

**Order 1500 of November 24, 2009**  
on approval of the REGULATION concerning the  
organization and operation of departments and  
compartments of anaesthesia and intensive care in  
hospitals

**Published in Official Gazette 873 of 15 December  
2009 (Gazette. 873/2009)**



Considering:

- Law no. 95/2006 on health reform, as subsequently amended and supplemented;

- The paper for the approval of the Directorate for health system planning and wage policy no. A.V. 1806 of 25 November 2009,

in accordance with Art. 7 alin. 7 para. (4) of Government Decision no. 1.718/2008 on the organization and functioning of the Ministry of Health, as subsequently amended and supplemented,

the interim Minister of Health issues the following order:

Art. 1. - The Regulation concerning the organization and operation of departments and compartments of anaesthesia and intensive care in hospitals, provided in the Annex which is part and parcel of the present Order is hereby approved.

Art. 2. - The directions involved from within the Ministry of Health, county and Bucharest Public Health Department as well as the management of health units will comply with this order.

Art. 3. - This Order shall be published in the Official Gazette of Romania, Part I.

p. Minister of Health, Interim  
Cristian-Anton Irimie,  
Secretary of State

Bucharest, 24 November 2009  
No. 1500



## ANNEX

### **REGULATION of 24 November 2009 concerning the organization and operation of departments and compartments of anaesthesia and intensive care in health units. Published in the Official Gazette no. 873 of 15 December 2009 (Gazette 873/2009)**

**Art. 1.** - For the purposes of this Order, the term anaesthesia and intensive care, hereinafter referred to as AIC1 shall mean the specialized medical field which provides:

a) the necessary conditions for the surgical act, perioperative care and pain therapy, other diagnostic and/or treatment procedures by specific pharmacological and technical means;

b) the necessary support for critical patient assessment and treatment of life threatening dysfunctions and/or acute organ lesions.

**Art. 2.** - Intensive care includes: diagnosis, prevention and treatment of acute insufficiency of all vital functions. Specific measures of treatment are aimed at immediately life threatened patients.

**Art. 3.** -

(1) The anaesthesia and intensive care activity is carried out by a complex medical team, comprising physicians, nurses, auxiliary medical staff and other personnel trained and authorized according to the regulations in force.

(2) AIC activity can take place:

a) in hospitals:

- in the surgical unit: in the operating room and in the preanaesthesia room;
- outside the operating room;
- in the bed area of the AIC department / compartment located in a defined place, intended solely for that purpose;

b) ambulatory: preanaesthesia examination and pain therapy.

(3) The AIC activity outside the operating theatre refers to ensuring the necessary conditions for carrying out non-surgical diagnostic and/or therapeutic manoeuvres requiring anaesthesia and is performed in:

a) the radiology and medical imaging laboratory (computed tomography unit, angiography, MRI etc.);

b) the functional explorations laboratories/compartments (cardio-respiratory, digestive functions);

c) other structures that warrant.

**Art. 4.** - AIC departments / compartments are organized and operate only in hospital wards with beds that provide medical services under the law.

**Art. 5.** -

(1) The public or private health structures, approved/authorised as appropriate, which provide daytime medical care and examine/treat patients who require any form of anaesthesia, other than local anaesthesia by infiltration, must have at least one anaesthesia workstation, as well as a post-anaesthesia care unit, hereinafter referred to as PACU.

(2) The minimum requirements to be met in terms of organization of the anaesthesia workstation and of the PACU are provided in Appendix 1.

**Art. 6.** -

(1) The AIC departments / compartments operate in places particularly intended and equipped for that purpose, that allow efficient separation of the bed ward from the rest of the system - including the emergency room, the surgical unit, the blood transfusion unit or the central sterilization department.

(2) In case the health unit with beds has several wings and the surgical departments operate in different wings or one of the surgical department is in another building, different from the AIC building, AIC compartments may be established in the building where such surgical department / departments are found.

(3) Compartments under par. (2) will be included in the hospital AIC department, with shared use of staff and will be coordinated for professional reasons by the AIC physician appointed by the head of the hospital's AIC department.

(4) In special situations, compartments under par. (2) may be comprised as separate compartments at the said address if the buildings are not in the same courtyard and the AIC department management considers that it is not functional to include such compartment within the structure of the AIC department and in this case the coordination of the compartment's works shall come within the remit of the AIC physician senior /specialist, having the highest professional level, who will subordinate to the medical director of the health unit with legal personality.

(5) In the event that in a health unit there is no justification to have the number of AIC beds required to form an AIC department (at least 15 beds), the compartments will comprise the number of beds required for the respective unit and will be coordinated by the AIC specialist with the highest professional level appointed by the management of the unit.

**Art. 7.** - The overall structure of the AIC department / compartment has two components:

1. Anaesthesia workstations
2. Bed ward, hereinafter referred to as BW, comprising:
  - a) intensive care beds, hereinafter referred to as IC;
  - b) intermediate care beds / postoperative care, hereinafter referred to as ICPC;
  - c) post anaesthesia care beds - PACU, depending on the local needs and possibilities, for patients who require short-term monitoring (few hours).

**Art. 8** -

(1) Anesthesia workstation is where the patient benefits from general anesthesia, regional anaesthesia or sedation performed under the responsibility of an AIC specialist physician.

- (2) Anaesthesia Workstations are organized in:
- a) the surgical unit: operating rooms, preanaesthesia rooms;
  - b) laboratory of radiology and medical imaging: computed tomography unit, angiography, MRI and others;
  - c) functional exploration laboratories / departments: cardio-respiratory, digestive functions;
  - d) other structures within the health unit where it is necessary to administer all forms of anaesthesia.

(3) The anaesthesia workstation is organized in compliance with the criteria

mentioned in appendix 1, as follows:

- a) in the surgical unit: in the operating room and in the preanaesthesia room, intended to provide surgery-related anaesthesia and intensive care and can include equipment suitable to the specific surgery profile;
- b) outside the operating room, intended to ensure the conditions for carrying out non-surgical diagnostic and/or therapeutic manoeuvres requiring anaesthesia: radiology and imaging laboratories (computed tomography unit, angiography, MRI etc..) as well as functional exploration laboratories/departments (cardio-respiratory, digestive functions), other structures that warrant.

**Art. 9.** - The bed ward (BW) is aimed at the:

- a) post-operative/postanaesthesia monitoring and treatment of patients with normal evolution;
- b) care for patients who require continuous monitoring because of unstable vital functions;
- c) care for patients requiring intensive mono- or multi-organic care (advanced respiratory support, invasive monitoring, mechanical circulatory support, substitution therapy of acutely impaired renal or hepatic function etc.);
- d) patients requiring acute pain therapy;
- e) patients with brain death, potential organ donors.

**Art. 10.** -

(1) Intensive Care (IC) is the highest level of care in a hospital.

It is a distinct part within the bed ward of the AIC department / compartment whose purpose is to take over, to monitor, to treat and take care of patients who already have or are likely to develop acute multiple organ failure: cardio-circulatory, respiratory, kidney etc., which are life-threatening.

(2) The IC patients require specialized care and prolonged use of alternate methods to assist these functions and organs such as: haemodynamic support, ventilatory support, dialysis etc.

(3) The IC wards' intake/admission and triage criteria are provided in appendix 2.

(4) Within the AIC departments / compartments there shall be at least 6 intensive care (IC) beds.

(5) The minimum equipment of an intensive care bed and the minimum appliances required within the IC are provided in appendix no. 3.

(6) IC may be multifunctional (patients with surgical pathology/patients with medical condition) or it may be specialized (cardiac and/or vascular surgery, liver surgery, solid organ transplants, neurosurgery etc.).

(7) The physician appointed as head of the AIC department or, as the case may be, the stand-in physician or the physician on duty is responsible for marshalling correctly the admission/intake and transfer/discharge from this unit as well as for establishing the correct boundaries of care within the IC, according to the hospital needs, to the qualification of the medical staff and to the available technical equipment.

