

Preoperative evaluation: available evidence and clinical practice implications

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Introduction

Preoperative assessment is a large and complex process, which results in a very large production of scientific literature (approximately 5000 papers over the past 10 years): unfortunately, from such a vast knowledge base very little evidence is available, leaving professionals with a large portion of uncertainty, even if we will limit to the anaesthesia preoperative evaluation for elective procedures, defined as ‘the process of clinical assessment that precedes the delivery of anaesthesia care for surgery and for non-surgical procedures’.

Many national anaesthesia societies have also published clinical recommendations and guidelines on the matter, in order to help fellow anaesthesiologists improve their practice through the application of evidence based criteria in performing preoperative patients’ assessment.

What is the evidence?

All these documents, independently from the source, agree in affirming that an anaesthesia preoperative evaluation should be performed, even though systematic avoidance of such an evaluation vs. performing it (as is the standard throughout the world) has never been studied. Such an evaluation should involve review of available medical records, patient's interview(s) and history collection, and physical examination, which should comprise airway, pulmonary (including auscultation of the lungs), and cardiovascular examination. The collection of anaesthesia history can be facilitated by a structured, ad hoc questionnaire: its use is strongly encouraged by the Italian and British society guidelines.

Essential component of preanaesthesia evaluation is the assessment of patient's risk.

Who should perform it?

This is a highly controversial issue, and in real life economical and political reasons become clearly superimposed to scientific evidence. Properly trained nurses within anaesthesia departments are probably invaluable in performing at least a consistent portion of the evaluation, particularly in the psychological preparation to surgery. Primary care physicians are also ideally fit to concur in the preoperative assessment of their patients, relieving anaesthesia departments of a heavy burden.

In any case, all anaesthesiological societies recommend that a physician anaesthesiologist would at least conclude this process.

When should it be performed?

There is no evidence of any influence of the timing of anaesthesia evaluation (performed either before or on the day of surgery) on outcome from anaesthesia. In clinical practice, the timing is influenced by customs, professional habits, regulations, and type of practice

(prevalence of day surgery, which strongly favours assessment on the day of surgery). It is generally recommended that the timing would be at minimum influenced by the invasiveness, hence the risk, of surgical procedure.

Preoperative testing

Preoperative tests should be ordered only after the patient's assessment, and only those relevant to the particular case.

It is suggested that in preoperative test ordering anaesthesiologists keep in consideration patient's age, physical status (ASA classification), extension of planned procedure and presence of co morbidity (particularly from cardiovascular, respiratory and renal disease).

Specific situations

Co morbidity, particularly from cardiovascular disease, is a great concern to the clinical anaesthesia, leading to the preparation of specific recommendations. However, any coexisting disease or alteration of health status (i.e., acute respiratory illness) should be carefully evaluated, in order to assure the maximum safety to the patient with the minimum derangement of surgical activity.

Different age groups, particularly children, deserve specific attention. If there were little available evidence on the matter for adult preoperative evaluation, even less can be found on paediatric settings.