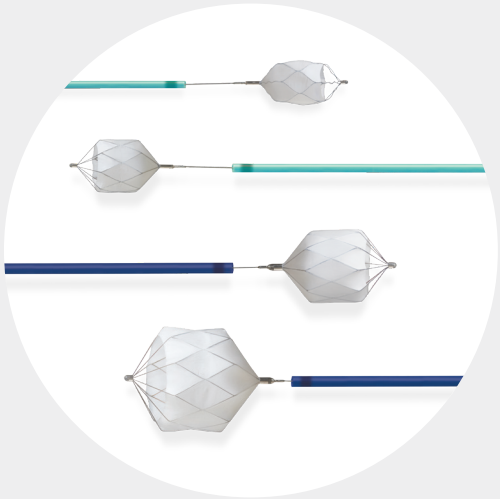
Medtronic

MVP™ Micro Vascular Plug System

Evidence spotlight



This evidence spotlight summarizes a wide range of essential and relevant published data about the MVP device, from clinical outcomes to procedural and economic value.

Risks of the device on health include: embolic event, vessel trauma, device migration, allergic reaction, and stroke.

Patient outcomes

Immediate occlusion

PTFE-covered nitinol frame achieves immediate occlusion of the target vessel.[1-6]

Reduced radiation

Device design reduces fluoroscopy time and radiation dose.[2]

Professional preference

Microcatheter delivery

The first plug to be delivered through a microcatheter.[†1,3] It can treat smaller, more tortuous vessel anatomy that may be unreachable with other devices.[1,5,6]

Resheath and reposition

Fully resheathable after partial or complete deployment, the MVP device allows repositioning as needed without device disruption.[‡1,5]

Economic value

Procedure time

Innovative device design features, including increased control and rapid occlusion, allow for less time spent in the OR.[3]

Device cost

Precise placement and lasting occlusion capabilities with just a single device make the MVP device a viable, cost-effective choice.[2,3,6]

Device comparisons

MVP versus AVP

Unlike the Amplatzer™* vascular plug (AVP), the MVP device can be delivered to super-selective vasculature due to its flexible delivery design through a microcatheter.[5,7] The PTFE covering over the nitinol frame allows for more rapid occlusion than the nitinol mesh design of the AVP.[3]

MVP versus coils

The MVP device and some coils share the same microcatheter delivery capabilities. The MVP device, however, occludes the target vessel almost immediately,[1,4,8] and prevents recanalization within the vessel.[1,2,6,9]

†MVP-3 and MVP-5 devices only.
‡Maximum up to three times.

Acronyms	
AVP	Amplatzer vascular plug
PTFE	Polytetrafluroethelyne
MVP	Micro vascular plug
OR	Operating room

MVP device sizes

Product code	Recommended vessel size	Outer diameter unconstrained	Length unconstrained	Delivery wire length	Minimum recommended microcatheter ID	Maximum recommended length of microcatheter/ delivery catheter
MVP-3Q	1.5–3.0 mm	5.3 mm	12 mm	180 cm	0.021″	153 cm
MVP-5Q	3.0–5.0 mm	6.5 mm	12 mm	180 cm	0.027″	153 cm
MVP-7Q	5.0–7.0 mm	9.2 mm	16 mm	165 cm	0.041″ (4 Fr)	120 cm
MVP-9Q	7.0–9.0 mm	13.0 mm	18 mm	165 cm	0.043″ (5 Fr)	120 cm

References

[1] Pellerin O, Maleux G, Déan C, Pernot S, Golzarian J, Sapoval M. Microvascular plug: a new embolic material for hepatic arterial skeletonization. *Cardiovasc Intervent Radiol.* December 2014;37(6):1597-1601.

[2] Bailey CR, Arun A, Towsley M, et al. MVP™ Micro Vascular Plug Systems for the Treatment of Pulmonary Arteriovenous Malformations. *Cardiovasc Intervent Radiol.* March 2019;42(3):389-395.

[3] Ratnani R, Sutphin PD, Koshti V, et al. Retrospective Comparison of Pulmonary Arteriovenous Malformation Embolization with the Polytetrafluoroethylene-Covered Nitinol Microvascular Plug, AMPLATZER Plug, and Coils in Patients with Hereditary Hemorrhagic Telangiectasia. *J Vasc Interv Radiol.* July 2019;30(7):1089-1097.

[4] Park JJ, Park JM. Reduced Metal artifact on CT utilizing the Medtronic MVP. Insert to *EVT* 10/2017 Vol. 16, No. 10.

[5] Test data on file at Medtronic. Bench test results may not be indicative of clinical performance.

[6] Latif M, Bailey C, Motaghi M, et al. Postembolization Persistence of Pulmonary Arteriovenous Malformations: A Retrospective Comparison of Coils and Amplatzer and Micro Vascular Plugs Using Propensity Score Weighting. *AJR Am J Roentgenol*. January 2023;22(1):95-103.

[7] AMPLATZER™ Vascular Plug II Instructions for Use.

[8] Intraprocedural Safety and Technical Success of the MVP Micro Vascular Plug for Embolization of Pulmonary Arteriovenous Malformations. *JVIR.* November 2015;26(11):1735-1739.

[9] Giurazza F, Corvino F, Cavaglià E, et al. Arterial embolizations with microvascular plug in extracranial and intracranial districts: technical results. *Radiol Med.* March 2018;123(3):236-243.

Important Information: Indications, contraindications, warnings and instructions for use can be found in the product labeling supplied with each device.

Indications for Use: The MVP™ micro vascular plug system is indicated for arterial and venous embolization in the peripheral vasculature.

Potential Adverse Effects of the Device on Health: Potential adverse events that may occur during or after a procedure placing this device include, but are not limited to, the following items: air embolism, allergic reaction or toxic effects, bleeding, death, device migration, fever, foreign material embolic event, infection, occlusion of unintended vessel, peripheral embolism, recanalization, residual flow, stroke or transient ischemic attack (TIA), surgical intervention, vascular access site complication, and vessel trauma or perforation.

CAUTION: Federal (USA) law restricts these devices to sale, distribution and use by or on the order of a physician.

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