

GUIDELINES

"PREOPERATIVE ADULT PATIENT EVALUATION FOR ELECTIVE SURGERY"

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Preoperative assessment is obligatory for all patients who undergo any type of anaesthesia, general, sedation or locoregional, in a hospital (private and public) or office-based, according to the Greek Law (1044/1997, on "safety in anaesthesia").

Required preoperative laboratory tests is sometimes a point of conflict, given that the cost-benefit relationship has not been clarified. It is well known that a detailed review of the medical record as well as a thorough clinical examination is still the best means of preoperative screening. Every laboratory test other than routine preoperative testing (ECG, chest X-ray, blood count, coagulation studies, glucose, urea, creatinine levels and electrolytes –if renal dysfunction exists) is considered only on specific indication, in collaboration with the patient's surgeon("to be considered").

The preoperative evaluation takes place:

- i. For outpatients or patients able to ambulate in the office.
- ii. For very sick patients or those unable to ambulate in a bedside manner.
- iii. For day surgery cases on the day of the procedure.

1. Outpatients for day surgery procedures

Outpatients for day surgery procedures arrive on the day of surgery following the instructions given by the doctor, with the Questionnaire form (table 1) and the routine laboratory tests (table 2) already completed.

2. Obligatory laboratory tests for moderately to significantly invasive procedures

Laboratory testing for inpatients who are scheduled for moderate to high risk surgical procedures is illustrated on table 3.

Table 1. Questionnaire form of preoperative evaluation for day surgery procedures in outpatients.

Date...../...../.....

Questionnaire form of preoperative evaluation for day surgery procedures in outpatients.

***It is completed on the responsibility of the patient**

Patient Data
 Pt No: _____ Case Code: _____ Date of Surgery _____
 Surname _____ Name _____
 Name of accompanying person _____ Tel no.....
 (If the questionnaire is completed by the accompanying person)
 Age _____ Height _____ Weight _____ Employment.....
 Type of Surgery _____
 Surgeon's name.....Ward.....

Do you suffer (or used to) from one of the following medical problems? If the answer is yes, please explain on the dotted area.

YES NO

HEART DISEASE (when was it diagnosed?) _____
 have you been treated in a hospital for a heart problem?
 myocardial infarction (when?) _____
 angina pectoris (how often?) _____
 cardiac failure _____
 rhythm disturbances _____
 murmurs _____

With how many cushions do you sleep at night? _____
 How many stairs can you climb? _____

YES NO

RESPIRATORY DISEASE (asthma, bronchitis, emphysema, pneumonia, dyspnea, other) (if yes, underline accordingly)
 have you been treated in a hospital for a respiratory problem?

YES NO

DIABETES MELLITUS
 do you receive insulin injections? Dose & Time _____
 do you receive oral antidiabetic pills?

YES NO

RENAL DISEASE (nephrolithiasis, infection, renal insufficiency, other) (if yes, underline accordingly)
 are you on dialysis?
 When was your last session before surgery ? _____

YES NO

HEPATIC DISEASE (hepatitis, cirrhosis, jaundice, other) (if yes, underline accordingly)

YES NO

BLOOD DISTURBANCES

- Coagulation problems (easy bruising, hemophilia, platelet disorders, other)
- anemia
- mediterranean anemia
- anemia falciformis

YES NO

- CEREBRAL DISEASE (cerebrovascular disease, convulsions, epilepsy, headache other) (if yes, underline accordingly)

YES NO

- THYROID DISEASE

YES NO

- NEOPLASIA/CANCER

Type _____

Chemiotherapy _____ year _____

Radiotherapy _____ year _____

YES NO

- Are you sick or have you been sick recently ? (cold, sore throat, coughing, fever, influenza, other) (if yes, underline accordingly)

YES NO

- did you receive corticosteroids the last 12 months? (cortisone, prednisone, dexamethazone)

YES NO

- OTHER MEDICAL PROBLEMS (please explain)

YES NO

- do you have artificial dentures, mobile teeth or prosthesis?
- do you have trouble opening your mouth, swallowing or breathing at night?

YES NO

- SMOKING

How many years dd you smoke? _____ How many packs/day? = _____

- Did you smoke in the past?

If yes when did you quit? _____

YES NO

- Do you consume alcohol often? (at least once a week)

How many glasses / day? Wine _____ Beer _____ other _____

YES NO

- Do you make use of recreational drugs?

YES NO

- Do you, or a relative suffer from myasthenia gravis?

YES NO

- Did you or a relative ever suffer from an anaesthesia-related problem?

If yes, how? _____

- Did you suffer from any reaction to topical anaesthesia at the Dentist's office?

If yes, how? _____

YES NO <input type="checkbox"/> <input type="checkbox"/> Do you receive medication? If yes, complete the medication and dosage (aspirin included) _____ _____

----- YES NO <input type="checkbox"/> <input type="checkbox"/> Did you ever manifest an allergic reaction to drugs or foods? If yes to what? _____ _____ What kind of allergic reaction? _____ ----- YES NO <input type="checkbox"/> <input type="checkbox"/> Have you undertaken any surgical procedure in the past? (if yes please complete type and date) _____ _____ _____ Data of the person completing this form Name..... Signature.....
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Table 2. Routine Laboratory testing for outpatients on Day Surgery procedures.

