POLO UNICO OSPEDALIERO UNIVERSITARIO DI PERUGIA
Sezione di Anestesia, Analgesia e Terapia Intensiva
Scuola di Specializzazione in Anestesia e Rianimazione
Struttura Complessa di Anestesia e Rianimazione 2
Direttore: *Prof. Vito Aldo Peduto*

PREOPERATORIO: VALUTAZIONE E DIGIUNO

Simonetta Tesoro

GUIDELINES of European Society of Anesthesiology

Eur J Anaesthesiol 2011;28:684–722

GUIDELINES

Preoperative evaluation of the adult patient undergoing non-cardiac surgery: guidelines from the European Society of Anaesthesiology

Stefan De Hert, Georgina Imberger, John Carlisle, Pierre Diemunsch, Gerhard Fritsch, Iain Moppett, Maurizio Solca, Sven Staender, Frank Wappler and Andrew Smith, the Task Force on Preoperative Evaluation of the Adult Noncardiac Surgery Patient of the European Society of Anaesthesiology

Livelli di evidenza Grado delle raccomandazioni

Table 1 Levels of evidence

1++	High-quality meta-analyses Systematic reviews of RCTs RCTs with a very low risk of bias
1+	Well conducted meta-analyses Systematic reviews of RCTs RCTs with a low risk of bias
1−	Meta-analyses systematic reviews of RCTs RCTs with a high risk of bias
2++	High-quality systematic reviews of case–control or cohort studies High-quality case–control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
2+	Well conducted case–control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
2−	Case–control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
3	Non-analytical studies (case reports, case series, etc.)
4	Expert opinion

RCT, randomised clinical trial.

Table 2 Grades of recommendation

A	At least one meta-analysis, systematic review of RCTs or RCT rated as 1++ and directly applicable to the target population or a body of evidence consisting principally of studies rated as 1+, directly applicable to the target population and with an overall consistency of results
B	A body of evidence including studies rated as 2++, directly applicable to the target population and with an overall consistency of results or extrapolated evidence from studies rated as 1++ or 1+
C	A body of evidence including studies rated as 2+, directly applicable to the target population and with an overall consistency of results or extrapolated evidence from studies rated as 2++
D	Evidence level 3 or 4 or extrapolated evidence from studies rated as 2+

RCT, randomised clinical trial.

Scopo della valutazione preoperatoria

- Identificare i pazienti in cui il periodo perioperatorio può costituire un incrementato rischio di morbidità e mortalità.

- Utilizzare delle strategie perioperatorie al fine di ridurre questi rischi aggiuntivi.

"Over-all perioperative risk"
Rischio operatorio

1. Fattori correlati al paziente:
   - Stato fisico ASA
2. Fattori correlati alla chirurgia
   - Natura della chirurgia (maggiore, minore, intermedia)
   - Durata della chirurgia
   - Sede della chirurgia
   - Perdite ematiche previste
3. Fattori correlati all'organizzazione
   - Come, Quando e Chi deve valutare un paziente?

Classificazione ASA

- I Nessuna alterazione organica, biochimica o psichiatrica
  Esempio: ernia inguinale in paziente senza alcuna malattia
- II Malattia sistemica lieve correlata o no alla ragione dell'intervento chirurgico
  Esempio: bronchite cronica; obesità moderata; diabete controllato; infarto del miocardio di vecchia data ; ipertensione arteriosa moderata
- III Malattia sistemica severa ma non invalidante correlata o no alla ragione dell'intervento chirurgico
  Esempio: cardiopatia ischemica con angor; diabete insulino dipendente; obesità patologica; insufficienza respiratoria moderata.
- IV Malattia sistemica grave con prognosi severa che pregiudica la sopravvivenza indipendentemente dall'intervento chirurgico
  Esempio: insufficienza cardiaca severa; angina instabile;
  aritmie refrattarie al trattamento; insufficienza respiratoria, renale, epatica ed endocrina avanzata
- V Paziente moribondo che non sopravviverà nelle 24 ore successive, che viene sottoposto all'intervento chirurgico come ultima possibilità
  Esempio: rottura aneurisma aorta con grave stato di shock
- E Ogni intervento chirurgico non dilazionabile e che non consente una completa valutazione del paziente e la correzione di ogni anomalia: La lettera E viene aggiunta alla corrispettiva classe ASA

Organizzazione: come?

