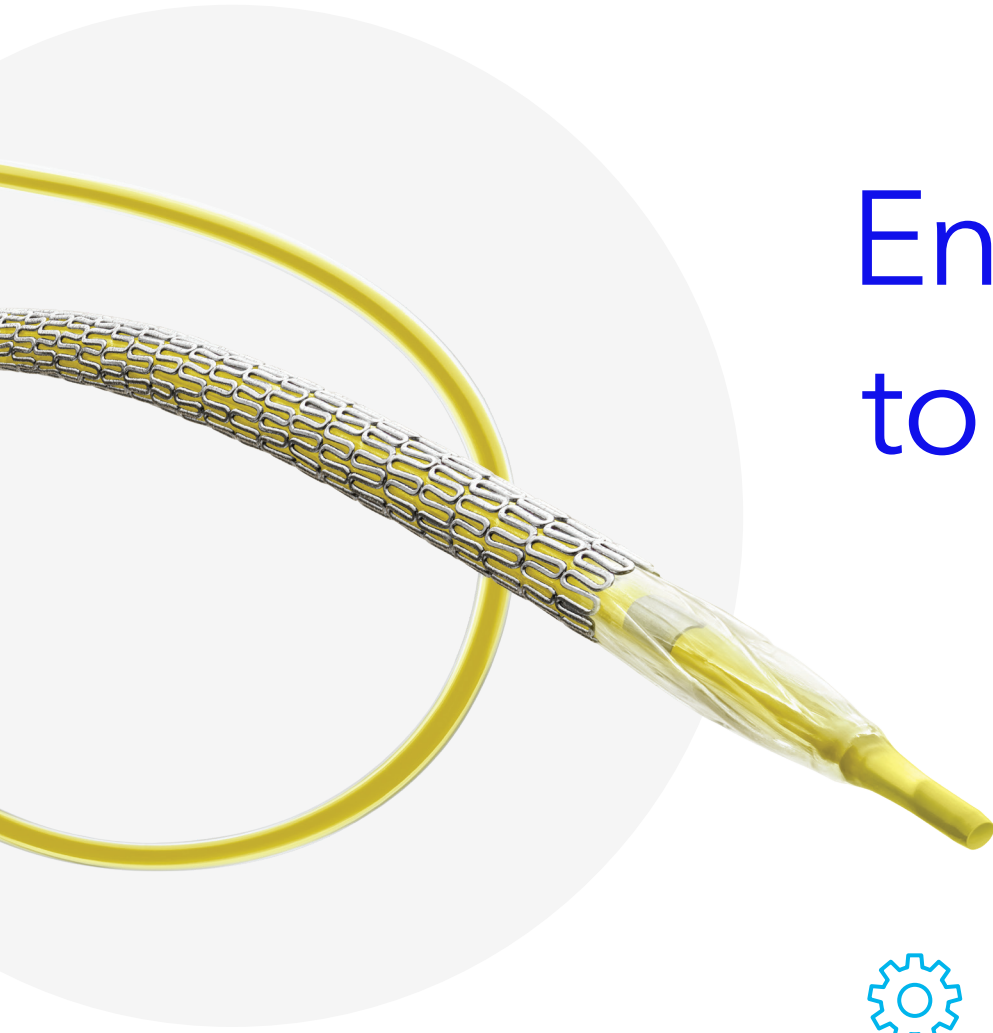


# Medtronic

Onyx Frontier™ DES



# Engineered to deliver



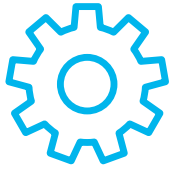
Engineered  
to deliver



Different  
by design



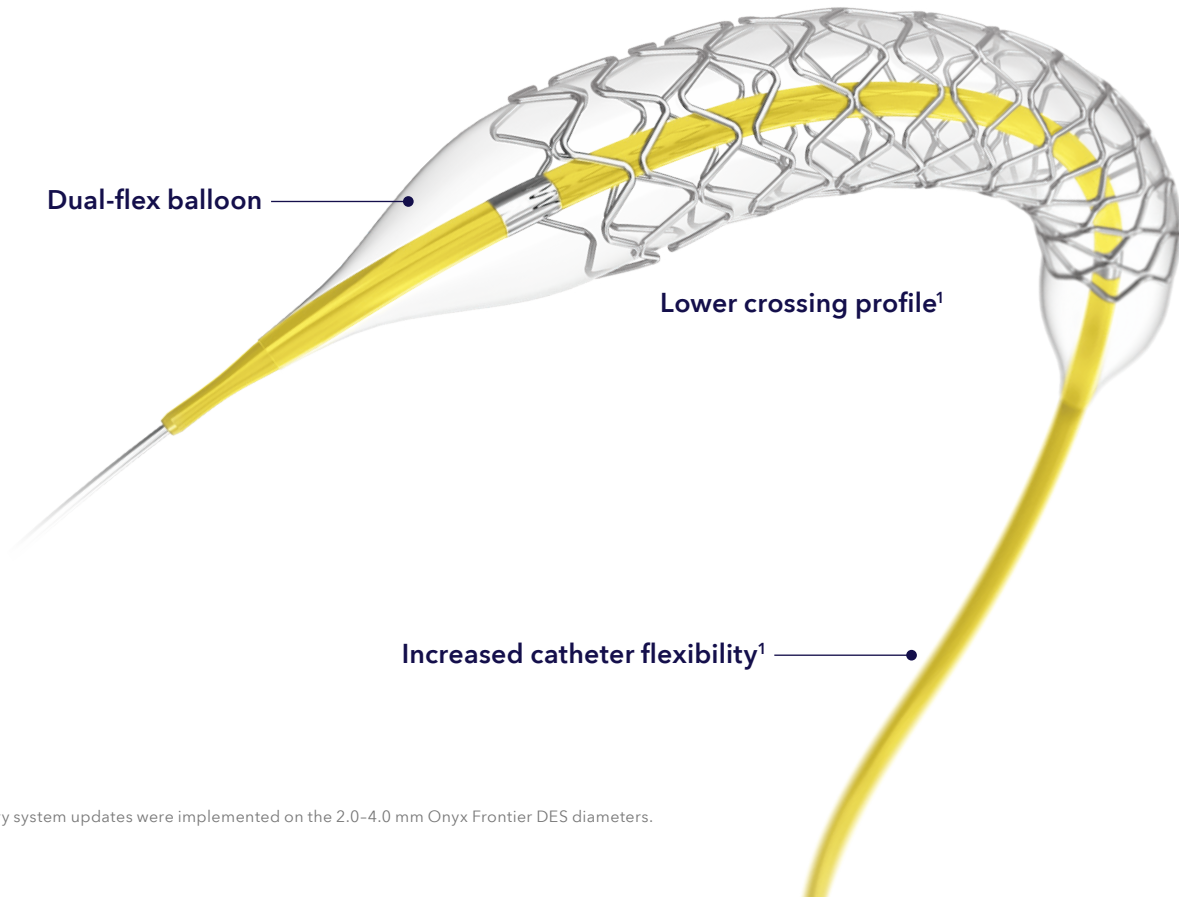
Optimised for  
complex PCI



**Engineered to deliver**

**Onyx Frontier DES** introduces an enhanced delivery system<sup>†</sup> designed to take the acute performance of Resolute Onyx™ DES even further.

Enhanced delivery system<sup>†</sup> features:

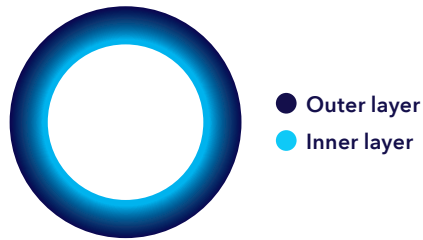


<sup>†</sup>Stent delivery system updates were implemented on the 2.0-4.0 mm Onyx Frontier DES diameters.

