

Paper “Preoperative Computer”

Because patients are no longer admitted to the hospital the night before surgery, preoperative-assessment clinics have been developed. Initially, many thought that it was important that all patients be seen in these clinics to avoid cancellations. At the University of Michigan, we thought it was unnecessary to see healthy patients (*i.e.*, American Society of Anesthesiologists physical status I and II patients) before the day of surgery unless the patient requested to see an anesthesiologist. Again, difficulty arises with respect to implementing a protocol to determine which patients would benefit from a preoperative clinic evaluation.

UNIVERSITY OF MICHIGAN HOSPITALS AND HEALTH CENTERS			
PREOPERATIVE ASSESSMENT CHECKLIST			
Please order the test(s) and/or studies as indicated below:			
AGE: 75	HEIGHT: 6' 1"	WEIGHT: 200	
DATE:	DATE OF SURGERY:	HOME PH: ()	WORK PH: ()
1a. ECG <input checked="" type="checkbox"/>		5a. Preoperative Anesthesia Clinic Visit <input checked="" type="checkbox"/>	
1b. Preoperative Anesthesia Clinic visit, ECG <input checked="" type="checkbox"/>		5b. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
2a. Electrolytes <input type="checkbox"/>		5c. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
2b. PT/PTT <input type="checkbox"/>		5d. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
2c. ECG <input type="checkbox"/>		5e. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
2d. ECG/CXR <input type="checkbox"/>		5f. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
3a. ECG & Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5g. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
3b. ECG & Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5h. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
3c. ECG & Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5i. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
3d. ECG & Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5j. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
3e. ECG & Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5k. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
3f. ECG & Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5l. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
4a. Cervical Spine X-RAY's & Preop. Anesthesia Clinic Visit <input type="checkbox"/>		5m. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
4b. Cervical Spine X-RAY's & Preop. Anesthesia Clinic Visit <input type="checkbox"/>		5n. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
4c. Cervical Spine X-RAY's & Preop. Anesthesia Clinic Visit <input type="checkbox"/>		5o. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
4d. Elec., Creat., BUN, CBC <input type="checkbox"/>		5p. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
4e. SGO7/ALK, PT/PTT <input type="checkbox"/>		5q. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
4f. PT/PTT, PLT, CBC <input type="checkbox"/>		5r. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
4g. ECG & Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5s. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5a. CXR, ECG; Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5t. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5b. CXR, ECG, ABG; Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5u. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5c. CXR, Preoperative Anesthesia Clinic Visit <input checked="" type="checkbox"/>		5v. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5d. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5w. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5e. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5x. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5f. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5y. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5g. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5z. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5h. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5aa. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5i. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ab. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5j. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ac. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5k. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ad. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5l. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ae. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5m. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5af. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5n. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ag. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5o. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ah. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5p. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ai. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5q. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5aj. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5r. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ak. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5s. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5al. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5t. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5am. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5u. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5an. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5v. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ao. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5w. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ap. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5x. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5aq. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5y. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ar. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5z. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5as. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5aa. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5at. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ab. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5au. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ac. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5av. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ad. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5aw. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ae. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ax. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5af. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ay. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ag. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5az. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ah. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5ba. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ai. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5bb. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5aj. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5bc. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5ak. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5bd. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5al. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5be. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5am. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5bf. Preoperative Anesthesia Clinic Visit <input type="checkbox"/>	
5an. CXR, Preoperative Anesthesia Clinic Visit <input type="checkbox"/>		5	

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CORRESPONDENCE

In 1993, we decided to use patients to help us make this decision. We had patients fill out a brief questionnaire (fig. 1)—not unlike the electronic method described—while they were in the surgeon's office. This questionnaire assessed which laboratory tests should be obtained and which patients should go to the preoperative clinic. The questionnaire is copied through four layers. The original and the first copy provide a chart copy and a shadow copy of the patient's answers, respectively. The bottom two layers indicate which tests are necessary and which patients should receive a preoperative anesthesia consultation. For example, if the patient marks "yes" to the question "Heart attack within the last 6 months," the back-up copies will be marked "yes" in the column that states "ECG and go to Anesthesia Preoperative Clinic."

Advantages of this technique are its simplicity and cost (\$0.05/copy). Because there is only one "decision layer," this paper "computer" has only one layer of "logic." Nevertheless, this system has been effective during the past 6 yr. We have reduced our preoperative clinic visits from 60% of same-day surgery patients in 1991 to 25% from 1994 to 1998. During this period, our cancellation because of medical problems undetected preoperatively has remained less than 0.05%.

The advent of a fully integrated electronic medical record will undoubtedly replace our system. Until that time, we recommend this simple paper computer as a cost-effective solution.

Kevin K. Tremper, Ph.D., M.D., F.R.C.A.
Professor and Chair
ktremper@umich.edu

Patrick Benedict, M.D.
Director
Preoperative Clinic
Clinical Assistant Professor
Department of Anesthesiology
University of Michigan
Ann Arbor, Michigan

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