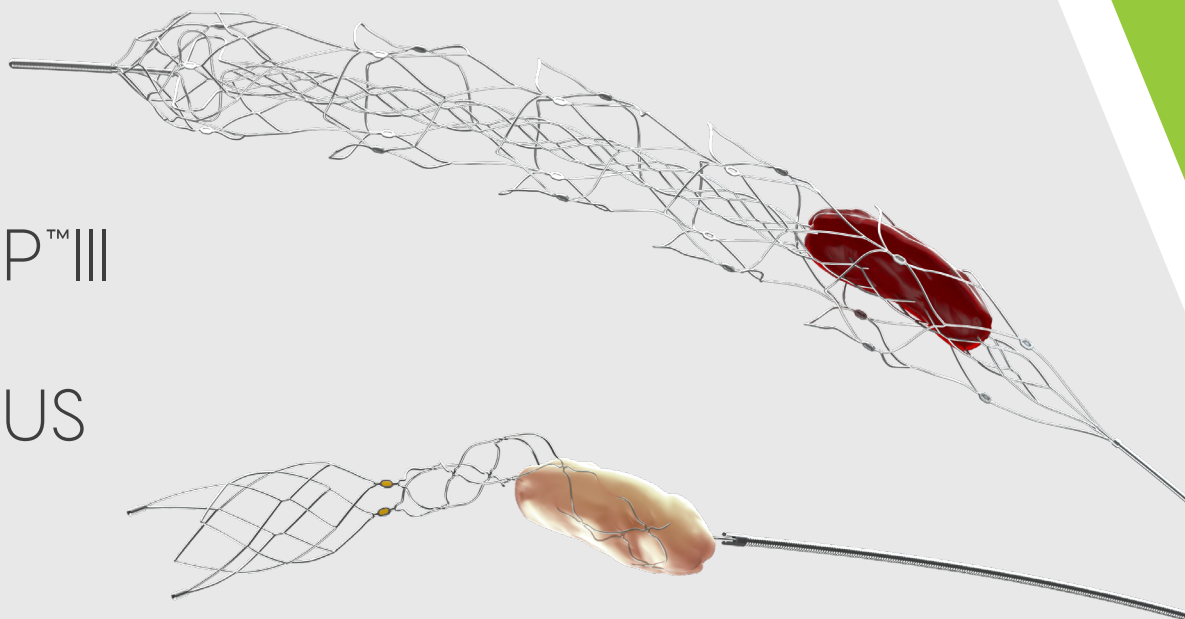
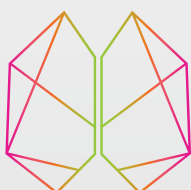


EMBOTRAP™ III  
revascularization device

CERENOVUS  
NIMBUS™  
geometric clot extractor



Designed with clot  
science in mind<sup>1</sup>



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CERENOVUS  
STROKE  
SOLUTIONS™



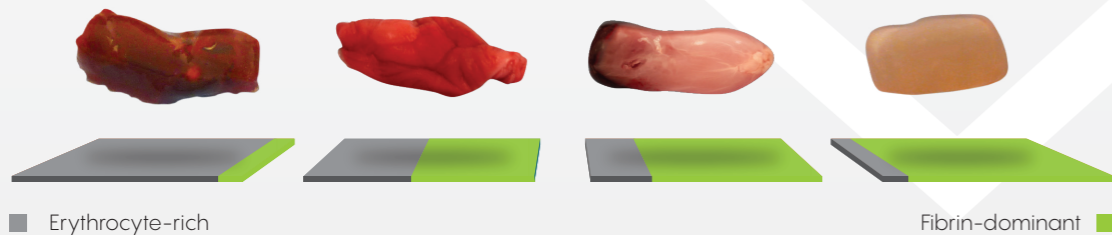
NTI

## Our NTI journey

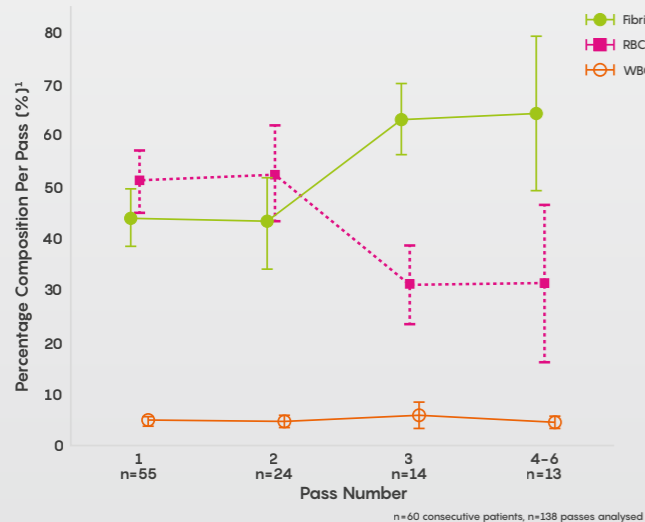
The Neuro Thromboembolic Initiative is our commitment to advance the treatment of stroke through interdisciplinary collaboration and investment in clot and occlusion dynamics.<sup>1</sup>

