

PHIL™ FORMULATIONS

Product Code	Concentration	Viscosity	Volume of LE	When to Use
LEN10250	PHIL™ 25%	16cSt	1mL	- Low flow scenarios - Distal access
LEN10300	PHIL™ 30%	36cSt	1mL	- Moderate flow scenarios - When feeding pedicle injections are conducted close to the nidus
LEN10350	PHIL™ 35%	72cSt	1mL	- Higher flow scenarios - Large fistulous components embolization

MICROCATHETER COMPATIBILITY

PHIL™ must be used with DMSO compatible catheters such as:

Product Name	Description	Dead Space (mL)	Dead Space with PHIL Adaptor (mL)
Scepter C*	Compliant Occlusion Balloon	0.44	0.23
Scepter XC*	X-tra Compliant Occlusion Balloon	0.44	0.23
Headway® 17	Headway® 17 Microcatheter	0.41	0.26
Headway® Duo 156cm	Headway® Duo Microcatheter	0.34	0.24
Headway® Duo 167cm	Headway® Duo Microcatheter	0.35	0.25

Concentration:
Percentage of embolic material in DMSO in weight

Viscosity:
Measure in centistokes (ex: water = 1cSt, Blood = 5cSt)

Volume of Liquid Embolic:
DMSO + Copolymer bounded with iodine

PHIL™ SYSTEM COMPONENTS

- 1mL of PHIL™ system in pre-filled sterile syringe
- 1mL of DMSO in pre-filled sterile syringe
- Catheter specific adaptors
- Instructions for Use



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Free From Preparation and Tantalum Constraints



MicroVention
TERUMO

Key Clinical Benefits:

What is PHIL™?

The PHIL™ System is a non-adhesive liquid embolic agent comprised of a biocompatible polymer dissolved in dimethyl sulfoxide (DMSO) solvent. An Iodine component is covalently bonded to the polymer to provide homogenous fluoroscopic visualization.

The PHIL™ Liquid Embolic is intended for use in the embolization of lesions in the peripheral and neurovasculature, including arteriovenous malformations and hypervascular tumors.

1 READY TO USE DEVICE

- Pre-filled sterile syringes**
- No preparation required
 - No risk of contamination and needle stick injury
 - High embolic capacity loaded in a 1mL syringe
(See Embolic Capacity Chart on flap)

Used with

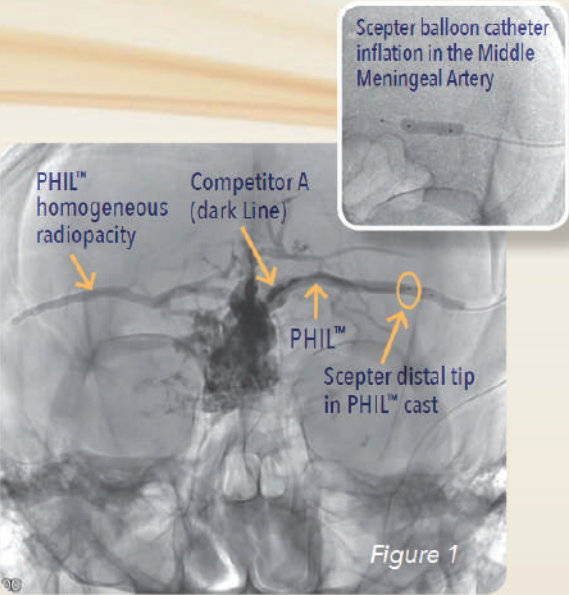


Figure 1

Tentorial AVF treated with PHIL™ and Competitor A Liquid Embolic injection through Scepter balloon catheter.

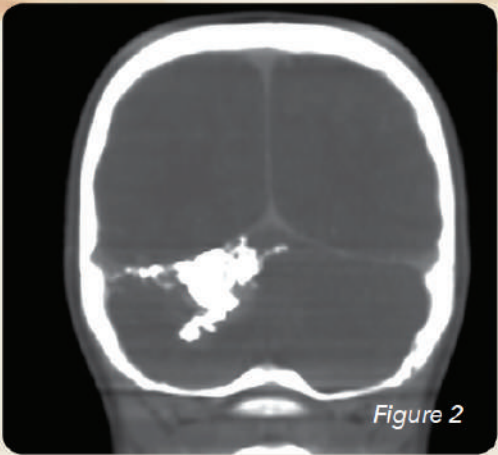


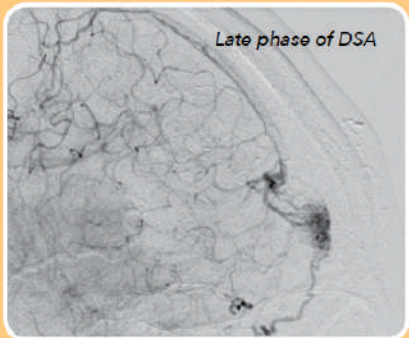
Figure 2

Coronal CT Reconstruction of Posterior Fossa AVM.

