Reentry Catheter

A **reentry catheter** is a specialized endovascular tool used to facilitate **re-entry into the true lumen** after a guidewire enters the **subintimal space** during angioplasty or recanalization of an occluded artery.

Purpose

Used to regain access to the true lumen in cases of:

- Chronic total occlusions (CTOs)
- latrogenic subintimal dissection
- Flush occlusions with no proximal stump

🛛 Types

Device	Guidance	Mechanism
Outback™ Elite	Fluoroscopy	Needle deployment
Pioneer Plus™	IVUS-guided	Needle + imaging
OffRoad [™] System	Balloon-assisted	Steerable cannula
Enteer™	Radiopaque tip	Angled reentry tip

Key Features

- Side-exit port or micro-needle
- Radiopaque markers
- Optional IVUS or steerable balloon
- Reusable guidewire compatibility

∆ Risks

- Arterial perforation
- Dissection propagation
- Embolic events
- Technical failure

Clinical Applications

- Peripheral artery CTOs (e.g., femoropopliteal)
- Neurovascular salvage (e.g., CCA/ICA reentry)
- Coronary CTO PCI
- Rescue after subintimal dissection, as in:

1)

"When the wire loses its way, the reentry catheter brings it home."

In a case report, Tran et al., from the Department of Neurosurgery, University Medical Center Ho Chi Minh City; the Vascular Department, Cho Ray Hospital, Ho Chi Minh City, Vietnam; and the Department of Neurosurgery, Taichung Veterans General Hospital and National Chung Hsing University, Taichung, Taiwan, published in the American journal of neuroradiology that in selected patients with near-total carotid artery occlusion, where subintimal dissection occurs during endovascular access, the use of a rescue reentry technique with a reentry catheter can be a safe and effective method for achieving successful recanalization and restoring luminal patency²⁾.

The authors present a single-patient case in which a reentry catheter was used to regain access to the true lumen after unintentional subintimal dissection during an attempt to stent a near-occluded carotid artery. Technical success was achieved, and the patient recovered well.

1. Conceptual Overstatement and Editorial Laxity

This article epitomizes a growing trend in low-yield case reports: elevate the ordinary by inflating the vocabulary. A standard bailout technique, long adapted from peripheral interventions, is glorified as a "rescue reentry technique" as if it were a novel paradigm. This is not a new technique — it's complication management.

U What they call "rescue," seasoned neurointerventionists call Tuesday.

2. Methodological Emptiness

The manuscript lacks basic scientific depth:

No procedural details on catheter type, tip shaping, or anti-embolic strategies.

No perioperative metrics: timing, pressures, or embolic monitoring.

No follow-up imaging or neurological scale data.

No case selection criteria or risk stratification.

The "Methods" section reads like a discharge summary, not a scientific contribution.

3. Visuals over Substance

Typical of AJNR's soft spot for pretty pictures, the paper relies on polished DSA sequences and posthoc narrative. It offers no discussion on:

Embolic risk post-subintimal reentry

Alternatives (e.g., hybrid approaches, surgical bypass)

Criteria for selecting this technique over reattempting true lumen passage

□ It's radiological embroidery, not critical evidence.

4. Citation Padding and Lack of Context

While the authors cite prior use of reentry catheters in peripheral and coronary interventions, they fail to contextualize this case in the broader field of carotid occlusion management. There is no mention of:

Comparative outcomes vs. surgical options

Long-term patency

Cost-effectiveness

Stroke recurrence

□ It cites just enough to look academic, but not enough to be useful.

☆ 5. Scientific Merit and Publishability

Let's be clear: a case report is valid — when it presents something rare, novel, or controversial. This one does not. It documents a routine salvage step during a procedure, dressed up in heroic terminology. The fact that it passed peer review speaks more about editorial hunger for content than scientific rigor.

[] It's not a technique paper. It's a complication report turned into a press release.

Lessons for the Neurosurgeon

Always read past the abstract. Seductive titles may hide sterile content.

Beware of "novel" techniques that lack comparative data or clinical outcome metrics.

Insist on substance over imagery. DSA glam shouldn't replace data-driven discussion.

Final Verdict

This article offers no innovation, no data, and no discussion of clinical decision-making. It is scientific fast food: dressed up, digestible, and fundamentally empty. A case that might have made a decent teaching file entry has instead been laundered through a high-impact journal with a title that promises far more than it delivers.

☐ File under: Academic smokescreen, procedural maximalism, and low-yield publication.

References

1) 2)

Tran DK, Nguyen HT, Huang CW, Chung KC, Tsuei YS. Reentry Technique for Rescue Recanalization of Carotid Near-Total Occlusion after Subintimal Penetration. AJNR Am J Neuroradiol. 2025 Jun 19. doi: 10.3174/ajnr.A8860. Epub ahead of print. PMID: 40537287.

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