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| <ol style="list-style-type: none"> 1. ECG with a written diagnosis from a cardiologist. If the patients is at low risk for cardiac disease and for stable patients even prior to 3 months. 2. Blood tests: complete blood count, coagulation studies, glucose, urea, creatinine, K, Na (to be undertaken within the last 10 days). 3. If thyroid disease: thyroid hormones of the last trimester. 4. Cardiac patients: If on pacemaker or defibrillator to bring the device's documentation and a consultation of a recent cardiac control. If on antiplatelet or anticoagulant medication to follow accurately the doctor's orders for modifications on drugs or dosage in order to undertake surgery. If the patient has undertaken heart surgery or any invasive procedure to bring a copy of his medical record. |
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Table 3. Laboratory test for patients who are scheduled for Intermediate or High Risk procedures.

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| <ol style="list-style-type: none"> 1. ECG with a written diagnosis from a cardiologist. If the patients is at low risk for cardiac disease and for stable patients even before 3 months. 2. Chest X-Ray and in patients who are scheduled for a procedure of the neck or thyroid or who have previously undertaken a procedure in the neck or with a predicted difficult airway an X ray of the neck (A-P and LATERAL views) 3. Blood typing (group, Rh) and cross-matching of the required pRBC. 4. Complete blood count 5. Coagulation studies (PT/INR, APTT, fibrinogen) 6. Biochemical tests (glucose, urea, creatinine, K, Na, SGOT, SGPT, bilirubin) |
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| 7. | Control for positive HCV or HBV patients only on high risk patient groups. HIV control only after written informed consent from the patient. |
| 8. | Specific laboratory or other diagnostic tests are considered only on specific indication on a single case basis (table 4,5) |

When is expert's consultation ordered?

Expert's consultation is given by a specialized doctor of the hospital of the corresponding or near area of specialization (i.e. general pathologist in the absence of a cardiologist, endocrinologist, nephrologist, or pneumologist etc)

In case of an outpatient or a patient who will undergo elective surgery or any medical action requiring anaesthesia/sedation the laboratory tests as well as expert's consultation might be performed by a doctor of the corresponding specialization unrelated to the hospital or belonging to the patients' insurance company. In the expert's consultation there should be clearly written the date of the exam, the experts data as well as telephone number and must have taken place the last trimester. The anaesthesiologist responsible for the patients' anaesthesia can order additional exams if necessary.

Specifically:

1. CARDIOLOGIC CONSULTATION

Routine preoperative examination includes ECG with a written diagnosis from a cardiologist. The patient is referenced for a cardiologic consultation if he falls in one of the following categories (table 4)

Table 4. Cardiologic consultation is required in the following cases.

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| 1. | Positive medical history for cardiac disease (history of myocardial infarction, cerebro-vascular disease, angina pectoris, cardiomyopathy, pulmonary hypertension, cardiac valvular disease, rhythm disturbances, cardiac murmurs, syncopic episodes, congenital disorders or disorders that can involve the cardiovascular system). |
| 2. | Abnormal findings in the ECG |
| 3. | Malignant hypertension |
| 4. | Medical history elements who can conceal cardiac disease (unexplained dyspnea, oedema of the lower extremities etc) |
| 5. | Children or young adults with history of syncope or sudden loss of consciousness |
| 6. | History of alcohol or drug abuse |
| 7. | Chronic respiratory disease (heavy smokers, emphysema, asthma, COPD) |
| 8. | Congenital disorders and abnormalities |
| 9. | Morbidly obese patients (BMI >42) |
| 10. | Pregnant women after the 4 th month of pregnancy |
| 11. | Professional athletes (possible use of anabolic drugs) |

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| 12. | Diabetic or other metabolic disorder patients, patients with connective tissue disorders or patients with serious infections |
| 13. | Multiple trauma or thoracic trauma patients |
| 14. | Patients receiving cardiotoxic medication-cancer patients receiving chemotherapy (i.e. adriamycin). |
| 15. | Transplant recipients chronically receiving immunosuppressive drugs |
| 16. | Patients who have received a cardiac surgical procedure or angioplasty. |
| 17. | Every patient who is scheduled to receive a vascular or cardiothoracic or neurosurgical procedure or any other high risk surgery. |

Note:

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| (a) | Patients with an implanted pacemaker or defibrillator must bring the device's documentation, whereas patients with a history of cardiac surgical procedure or angioplasty must bring their full medical record. |
| (b) | Patients receiving antiplatelet and anticoagulant drugs must obtain written detailed orders on their perioperative management. Careful attention must be addressed in patients with a history of drug-eluting stent placement. |
| (c) | Specific Cardiac Diagnostic and Laboratory testing is obtained with the cardiologists' or cardiothoracic surgeon's order ((U/S, TEE, coronarography, stress test, BNP, TnT) |
| (d) | Preoperative U/S is useful for the anaesthesiologist and may be ordered in the following cases: |
| (1) | aortic or mitral valve stenosis or insufficiency |
| (2) | severe left ventricular dysfunction |
| (3) | left bundle branch block |
| (4) | cardiomegaly (>60% of the cardiothoracic index) at the CXR |
| (5) | history of cardiac insufficiency, cardiomyopathy, severe unexplained dyspnea |
| (6) | history of cardiotoxic drug intake (i.e. adriamycin) |
| (7) | presence of cardiac murmurs. |

2. PNEUMONOLOGIC CONSULTATION is required in the following cases (table 5)

Table 5. Experts consultation is required in patients who fall in one of the following categories

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| 1. | Age >70 years |
| 2. | Heavy smokers |
| 3. | Morbidly obese (BMI >42) |
| 4. | Cardiothoracic surgical procedure |
| 5. | History of asthma |
| 6. | History of COPD |
| 7. | Sleep apnea syndrome |
| 8. | Any other known respiratory disease (interstitial pneumopathy, cyphoscoliosis, tuberculosis, professional lung disease, bronchiectasiae, respiratory insufficiency, systemic disorders who involve the respiratory tract). |
| 9. | Patients with recent respiratory infection, or recurrent respiratory infections. |
| 10. | Patients with positive symptoms or signs from the respiratory tract (tachypnea, dyspnea, cyanosis). |
| 11. | Abnormal CXR findings |
| 12. | Long duration of the scheduled surgical procedure (> 4 hours) |

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| 13. Patients who work in areas or environment with harmful substances for the respiratory tract (i.e. cleaning houses, mines, etc) |
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3. HEMATOLOGIC CONSULTATION

All patients suffering from a known haematologic acute or chronic disorder, unexplained bleeding, thrombo-embolic episode or patients with suspicious medical history for a haematologic disorder (cancer patients, presence of haematomas, petechiae, pulmonary emboli, cerebro-vascular disease), in pregnant women with preeclampsia, or patients with an abnormal blood count or coagulation studies.

4. ENDOCRINOLOGIC CONSULTATION

Is necessary in patients with known endocrinological disorder with or without drug intake, patients with chronic corticosteroid consumption (transplant recipients, connective tissue disorders, autoimmune disorders etc), after surgery of the thyroid, adrenal or pituitary gland or with symptoms and signs of endocrine disease. All patients suffering from pheochromocytoma or M.E.N. syndrome are being subjected to an endocrinologic consult prior to surgery.

Which are the obligatory hormone exams?

Thyroid disease

T₃, T₄, TSH plasma levels: can be accepted if measured within 3 months from surgery (and if the subject is clinically euthyroid). In cases of hypoalbuminaemia, pregnancy or intake of certain drugs (i.e. corticosteroids) there are additionally measured the free fraction of the hormones (fT₃, fT₄). If the patient receives thyroxine medication, he should postpone the drug assumption until after the blood withdrawal. If the drug dosage has been recently changed it is desirable to measure the hormone plasma levels after the adjustment of the drug dosage.

Adrenal disease

Cortisol and ACTH plasma levels.

If required full control of the hypothalamic-pituitary-adrenal axis after the endocrinologists consultation.

Diabetes Mellitus

Desirable perioperative blood glucose levels are: 150-200 mg/dL (for non diabetic patients: 70-120 mg/dL).

5. NEPHROLOGIC CONSULTATION

In patients with abnormal blood levels of creatinine (male adults >1.7 and female >1.6), after prolonged hypotension or shock, renal transplant recipients, patients on dialysis (haemodialysis, peritoneal dialysis, haemofiltration), pregnant women with preeclampsia or subjects with suspicion for renal disease (electrolyte disturbances, diabetic patients, with autoimmune or connective tissue disease, urinary tract infection and renal cancer etc)

6. NEUROLOGIC CONSULTATION

Patients with known acute or chronic neurologic disease, with or without antiepileptic or antiparkinsonian or other neurologic drug intake or pregnant women with preeclampsia, patients with medical history of head and neck

trauma or history of previous neurosurgical procedure, patients suffering from serious and prolonged headache or abnormal findings in a CT, MRI scan or the EEG.

7. PSYCHIATRIC CONSULTATION

Patients with known acute or chronic psychiatric disorder, or with serious behavior disorders.

8. IMMUNOLOGIC CONSULTATION

Patients with known serious drug or food allergy in which the allergy manifestations include: anaphylaxis, urticaria, rhinitis or rash.

9. DENTAL CONSULTATION

It is obligatory in patients who are scheduled for cardiothoracic surgical procedure, organ transplantation, in diabetic patients or patients with mobile or destroyed teeth.

Sources of electronic information:

www.agreecollaboration.org

www.nice.org.uk

www.euroanesthesia.org/education/guidelines

<http://www.asahq.org/publicationsAndServices/sgstoc.htm>