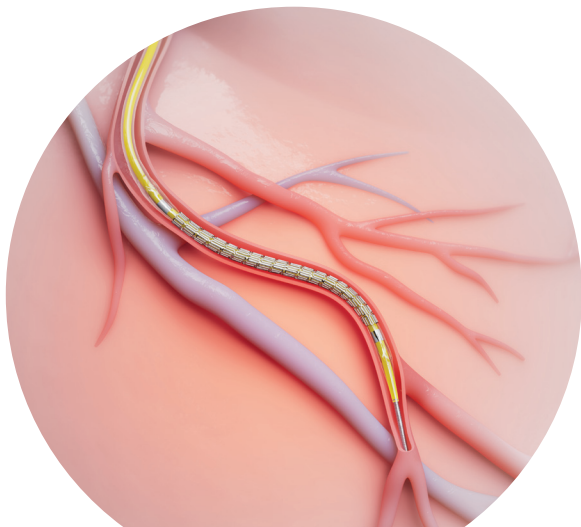
Dual-flex balloon provides increased flexibility and is comprised of a unique blend of two layers<sup>2</sup>:

- Inner layer enhances flexibility<sup>2</sup>
- Outer layer maintains strength<sup>3</sup>

This results in a **thinner balloon<sup>†</sup>** with the same rated burst pressure (RBP) as Resolute Onyx DES.<sup>3</sup>

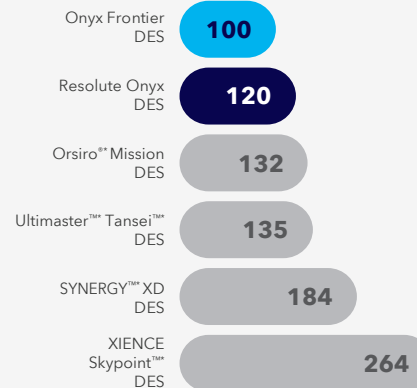


The dual-flex balloon enables a **7.5% lower crossing profile** than Resolute Onyx DES.<sup>1</sup>



#### Deliverability comparison

3.0 mm DES

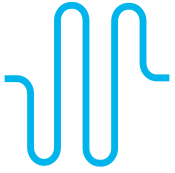


2-D track maximum force (gf scaled)

Lower is better

An updated manufacturing process applied to the outer shaft results in a **29% more flexible catheter<sup>1</sup>** (compared to Resolute Onyx DES) for improved deliverability.<sup>4</sup>

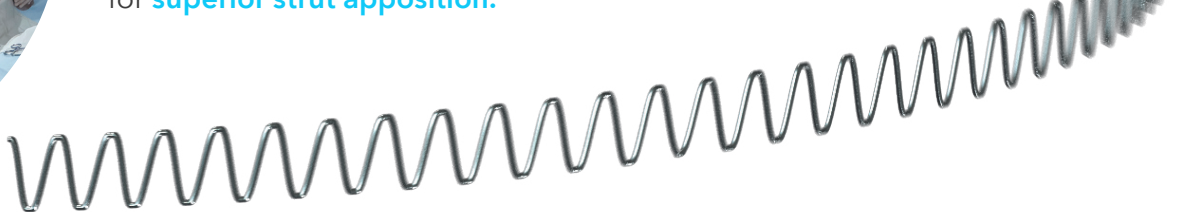
## Different by design

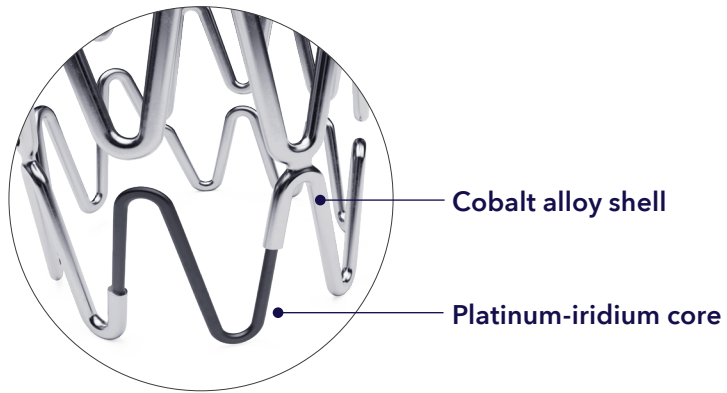


Onyx Frontier DES builds off the legacy of Resolute Onyx DES, featuring the same stent design differentiators that provide the conformability,<sup>5</sup> visibility,<sup>6</sup> fast healing,<sup>7</sup> and size matrix you've come to rely on.

