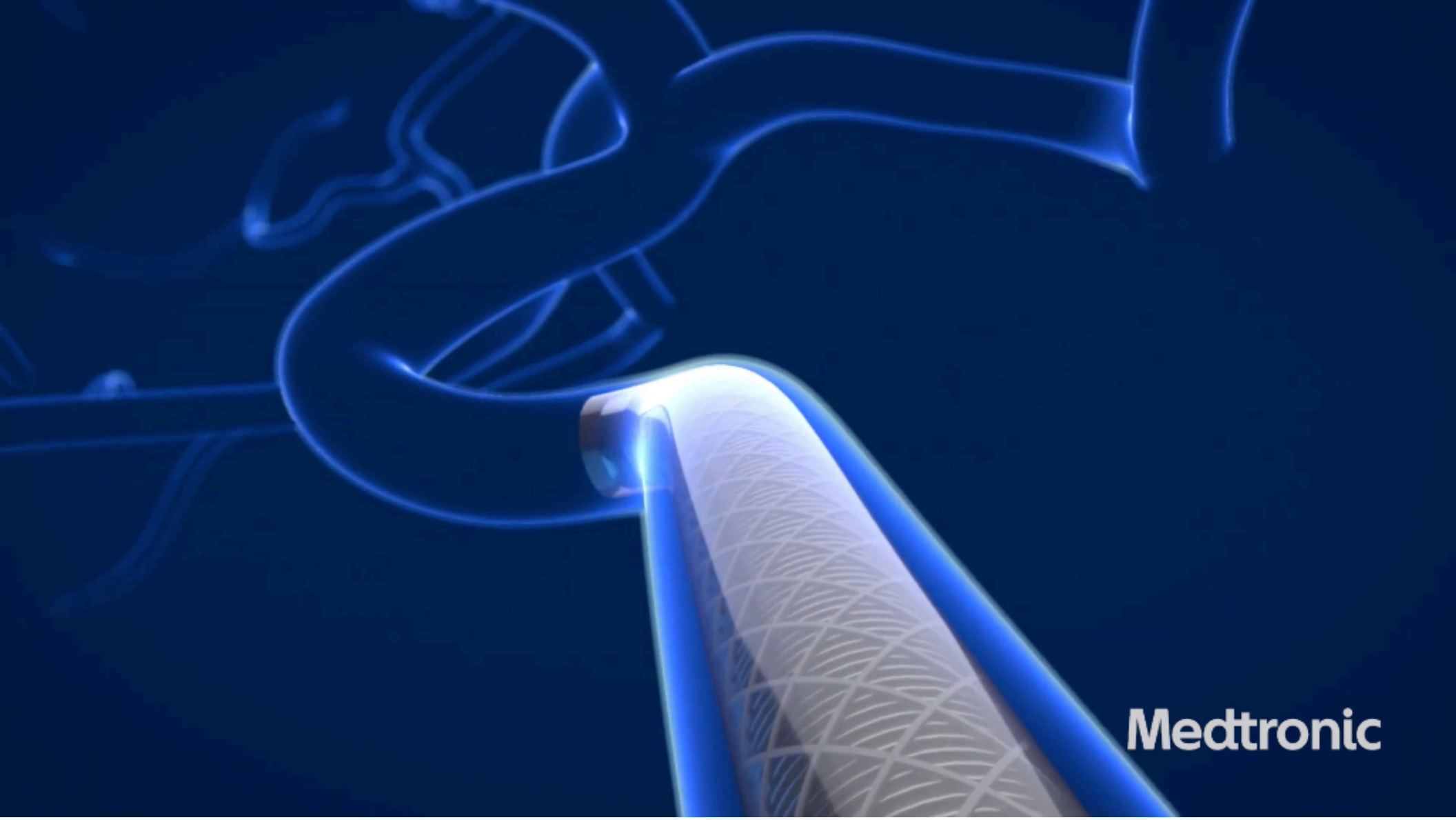
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**2020 & Beyond**

