AZUR®
Peripheral HydroCoil Embolization System

THE POWER
OF HYDROGEL
DISCOVER HOW TERUMO® PATENTED HYDROGEL TECHNOLOGY PERFORMS TO MEET YOUR EMBOLIZATION CHALLENGES.
Coil Construction

There are many types of coils to choose from when preparing for an embolic procedure. The construction of the coil may have an impact on the effectiveness of the clinical outcomes.

.020” Bare Platinum Coils

The majority of the coil core is hollow allowing for blood to flow through the coil forming thrombus inside the core. Thrombus has the potential to break down over time which may lead to coil mass instability.

AZUR CX

The AZUR CX has a solid core upon hydrogel expansion which, unlike thrombus, will not be absorbed by the body.¹ ² ³ ⁴

AZUR HydroCoil

The AZUR HydroCoil has an expanding hydrogel which provides a barrier around the outer diameter of the core to prevent blood flow through the coil and minimize microchannels to form.
MECHANICAL OCCLUSION

Permanent long term occlusion is one of the primary goals of an embolic procedure. Studies have shown that an embolization that relies more on thrombus, and less on mechanical filling of the site may lead to higher rates of recanalization.

HUMAN EXPLANT 3 WEEKS POST TREATMENT

Bare Platinum Coil
- Evidence of micro-channels and unorganized thrombus within the core

AZUR HydroCoil
- Expanded hydrogel with increased volume fill
- Evidence of organized neointima surrounding hydrogel
RECANALIZATION DUE TO COIL COMPACTION

Compaction of the coil mesh (decrease of interspaces between the loops of the coils, which leads to a smaller coil mesh) is the most important contributing factor in this reopening of the aneurysmal lumen, and it is believed that this phenomenon is caused by the water hammer effect of the pulsatile blood flow.\(^3\)

BARE PLATINUM COILS

Thrombus absorption within the embolic mass and microchannels between the interstices of the coils provide opportunities for blood to penetrate the coil mass which may lead to instability and recanalization.

The porous surface of hydrogel provides a biologically inert scaffolding for natural tissue proliferation\(^1\) which may lead to less coil compaction and recanalization\(^4\).
RECANALIZATION

Recanalization may lead to aneurysm rupture and repeat embolizations.

However, if organized thrombus and fibrous tissue fills the aneurysm and neointima forms at the neck of the aneurysm, then the risk of rupture and repeat embolization may be minimal.7

AZUR PERIPHERAL HYDROCOIL EMBOLIZATION SYSTEM & AZUR CX PERIPHERAL COIL SYSTEM MAY PROVIDE:

➤ Greater packing density compared to bare platinum coils12
➤ A scaffold for neointimal growth and thicker neointimal tissue at the neck of the aneurysm1
   ➤ The ability to induce neointima formation12
➤ A lower rate of mid and long-term recanalization4
➤ A good option for patients on anticoagulants / antiplatelet therapies due to the mechanical occlusion10

BARE PLATINUM COILS MAY:

➤ Show less coil packing density12
➤ Have a clot organization that seems to be delayed and/or incomplete due to the tiny open spaces between the coils3
**VOLUMETRIC COMPARISON**

Terumo’s Patented Hydrogel Technology swells 4–5 times in size\* in the presence of blood and allows an increase in filling volume and packing density compared with competitive coils.\(^\text{13}\)

There is a relationship between the percent of packing volume and aneurysm recanalization\(^\text{8}\)
- Recanalization was significantly lower in aneurysms packed >25% in volume\(^\text{8}\)
- Sluzewski et. al show no compaction at 6 months in aneurysms that were packed > than 24% in volume\(^\text{9}\)

19mm Spherical Aneurysm
3,591.36 mm\(^3\) Volume Needed to Achieve 24%

**Volume to Achieve 24% Packing Density using AngioCalc**

<table>
<thead>
<tr>
<th>Coils</th>
<th># of Coils Needed</th>
<th>Length Needed (CM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Coils</td>
<td>23</td>
<td>670</td>
</tr>
<tr>
<td>Concerto Coils</td>
<td>17</td>
<td>820</td>
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<tr>
<td>Ruby Coils</td>
<td>8</td>
<td>430</td>
</tr>
<tr>
<td>AZUR HydroCoils</td>
<td>5</td>
<td>190</td>
</tr>
</tbody>
</table>

**CONCLUSION**

Due to the volumetric expansion of AZUR HydroCoils, it would require lower number of coils with less overall length to fill a 19mm aneurysm compared to competitive coils.\(^\text{13}\)


*As described in the IFU: AZUR HydroCoils has an outer layer consisting of a hydrophilic polymer. As a result, the secondary coil diameter (dimension ‘A’ on the package label) will increase by approximately 0.5 mm following full hydration (approx. 20 minutes).

For Rx only: Before using refer to Instructions for Use for indications, contraindications as well as warnings and precautions @ www.terumois.com

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