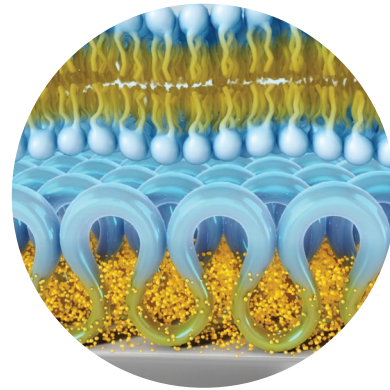


In comparison to laser-cut drug-eluting stents, only Medtronic DES are made from a single wire to enable a fluid range of motion and the conformability needed for **superior strut apposition.**<sup>5</sup>





The platinum-iridium core within Onyx Frontier DES is **more visible** than competitive DES, while enabling greater radial strength with thin struts.<sup>56</sup>



The zotarolimus drug inhibits neointimal growth,<sup>8</sup> while the BioLinx™ biocompatible polymer – the only polymer specifically designed for a DES – **promotes faster healing.**<sup>7</sup>

Only Medtronic offers DES in **2.0 mm to 5.0 mm** sizes, with overexpansion capabilities up to 6.0 mm,<sup>9</sup> to treat the broadest range of coronary vessel diameters.

Platform	Diameter (mm)	Stent length (mm)									MSID <sup>2</sup> (mm)
Small vessels	2.00	8	12	15	18	22	26	30	—	—	3.50
	2.25	8	12	15	18	22	26	30	34	38	3.50
	2.50	8	12	15	18	22	26	30	34	38	3.50
Medium vessels	2.75	8	12	15	18	22	26	30	34	38	4.00
	3.00	8	12	15	18	22	26	30	34	38	4.00
Large vessels	3.50	8	12	15	18	22	26	30	34	38	5.00
	4.00	8	12	15	18	22	26	30	34	38	5.00
Extra-large vessels	4.50	—	12	15	18	22	26	30	—	—	6.00
	5.00	—	12	15	18	22	26	30	—	—	6.00

**Four platforms** specifically designed to meet the unique needs of each vessel size.



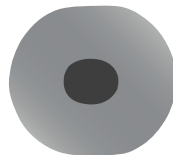
## Optimised for complex PCI

An exclusive set of design features and meaningful clinical data inherited from Resolute Onyx DES provide support for your most challenging cases.

### Bifurcation PCI

- Other DES feature irregular cell shapes, which may obstruct wire or catheter advancement through the cell's opening
- Round struts create a smooth passage when accessing the side branch, while lowering the propensity to catch<sup>9</sup>

