



# An innovative template to ensure reliable rigid intubation stylet shape: a prospective comparative study

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## To the Editor,

The Canadian Airway Focus Group recently recommended the routine primary use of videolaryngoscopy for all tracheal intubations.<sup>1</sup> The endotracheal tube should be loaded with a stylet to be guided through the glottis when a videolaryngoscope is used because of its accentuated blade curvature compared

with direct laryngoscopy using a Macintosh blade. Malleable and semi-rigid stylets show comparable efficacy and are used according to the preference of the operator.<sup>2,3</sup> The GlideRite® Reusable Rigid Stylet (Verathon Inc., Bothell, WA, USA) is a stainless steel reusable stylet preformed to match the GlideScope® blade curvature of the same manufacturer. The curvature of the GlideRite Reusable Rigid Stylet is prone to progressive straightening due to repeated insertions and removals from endotracheal tubes.<sup>4</sup> The main purpose of the presented study was to investigate the effectiveness of a rigid template, developed and used at our institution since 2011, to maintain the GlideRite Reusable Rigid Stylet in its original curvature.<sup>5</sup>

This prospective observational study was approved by the scientific and ethics research committee of the Institut universitaire de cardiologie et de pneumologie de Qu bec - Universit  Laval. To assess the effectiveness of the template, we evaluated the curvatures of routinely used GlideRite Reusable Rigid Stylets in the six Qu bec City hospitals. We compared each stylet with a template that corresponded to the manufacturer's original curvature. Stylets were classified into four categories: original, less curved, more curved, and deformed ([Figure](#)). A picture of each stylet was obtained to allow calculation of interobserver reliability. Stylets used in an operating room where their curvatures were routinely assessed and corrected using the template were compared with stylets from other locations where the templates were not routinely used, including five operating rooms, five emergency departments, and four intensive care units.

We compared 120 stylets using the template. Stylets from the operating room using the template kept the original curvature more than stylets from other locations did

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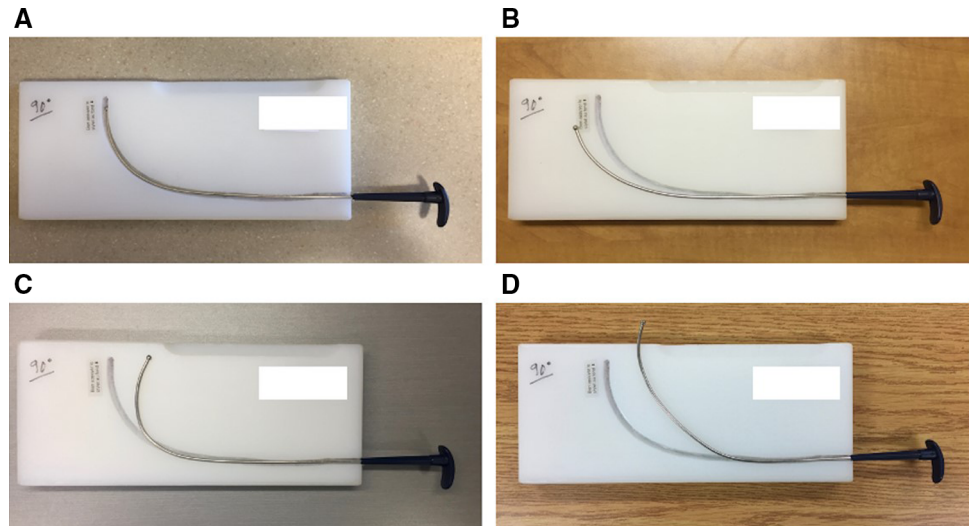
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**Figure** Classification of GlideRite Reusable Rigid Stylet curvatures using the template. Panel A: original curvature showing an angle of  $90^\circ$  between the handle and the tip; panel B: less curved (i.e.,  $< 90^\circ$  angle); panel C: more curved (i.e.,  $> 90^\circ$  angle); panel D: deformed curvature (i.e., a deformation in two axes).



(9/9, 100% vs 33/111, 30%;  $P < 0.001$ ) Of the 78 misshapen stylets, 59 (76%) were less curved, 7 (9%) were more curved, and 12 (15%) were deformed. The interobserver reliability was almost perfect (Cohen's kappa, 0.97).

Our findings indicate that the GlideRite Reusable Rigid Stylets do not reliably keep their shape following multiple uses. The GlideRite Reusable Rigid Stylets from the operating rooms using the template were routinely identified and reshaped to their original curvature, even after many uses, thereby showing the effectiveness of the template to assess and restore the original curvature. The need for reliable intubation equipment is crucial when considering the role of videolaryngoscopy in the management of difficult airways. The results of our study highlight the potential benefit of an additional tool that could ensure a reliable stylet curvature even after multiple intubations for practitioners who are using the GlideRite Reusable Rigid Stylet.

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