Recommendations

(1) Preoperative standardised questionnaires may be helpful in improving anaesthesia evaluation in a variety of situations (grade of recommendation: D).

(2) If a preoperative questionnaire is implemented, great care should be taken in its design (grade of recommendation: D), and a computer-based version should be used whenever possible (grade of recommendation: C).

(3) Preoperative evaluation should be carried out with sufficient time before the scheduled procedure to allow for the implementation of any advisable preoperative intervention aimed at improving patient outcome (grade of recommendation: D).

(4) Preoperative assessment should at least be completed by an anaesthetist (grade of recommendation: D), but the screening of patients could be carried out effectively either by trained nurses (grade of recommendation: C) or anaesthesia trainees (grade of recommendation: D).

(5) A pharmacy personnel member may usefully be included in preoperative assessment, in order to reduce discrepancies in postoperative drug orders (grade of recommendation: C).

(6) There is insufficient evidence to recommend that the preferred model is that a patient should be seen by the same anaesthetist from preoperative assessment through to anaesthesia administration (grade of recommendation: D).

Organizzazione: quando?

Recommendations

(1) Preoperative standardised questionnaires may be helpful in improving anaesthesia evaluation in a variety of situations (grade of recommendation: D).

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- Durata visita anestesiologica
- Quanto tempo prima

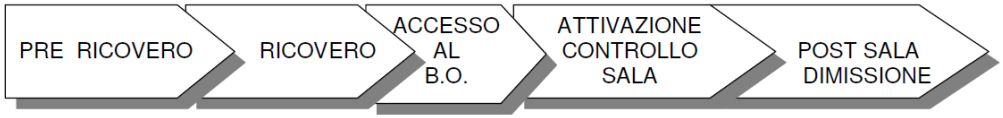
Esempio organizzativo

AZIENDA OSPEDALIERA DI PERUGIA	PRO_BO_04	
PERCORSO PEDIATRICO ANESTRESIOLOGICO	Rev. 01 Data settembre 09	Pagina 1 di 3

PERCORSO CHIRURGICO DEL PAZIENTE PEDIATRICO

Redatto da	Referenti GRUPPO DI LAVORO Simonetta Tesoro PO Elide Moretti	*Firma*	*data*
Verificato da	Responsabile Qualità Struttura Donatello Severini	*Firma*	*data*
Approvato da	Dr.ssa M.Pioppo Responsabile DMO Blocchi Operatori	*Firma*	*data*

Fasi del percorso



PRE RICOVERO

ATTIVITA'	DOCUMENTI DI SUPPORTO
RACCOLTA DEI DATI ANAMNESTICI	QUESTIONARIO redatto da parte dei genitori MO_BO_10
FORNIRE AI GENITORI INFORMAZIONI E INDICAZIONI PRE OPERATORIE	BROCHURE " Indicazioni pre operatorie " MO_BO_11
COMPILAZIONE DELLA CARTELLA ANESTESIOLOGICA - PRE RICOVERO-	CARTELLA ANESTESIOLOGICA MO_AzOsp_PG_28/ B/34 – 34Z
RECEPIRE CONSENSO INFORMATO E AUTORIZZAZIONE ALL'INFUSIONE DI SANGUE ED EMODERIVATI	MODULO CONSENSO INFORMATO MO_AzOsp_PG_49

VISITA ANESTESIOLOGICA: PRERICOVERO

Unico accesso ambulatoriale in orario extrascolastico.

Prenotazione attraverso CUP secondo classificazione priorità chirurgica.

Validità: 2 mesi

VALUTAZIONE GLOBALE

RIVALUTAZIONE GG INTERVENTO (infezioni ricorrenti).

?

Ambulatorio confortevole a misura di bambino.

Possibilità di contatto tra gli operatori in tempo reale, per valutazione collegiale in un unico accesso.