- Creating Clot Analogues    Clot Mechanical Properties    Translational Research    Clot Detection    Testing Prototypes

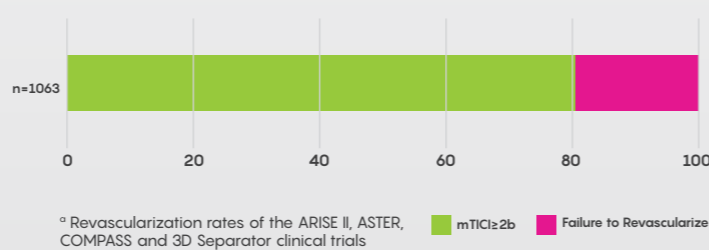
## Clots vary significantly<sup>1</sup>



Etiology, formation conditions, age and morphology all affect clot properties and behaviour. Different clot types may present very different retrieval challenges.



Successful recanalization is not achieved in approximately 25% of thrombectomy cases<sup>16,17,18,19</sup>

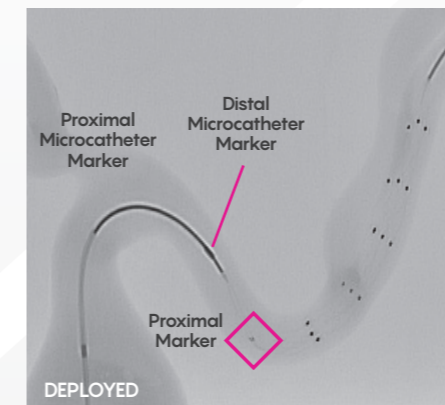


## EMBOTRAP™ III

revascularization device

Stay engaged.  
More visible.  
More Options\*\*.<sup>11</sup>

- expanded options
- 5x22mm
  - 5x37mm
  - 6.5x45mm



### clot capture

- EMBOTRAP™ III has an enhanced refined distal mesh\*\*.<sup>12,13</sup>

### procedural confidence

- EMBOTRAP™ III Device has improved visibility.\*\*.<sup>13,14,20,21</sup>

### deliverability

- EMBOTRAP™ III Revascularization Device has superior trackability through tortuous anatomy due to lower deliverability forces.\*\*.<sup>11</sup>

