Sniper®

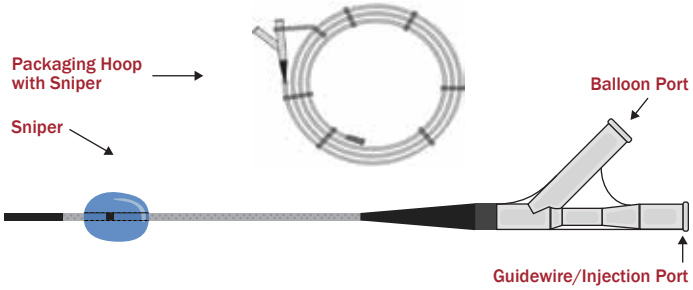
Balloon Occlusion Microcatheter

Quick Guide

IMPORTANT! Always refer to the *Sniper Balloon Occlusion Microcatheter Instructions For Use* for detailed instructions.

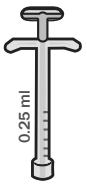
Contents

Sniper Balloon Occlusion Microcatheter (QTY 1)



10 ml Flush, priming and deflation syringe (QTY 1)

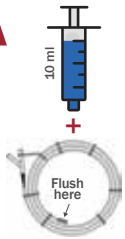
0.25 ml Inflation syringe (QTY 1)



Balloon port valve (QTY 1)

Set-up

A Saline Flush Packaging Hoop



- Use 10 ml syringe filled with 10 ml saline.
- Connect syringe directly to inside end of hoop and inject saline to flush.
- Remove Sniper from packaging hoop.
- IMPORTANT! Now that Sniper is hydrated, do not allow it to dry.

B Prime Balloon

- Connect the balloon port valve to the balloon port.
- Submerge distal tip in saline bath. Place wet gauze on top to keep distal balloon tip submerged.
- Connect empty 10 ml syringe to the balloon port valve on balloon port. Pull syringe plunger upward to top lock position creating a syringe vacuum. Hold 5 seconds. Remove syringe from balloon port valve with plunger at top lock position.
- Fill 10 ml syringe with 2 ml of 50% contrast. Connect syringe to the balloon port valve on balloon port. Hold syringe vertical. Pull syringe plunger to top lock position. “Flick” hub with finger to work out bubbles until no bubbles are seen rising in contrast. Release the plunger slowly down onto contrast.
- Remove syringe from the balloon port valve.

C Maintain Catheter Hydration

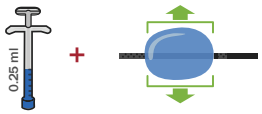
- Continuous hydration is needed to keep Sniper’s hydrophilic coating activated.
- Return Sniper to saline bath when not in use.

D Set Power Injector

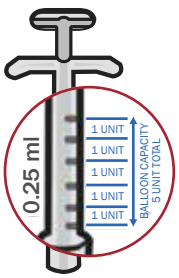
- Limit input to no greater than 900 psi and 2 ml/second.

Use

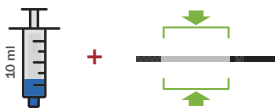
Inflate Balloon



- Use 0.25 ml syringe filled with 0.25 ml (5 units) of 50% contrast. Connect syringe to the balloon port valve on balloon port.
- To inflate balloon:
  - Inject one unit (0.05 ml)
  - Under fluoroscopy, watch for balloon inflation
    Note: There will be a delay between injection and inflation
  - Incrementally add additional units until the balloon is visualized as contouring the vessel wall
  - Remove syringe from balloon port valve
  - Save syringe filled with contrast (subsequent inflation).



Deflate Balloon



- Use 10 ml syringe filled with 2 ml of 50% contrast.
- Connect syringe to the balloon port valve on the balloon port.
- To deflate and prime balloon for next use:
  - Pull plunger to syringe top until balloon is completely deflated
  - Hold syringe vertical
  - Move plunger slowly down onto contrast
  - Remove syringe from balloon port valve
  - Save syringe filled with contrast for future use (subsequent deflation).

EMBOLX

Best Practices

Slow Injection of Embolic Agent

- Slow injection will maintain low pressure and slow particle flow.
- Rapid injection will overwhelm the protective pressure gradient.
- Vessel occlusion will maintain slow forward blood flow.
- Injection rate cannot exceed the capacity of the arterial tumor or prostate feeder.

Reaching Embolization Endpoint

With balloon occlusion there is slow moving, forward flow around the catheter tip due to reversal of collateral arteries, capillaries and interstitial fluid. Depending on Sniper tip placement during embolization, the treatment endpoint can be visualized under fluoroscopy as follows:

Sniper tip is sub-selective (Low Pressure Delivery)

- Observation of contrast stasis in distal arteries.

Sniper tip is super-selective (High Pressure Delivery)

- Observation of:
  - Contrast in portal vein **or**
  - Embolic reflux around the Sniper balloon **or**
  - Sniper balloon "pushing back" in the vessel.

Recommended Diagnostic Catheter for 110 cm Sniper

Sniper's working length is 110 cm. The use of a 65 cm diagnostic catheter with hemostasis valve (~ 5 cm) is recommended as it maximizes the distal reach inside the patient.

Troubleshooting

Kink Prevention

Cause:

- An important part of Sniper's exceptional tracking ability is its stiff proximal catheter. The catheter can kink if the operator is not aware.

Solution:

- There is a kink point at the RHV. The catheter cannot be bent sharply in this area.
- Advance the catheter forward by holding and pushing the catheter no more than 3 cm from the RHV.

Unexpected Balloon Deflation

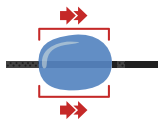
Cause:

- The balloon port valve is either not connected or not sufficiently tightened to the balloon port **or**
- Excess vacuum in balloon lumen.

Solution:

- When inflating balloon, connect syringe to the balloon port valve on balloon port.
- Remove and reconnect the balloon port valve on the balloon port which equilibrates the pressure.
- Re-inflate the balloon until it is seen contouring to the vessel wall under fluoroscopy.

Balloon Migration



Cause:

- A distal shift of the balloon is normal and expected and should be corrected.

Solution:

- Remove 25% of the balloon inflation volume.
- Retract the Sniper catheter, with the balloon 75% inflated, until the balloon is in the desired position.
- While holding the Sniper and diagnostic catheter in place, re-inflate the balloon until it is seen contouring to the vessel wall under fluoroscopy.

Specifications and Compatibilities

Balloon Diameter	up to 6 mm (which occludes up to 5.5 mm vessels)
Catheter Functional Length	110 cm 130 cm 150 cm
Tip Shape	straight tip
Catheter Outer Diameter (proximal)	2.9F (0.038")
Catheter Outer Diameter (distal)	2.2F (0.029")
Catheter Inner Diameter (Infusion Lumen)	0.020" (0.51 mm)

Injection Pressure (max)	up to 900 psi
Guidewire (max in.)	0.014" or 0.016"
Embolic Bead Diameter‡	up to 900 µm
Coils*	up to 0.018"
Embolic Agents*	Lipiodol®, Y-90, Coils, Gelfoam, Glue (n-bCA)

*Physician reported cases. Data on file. Emblox does not make any claims or endorse this use, informational purposes only.
‡Boston Scientific Embozene™ 900 µm, 19020-S1. Merit Medical® Emboshere® 700-900 µm, S810GH. Data on file.

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