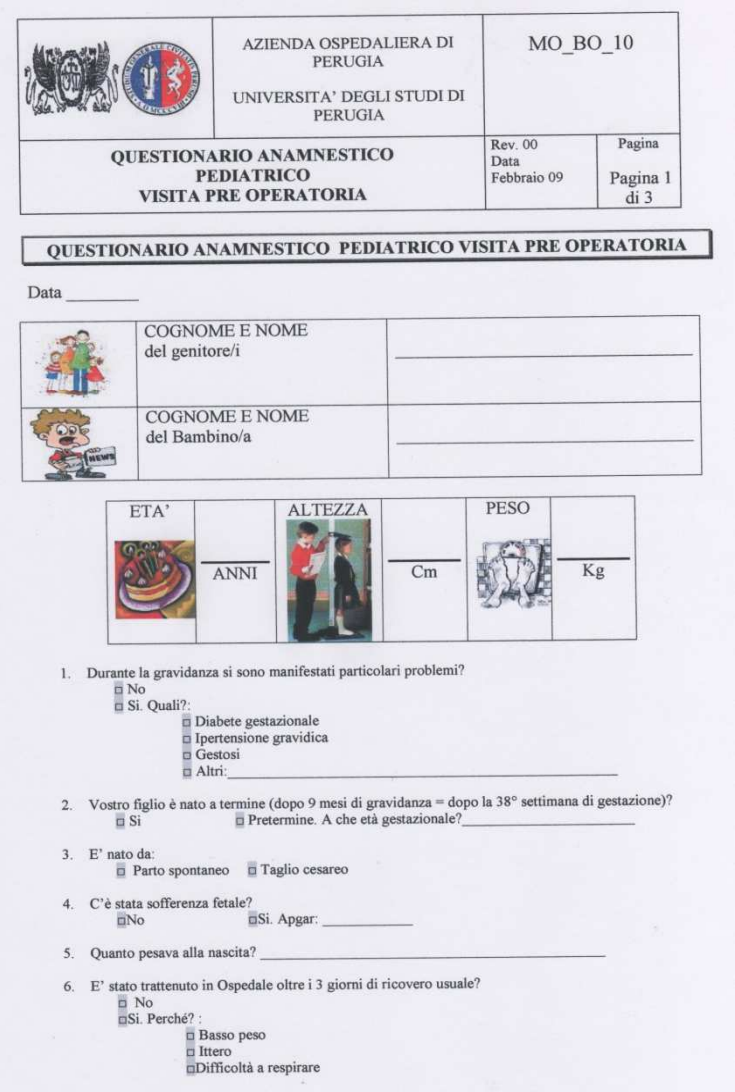
Sedi di lavoro logisticamente vicine (ambulatori, degenze, laboratori, sale operatorie).

Acquisizione consenso informato di entrambi i genitori.

Tutte le informazioni, le indicazioni comportamentali e le istruzioni dovranno essere fornite per iscritto (digiuno, pre-intra-post operatorio, dimissione).

Diagnostic accurancy of anesthesiology evaluation timing:the “One-Stop Anesthesia” in pediatric day-surgery. Pediatric Anesthesia 2009;19:764-769.

VISITA ANESTESIOLOGICA: PRERICOVERO



AZIENDA OSPEDALIERA DI PERUGIA UNIVERSITA' DEGLI STUDI DI PERUGIA	MO_BO_10	
QUESTIONARIO ANAMNESTICO PEDIATRICO VISITA PRE OPERATORIA	Rev. 00 Data Febbraio 09	Pagina Pagina 1 di 3