#### Rounded struts



Onyx Frontier DES

#### Square struts

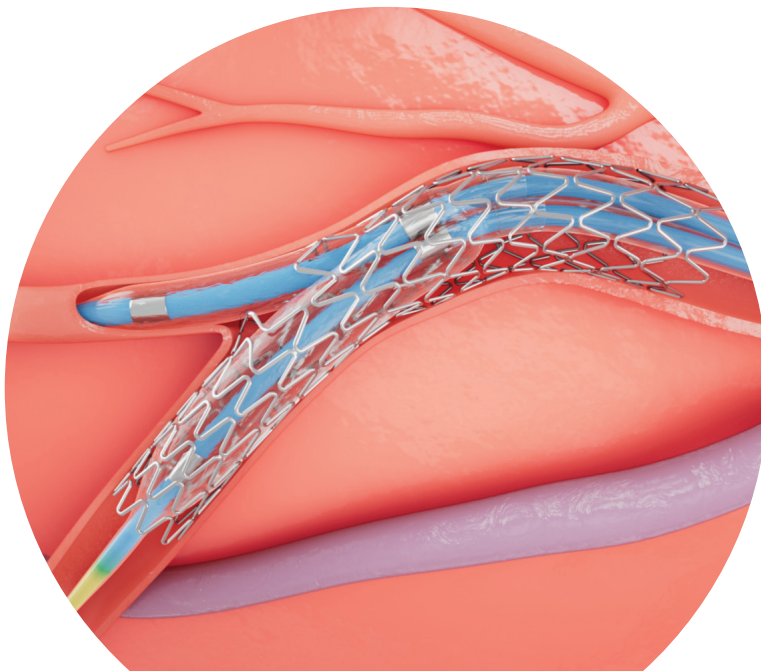


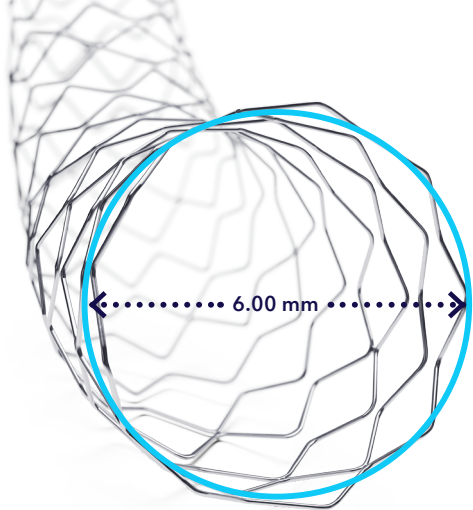
SYNERGY™ MONORAIL  
EVEROLIMUS-ELUTING  
PLATINUM CHROMIUM  
CORONARY STENT  
SYSTEM



XIENCE™  
EVEROLIMUS  
ELUTING  
CORONARY STENT  
SYSTEMS

(Cross-section of actual stents)

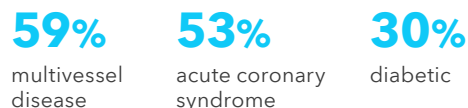




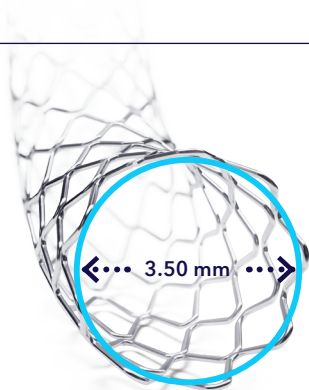
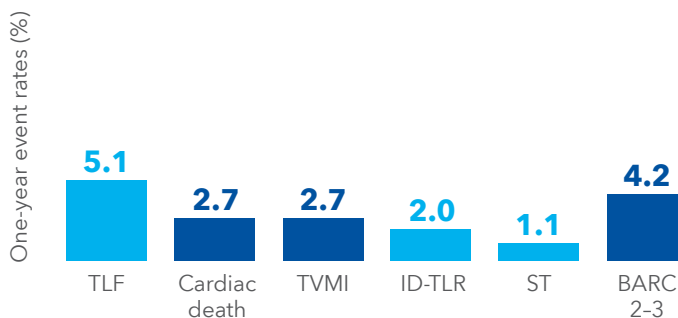
4.50-5.00 mm expand up to 6.00 mm<sup>2</sup> while maintaining structural integrity

## Left main and other extra-large vessel PCI (4.50-5.00 mm)

- Specifically designed with additional crowns and thicker struts<sup>††</sup> to provide the radial strength needed for extra-large vessels<sup>10</sup>
- Maintains a low profile,<sup>10</sup> allowing for 5 Fr compatibility
- ROLEX Registry showed Resolute Onyx DES was safe and effective in left main PCI in a complex patient population<sup>11</sup>



## Low 5.1% TLF, 2.0% TLR, and 1.1% ST at one year



2.00-2.50 mm expand up to 3.50 mm<sup>2</sup> with minimal foreshortening for tapered and extra-small vessels<sup>14</sup>

## Extra-small vessels (2.00-2.50 mm)

- 2.0 mm offers the lowest crossing profile of any DES<sup>12</sup>
- Demonstrated 2% target lesion revascularisation and 0% stent thrombosis at one year in a complex, small-vessel population<sup>13</sup>