### Enhanced Distal Mesh



## CERENOVUS NIMBUS™

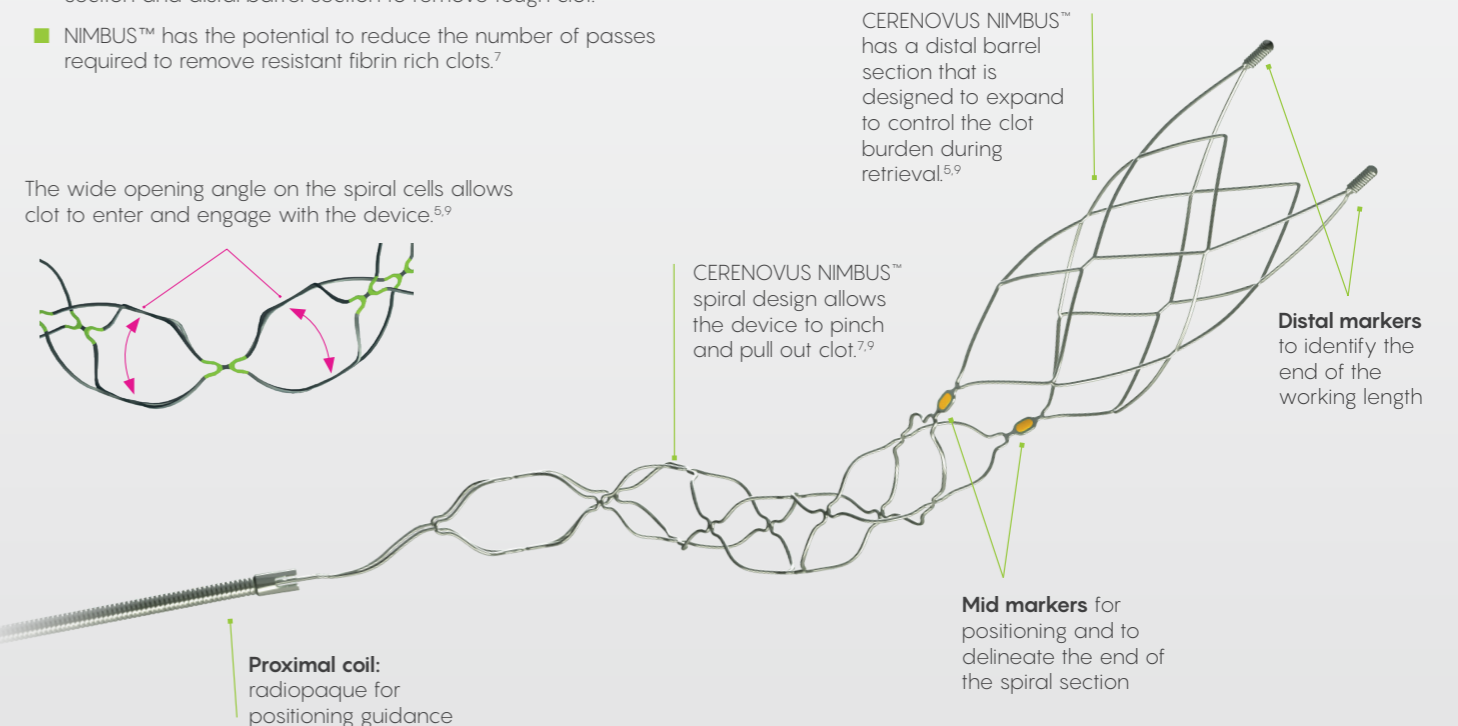
geometric clot extractor

CERENOVUS NIMBUS™ is designed to remove tough clots to restore blood flow.\*.<sup>5,10,15</sup>

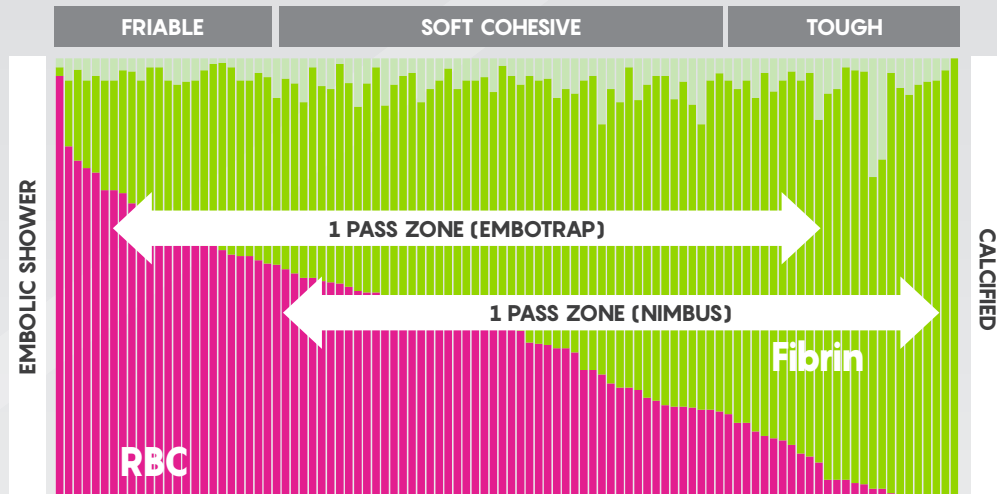
### Pinch-pull technology:

- CERENOVUS NIMBUS™ is designed with a proximal spiral section and distal barrel section to remove tough clot.\*\*.<sup>6,8,15</sup>
- NIMBUS™ has the potential to reduce the number of passes required to remove resistant fibrin rich clots.<sup>7</sup>

The wide opening angle on the spiral cells allows clot to enter and engage with the device.<sup>5,9</sup>



## Histopathologic Composition of 100 Retrieved Clots<sup>2,3,4</sup>



### EMBOTRAP™ III Revascularization Device

Product Code	Outer Cage Diameter	Recommended Vessel Diameter	Working Length	Push Wire Length	Overall Length	Microcatheter compatibility	Radiopaque Tip Length	Proximal coil length	Number of Radiopaque Markers		
									Proximal	Body	Distal
ET307522	5mm	1.5-5.0mm	22mm	188cm	194cm	0.021"	4mm	20mm	2	8	3
ET307537	5mm	1.5-5.0mm	37mm	188cm	195cm	0.021"	4mm	20mm	2	16	3
ET307645	6.5mm	1.5-6.5mm	45mm	188cm	196cm	0.021"	4mm	20mm	2	16	3

### CERENOVUS NIMBUS™ geometric clot extractor

Product Code	Indicated Vessel Diameter	Distal Barrel Section Outer Cage Diameter	Working Length	Proximal Spiral Section Outer Cage Diameter	Microcatheter Compatibility	Proximal Coil Length	Overall Length
GCE4528	1.5-5.0mm	4.5mm	28mm	2.25mm	0.021"	20mm	1927mm

\* A tough clot is an adherent, durable thrombus, that has a high stiffness making it resistant to endovascular thrombectomy. General characteristics of these clots, are that they are fibrous and consist of few RBCs. In vitro thrombectomy simulation with tough clots result in inferior revascularization rates compared to the full population of clots.