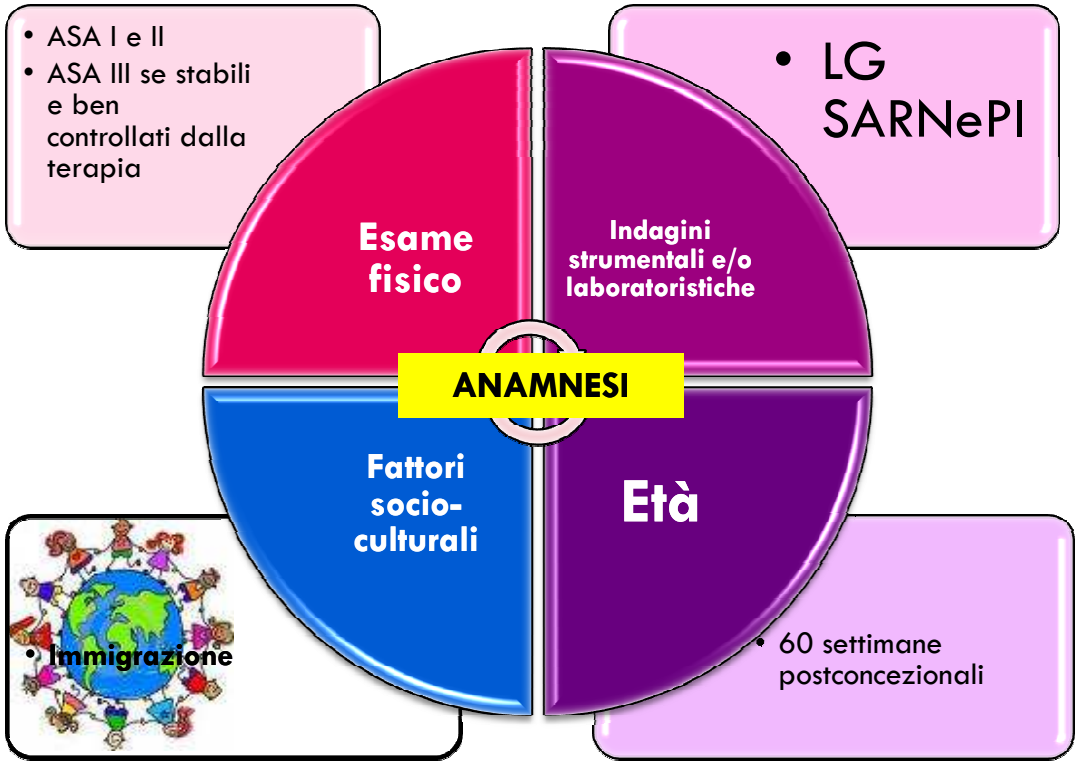
QUESTIONARIO ANAMNESTICO PEDIATRICO VISITA PRE OPERATORIA

Data _____

COGNOME E NOME del genitore/i	_____
COGNOME E NOME del Bambino/a	_____

ETA'		ALTEZZA		PESO	
	ANNI		Cm		Kg

1. Durante la gravidanza si sono manifestati particolari problemi?
   - ☐ No
   - ☐ Si. Quali?:
     - ☐ Diabete gestazionale
     - ☐ Ipertensione gravidica
     - ☐ Gestosi
     - ☐ Altri:_____
2. Vostro figlio è nato a termine (dopo 9 mesi di gravidanza = dopo la 38° settimana di gestazione)?
   ☐ Si ☐ Pretermine. A che età gestazionale?_____
3. E' nato da:
   ☐ Parto spontaneo ☐ Taglio cesareo
4. C'è stata sofferenza fetale?
   ☐No ☐Si. Apgar: _____
5. Quanto pesava alla nascita? _____
6. E' stato trattenuto in Ospedale oltre i 3 giorni di ricovero usuale?
   - ☐ No
   - ☐Si. Perché? :
     - ☐ Basso peso
     - ☐ Ittero
     - ☐Difficoltà a respirare



Quando richiedere approfondimenti diagnostici?

Specific clinical conditions in which the patients should undergo more extensive testing

Every patient should be checked for specific conditions that might interfere with anaesthesia and surgery and which should be evaluated further and potentially treated. Uncommon diseases and endocrinological disorders other than diabetes were not included in the present

The following conditions/factors were assessed:

- Cardiovascular disease
- Respiratory disease, smoking and obstructive sleep apnoea syndrome (OSAS)
- Renal disease
- Diabetes mellitus
- Obesity
- Coagulation disorders
- Anaemia and preoperative blood conservation strategies
- The elderly
- Alcohol misuse and addiction
- Allergy

How to manage the following concurrent medication:

- Antithrombotic therapy and locoregional anaesthesia
- Herbal medication
- Psychotropic medications
- Perioperative bridging of anticoagulation therapy

Quali esami richiedere?