## Onyx ONE Global Trial 1,003 Resolute Onyx DES patients studied

### COMPLEX PATIENTS

<b>33%</b>	<b>53%</b>	<b>39%</b>
AF patients	ACS patients	diabetic patients

### COMPLEX LESIONS

<b>46%</b>	<b>80%</b>	<b>38 mm</b>
moderate to severe calcified lesions	B2/C lesions	average stented length

- Indication is based on the results from the Onyx ONE Global Trial, which evaluated real-world, complex, HBR patients on 1-month DAPT treated with a Resolute Onyx DES or a BioFreedom™\* DCS
- The data is intended to better inform short-DAPT decisions in these patients, including those at high risk of thrombotic events<sup>15</sup>
- Results showed that Resolute Onyx DES was safe and effective<sup>15</sup>

<sup>™</sup>Third-party brands are trademarks of their respective owners.

<sup>1</sup>Stent delivery system updates were implemented on the 2.0-4.0 mm Onyx Frontier DES diameter.

<sup>2</sup>Compared to Resolute Onyx 3.0mm balloon design.

<sup>3</sup>Onyx Frontier DES has the same platinum-iridium core as Resolute Onyx DES.

<sup>4</sup>Stents should not be expanded to a diameter beyond the maximum labeled diameter listed per the IFU. Post-dilation required for overexpansion.

<sup>5</sup>Compared to 2.0-4.0 mm sizes.

<sup>6</sup>May not be indicative of clinical performance.

<sup>1</sup> Based on bench test data.<sup>††</sup> Compared to Resolute Onyx DES. n = 5 of each 3.0 mm DES.

<sup>2</sup> Based on bench test data.<sup>††</sup> Compared to Resolute Onyx balloon (3.0 mm). n = 10 of each balloon.

<sup>3</sup> Resolute Onyx DES and Onyx Frontier DES IFUs.

<sup>4</sup> Based on bench test data (method D00117002).<sup>††</sup> n = 7 of each DES.

<sup>5</sup> Based on modeling of 3.0 mm stents.<sup>††</sup> Evaluated Resolute Onyx DES, Synergy DES, and XIENCE Alpine DES (Multi-Link 8 BMS platform).

<sup>6</sup> Based on bench test data.<sup>††</sup> n = 3 of each 3.0 mm DES: Onyx Frontier DES, Orsiro DES, XIENCE DES, Synergy DES, Ultimaster DES.

<sup>7</sup>Roleder T, Kedhi E, Berta B, et al. Short-term stent coverage of second-generation zotarolimus-eluting durable polymer stents: Onyx one-month optical coherence tomography study. *Adv Interv Cardiol.* 2019;15(2):143-150.

<sup>8</sup>Yeh RW, Silber S, Chen L, et al. 5-Year Safety and Efficacy of Resolute Zotarolimus-Eluting Stent: The RESOLUTE Global Clinical Trial Program. *JACC Cardiovasc Interv.* February 2017;10(3):247-254.

<sup>9</sup>Based on bench test data.<sup>††</sup> n = 10 of each 3.0 mm platform: Onyx Frontier, Multi-Link 8 (Abbott), Omega (Boston Scientific).

<sup>10</sup>Based on bench test data.<sup>††</sup> Minimum n = 3 of each Onyx Frontier stent platform.

<sup>11</sup>Tarantini G, Fovino LN, Varbella F, et al. A large, prospective, multicentre study of left main PCI using a latest-generation zotarolimus-eluting stent: the ROLEX study. *EuroIntervention.* Published online August 31, 2022.

<sup>12</sup>Based on bench test data.<sup>††</sup> n = 5 of each DES (2.0 mm and 2.25 mm): Onyx Frontier DES, Resolute Onyx DES, Synergy XD DES, Xience Skypoint DES.

<sup>13</sup>Cuellas C, et al. Use of a Zotarolimus-eluting stent for small vessel disease (DISCO 9 Study). Presented at PCR 2021.

<sup>14</sup>Based on bench test data.<sup>††</sup> n = 10 Resolute Onyx 2.0 mm DES.

<sup>15</sup>Windecker S, Latib A, Kedhi E, et al. Polymer-based or Polymer-free Stents in Patients at High Bleeding Risk. *N Engl J Med.* March 26, 2020;382(13):1208-1218.

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