**New Stent Retriever**  
**New Aspiration**  
**New Stroke Access**

**Medtronic**



**Medtronic**

**Change**  
the Paradigm



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# Synchronized Stroke Care

Referral Center

Interventional Center



Patient

Arrival

CT Scan

Technologist  
Post-Processing

Radiology  
Prelim Read

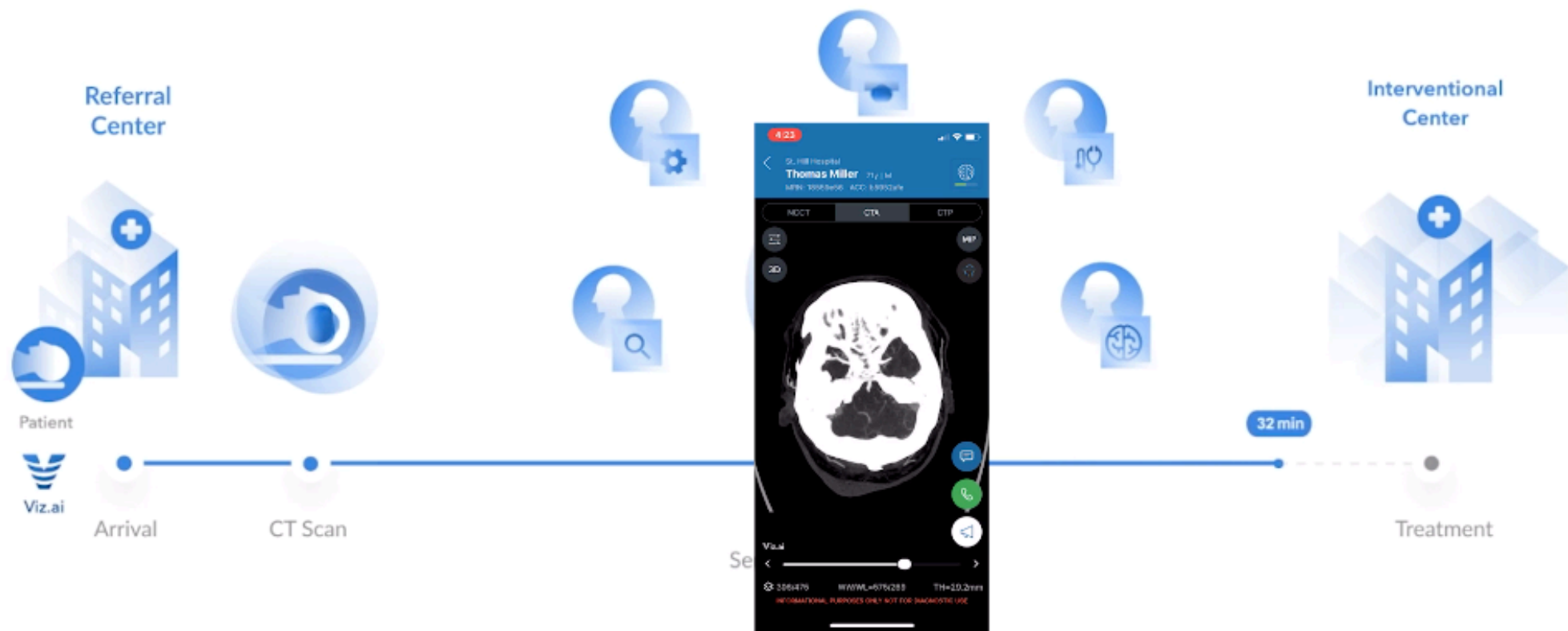
ED Clinical  
Examination

Neurology  
Referral

Interventionalist  
Referral

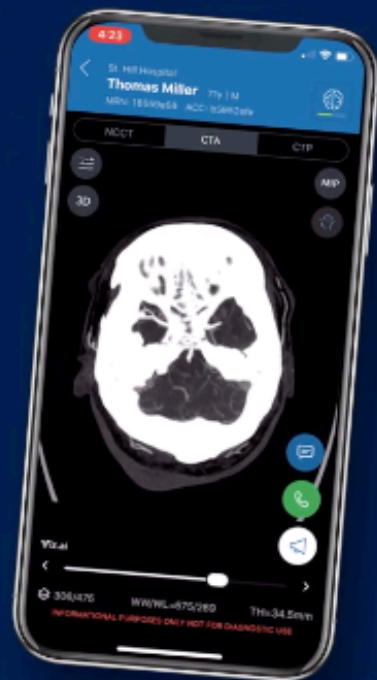
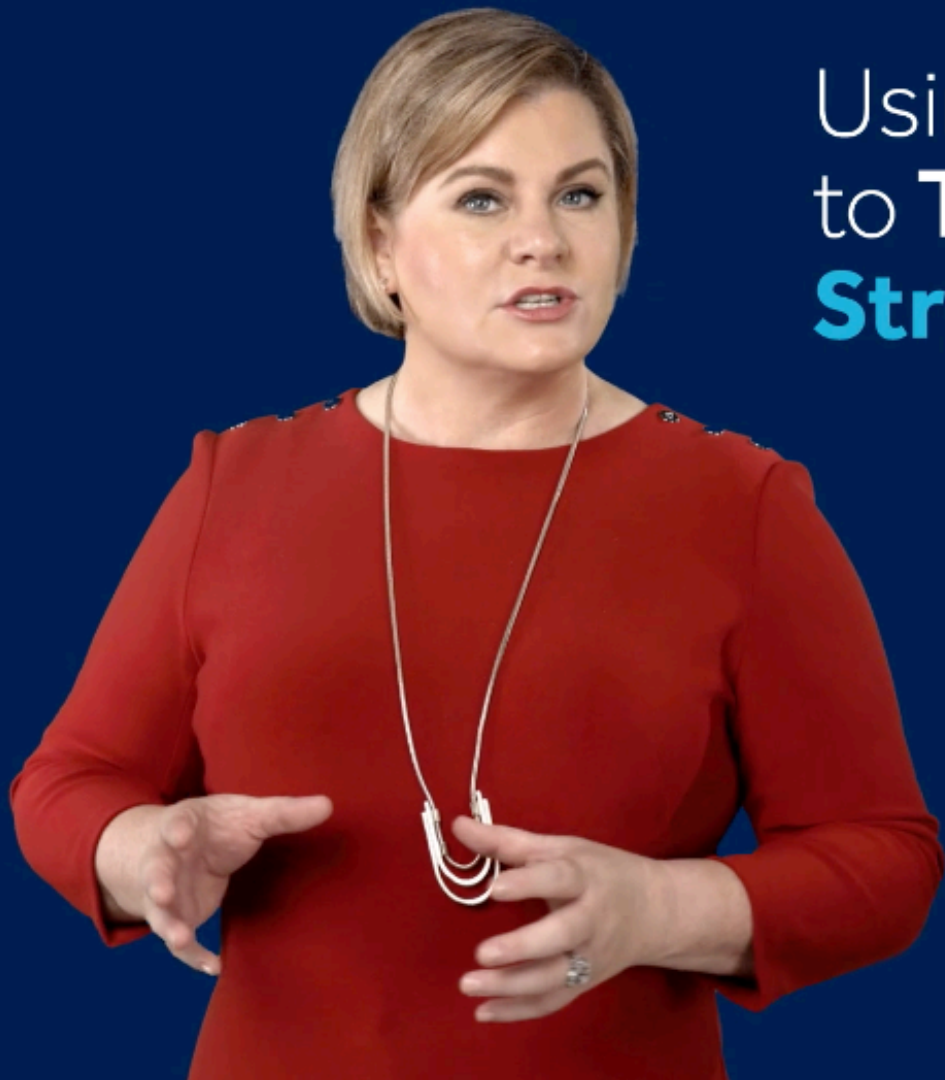
Treatment