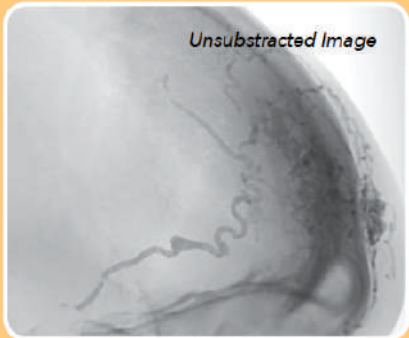
Images courtesy of Dr. Naci Kocer, Istanbul University, Cerrahpasa Medical Faculty, Istanbul, Turkey.

CASE STUDY

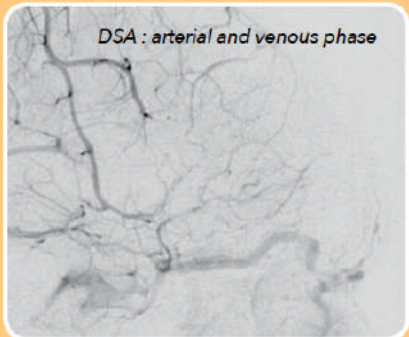
Transosseous Arteriovenous Malformation/Fistula



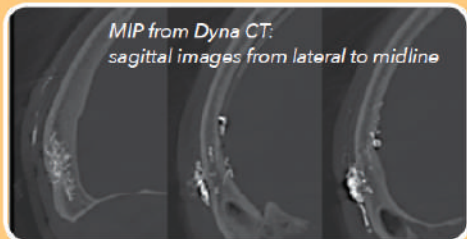
Late phase of DSA



Unsubtracted Image



DSA : arterial and venous phase



MIP from Dyna CT: sagittal images from lateral to midline

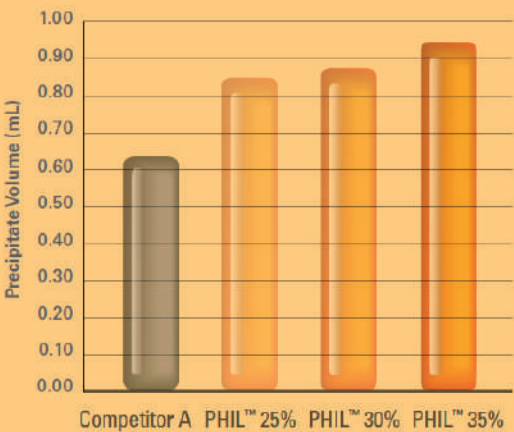
No remaining vascular pathology after PHIL injection

Distribution of PHIL™ after end of procedure

Images courtesy of Dr. Markus Holtmannspötter
University of Copenhagen
Rigshospitalet, Denmark

EMBOLIC CAPACITY

mL's of Precipitate Volume per mL of Liquid Embolic



PHIL™ vs. Competitor A

(similar viscosity to PHIL 25%)

Embolic Capacity Comparison

Product Precipitate Volume in
1mL of Liquid Embolic

Competitor A • 0.67 mL

PHIL™ 25% • 0.85 mL

1 mL of PHIL™ 25 = 1.26 mL of Competitor A

PHIL™ 30% • 0.87 mL

1 mL of PHIL™ 30 = 1.3 mL of Competitor A

PHIL™ 35% • 0.90 mL

1 mL of PHIL™ 35 = 1.4 mL of Competitor A



Cross section at
30 seconds

Precipitate dissected after soaking
in 37°C Phosphate Buffered Saline (PBS)



Cross section at
2 minutes

2 OPTIMIZED VISIBILITY

Iodine component is covalently bonded to the co-polymer

- No shaking needed
- Perfect homogeneity of PHIL™ radiopacity (Figure 1)
- Same visibility regardless the procedure length

Lower density of radiopacity

- Perfect balance between visibility and cast masking effect
- Visibility of microcatheter tip during treatment (Figure 1)



3 NO METALLIC COMPONENT

No risk of microcatheter blockage due to
Tantalum aggregation

Minimize (streak) artifact during control imaging (Figure 2)

- Facilitate staged procedure or combined treatments

Compatible with surgical resection

- No hazard related to sparking/combustion

No tattoo effect seen in superficial malformation treatment



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