# Review of: "A Guide to Left Bundle Branch Area Pacing Using Stylet-Driven Pacing Leads"

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Jan De Pooter et al. present a comprehensive guide to left bundle branch area pacing using stylet driven pacing leads. The experience with the lumenless 3830 pacing lead for His bundle and left bundle area pacing has been extensive and is well illustrated in the current review and prior publications. Stylet driven leads have been introduced recently for that purpose and the authors of the current review have pioneered their use in clinical practice. They must be congratulated on their unique experience and their data add to the existing literature on conduction system pacing.

My specific comments:

The authors suggest that stylet driven leads have several advantages over traditionally used lumenless leads. These include better torqueability and higher stiffness due to the presence of a stylet and, according to the authors, a better “grip” on the septum. Does it provide a better grip on the septum in terms of dislodgement that may be a problem in a relatively small proportion of 3830 leads? I must add that my very limited personal experience with stylet driven leads has been disappointing both in humans and in animals. I am still under the impression that a nonisodiametric nature of the three leads described in the review may prevent a deep advancement of the lead into the septum. Fluoroscopic image of the Solia lead and contrast injection (Fig. 1D) does demonstrate a deep septal penetration of the lead. However, it is difficult to judge the depth on two other images (with Ingevity and Tendril leads) as minimal amount of contrast is seemingly present and it does not clearly outline the right side of the septum. Pacing results with these leads are not presented in the current review and capture of the conduction system is difficult to ascertain. Additionally, a relatively narrow QRS can be observed in clinical practice with less deep septal penetration and therefore is not entirely fool proof to confirm the depth. Intuitively, continuous rotation of the helix mechanism in the Tendril lead may result in its break although the authors suggest the opposite based on the lead manual. As they do not recommend the rotation of the lead body for deep implantation of this lead, it seems that the procedure with the Tendril lead depends entirely upon the continuous rotation of the helix. It would be interesting to see a larger experience both with Tendril and Ingevity leads.

Interestingly, C315 sheath that is widely used for 3830 lead was actually designed for His bundle pacing and not for the left bundle area pacing. Biotronik and Boston Scientific sheaths well illustrated in the current review have been more specifically designed to target the left bundle area. They can probably give more support for deep septal implantation although again my limited personal experience which was limited to animals only with the Boston Scientific sheath did not demonstrate a superiority to C315.

The authors pioneering experience opens a new avenue for stylet driven leads in conduction system pacing. I would like to see their data reproduced at other medical centers. A head-to-head comparison between lumenless and stylet driven leads will be necessary in order to demonstrate the benefit (or lack of such) of one versus another. Both designs may be complimentary and may represent a useful alternative in case of failure.

This new experience also raises multiple questions for lead design. Pre-extending the helix using the standard and “homemade” tools to hold it in place suggests that a fixed helix design may be better for deep septal implantation. I am sure that the lead manufacturers will take this into account. Additional advantages of stylet driven leads are well described in the paper and may also be considered for future lead designs – the jury is still out on whether the fixed or extendable-retractable helix will prevail for deep septal lead implantation.