Standard Stroke Workflow  
Synchronized Stroke Care





# Using **Technology** to **Transform** **Stroke Care**

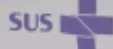


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# PRONT - SOCORRO



HOSPITAL MUNICIPAL  
DE SANTARÉM  
Dr. Alberto Tolentino Sotelo



SECRETARIA MUNICIPAL  
DE SAÚDE



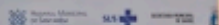
PREFEITURA DE  
SANTARÉM

## HMS EM OBRAS

Em breve, um novo Hospital par

## Dirija-se à UPA24

No HMS serão atendidos apenas casos graves enc



EMERGÊNCIA



Medtronic

GOVERNO DO PARA

Working Across  
**Medtronic** to  
Improve Access

**Commercial**  
**Government Affairs**  
**Reimbursement**



**Medtronic**

## Thrombectomy for Stroke in the Public Health Care System of Brazil

Shella G. Martin, M.D., Ph.D., Francisco MorfWerne, M.D., Ph.D., Letícia C. Ribeiro, M.D., Daniel G. Abud, M.D., Ph.D., Giselle S. Silva, M.D., Ph.D., Fabrício O. Lima, M.D., Ph.D., Bruno S.M. Pereira, M.D., Guilherme S. Nogueira, M.D., Ph.D., Mirko B. Tassi, M.D., Michel C. Frazzetta, M.D., Ph.D., João J.T. de Carvalho, M.D., Eduardo Vlahakis, M.D., Ph.D., et al., for the RESISTANT Investigators\*

June 11, 2020  
N Engl J Med 2020; 383:2316-2326  
DOI: 10.1056/NEJMoa2000729

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### Abstract

**BACKGROUND** Randomized trials involving patients with stroke have established that outcomes are improved with the use of thrombectomy for large vessel occlusion. These trials were performed in high-income countries and have had limited effects on medical practice in low- and middle-income countries.

**METHODS** We studied the safety and efficacy of thrombectomy in the public health system of Brazil. In 12 public hospitals, patients with a proximal intracranial occlusion in the anterior circulation that could be treated within 8 hours after the onset of stroke symptoms were randomly assigned in a 1:1 ratio to receive standard care plus mechanical thrombectomy (thrombectomy group) or standard care alone (control group). The primary outcome was the score on the modified Rankin scale (range, 0 [no symptoms] to 6 [death]) at 90 days.

**RESULTS** A total of 500 patients were enrolled, including 79 who had undergone thrombectomy during an open-label roll-in period. Approximately 70% in the two groups received intravenous alteplase. The trial was stopped early because of efficacy when 221 of a planned 690 patients had undergone randomization (111 to the thrombectomy group and 110 to the control group). The common odds ratio for a better distribution of scores on the modified Rankin scale at 90 days was 2.78 (95% confidence interval [CI], 1.42 to 5.09;  $P < 0.001$ ), favoring thrombectomy. The percentage of patients with a score on the modified Rankin scale of 0 to 2, signifying an absence of or minor neurologic deficit, was 35.3% in the thrombectomy group and 20.0% in the control group (difference, 15.1 percentage points; 95% CI, 7.0 to 27.6). Asymptomatic intracranial hemorrhage occurred in 51.4% of the patients in the thrombectomy group and 24.2% of those in the control group; symptomatic intracranial hemorrhage occurred in 4.5% of the patients in each group.

**CONCLUSION** We studied the safety and efficacy of thrombectomy in the public health system of Brazil. In 12 public hospitals, patients with a proximal intracranial occlusion in the anterior circulation that could be treated within 8 hours after the onset of stroke symptoms were randomly assigned in a 1:1 ratio to receive standard care plus mechanical thrombectomy (thrombectomy group) or standard care alone (control group). The primary outcome was the score on the modified Rankin scale (range, 0 [no symptoms] to 6 [death]) at 90 days.