VALUTAZIONE CLINICA | **APPROFONDIMENTO DIAGNOSTICO**

Perioperative cardiac complications can occur in patients with documented or asymptomatic ischaemic heart disease, ventricular dysfunction and valvular heart disease. It has been estimated that in non-cardiac surgery, major perioperative cardiac events may occur in up to 4% of cardiac patients and 1.4% of an unselected patient population.[40] Preoperative identification of patients at risk for developing perioperative cardiac problems and possible medical optimisation of the condition may potentially improve outcome.

Rischio cardiovascolare per chirurgia non cardiaca

- RACCOMANDAZIONI

Recommendations

(1) If active cardiac disease is suspected in a patient scheduled for surgery, the patient should be referred to a cardiologist for assessment and possible treatment (grade of recommendation: D).

(2) In patients currently taking β-blocking or statin therapy, this treatment should be continued perioperatively (grade of recommendation: A).

- Valutazione della presenza di condizioni cardiache attive
- Tipo di chirurgia
- Capacità funzionale del paziente (>o< 4 METs *metabolic equivalent*)
- Presenza di fattori di rischio

Rischio cardiovascolare

- Condizioni cardiache attive

(1) Unstable coronary syndromes
  (a) Unstable or severe angina
  (b) Recent myocardial infarction (MI) (within 30 days)
(2) Decompensated heart failure
(3) Significant arrhythmias
  (a) High-grade atrioventricular block
  (b) Symptomatic ventricular arrhythmias
  (c) Supraventricular arrhythmias with uncontrolled ventricular rate (>100 beats min^{-1} at rest)
  (d) Symptomatic bradycardia
  (e) Newly recognised ventricular tachycardia
(4) Severe valvular disease
  (a) Severe aortic stenosis (mean pressure gradient > 40 mmHg, area <1 cm^2 or symptomatic)
  (b) Symptomatic mitral stenosis

- Tipo di chirurgia

Table 3 Surgical risk estimates

High risk (cardiac risk >5%)	Intermediate risk (cardiac risk 1–5%)	Low risk (cardiac risk <1%)
Aortic surgery	Abdominal	Breast
Major vascular surgery	Carotid	Dental
Peripheral vascular surgery	Peripheral arterial angioplasty	Endocrine
	Endovascular aneurysm repair	Eye
	Head and neck surgery	Gynaecological
	Major neurologic/orthopaedic	Reconstructive
	Pulmonary	Minor orthopaedic
	Major urologic	Minor urologic

- Fattori di rischio aggiuntivi

(1) History of ischaemic myocardial disease
(2) Current stable or history of heart failure
(3) History of cerebrovascular disease
(4) Diabetes (insulin dependent)
(5) Renal failure (serum creatinine, SCr > 2 mg dl^{-1})

Complicanze respiratorie

Postoperative pulmonary complications are a significant postoperative risk. Most important complications are atelectasis, pneumonia, respiratory failure and exacerbation of chronic lung disease. Established risk factors are age [odds ratio for postoperative pulmonary complications 2.09 (confidence interval, CI 1.70–2.58) for patients aged 60–69 years and 3.04 (CI 2.11–4.39) for ages 70–79, both compared with patients younger than 60 years of age]; chronic obstructive lung disease (odds ratio 1.79, CI 1.44–2.22); cigarette use (odds ratio 1.26, CI 1.01–1.56); congestive heart failure (odds ratio 2.93, CI 1.02–8.43); functional dependence [for total functional dependence, odds ratio 2.51 (CI 1.99–3.15) and for partial dependence, odds ratio 1.64 (CI 1.36–2.01)]; and a higher ASA classification and prolonged duration of surgery (odds ratio 2.14, CI 1.33–3.46).[43,44]

Additional risk factors (type of surgery, weight loss, cerebral vascular disease, long-term steroid use as well as alcohol use) have been identified and included in a risk index for predicting postoperative pneumonia after major non-cardiac surgery (level of evidence: 2–).[45]

Complicanze respiratorie e ottimizzazione

Will optimisation and/or treatment alter outcome and if so, what intervention and at what time should it be done in the presence of respiratory disease, smoking and OSAS?

