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Applications of the Columbus steerable guidewire

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ABSTRACT

The Columbus steerable guidewire (Rapid Medical, Israel) is a 0.014 inch guidewire with a remotely controlled deflectable tip intended for neuronavigational purposes.¹ The tip can be shaped by pulling or pushing the handle. Pulling the handle decreases the radius (from 4 mm to 2 mm) and curves the tip, while pushing the handle increases the curvature radius and straightens the tip until it bends in the opposite direction. The amount of deflection is at the discretion of the operator. **Video 1** The response of the Columbus guidewire to rotational movements is inferior to that of standard wires, and the tip is very soft and malleable but brings great support when bent. We present two cases where the Columbus guidewire was used. In the first case, the Columbus enabled us to probe a posterior cerebral artery arising from a giant basilar tip aneurysm without wall contact. In the second case, the Columbus was used as a secondary wire to help cannulate the pericallosal artery in a patient with a recurrent anterior complex aneurysm; this subsequently permitted successful stent-assisted coiling of the aneurysm.

Contributors

AvH was the main author of the manuscript. TRdC was a major contributor in filming the video and writing the manuscript. LL contributed with the animation and edition of the video. JER and GK provided administrative support and a critical review of the intellectual content of the video. All authors read and approved the final manuscript.

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Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s).

Ethics approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. This study was approved by the EKNZ (Ethikkommission Nordwest und Zentralschweiz) with the project ID: 2021-00276.

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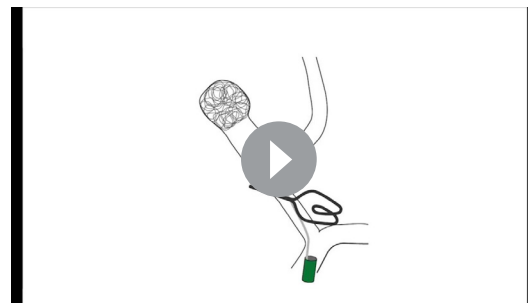
REFERENCE

- 1 von Hessling A, Reyes Del Castillo T, Karwacki G, et al. The Columbus steerable guidewire in neurointerventions: early clinical experience and applications. *J Neurointerv Surg* 2022;14:291-6.



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Video 1

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