SOLVES.

Building the perfect Embolization
In addition to mechanically embolizing it also acts as a sclerotizing agent

Applicable with standard 4F catheters

High haemostatic power

Suitable for emergencies

Easy to prepare

Effective and quick

It does not cause pain

It does not contain toxic solvents

Can be used in combination with other embolizing agents (Spirals and Microspheres)

Reduced costs: “This treatment is safe, effective and a “low cost” treatment with a high success rate”

Effective even in patients on anticoagulants or affected by inherited coagulation disorders

It generates a permanent occlusion

CE authorized for endovascular use
## SIX PRODUCTS IN A DROP.

### ADHESIVE
High tensile strength. Acceptable minimum load is ≥ 435 N [approx. 18 Kgf/cm²].

### SEALANT
Applied with dedicated nebulizing devices it forms a thin film with sealing and waterproof properties due to its synthetic nature and strong adhesive power.

### HAEMOSTATIC
Effective in wet environment.

### BACTERIOSTATIC
Blocks bacterial growth for an average of 7 days.

### SCLEROSANT
Injected into the lumen of a vessel/varices, polymerize generating a plastic cap causing thrombosis and subsequent fibrosis and sclerosis.

### LIQUID EMBOLIZING AGENT
Injected into a blood vessel polymerizes building a cast adheres to the vessel occluding it such as an embolus. It causes completely and definitively occlusion without any recanalization, equivalent to surgical ligation.

Tailored dilutions with Lipiodol allow a great modulability of Glubran®2, adaptable to a large variety of cases:

<table>
<thead>
<tr>
<th>TREATMENTS</th>
<th>GLUBRAN®2/LIPIODOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial and venous bleeding</td>
<td>1:3-1:6⁴⁸,⁵⁷,⁵⁸, ⁸⁴</td>
</tr>
<tr>
<td>AVM</td>
<td>1:3⁸⁴</td>
</tr>
<tr>
<td>Fistulas</td>
<td>1:1-1:3²⁴,³⁰,³⁶,⁶⁶,⁶²,⁷³,⁷⁹</td>
</tr>
<tr>
<td>Varicocele</td>
<td>1:1²⁴</td>
</tr>
<tr>
<td>Cysts and tumours</td>
<td>1:1-1:6²⁸,³¹,³⁷</td>
</tr>
<tr>
<td>Portal Vein</td>
<td>1:1-1:8⁶⁴</td>
</tr>
<tr>
<td>Endoleaks type II</td>
<td>1:3⁴¹,⁴⁹,⁵⁶</td>
</tr>
</tbody>
</table>

### Appearance
TRANSPARENT

### Odour
TYPICAL OF CYANOACRYLATES

### Density
SIMILAR TO WATER

## Ready to use
- Does NOT polymerise in the presence of air
- Storage at +2 to +8°C
- Can remain at room T (22.5° ± 2.5°C) per 48h²

The co-monomer NBCA + MS is an add value to give:
- Polymerisation Temperature: 45°C lower than 80-90°C typical of pure monomeric cyanoacrylates like N-Butyl-CyanoAcrylate and Hesyl-Cyanoacrylate¹⁰-¹³,⁶¹-⁸²
- NO tissue necrosis¹⁰-¹²,⁶¹-⁶³,⁶⁴
- Greater elasticity of the cast at the end of the polymerization⁴-⁶
INTERVENTIONAL RADIOLOGY

PRE ➔ POST EMBOLIZATION

**BODY**

**ARTERIAL EMBOLIZATION FOR BONE TUMOURS**

Pre-embolization ➔ Post-embolization

**PELVIC AVM**

Pre-embolization ➔ Post-embolization

**VARICOCELE**

Pre-embolization ➔ Post-embolization
HEAD & NECK

DURAL FISTULA

Pre-embolization | Microcatheterization | Post-embolization

INTRAVENTRICULAR BLEEDING

Pre-embolization | Microcatheterization | Post-embolization

AVM HEMORRHAGE IN A YOUNG PATIENT

AVM bleeding | After Glubran®2 injection the AVM was completely obliterated. | Post-embolization
GUIDELINES FOR USING GLUBRAN®2

1. Careful preliminary angiographic examination
   Identification of the afferent and collateral vessels and any eventual AV fistulas with oblique and cranio-caudal projections

2. Selective and superselective catheterisation of the area to be embolised

3. Careful hemodynamic evaluation

4. Dilute with Lipiodol®:
   a) To delay the Glubran®2 to polymerisation start time
   b) To make it radiopaque

5. Mix the two compounds uniformly
   Immediately before injection (with a 3-way resistant stopcock or in a steel bowl)

6. Wash the catheter with glucose or dextrose solution

7. Inject slowly
   • Microbolus of 0.1-0.3 ml of mixture > push with glucose/dextrose ("sandwich" technique)
   • A single injection continuously

8. Remove the catheter
   (quickly and immediately after the injection, if it was not performed the "sandwich technique" with glucose)

9. Eventual check with contrast medium at least two minutes later

WARNING: DO NOT USE GLUBRAN®2 WITH POLYCARBONATE OR SILICONE MATERIALS

Advised products & materials
- Glubran®2/Lipiodol® Ultra-Fluid
- Glucose or dextrose 5%-33%
- Polyethylene (PE) or polypropylene (PP) syringes with luer lock
- 3-way-stopcocks
- Standard 4F catheter
- Coaxial microcatheter

Glubran®2/Lipiodol® dilution ratios

<table>
<thead>
<tr>
<th>MICROCATHER</th>
<th>CATHETER</th>
<th>INJECTION OF THE MIXTURE</th>
<th>FLOW SPEED</th>
<th>OCCLUSION</th>
<th>EXAMPLES OF APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLUBRAN®2/LIPIODOL®</td>
<td>Close to lesion</td>
<td>Wedged</td>
<td>Continuous</td>
<td>High</td>
<td>Proximal</td>
</tr>
<tr>
<td>GLUBRAN®2/LIPIODOL®</td>
<td>Far from lesion</td>
<td>Free</td>
<td>Drop by drop</td>
<td>Low</td>
<td>Distal</td>
</tr>
</tbody>
</table>

Dilution ratio 1:1 to 1:3
Dilution ratio 1:4 to 1:9