Raccomandazioni

Recommendations

(1) Preoperative diagnostic spirometry in non-cardiothoracic patients cannot be recommended to evaluate the risk of postoperative complications (grade of recommendation: D).

(2) Routine preoperative chest radiographs rarely alter perioperative management of these cases. Therefore, it cannot be recommended on a routine basis (grade of recommendation: B).

(3) Preoperative chest radiographs have a very limited value in patients older than 70 years with established risk factors (grade of recommendation: A).

(4) Patients with OSAS should be evaluated carefully for a potential difficult airway and special attention is advised in the immediate postoperative period (grade of recommendation: C).

(5) Specific questionnaires to diagnose OSAS can be recommended when polysomnography is not available (grade of recommendation: D).

(6) Use of CPAP perioperatively in patients with OSAS may reduce hypoxic events (grade of recommendation: D).

(7) Incentive spirometry preoperatively can be of benefit in upper abdominal surgery to avoid postoperative pulmonary complications (grade of recommendation: D).

(8) Correction of malnutrition may be beneficial (grade of recommendation: D).

(9) Smoking cessation before surgery is recommended. It must start early (at least 6–8 weeks prior to surgery, 4 weeks at a minimum) (grade of recommendation: B). A short-term cessation is only beneficial to reduce the amount of carboxyhaemoglobin in the blood in heavy smokers (grade of recommendation: D).

RADIOGRAFIA DEL TORACE

- Non predittiva di complicanze respiratorie postoperatorie.

  American Society of Anesthesiologists Task Force on Preanesthesia Evaluation. Practice advisory for preanesthesia evaluation: a report by the American Society of Anesthesiologists Task Force on Preanesthesia Evaluation. *Anesthesiology* 2002; **96**:485–496.

- In una metanalisi 2006 soltanto nel 3% dei casi ha modificato il management perioperatorio.

  Smetana GW, Lawrence VA, Cornell JE. Preoperative pulmonary risk stratification for noncardiothoracic surgery: systematic review for the American College of Physicians. *Ann Intern Med* 2006; **144**:581–595.

- Le complicanze polmonari perioperatorie erano simili tra i pazienti che avevano eseguito radiografia del torace.

  Joo HS, Wong J, Naik VN, Savoldelli GL. The value of screening preoperative chest x-rays: a systematic review. *Can J Anaesth* 2005; **52**:568–574.

Digiuno

Eur J Anaesthesiol 2011;28:556–569

GUIDELINES

Perioperative fasting in adults and children: guidelines from the European Society of Anaesthesiology

Ian Smith, Peter Kranke, Isabelle Murat, Andrew Smith, Geraldine O'Sullivan, Eldar Søreide, Claudia Spies and Bas in't Veld

Our guideline aims to provide an overview of the present knowledge on perioperative fasting with assessment of the quality of the evidence in order to allow anaesthesiologists all over Europe to integrate this knowledge in their daily care of patients.

Digiuno preoperatorio: liquidi

- **2 ore** da LIQUIDI che non contengano latte *(acqua, te, caffè, succhi di frutta privi di polpa)*

- Obesità
- Reflusso gastroesofageo
- Diabete
- Gravida non in travaglio

Adults and children should be encouraged to drink clear fluids (including water, pulp-free juice and tea or coffee without milk) up to 2 h before elective surgery (including caesarean section) (evidence level 1++, recommendation grade A).

All but one member of the guidelines group consider that tea or coffee with milk added (up to about one fifth of the total volume) are still clear fluids.

Digiuno preoperatorio: solidi

- 6 ore da cibi solidi

Solid food should be prohibited for 6 h before elective surgery in adults and children (evidence level 1+, recommendation grade A).

- Chewing gum, sweets and smoking

Patients should not have their operation cancelled or delayed just because they are chewing gum, sucking a boiled sweet or smoking immediately prior to induction of anaesthesia