\*\* Compared to EMBOTRAP™ II Device.

\*\*\* Benchtop in vitro model testing compared to the 2 leading selling stentriever companies.

\*\*\*\* Distal mesh size of EMBOTRAP™ III 5x22mm and 5x37mm is smaller than EMBOTRAP™ II 5x21mm and 5x33mm.

\*\*\*\*\* Tough clot defined as per TR426 Rev 1, Sept 2020.

<sup>1</sup> Duffy et al: Novel methodology to replicate clot analogs with diverse composition in acute ischemic stroke, 2019, J NeuroIntervent Surg 2016;0:1-7. doi:10.1136/neurintsurg-2016-012308

<sup>2</sup> Liebeskind DS, Sanossian N, Yong WH, et al. CT and MRI Early Vessel Signs Reflect Clot Composition in Acute Stroke. Stroke. 2011 May;42(5):1237-43. doi: 10.1161/STROKEAHA.110.605576. Epub 2011 Mar 10.

<sup>3</sup> Cline B. Pathological Analysis of Extracted Clots in Embolectomy Patients with Acute Ischemic Stroke. Journal of NeuroInterventional Surgery, Jan 2013.

<sup>4</sup> T. Boeckh-Behrens, The Impact of Histological Clot Composition in Embolic Stroke. Clin Neuroradiol, June 2016.

<sup>5</sup> NIMBUS IFU, CS071-01 Rev 07 Attachment 3

<sup>6</sup> Nimbus, Revascularization Device Design Dossier Supplement DD001/S003, July 2018

<sup>7</sup> In vitro study, Fennell et al, Surgery, What to do about fibrin rich 'tough clots'? Comparing the Solitaire stent retriever with a novel geometric clot extractor in an in vitro stroke model. Journal of NeuroInterventional 2018;10:907-910.

<sup>8</sup> CS071-01 Rev 07 Attachment 03: Page 1 - Table 1

<sup>9</sup> CERENOVUS, TR422 NIMBUS, Evidence Generation Report Rev 1, Oct 1 2020, Data of File.

<sup>10</sup> NIMBUS Evidence Generation - Performance Evaluations, TR422, Oct 2020

<sup>11</sup> CERENOVUS, Test Report TR371, Revision 01, EMBOTRAP™ III Evidence Generation, Pg 14.

<sup>12</sup> EMBOTRAP III Technical Overview Aidan Duffy R&D February 2020

<sup>13</sup> EMBOTRAP III Revascularization Device Instructions for Use, CSR163, Rev 1, May 2020.

<sup>14</sup> EMBOTRAP II Revascularization Device Instructions for Use, CSRO30 Rev 3, May 2018

<sup>15</sup> Neuravi, TR426 Tough Clot Definition, Rev 1, Sept 2020.

<sup>16</sup> Zaidat O, Bozorgchami H, et al. Primary Results of the Multicenter ARISE II Study (Analysis of Revascularization in Ischemic Stroke with EMBOTRAP). Stroke, May 2018; DOI: 10.1161/Strokeaha.117.020125.

<sup>17</sup> Turk AS, Siddiqui A, Fifi JT, et al. Aspiration Thrombectomy versus stent retriever thrombectomy as first-line approach for large vessel occlusion (COMPASS): a multicentre, randomised, open label, blinded outcome, non-inferiority trial. March 2019, vol 393.

<sup>18</sup> Lapergue B, Blanc R, Gory B, et al. JAMA Original, Effect of Endovascular Contact Aspiration vs Stent Retriever on Revascularization in Patients with Acute Ischemic Stroke and Large Vessel Occlusion, The ASTER Randomized Clinical Trial. JAMA, August 2017, Vol 381, Number 5.

<sup>19</sup> Nagueira RG, Frei D, Kirmani JF, et al. Safety and Efficacy of a 3-Dimensional Stent Retriever with Aspiration-Based Thrombectomy vs Aspiration-Based Thrombectomy Alone in Acute Ischemic Stroke Intervention, A Randomized Clinical Trial. JAMA Neurol. January 2018.

<sup>20</sup> Solitaire 510K Letter, Jan 2019

<sup>21</sup> Platinum 6x40 Solitaire™ Revascularization Device Product Brochure, Oct 2017, pg 4, column "Stent Length".

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