**RESULTS** A total of 500 patients were enrolled, including 79 who had undergone thrombectomy during an open-label roll-in period. Approximately 70% in the two groups received intravenous alteplase. The trial was stopped early because of efficacy when 221 of a planned 690 patients had undergone randomization (111 to the thrombectomy group and 110 to the control group). The common odds ratio

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INVESTOR DAY 2020

**Sheila Cristina Ouriques Martins, M.D., PhD**

President of Brazillian Stroke Network, Vice-President of World Stroke Organization (WSO).  
President Ibero-American Stroke Organization

Driving **Growth**  
& Building Systems  
of **Care**

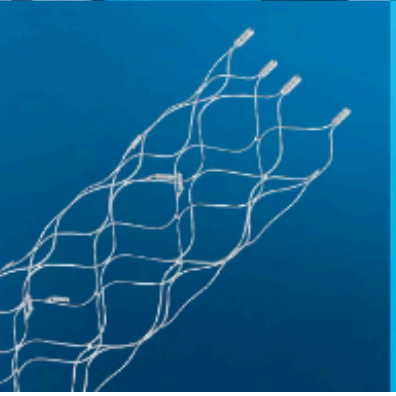


That's the **Power** of  
**Medtronic**



**Medtronic**





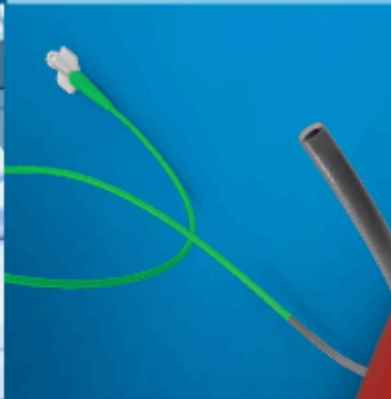
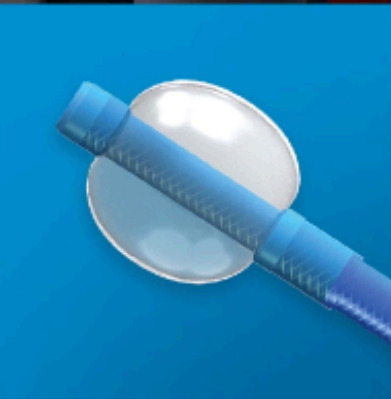
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Investing in  
**Innovation**



**Medtronic**

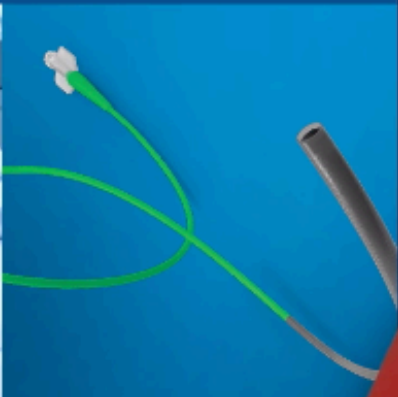
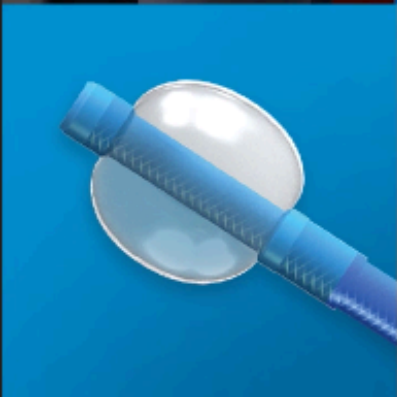


Partnering  
Across the  
**Care Continuum**

**Medtronic**



# Increasing Access to Therapies



Medtronic

**Multiple** Capabilities  
**Innovation** Expertise  
Field Resources in  
**Remote Markets**



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Take the Field  
**Forward**



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