(8) The private health units providing surgical services in the field of cardiac and/or vascular surgery (other than peripheral blood vessels surgery), liver surgery, solid organ transplants, neurosurgery or any surgical services which require continuous post-operative monitoring of the patients for more than 48 hours are required to have a IC - BW, organized and equipped in accordance with the provisions of appendix 3.

**Art. 11. -**

(1) The intermediate care/post-operative care (ICPC) is a distinct part within the bed ward (BW) of the AIC ward/department, for patients who require proper post-operative care as well as for those who require intermediate care.

(2) The ICPC provided at para. (1) is the continuous medical monitoring of patients given that:

- a) the patient's condition may develop into multiple acute organ failure;
- b) the patient's condition, after experiencing such a pathological condition, is still too serious or too unstable to transfer them to the initial bed ward.

(3) ICPC may be multifunctional (patients with surgical pathology/patients with medical condition) or it may be specialized (cardiac and/or vascular surgery, liver surgery, solid organ transplants, neurosurgery etc.).

(4) The patients' intake/admission and triage criteria within the ICPC are provided in appendix no. 4.

(5) The minimum equipment of an intermediary care/postoperative care bed and the minimum appliances required within the ICPC are provided in appendix no. 5.

(6) Given that ICPC operates within the AIC ward, ICPC must have a sufficient number of beds to receive patients from IC or from other hospital departments.

(7) The physician appointed as head of the AIC department or, as the case may be, the stand-in physician or the physician on duty within the AIC is responsible for marshalling correctly intake/admission and transfer/discharge from that unit, and to establish the exact boundaries of care possible within the ICPC, depending on the needs of the hospital, on the qualification of the medical staff and on the technical equipment available.

(8) The private health units providing surgical services which require continuous post-operative monitoring of the patients for more than 24 hours are required to have an ICPC department, organized and equipped in accordance with the provisions of appendix no. 5.

**Art. 12. -**

(1) Postanaesthesia monitoring (PACU) is a distinct part within the bed ward (BW) of the AIC department / compartment and is intended for patients who require short-term monitoring, until exhaustion of the effects of anaesthesia (after minor surgery or diagnostic manoeuvres and or treatments that require any type of anaesthesia, except for local anaesthesia by infiltration).

(2) PACU may be organized in hospitals in the following situations:

a) ICPC cannot handle the large number of surgical operations;

b) the extent of surgical operations does not justify the establishment of an ICPC: health care facilities providing daytime hospital services, either public or private.

(3) AIC departments / compartments whose activity does not justify the existence of 6 IC beds (some small hospitals or surgery mono-profile hospitals where there is generally a low risk that patients meet the criteria for admission

to intensive care) will have to structure only anaesthesia workstations and ICPC bed areas in order to be included in the 3rd category of basal competence.

**Art. 13.** - AIC departments are classified, depending on the complexity of the activity carried out, in 3 categories as follows:

- a) 3<sup>rd</sup> category AIC departments: basal level of competence;
- b) 2<sup>nd</sup> category AIC departments: medium level of competence;
- c) 1<sup>st</sup> category AIC departments: advanced level of competence.

**Art. 14.** -

(1) The 3<sup>rd</sup> category AIC departments are comprised of:

- a) anaesthesia workstations;
- b) intermediate care/post-operative care beds (ICPC);
- c) postanaesthesia monitoring beds (PACU), optional.

(2) The 3<sup>rd</sup> category AIC departments have limited possibilities of providing long-term intensive care and provide specialized medical services in the fields mentioned in the approved organizational structure of the health unit concerned, including in case of emergencies and initial stabilization of critical medical and surgical patients.

(3) The 3<sup>rd</sup> category AIC departments are required to conclude cooperation agreements with other health units with bed wards having 2<sup>nd</sup> or 1<sup>st</sup> category AIC departments for the transfer of patients in critical condition.

(4) Where applicable, education-related activities may be carried out in 3<sup>rd</sup> category AIC departments.

**Art. 15.** -

(1) The 2<sup>nd</sup> category AIC departments are comprised of:

- a) anaesthesia workstations;
- b) intensive care (IC) beds;

c) intermediate care/postoperative care beds (ICPC);

d) postanaesthesia monitoring beds (PACU), optional.

(2) The 2<sup>nd</sup> category AIC departments provide complete specialized medical services for medical or surgical patients in critical condition, with the exception of: cardiovascular surgery, major neurosurgery, organ transplants, multiple traumas, major liver surgery, severe burns victims

(3) The 2<sup>nd</sup> category AIC departments are required to conclude cooperation agreements with other health units with bed wards having 1st category AIC departments, for the transfer of patients in critical condition as follows: cardiovascular surgery, major neurosurgery, organ transplants, multiple traumas, major liver surgery, severe burns victims.

(4) Education-related activities may be carried out in 2<sup>nd</sup> category AIC departments.

**Art. 16. -**

(1) The 1<sup>st</sup> category AIC departments are comprised of:

a) anaesthesia workstations;

b) intensive care (IC) beds;

c) intermediate care/postoperative care beds (ICPC);

d) postanaesthesia monitoring beds (PACU), optional.

(2) The 1<sup>st</sup> category AIC departments provide complete specialized medical services for medical or surgical patients in critical condition, including for: cardiovascular surgery, major neurosurgery, organ transplants, multiple traumas, major liver surgery, severe burns victims.

(3) In order to provide complete continuous specialized medical services, the 1<sup>st</sup> category AIC departments have available, permanently, equipments, teams of physicians and nurses trained for each of the respective specialized medical fields, as well as special support teams, as the case may be: circulatory support, extracorporeal circulation, renal replacement therapy, liver dialysis.

(4) Education-related activities may be carried out in 1<sup>st</sup> category AIC departments.

**Art. 17.** - The classification of AIC departments existing in hospitals, including in paediatric hospitals as per the 3 categories set out under this regulation is based on the evaluation pursuant to the provision of appendix no. 6.

**Art. 18.** -

(1) The already existing intensive care departments/ compartments that meet the requirements of this order on the intensive care component, respectively:

a) are coordinated and served by AIC senior / specialist physicians or by senior / specialist physicians confirmed in one of the specialized medical fields holding a certificate in intensive care;

b) have a space of their own;

c) have adequate facilities, shall retain their name as *intensive care departments/compartments*.

(2) The already existing "*intensive care compartments*", where patients with single visceral dysfunction/insufficiency connected to a single specialized medical field (cardiology, neurology, gastroenterology, nephrology, diabetes etc.) are treated and that do not meet the requirements of the present order, do not have the authority to carry out intensive care specific activities and *may no longer bear the name of intensive care*.

(3) The hospitals comprising the compartments mentioned at para. (2) above must submit to the Ministry of Health, within 90 days from the enforcement of the present order, an application requiring the modification of the organizational structure; furthermore, the unit may assign a number of beds to acute therapy in the said specialized medical field (cardiology, neurology, gastroenterology, nephrology, diabetes etc.).

(4) The compartments mentioned at para. (2) above are required to conclude agreements with an AIC departments which can take the patients whose condition gets worse, requiring advanced ventilatory support and/or developing multiple organic pain.

**Art. 19.** - The neonatology departments have their own particular features; they are organized and operate pursuant to the legal provisions in force.

**Art. 20.** - The AIC beds within a hospital account for 6% to 10% of the total number of beds dedicated for acute patients.

