

Anaesthesia. 2014 Mar;69(3)

The traffic light bougie: a study of a novel safety modification.

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Abstract:

Use of a bougie is not without risk, and insertion too far may cause airway injury. We designed a new bougie with a 'traffic light' system to indicate depth of insertion. Forty anaesthetists were randomly assigned to insert either a conventional single-coloured bougie or a novel traffic light bougie. Depth of insertion was measured before and after railroading a tracheal tube. Participants were not informed as to the purpose of the colouring system. The median (IQR [range]) insertion depth of the traffic light bougie was 22 (21-24 [19-27]) cm and for the conventional bougie was 28 (21-32 [20-35]) cm ($p = 0.011$). Median (IQR [range]) insertion depth after railroading for the traffic light bougie was 25 (25-28 [21-34]) cm and for the conventional bougie was 30.5 (27-35 [23-40]) cm ($p = 0.003$). This simple colouring system appears to allow intuitive use and significantly reduced the depth of bougie insertion. This system could be also used with other airway exchange devices to improve safety.