Hypoxemia is a potential life-threatening yet common complication in the perioperative and periprocedural patient. The European Society of Anaesthesiology (ESA) and the European Society of Intensive Care Medicine (ESICM) nominated experts to develop guidelines for the use of non-invasive respiratory support techniques in the hypoxemic patient in the perioperative and periprocedural period. The experts outlined five clinical questions regarding treatment with non-invasive respiratory support techniques (i.e. Conventional Oxygen Therapy (COT), High Flow Nasal Cannula [HFNC], Non-Invasive Positive Pressure Ventilation [NIPPV] and Continuous Positive Airway Pressure [CPAP]) for hypoxemic patients with acute perioperative/periprocedural respiratory failure.

The goal was to assess the available literature on the various non-invasive respiratory support techniques, provided these were studies which included adult participants with hypoxemia in the perioperative or periprocedural period. The literature search strategy was developed by a Cochrane Anaesthesia and Intensive Care trial search specialist in close collaboration with the panel of experts, the ESA group methodologist and Cochrane editor. The literature search was conducted in MEDLINE (OvidSP), EMBASE (OvidSP), CINAHL and Cochrane Central Register of Controlled Trials (CENTRAL). All searches were restricted to the English, French, Italian and Spanish languages and from 1980 to 2018.

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) system was used to assess the level of evidence and to grade recommendations. The final draft guideline was posted on the ESA website for 4 weeks and the link was sent to all ESA members, individual or national (thus including most European national anaesthesia societies). Comments were collated and the guidelines amended as appropriate. When the final draft was complete, the Guidelines Committee and ESA Board ratified the guidelines.
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