

## DOAC Dipstick test included in new Guideline published by the European Society of Anaesthesiology and Intensive Care

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The European Journal of Anaesthesiology<sup>1</sup> recently published a new *“Clinical guideline on reversal of direct oral anticoagulants in patient with life threatening bleeding”* (see the below online link to the publication).

This is the first international guideline to include the DOASENSE test for DOACs and represents a new and strong recognition by the clinical community of the important clinical gap that the *DOAC Dipstick* test fills when there is no quantitative DOAC-specific test available in time.

The importance of the DOASENSE *DOAC Dipstick* test is clearly identified and included in the guideline as follows:

- In the summary of guidance (Table 2, page 331), as well as on page 340:  
***“R 2.3 In the absence of specific coagulation testing, DOAC dipstick testing can be suggested to demonstrate the presence of DOACs. (2C)”***
- In addition, on page 340 there is the following statement:  
***“Finally, a urine dipstick test might be used to detect DOAC in emergency settings and before urgent surgery within a few minutes. Studies including a total of more than 1000 patients and a meta-analysis showed that sensitivity, specificity, accuracy and predictive values and agreement between determination of DOAC levels in urine using the DOAC dipsticks were noninferior or superior as compared with mass spectroscopy.”***

The acknowledgement in the guideline that, based upon studies including 1,000 patients, the quality of the test was non-inferior or superior to mass spectrometry is further endorsing the quality of the clinical data already published on the DOASENSE *DOAC Dipstick* test to date.

It is of further interest, that the guideline disqualifies *“nonspecific viscoelastic coagulation monitoring to reliably detect DOAC levels.”* It also endorses specific viscoelastic Ecarin/Russell’s viper venom tests. But, as a reminder, Haemonetics recently announced the commercial discontinuation of the *ClotPro* device.

Both the *DOAC Dipstick* guidance as well as the specific viscoelastic test guidance are graded “2C” by the guideline authors. Respective grading definitions can be found in Table 3 on Page 333. In general, we endorse this grading in combination with the comments on page 340 as it reflects our clinical strategy articulated around three key steps:

- Demonstrated consistent evidence of the reliable performance of the test ⇒ Existing published clinical data;
- Demonstrated consistent evidence from randomized, controlled clinical trials (Level 1B) and from observational studies (Level 2A) on cut-off value ⇒ Existing published clinical data;
- Demonstrated clinical impact of the DOASENSE test compared to mass spectrometry assay (LC-MS/MS) and to DOAC-calibrated chromogenic assays ⇒ Emerging clinical data as illustrated by a first, recently published algorithm (<https://doi.org/10.1055/a-2261-1811>).

Further recent publications on the *DOAC Dipstick* not yet considered in the present guideline further strengthen the data for the test and additionally increase the confidence in the performance of DOASENSE’s DOAC test as POCT, and thus may potentially support an even higher-level guidance grading in the future.

### Conclusion:

- This is the first international guideline to include the *DOAC Dipstick* test of DOASENSE for determination of presence of DOACs in bleeding emergencies if quantitative tests are not readily available.
- The guideline acknowledges the quality of the *DOAC Dipstick* test and the respective clinical studies.

Online link to the publication: <https://doi.org/10.1097/EJA.0000000000001968>

<sup>1</sup> The European Journal of Anaesthesiology is a peer-reviewed medical journal published on behalf of the European Society of Anaesthesiology that focuses on research related to anaesthesiology.