**Art. 21.** - The evaluation of departments / compartments is made under the provisions of appendix no. 6.

**Art. 22.** - Organization and operation of AIC departments

(1) The AIC department is coordinated by a physician appointed as head of the ward, who fulfils the following tasks:

a) coordinates the entire activity of the department from the medical, administrative and educational point of view;

b) is directly involved in the care of the patients in the respective department (in the operating theatre and in the bed ward);

c) is responsible for developing, adopting and updating specific therapeutic protocols and procedures;

d) coordinates activities of continuous medical education of the medical personnel;

e) responsible for quality assurance of the medical treatment;

f) provides, directly or through a stand-in physician, the continuity of the department management, 24 hours a day, 7 days a week, with respect to medical and/or administrative issues;

g) assigns the AIC physicians to activity sectors: operating theatres, investigation rooms, bed wards (IC, ICPC, PACU), extracorporeal circulation etc.;

h) appoints the AIC physicians responsible for a particular sector of the department (anaesthesia, intensive care, intermediate care etc.), as appropriate;

i) draws up the papers relating to the necessary medicines, materials, medical devices, medical apparatus required for the department as well as to their maintenance and repairing;

j) in clinical departments, is responsible for and coordinates the medical activity related to the education process that takes place in the department;

k) proposes the annual grades, the bonuses and the merit pays for the subordinate staff;

l) proposes to the hospital management administrative sanctions against the subordinate staff;

m) is part of the competitive examination boards to fill vacancies in the department;

n) is actively involved in the activities of the specialized academic society: Romanian Society of Anaesthesia and Intensive Care (RSAIC)<sup>1</sup> at local and national level and possibly of specialized international academic societies;

o) is involved in the continuous medical education programs in the field of AIC (at national and/or international level)

p) is actively involved in assessing the appropriate use of AIC ward resources within the hospital.

(2) The head nurse of the AIC department is directly subordinate to the chief physician of the department and coordinates all activities of the personnel directly involved in patient care and fulfils mainly the following tasks:

a) is responsible for the quality of the treatment given to patients by the subordinate staff;

b) is responsible for the continuous medical education of the subordinate personnel;

c) is involved in continuous medical education programs;

d) organizes the work teams (nurses, nursing sisters, stretchers bearers, physio-kinetotherapists/physiotherapist etc.) and drafts the shifts schedule to ensure continuity of the medical care;

e) makes sure that the work schedule is observed by the subordinate staff and drafts on a monthly basis the collective attendance sheet, pursuant to the legal provisions in force;

f) oversees the correct application of therapeutic manoeuvres by direct subordinate staff;

g) coordinates the maintenance works relating to the medical equipment and to computer equipment;

h) coordinates and is responsible for the activities aimed at preserving the cleanliness, asepsis and antisepsis, as well as for disinfection and pest control activities;

i) proposes to the physician appointed as head of the department the administrative sanctioning of the subordinate staff;

j) is part of the competitive examination boards to fill vacancies in the department e.g. nurses, nursing sisters, stretchers bearers etc.;

k) is responsible for the accuracy of reports pursuant to the legislation in force;

l) checks and fills in on a daily basis the compulsory stock of medicines and materials required to carry out the department-related activities.

(3) Senior / specialists physicians working within the AIC department mainly fulfill the following tasks:

a) ensure the perioperative care of surgical patients (specific preanaesthesia examination and preoperative preparation, intraoperative anaesthesia and intensive care, postanaesthesia monitoring) according to RSAIC (Romanian Society of Anaesthesia and Intensive Care) - recommended protocols adopted by the department;

b) fill in the anaesthesia sheet which must comprise all perioperative care data, including the consumption of medicines and materials;

c) check the equipments before use and must report in writing to hospital administration any incident or accident relating to equipment operation;

d) examine the patients in the AIC department whenever needed, however no less than twice a day;

e) upon admission or transfer of patients in the AIC departments, the AIC physician or the AIC physician on duty shall make all required records which must comprise at least the following: the patient's essential personal data, the main diagnosis and the associated diseases, the reason

for admission or transfer to the AIC department and the patient's current condition. The clinical observation sheet prepared by the department that sends the patient to the AIC department shall remain with the AIC department until the patient is transferred back to the initial ward;

f) record in the observation sheet all therapeutic recommendations for patients hospitalized in the said department;

g) daily record in the observation sheet: the evolution, administered medication, diagnostic and therapeutic manoeuvres, monitoring parameters, results of various laboratory tests as well as the consumables used;

h) request and record in the clinical observation sheet the interdisciplinary consultations, whenever the evolution of the case warrants;

i) must be on-duty pursuant to the schedule and to the current norms;

j) take part in continuous education forms (at local, national and international level);

k) are actively involved in the activity of the specialized academic society (RSAIC).

(4) AIC residents have limited competences, carrying out their activity within the limits of their professional level.

(5) The nurses in the AIC department mainly fulfil the following tasks:

a) provide medical specific care, within their limits of competence;

b) check the equipments before use and immediately report to the AIC physician any incident or accident relating to the operation of the medical equipment;

c) comply with the department's approved shifts schedule;

d) record daily in the clinical observation sheet, within the limit of their competence, the evolution, the administered medication, the diagnostic and therapeutic manoeuvres, the monitoring parameters, the results of various laboratory tests as well as the consumables used;

e) record and report in accordance with the laws in force, the data relating to the activities undertaken within the department;

f) participate in all forms of nurse-specific continuous medical education (either local, national or international);

g) participate in trainings on the execution of special techniques: dialysis, intra-aortic balloon pump monitoring, intracranial pressure monitoring and other similar techniques.

**Art. 23. -**

(1) The physicians from other specialties who have transferred patients to the AIC department must respond whenever the attending AIC physician requires them to visit those patients.

(2) The specialists called on to perform interdisciplinary examinations must respond promptly and record the consultation and recommendation in the clinical observation sheet.

(3) In case of divergent opinions, an examination is conducted in the presence of the senior physician within the AIC department and of the senior physician of the department where the specialist physician works in, who shall agree on the appropriate therapy.

**Art. 24. -**

(1) In AIC department with intensive care beds, respectively 1<sup>st</sup> and 2<sup>nd</sup> category AIC department, there must be at least 2 physicians on duty, a physician for providing medical care within the bed unit and a physician for carrying out anaesthesia activities.

(2) In the departments where there are more than 30beds (IC beds plus ICPC beds altogether), at least 3 duty lines are required for these AIC departments (one line to provide anaesthesia services and two for the provision of medical care to patients in the bed ward).

**Art. 25. -** The following staff may be employed within the AIC departments / compartments (appendix no. 7):

a) AIC specialist physicians;

b) nurses;

- c) psychologist;
- d) nursing sisters;
- e) stretcher bearer;
- f) physiokinetotherapists / physiotherapists;
- g) medical equipment maintenance engineers and technicians;
- h) computer operators;
- i) medical statistician or registrar;
- j) carers;
- k) secretary, as the case may be.

**Art. 26.** - The activity within the AIC departments / compartments must satisfy the following minimum requirements:

- a) personalized assessment of each patient by the team of physicians and nurses, both upon admission and upon discharge from the departments/ compartments;
- b) when the patient is brought to the departments/ compartments, he/she must be accompanied by all medical documents (individual observation sheet, analysis, X-rays etc.);
- c) the patient's relatives and attending physician must be immediately informed of the patient's transfer;
- d) displaying in a visible place the list of the physicians on duty in that department/ compartment as well as within the hospital;
- e) elaboration and update of the maintenance document for each medical device, indicating the date of servicing and of the technical inspection;
- f) existence of a separate space intended for the storage of medicines and of materials required for specific emergency activity. The narcotics must be kept in special conditions, pursuant to the law.

**Art. 27.** - The admission to the AIC departments/ compartments is as follows:

1. The intake/admission of patients in the AIC departments/ compartments is made on the recommendation of the physicians from the AIC department/ compartment or on the recommendation of physicians from other wards with the consent of the physician who is head of the AIC department / compartment or, as the case may be, of his/her legitimate stand-in or of the physician on duty within the AIC department;

2. The decision relating to the intake/admission to IC is based on priority and diagnosis criteria and on objective parameters (appendix no. 2);

3. The decision relating to the intake/admission to ICPC is based on clinical and paraclinical criteria (appendix no. 4);

4. The criteria for moving the patient within the AIC department / compartment from IC to ICPC are similar to the criteria for intake/admission to ICPC: when the said criteria are met, the patient will be transferred to that level on the recommendation of the attending AIC physician, with the consent of the physician who is head of the AIC department or, as the case may be, of his/her legitimate stand-in or of the physician on duty within the AIC department;

5. The intake/admission of in-patients on the beds destined to the acute mono-specialty therapy from the respective specialty wards, in the AIC departments / compartments occurs when the patient requires more than specialized therapy of acute organ distress and the following are needed: either invasive monitoring with complex therapeutic purpose, or a prosthesis of a vital function (advanced ventilatory support), or the suffering extended to several organs and became life-threatening. The transfer is made, as the case may be, in agreement with the AIC room physician, with the head of the AIC department /his/her stand-in or physician on duty within the AIC department;

6. Patients with vital organ dysfunctions are immediately admitted/sent to intensive care in order to make the most of the ward's special resources. In these conditions, the patient may be admitted directly to intensive care (from the ED/ ER) or transferred from any hospital ward at the request of the attending physician or of the head of the respective ward

7. In case of intake/admission, if there are any conflicting opinions, the decision will be made by the medical director of the hospital or, in his/her absence, by his/her rightful stand-in and the hospital ethics committee will be informed thereof;

8. The patients who make a written statement that they refuse to be admitted in the AIC department / compartment cannot be admitted in such department;

9. The IC intake/admission decision cannot be based on the severity scores (for instance: APACHE or SAPS) that estimate the intra-hospital mortality of some patient groups;

10. AIC departments/ compartments must have appropriate means for safe intra-hospital transportation of critical patients: (stretcher, with oxygen tank, transport ventilator, transport monitor, drip stand, automatic syringes stand and infusion pumps).

**Art. 28.** - The transfer/discharge from the AIC department / compartment is made as below:

1. The transfer/discharge from the AIC department / compartment of the patient who no longer requires AIC special therapy to any other ward is made at the recommendation of the attending AIC physician, with the consent of the head of the AIC department / compartment or, as the case may be, of his rightful stand-in or of the physician on duty within the AIC department / compartment, with prior notification given to the attending physician working within the ward wherefrom the patient has been initially transferred, with the consent of the head of the respective ward or, as the case may be, of his rightful stand-in or of the physician on duty within the said ward;

2. The transfer/discharge from the AIC (IC and ICPC) department / compartment is based on the criteria mentioned in appendix no. 8;

3. In case of transfer/discharge, if there are any conflicting opinions, the decision will be made by the medical director of the hospital or, in his/her absence, by his/her rightful stand-in and the hospital ethics committee will be informed thereof.

**Art. 29.** -

(1) In order to increase efficiency of the medical care and to optimize resource spending, each AIC department / compartment must assess its own performance at least twice a year and submit the resulting data to the medical board, to the hospital administration and to the Ministry of Health – General Directorate of Public Health, Medical Care and Programs.

(2) The assessment is based on specific criteria, laid down in appendix no. 6.

**Art. 30.** - The structural, architectural and technical characteristics of the AIC department / compartment are laid down in appendix no. 9.

**Art. 31.** - Any means for the organization and operation of AIC department / compartment which are not compliant with the stipulations of the present regulation, shall be approved by the management of the Ministry of Health, with the consent of the AIC specialized commission within the Ministry of Health.

# APPENDIX No. 1 to the regulation

## MINIMUM CRITERIA

### for the organization of the anaesthesia workstation and of the PACU room

#### I. The anaesthesia workstation within the surgical unit (operating room and pre-anaesthesia rooms)

A. Equipments, medical devices and materials needed for anaesthesia-intensive care in the operating theatre and in the preanaesthesia room

A.1. General equipments needed for intraoperative anaesthesia-intensive care

##### a) Outlets

The medical gas outlets intended for anaesthesia-intensive care in an operating theatre must be at least the following:

- 2 oxygen outlets;
- 2 aspirator outlets (vacuum);
- one outlet for compressed air for medical use;
- as the case may be: one N<sub>2</sub>O outlet.

Medical gas outlets are grouped on a special wall-mounted board or on a suspended arm. It is recommended to have marked quick change wrists with different shapes and colours.

The gas pressure must be of  $3.5 \pm 0.7$  bar ( $350 \pm 70$  kPa) and the suction depression must be of  $0.6 \pm 0.1$  bar ( $60 \pm 10$  kPa).

The gas distribution diagram must be displayed in the surgical unit.

The anaesthetist must be familiar with the location of pressure gauges and medical gas supply circuits.

The electrical outlets ( $230\text{ V} \pm 15\%$ ) must be powered by two different circuits. The number of outlets must be adapted to the number of appliances likely to be used.

In case of unexpected power failure and/or interruption of the medical gas supply there must be systems or procedures to allow continuing the surgical procedure without affecting the patient.

b) Telecommunication means between the anaesthesia workstation and the bed ward (BW) of the AIC ward (IC, ICPC, PACU)

All anaesthesia workstations must have telephone and/or intercom and/or alarm bell to allow emergency communication with the bed unit of the AIC ward and/or with other anaesthesia stations. Mobile phones are not recommended because of the possible electromagnetic interference with the electronic equipments used (mechanic ventilation equipment, monitor etc.).

c) Antistatic floor

d) Anti-pollution systems

The general anaesthesia rooms must be provided with devices to ensure the elimination of anaesthetic gas and vapours in order to minimize their concentration in the respective room.

It is recommended to use anti-pollution systems to evacuate from the room the nitrous oxide and the volatile anaesthetic vapours (which are vented through the valves of the anaesthetic system and of the exhaust fan).

The absorbers retain volatile anaesthetic vapours but not the nitrous oxide.

Active or passive anti-pollution systems need to be inspected before putting them into service. Improvised anti-pollution systems are prohibited.

The active evacuation must not use the vacuum source intended for the suction apparatus. Taking into account that it is difficult to install anti-pollution systems in the already existing facilities, these regulations apply mainly to newly built or renovated rooms.

The existing facilities must have fresh air ventilation of at least 15 cubic meters per hour.

A.2. The equipments, medical appliances and materials needed for intraoperative anaesthesia-intensive care

a) The anaesthetic machine

The anaesthetic machine is subject to specific regulations (basal machine, average performance machine, high performance machine) depending on the type of surgery.

b) Medical appliances for monitoring patients and anaesthetic machines

The systems for monitoring patients and anaesthetic machines vary according to the complexity of surgical interventions and to the type of the anaesthetic machine.

The minimum requirements for any anaesthesia station in terms of vital functions and anaesthetic machine monitoring are as follows: electrocardioscope, pulse-oxymeter, non-invasive blood pressure, temperature, flow meters for oxygen, air, N<sub>2</sub>O, capnograph, anaesthetic vapours analyzer, measuring and displaying the oxygen concentration breathed in, current volume, frequency, volume/minute, airways pressure, alarms.

c) Medical equipments and materials needed for airways access and oxygen therapy

All anaesthesia stations must be equipped with the material required to keep the airways free, to perform endotracheal intubation and manually deliver oxygen. The materials used for difficult intubation may be shared for a set of anaesthesia stations.

d) Suction equipments

All anaesthesia workstations must be provided with a suction device independent of the one used by the operator. A second vacuum regulator must be available for continuous aspiration with controlled depression for pleural drainage.

For intraoperative cell salvage machines (cell saver) a third aspiration system is required.

e) The medical materials needed for vascular access and IV

Each anaesthesia work station must be provided with the necessary material for vascular access (peripheral venous catheters, central venous catheters, arterial catheters, IV kit for blood and fluids, extensions, valves) and electrical devices (automatic syringes and/or infusion pumps) for continuous administration of medicines or anaesthetics.

f) Medical appliances for warming up the infused liquids and rapid infusion

Where volemic resuscitation and/or rapid transfusion are needed, appliances for warming up the infused liquids and a rapid transfusion system must be available.

g) Medical appliances for hypothermia prevention and treatment

The rooms where major surgical interventions are carried out must be equipped with the means required to ensure the patient's thermal equilibrium.

h) Medical materials for the treatment of malignant hyperthermia

i) Medical appliances for the treatment of circulatory arrest

Each anaesthesia workstation must have access to a defibrillator in less than 5 minutes.

j) Patients transport equipment

Each anaesthesia workstation must have rapid access to equipment needed to transport the patient to the intensive care bed ward.

Depending on the patient's condition, on the duration of the surgical procedure and on the distance to the AIC bed ward, the following must be ensured during transportation: a manual ventilation device with oxygen tank (or, as the case may be, transport ventilator) and ECG monitor and pulse oxymeter.

B. Storage place for the storage of backup material for anaesthesia - intensive care

1. An anaesthesia workstation or an anaesthesia workstations set must have a place to store vital medicines and materials immediately at hand. The medicines must be stored in a locked cabinet or room. Narcotics must

be stored separately and secured pursuant to the law. Medicines which need to be stored in a cold place must be kept in a refrigerator intended for this purpose.

2. In surgical units with several operating theatres and, implicitly, with several grouped anaesthesia workstations, the materials which are used occasionally may be shared, provided that they are at hand in case they are needed.

### C. Laboratory facilities for emergency determinations

It is recommended that the surgical unit be provided with facilities for the fast and repeated dosage of blood gas, of acid-base equilibrium, electrolytes, lactate, haemoglobin, blood sugar level and for the assessment of coagulation.

## II. Anaesthesia workstation outside the surgical unit

1. The equipments, medical appliances and materials will be adapted to the type of anaesthesia.

2. Overall equipments required for anaesthesia - intensive care outside the surgical unit

### a) Outlets

The medical gas outlets intended for anaesthesia - intensive care outside the surgical unit must be at least the following:

- one oxygen outlet;
- one aspirator outlet (vacuum);
- as the case may be: one outlet for compressed air for medical use.

Medical gas outlets should be grouped on a special wall-mounted board or on a suspended arm. It is recommended to have marked quick-change wrists with different shapes and colours.

The gas pressure must be of  $3.5 \pm 0.7$  bar ( $350 \pm 70$  kPa) and the suction depression must be of  $0.6 \pm 0.1$  bar ( $60 \pm 10$  kPa)

The gas distribution diagram must be visible.

The anaesthetist must be familiar with the location of pressure gauges and medical gas supply circuits.

The electrical outlets ( $230\text{ V} \pm 15\%$ ) must be powered by two different circuits. The number of outlets must be adapted to the number of appliances likely to be used.

In case of unexpected power failure and/or interruption of the medical gas supply there must be systems or procedures to allow continuing the surgical procedure without affecting the patient.

b) Telecommunication means between the anaesthesia workstation and the bed ward (BW) of the AIC ward (IC, ICPC, PACU)

All anaesthesia workstations must have telephone and/or intercom and/or alarm bell to allow emergency communication with the bed unit of the AIC ward and/or with other anaesthesia workstations. Mobile phones are not recommended because of the possible electromagnetic interference with the electronic equipments used (monitor etc.).

c) Anti-pollution systems

The rooms where general anaesthesia is administered by inhalation must be provided with devices to ensure the elimination of anaesthetic gas and vapours in order to minimize their concentration in the respective room, similar to those of the anaesthesia workstation in the surgical unit.

3. Specific equipments, medical appliances and materials needed for anaesthesia-intensive care outside the surgical unit

a) The anaesthetic machine

Depending on the type of non-surgical diagnostic and/or therapeutic manoeuvres requiring anaesthesia, an anaesthetic machine may be needed.

b) Medical appliances for monitoring patients and, where applicable, anaesthetic machines

The systems for monitoring patients and, where applicable, anaesthetic ma-

chines vary according to the type of non-surgical diagnostic and/or therapeutic manoeuvres requiring anaesthesia.

The minimum requirements for any anaesthesia workstation outside the surgical unit in terms of vital functions monitoring are as follows: electrocardioscope, pulse oxymeter, non-invasive blood pressure, temperature.

The minimum requirements for any anaesthesia workstation outside the surgical unit in terms of anaesthesia machine, if required, are as follows: flow meters for oxygen and air, capnograph and anaesthetic vapours analyzer, measuring and displaying the oxygen concentration breathed in, current volume, frequency, volume/minute, airways pressure, alarms.

c) Medical equipments and materials needed for airways access and oxygen therapy

All anaesthesia workstations must be equipped with the material required to keep the airways free, to perform endotracheal intubation and manually deliver oxygen. The materials used for difficult intubation may be shared for a set of anaesthesia workstations outside the surgical unit.

d) Suction equipments

All anaesthesia workstations outside the surgical unit must be provided with an independent suction device.

e) The medical materials needed for vascular access and IV

Each anaesthesia workstation outside the surgical unit must be provided with the necessary material for vascular access (peripheral venous catheters, IV kit for blood and solutions, extensions, valves) and, as the case may be, electrical devices (automatic syringes and/or infusion pumps) for continuous administration of medicines or anaesthetics.

f) Medical appliances for the treatment of circulatory arrest

Each anaesthesia workstation outside the surgical unit must have access to a defibrillator in less than 5 minutes.

g) Patients transport equipment

Each anaesthesia workstation outside the surgical unit must have rapid access to the equipment needed to transport the patient to the intensive care bed ward.

Depending on the patient's condition, on the non-surgical diagnostic and/or therapeutic manoeuvres executed and on the distance to the AIC bed ward or to the ward the patient came from, the following must be ensured during transportation: a manual ventilation device with oxygen tank (or, as the case may be, transport ventilator) and ECG monitor and pulse oxymeter.

### **III. The bed ward of the postanesthesia care unit (PACU)**

1. The equipments, medical appliances and materials will be adapted to the type of anaesthesia.

2. General equipments need for anaesthesia - intensive care in the bed ward of the postanesthesia care unit (PACU)

#### **a) Outlets**

The medical gas outlets intended for anaesthesia-intensive care within PACU must be at least the following:

- one oxygen outlet;
- one aspirator outlet (vacuum);
- as the case may be: one outlet for compressed air for medical use.

Medical gas outlets should be grouped on a special wall-mounted board or on a suspended arm. It is recommended to have marked quick-change wrists with different shapes and colours.

The gas pressure must be of  $3.5 \pm 0.7$  bar ( $350 \pm 70$  kPa) and the suction depression must be of  $0.6 \pm 0.1$  bar ( $60 \pm 10$  kPa)

The gas distribution diagram must be visible.

The anesthetist must be familiar with the location of pressure gauges and medical gas supply circuits.

The electrical outlets ( $230\text{ V} \pm 15\%$ ) must be powered by two different circuits. The number of outlets must be adapted to the number of appliances likely to be used.

In case of unexpected power failure and/or interruption of the medical gas supply there must be systems or procedures to allow continuing the surgical procedure without affecting the patient.

b) Telecommunication means between PACU and surgical unit and the rest of the bed ward (BW) of the AIC ward (IC and/or ICPC)

PACU must have telephone and/or intercom and/or alarm bell to allow emergency communication with the surgical unit and the rest of the bed ward of the AIC ward. Mobile phones are not recommended because of the possible electromagnetic interference with the electronic equipments used (mechanical ventilation device, monitor etc.).

### 3. Necessary specific equipments, medical appliances and materials

a) Mechanical ventilation device

Depending on the anaesthesia technique and on the surgery type and/or on non-surgical diagnostic and/or therapeutic manoeuvres, as the case may be, the existence of one or several mechanical ventilation devices may be required.

b) Medical appliances for patient monitoring

The patient monitoring systems are adapted to the anaesthesia technique and to the surgery type and/or to the type of non-surgical diagnostic and/or therapeutic manoeuvres.

The minimum requirements for PACU in terms of vital functions monitoring are as follows: electrocardioscope, pulse oxymeter, non-invasive blood pressure, temperature.

The minimum requirements for PACU in terms of mechanical ventilation equipment, if required, are as follows: measuring and displaying the oxygen concentration breathed in, current volume, frequency, volume/minute, airways pressure, alarms.

c) Medical equipments and materials needed for airways access and oxygen therapy

All PACU must be equipped with the material required to keep the airways free, to perform endotracheal intubation and manually deliver oxygen.

d) Suction equipments

All PACU must be provided with an independent suction device.

e) The medical materials needed for vascular access and IV

Each PACU must be provided with the necessary material for vascular access (peripheral venous catheters, IV kit for blood and fluids, extensions, valves) and, as the case may be, electrical devices (automatic syringes and/or infusion pumps) for continuous administration of medicines or anaesthetics.

f) Medical appliances for the treatment of circulatory arrest

Each PACU must have access to a defibrillator in less than 5 minutes.

g) Patients transport equipment

Each PACU must have rapid access to the equipment needed to transport the patient to the surgical unit, to the rest of intensive care bed ward or to the ward the patient was taken from.

Depending on the patient's condition, on the type of anaesthesia and surgery and/or of non-surgical diagnostic and/or therapeutic manoeuvres executed and on the distance to the surgical unit, to the AIC bed ward or to the ward the patient was taken from, the following must be ensured during transportation, as the case may be: a manual ventilation device with oxygen tank (or, as the case may be, transport ventilator) and ECG monitor and pulse oximeter.

# APPENDIX No. 2 to the regulation

## Intake/admission CRITERIA and triage of patients in intensive care (IC)

### 1. Intake/admission criteria

#### 1. a) Priority criteria

Priority 1: Unstable critical patients requiring treatment and/or monitoring which can only be provided within the intensive care ward. Generally, such treatments include advanced ventilatory support, continuous administration of vasomotor drugs etc.

For instance: acute respiratory failure or post-operative patients requiring mechanic ventilatory support and patients with haemodynamic instability or shock requiring invasive monitoring and/or therapy with vasomotor drugs.

Priority 2: patients requiring intensive monitoring and probably immediate therapy.

For instance: patients with chronic comorbidity developing acute medical or surgical pain.

Priority 3: Critical patients with unstable condition who have little chance of recovery because of concurrent diseases or because of the nature of the acute disease.

For instance: patients with metastatic malignant diseases complicated with infection, cardiac tamponade or airways obstruction.

Priority 4: This category includes patients who are not generally admitted in intensive care. Their admission is made individually, in special circumstances.

Such patients are:

- a) patients with no expected benefit because of the low risk;
- b) patients with irreversible terminal diseases indicating imminent death.

## 1. b) Diagnostic criteria

### A. Cardiovascular system

- a) acute myocardial infarction with complications;
- b) cardiogenic shock;
- c) complex arrhythmia requiring continuous monitoring and immediate therapy;
- d) acute heart failure with respiratory failure and/or requiring haemodynamic support;
- e) hypertensive emergencies;
- f) unstable angina, particularly accompanied by arrhythmia, haemodynamic instability or persistent chest pain;
- g) patient who were resuscitated after cardiac arrest and who subsequently require intensive therapy;
- h) post-cardiac arrest conditions;
- i) cardiac tamponade or constriction with haemodynamic instability;
- j) dissecting aneurysms;
- k) complete heart block;
- l) hypovolemia, whatever the reason, which is not responding to routine volemic repletion, including postoperative bleeding, gastrointestinal haemorrhage, clotting disorder-related haemorrhage;
- m) the need for intra-aortic balloon pump;
- n) the need of continuous administration of vasomotor drugs in order to stabilize blood pressure and/or cardiac output.

## B. Respiratory system

- a) acute respiratory failure requiring ventilatory support with tracheal intubation or non-invasive ventilation;
- b) pulmonary embolism with haemodynamic instability;
- c) intermediate care patients with damaged respiratory function (requiring more than 50% of the oxygen through the mask);
- d) the need for respiratory nursing/care which is not possible within the intermediate care unit or within the regular hospital ward (physiotherapy for secretion elimination within less than two hours);
- e) massive hemoptysis;
- f) respiratory failure with imminent intubation (the risk of respiratory failure which may require endotracheal intubation and ventilatory support);
- g) intubated patients for airways protection, even though they do not have any other organ dysfunction and do not require ventilatory support.

## C. Neurological disturbance:

- a) acute stroke altering the state of consciousness;
- b) coma: metabolic, toxic or anoxic;
- c) intracranial haemorrhage with possible hernia;
- d) acute subarachnoid haemorrhage;
- e) meningitis altering the state of consciousness or affecting the respiratory function;
- f) central nervous system or neuromuscular disorders altering the neurological or respiratory function
- g) status epilepticus;

h) brain death or potential brain death for aggressive sustentation therapy for organ and tissue donation;

i) vasospasm;

j) severe brain trauma;

k) central nervous system dysfunction, whatever the reason, serious enough to alter protection reflexes and airways;

l) invasive neurological monitoring.

#### D. Ingestion of drugs and drug overdose:

a) haemodynamic instability in patients with ingestion of drugs;

b) alteration of the state of consciousness with inadequate airways protection in patients with ingestion of drugs;

c) convulsions after drugs ingestion.

#### E. Gastrointestinal disorders

a) life-threatening gastrointestinal blood loss, including hypotension, angina, active bleeding or with comorbidity conditions;

b) fulminating hepatic insufficiency;

c) severe acute pancreatitis;

d) perforation of the oesophagus with or without mediastinitis.

#### F. Endocrine disorders

a) diabetic acidosis complicated with haemodynamic instability, alteration of the state of consciousness, respiratory failure or severe acidosis;

b) thyroid coma with haemodynamic instability;

c) hyperosmolar state with coma and/or haemodynamic instability;

- d) adrenal crisis with haemodynamic instability;
- e) severe hypercalcaemia with alteration of the state of consciousness, requiring haemodynamic monitoring;
- f) hypo- or hypernatraemia with convulsions and/or alteration of the state of consciousness;
- g) hypo- or hypermagnesaemia with arrhythmias or haemodynamic alteration;
- h) hypo- or hyperkalemia with dysrhythmia or muscular damage;
- i) hypophosphatemia with muscular weakness.

#### G. Kidney

- the need of kidney dialysis – acute haemodialysis, haemofiltration, haemodiafiltration.

#### H. Surgery

- post-operative patients requiring haemodynamic monitoring/ventilatory support or special care in intensive care ward.

#### I. Miscellaneous

- a) severe sepsis or septic shock;
- b) invasive haemodynamic monitoring;
- c) clinical conditions requiring intensive care therapy;
- d) environmental injuries (hypo-/hyperthermia, drowning, electrocution);
- e) new/experimental treatments likely to cause complications.

## 1. c) Criteria: Objective parameters

### A. Vital signs

- a) pulse  $< 40$  or  $> 150$  b/minute;
- b) systolic BP  $< 80$  mmHg or 20 mmHg below the patient's regular BP;
- c) average BP  $< 60$  mmHg;
- d) diastolic AP  $> 120$  mmHg;
- e) respiratory arrest, whatever the reason;
- f) respiratory frequency  $> 35$  r/minute or  $< 8$  r/minute;
- g) risk of respiratory arrest;
- h) sudden alteration of the state of consciousness (modification of the Glasgow score by more than 2);
- i) repeated or prolonged convulsive crisis;
- j) any patient whom the physician consider that is not safe elsewhere but in the AIC ward.

### B. Laboratory data:

- a) Na  $< 110$  mEq/L or  $> 170$  mEq/L;
- b) K  $< 2.0$  mEq/L or  $> 7.0$  mEq/L;
- c) PaO<sub>2</sub>  $< 50$  mmHg;
- d) SaO<sub>2</sub>  $< 90$  cu O<sub>2</sub>  $> 50\%$ ;
- e) acute increase of the PaCO<sub>2</sub> with respiratory acidosis;
- f) pH  $< 7.1$  or  $> 7.7$ ;
- g) blood sugar level  $> 800$  mg/dl;

h) Ca > 15 mg/dl;

i) toxic level of drugs and other chemical substances in patients with haemodynamic or neurological disorder.

C. Imaging results (fluoroscopy/radiography, echography, tomography, magnetic resonance) and endoscopy:

a) cerebrovascular haemorrhage, contusion or subarachnoid hemorrhage affecting the state of consciousness or focal neurological signs;

b) viscus ruptures, urinary bladder, liver, oesophageal varices or uterus with haemodynamic instability;

c) dissecting aneurysm.

D. Electrocardiogram:

a) myocardial infarction with complex arrhythmia, haemodynamic instability or congestive heart failure;

b) sustained ventricular tachycardia or ventricular fibrillation;

c) complete block with haemodynamic instability.

E. Acute physical signs:

a) unequal pupils size in an unconscious patient;

b) burns > 10% of the body;

c) anuria;

d) airways obstruction;

e) coma;

f) sustained convulsions;

g) cyanosis;

h) cardiac tamponade.

## **2. Patients triage**

a) The triage is needed when the number of potential intensive care beneficiaries exceed the capacity of the ward.

b) It is recommended to perform triage based on the foregoing medical priority criteria..

c) The triage decision belongs to the physician who is head of the AIC ward or to his/her rightful stand-in, as the case may be, or to the physician on duty and must be performed in an explicit manner.

d) The patients' age, ethnic group, race, sex, social status, sexual orientation or financial status must not influence the triage decision.

e) The triage criteria must be communicated within the hospital.

f) Conflicting opinion situations will be dealt with by the hospital ethics committee.

## APPENDIX No. 3 to the regulation

### MINIMUM REQUIREMENTS in terms of equipments and medical appliances for the intensive care bed ward (IC)

#### A. Necessary equipments and medical appliances/IC bed:

##### 1. Special intensive care bed featuring the following:

- a) mobile, on wheels with wheels locking system;
- b) provided with mechanisms, electric motor to allow lifting, lowering or changing the bed angle as required;
- c) 4 segment bed frame which can be separately mobilized;
- d) allows giving external cardiac massage;
- e) special antidecubitus mattress;
- f) as the case may be, it should allow weighting the patient;

##### 2. Electric wiring:

- a) at least 12 outlets on both sides of the bed at more than 120 cm from the floor, easily accessible, with earthing and antistatic protection;
- b) articulated lamp to allow the execution of various therapeutic manoeuvres;
- c) intense ceiling lamp (200 W) to allow the lighting up the entire bed, if needed;
- d) alarm bell;
- e) phone socket;
- f) radio and TV socket with individual headphones;
- g) a console to allow installation of an individual TV set, if needed;

### 3. Medical gas:

- a) two quick-change wrists for oxygen with an output pressure of 4 atmospheres, connected to a secure central source;
- b) one outlet for compressed air for medical use, with an output pressure of 4 atmospheres, supplying filtered air. Main source with oil free compressor powered by a generator set in case of power failure;
- c) at least two vacuum outlets of  $-200$  mmHg, connected to a generator powered by the emergency generator set, when needed;
- d) the oxygen, air and vacuum outlets and plugs have different shapes and colours and are marked;

### 4. High performance monitor for intensive care

- a) cardiovascular monitoring with appropriate alarms: ECG and ST segment, non-invasive blood pressure, invasive blood pressure, pulmonary artery pressure and central venous pressure, measurement by non-invasive method of the cardiac output and of the derived haemodynamic values;
- b) peripheral pulse oxymetry;
- c) respiratory monitoring with appropriate alarms: respiratory frequency, end-tidal  $\text{CO}_2$ ;
- d) temperature monitoring, including in case of hypothermia;
- e) EEG, intracranial pressure (in case of neurological or neurosurgical monitoring);
- f) data printing and recording facilities;

### 5. High performance mechanical ventilation device;

### 6. Automatic syringes (syringe pumps);

### 7. Infusion pumps;

8. External warming of the patient;

9. Nutrition pumps (nutripumps).

B. Required medical equipments and appliances/6-12 intensive care beds - IC:

- 1 portable ECG machine;
- 1 defibrillator with external pacemaker;
- 2 external cardiac pacemakers (pacemaker for internal stimulation);
- 1 portable EEG machine;
- 2 mobile machines for kidney dialysis (haemodiafiltration, haemofiltration, plasma exchange);
- complex haemodynamic monitoring machine;
- device for mini-invasive determination of the cardiac output;
- infusion warmers (IV fluids);
- cerebral perfusion measuring device;
- 2 fiberoptic bronchoscopes (adults, children);
- 1 mobile X-ray machine;
- 1 multipurpose echograph featuring at least the following: cardiac sector probe, soft tissues probe;
- 1 transport monitor;
- difficult intubation system;
- 1 transport ventilator;
- 1 stretcher with oxygen tank;

- 1 resuscitation cart;
- 1 bandage cart;
- 1 rapid infusion system;
- hypothermia machine;
- simple extracorporeal circulation machine;
- machine for measuring blood gas, acid-base equilibrium, electrolytes, haemoglobin, blood sugar level, lactate;
- coagulation measurement device.

Minimum requirements in terms of medical equipments and appliances for the Intensive Care (IC)	
1	6 special intensive care beds (of which 1 bed for third degree burns victims)
2	6 high-performance monitors + 1 transport monitor
3	6 high-performance mechanical ventilation machines + 1 transport ventilator 6 baseboards: 2 O <sub>2</sub> outlets, 1 compressed air outlet, 2 vacuum outlets, 2 electric outlets for 6 beds
4	6 mobile stations for fluid and medicines administration, each having: 8 electric syringes + 2 infusion pumps + 1 nutrition pump
5	3 patient's external warming-up systems
6	1 portable ECG
7	1 defibrillator with external PM
8	2 mobile machines for kidney dialysis (haemodiafiltration)
9	2 mini-invasive devices for cardiac output measurement
10	1 complex haemodynamic monitoring device
11	2 cerebral perfusion measurement devices
12	2 pacemakers
13	1 resuscitation cart
14	1 machine for blood gas measurement
15	2 fiberoptic bronchoscopes (adult + children)
16	1 echograph (ultrasound scanner)/AIC ward
17	1 mobile X-ray machine/AIC ward
18	2 rapid infusion systems
19	1 difficult intubation system
20	1 portable EEG
21	1 stretcher
22	1 simple extracorporeal circulation machine



## APPENDIX No. 4 to the regulation

### Intake/admission CRITERIA and triage of patients in intermediate care/postoperative care (ICPC)

#### 1. Intake/admission clinical and paraclinical criteria:

##### Cardiovascular system:

- myocardial infarction probability;
- haemodynamically stable myocardial infarction;
- acute arrhythmia with haemodynamic stability;
- any haemodynamically stable patient, with no evidence of myocardial infarction, requiring a temporary or permanent pacemaker;
- moderate congestive heart failure (I and II Killip class);
- hypertensive emergencies with no evidence of organic complications.

##### Respiratory system:

- stable patients with ventilatory support, for detachment from the ventilator;
- haemodynamically stable patients with impaired pulmonary gas exchange and concurrent disease with potential aggravation of respiratory insufficiency, requiring monitoring and/or continuous administration of oxygen;
- patients requiring continuous monitoring and aggressive pulmonary physiotherapy.

##### Neurological disorders:

- patients with stroke (haemorrhagic or ischaemic) requiring continuous monitoring or frequent aspiration or frequent position change;

- patients with acute craniocerebral trauma with a Glasgow score above 9, requiring continuous monitoring for aggravation of neurological signs;
- stable craniocerebral trauma requiring frequent pulmonary toilet or frequent position change;
- patients with subarachnoid haemorrhage after aneurysm clipping, requiring continuous monitoring for vasospasm or hydrocephalus;
- neurosurgically stable patients with lumbar cerebrospinal fluid drainage;
- stable patients with spinal cord injuries;
- patients with stable chronic neurological disorders requiring frequent nursing;
- patients with 1<sup>st</sup> and 2<sup>nd</sup> class subarachnoid haemorrhage waiting for surgery;
- patients with ventriculostomy, without altered state of consciousness, waiting for the placement of a ventriculoperitoneal shunt.

#### Ingestion of drugs and drug overdose:

- any patient with drugs ingestion and overdose, haemodynamically stable, requiring neurological, respiratory or cardiac monitoring.

#### Gastrointestinal disorders:

- gastrointestinal blood loss, including orthostatic hypotension responding to volemic therapy;
- patients with oesophageal varices blood loss with no sign of active bleeding and stable vital signs;
- acute hepatic insufficiency with stable vital signs.

#### Endocrine disorders:

- patients with diabetic ketoacidosis requiring continuous IV insulin infusion therapy for stabilization during the recovery period after diabetic coma;

- hyperosmolar coma in recovery phase;
- thyrotoxicosis or state of hypothyroidism requiring monitoring.

#### Surgery:

- post-operative patients, after major surgery, haemodynamically stable requiring hydroelectrolitic resuscitation and transfusion for major volemic disorders during surgery
- any surgical patient during the postoperative period requiring continuous monitoring within the first 24-28 hours.

#### Miscellaneous:

- adequately treated early sepsis with no evidence of shock and organic dysfunctions;
- patients requiring continuous standard IV fluid therapy;
- obstetrical patients for pre-eclampsia and eclampsia treatment or other medical conditions;
- other categories of patients requiring continuous monitoring or frequent treatment of wounds (for instance: Addison disease, kidney failure, delirium tremens, hypercalcaemia etc.).

## 2. Triage of patients within the ICPC

a) The triage is needed when the number of potential intermediate care/post-operative care beneficiaries exceed the capacity of the ward.

b) It is recommended to perform triage based on the foregoing clinical and paraclinical criteria.

c) The triage decision belongs to the physician who is head of the AIC ward or to his/her rightful stand-in, as the case may be, or to the physician on duty and must be performed in an explicit manner.

d) The patients' age, ethnic group, race, sex, social status, sexual orientation or financial status must not influence the triage decision.

e) The triage criteria must be communicated within the hospital.

f) Conflicting opinion situations will be dealt with by the hospital ethics committee.

## APPENDIX No. 5 to the regulation

### MINIMUM REQUIREMENTS in terms of medical equipments and appliances for the intermediate care/postoperative care (ICPC) department

#### A. Necessary equipments and medical appliances/ICPC bed:

##### 1. Special intermediate care/postoperative care bed featuring the following:

- a) mobile, on wheels with wheels locking system;
- b) provided with mechanisms, electric motor to allow lifting, lowering or changing the bed angle as required;
- c) to allow giving external cardiac massage;

##### 2. Electric wiring:

- a) at least 12 outlets on both sides of the bed at more than 120 cm from the floor, easily accessible, with earthing and antistatic protection;
- b) articulated lamp to allow the execution of various therapeutic manoeuvres;
- c) intense ceiling lamp (200 W) to allow the lighting up the entire bed, if needed;
- d) alarm bell;
- e) phone socket;
- f) radio and TV socket with individual headphones;
- g) a console to allow installation of an individual TV set, if needed;

### 3. Medical gas:

- a) two quick-change wrists for oxygen with an output pressure of 4 atmospheres, connected to a secure central source;
- b) one outlet for compressed air for medical use, with an output pressure of 4 atmospheres, supplying filtered air. Main source with oil free compressor powered by a generator set in case of power failure;
- c) at least two vacuum outlets of  $-200$  mmHg, connected to a generator powered by the emergency generator set, when needed;
- d) the oxygen, air and vacuum outlets and plugs have different shapes and colours and are marked;

### 4. Multi-parameter monitoring:

- a) cardiovascular monitoring with appropriate alarms: ECG and ST segment, non-invasive blood pressure, invasive blood pressure (optional);
- b) peripheral pulse oximetry;
- c) respiratory monitoring with appropriate alarms: respiratory frequency;
- d) temperature monitoring, including in case of hypothermia;
- e) data printing and recording facilities;

5. Medium performance mechanical ventilation machine (one machine for two ICPC beds);

6. Automatic syringes (syringe pumps);

7. Infusion pumps;

8. External warming of the patient.

B. Required medical equipments and appliances/4-8 ICPC beds:

- 1 portable ECG machine;
- 1 defibrillator with external pacemaker;
- external cardiac pacemaker (pacemaker for internal stimulation);
- device for mini-invasive determination of the cardiac output;
- rapid infusion system;
- cerebral perfusion measuring device;
- mobile X-ray machine;
- transport monitor;
- transport ventilator;
- difficult intubation system;
- stretcher with oxygen tank
- resuscitation cart;
- bandage cart;
- machine for measuring blood gas, acid-base equilibrium, electrolytes, haemoglobin, blood sugar level, lactate.

Minimum requirements in terms of medical equipments and appliances for the intermediate care/postoperative care (ICPC)	
1	6 special postoperative beds
2	6 multi-parameter monitors + 1 transport monitor
3	3 high-performance mechanical ventilation machines + 1 transport ventilator 6 baseboards: 2 O <sub>2</sub> outlets, 2 compressed air outlets, 2 vacuum outlets, 2 electric outlets for 6 beds
4	6 mobile stations for fluid and medicines administration, each having: 3 electric syringes + 1 infusion pump
5	2 patient's external warming-up systems
6	1 portable ECG
7	1 defibrillator with external PM
8	1 mini-invasive device for cardiac output measurement
9	1 cerebral perfusion measurement device
10	1 pacemaker
11	1 resuscitation cart
12	1 machine for blood gas measurement
13	1 mobile X-ray machine/AIC ward
14	1 rapid infusion system
15	1 difficult intubation system
16	1 stretcher

## **APPEDIX No. 6 to the regulation**

### **ASSESSMENT of anaesthesia-intensive care departments / compartments**

Analysis of AIC departments / compartments

Stage I: filling in the assessment questionnaire (appendix no. 6.1)

Stage II: analysis of the activity of AIC departments / compartments  
(appendix no. 6.2)

Interpretation of data, results and indicators (appendix no. 6.3.)



## APPENDIX No. 6.1 to the regulation

### QUESTIONNAIRE FOR THE ASSESSMENT of anaesthesia - intensive care wards/departments in Romania (to be sent to the Ministry of Health until March 31, 2010)

County .....

Place .....

HOSPITAL .....

Number of AIC departments/ compartments: wards .....

departments .....

Department/ Compartment .....

Number of beds within the health unit

Number of anaesthesia workstations

Number of IC beds

Number of ICPC beds

Number of PACU beds

Address .....

Telephone .....

Fax .....

E-mail .....

Head of the ward: Surname ..... Forename .....

Address .....

Telephone ..... fax .....

E-mail .....

## Section 1. Infrastructure

No.		Yes	No
1	Type of hospital		
	Local - communal		
	- city		
	- municipal		
	- other (health centers, specialized hospitals etc.)		
	County		
	Clinical health units/institutes		
	Profile of the AIC departments / compartments :		
	A. - clinical		
	B. - adults		
	- paediatrics		
	- adults and children		
	C. - serving wards such as:		
	- general surgery		
	- orthopedics		
	- neurosurgery		
	- plastic surgery		
	- burns victims		
	- multiple traumas		
	- organ transplantation		
	- urology		
	- obstetrics/gynaecology		
	- cardiac surgery		
	- vascular surgery		
	- major liver surgery		
	- thoracic surgery		
	- ophthalmology		
	- ENT		
	- oral and maxillofacial surgery		

No.		Yes	No
	- medical pathology		
	- toxicology		
2	The structure of the building where the AIC ward/department operates – needs repairing/strengthening		
3	The heating system within the building where the AIC ward /department operates:		
	- heating power station of its own		
	- heating power station connected to the urban/rural network		
	- other		
4	Air conditioning within the ward:		
	- 8 - centralized type		
	- 9 - split type		
	- 10 - other (please mention)		
	- 11 - AC is provided to –% of the total no. or beds		
5	Available gas at the patient’s bed within the ward:		
	- medical oxygen		
	- compressed air for medical use		
	- vacuum		
6	Kitchen:		
	- in the same building		
	- in separate buildings		
	- facilities to prepare sterile food for enteral feeding		
7	Cold water supply:		
	- permanent		
	- intermitent		
	- of its own		
	- connected to the public network		
	- drilled well for special situations		
8	Source of sterile water within the intensive care unit:		

No.		Yes	No
	- from the central source		
	- from its own source		
9	Hot water supply:		
	- permanent		
	- intermitent		
10	Its own electric generator unit:		
	- 12 - of the ward		
	- 13 - of the hospital		
11	Laundry:		
	- 14 - its own		
	- 15 - shared with separate circuit		
	- shared without separate circuit		
12	Filter for the staff and for the visitors		
13	Computers within the ward:		
	- 16 - independent		
	- 17 - network-connected		

## Section 2. