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**Economic Aspects of Preoperative Testing**

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**Aims and Purpose:** Laboratory assessment and technical diagnostic tests are common tools for preoperative evaluation. These tools are employed with the aim of preventing complications and to allow for risk stratification. The practice of recommending routine tests should be abandoned in favor of selective ordering. Tests are often carried out in an unstructured manner. This study was conducted to calculate the possible economic impact of the Web-based preoperative diagnostic guideline (PROP) prior to its implementation in the state of Salzburg.

**Methods:** This prospective observational cohort study was carried out in a secondary care hospital in Salzburg (Hospital of Schwarzach). Data were collected from 1,363 consecutive patients scheduled for elective surgery from September 1, 2007, to November 30, 2007 (demographic data; medical history; classification of surgical procedure; number, specification, and findings of preoperative tests; and extra- or intra-hospital setting of tests). The incidence of double examinations (DEs) was calculated. DEs were further divided into two groups: essential controls of pathological findings and unnecessary tests. In the following step, the collected data were entered into the PROP software and the recommended diagnostic procedures were compared to the actually performed procedures.

**Results:** A total of 5,879 preoperative tests were documented and analyzed (1,582 extra-hospital [EH] and 4,297 intra-hospital [IH]). 226 DEs (14.3% of all EH tests) were performed, of which 208 (92%) were classified as nonessential due to normal findings in the foregoing test. In 633 patients (46.4%), guideline-based evaluation would only have indicated basic requirements such as physical examinations and medical interview, though 2,269 diagnostic procedures (38.6% of total) were carried out on these patients. Estimations of possible savings were about €1,076.3 per 1,000 patients by avoiding duplicate testing and €21,332.4 per 1,000 patients by avoiding nonrecommended testing.

**Conclusion:** These data indicate a considerable potential for improvement in process quality and reduction of costs through the use of structured preoperative assessment via implementation of a guideline.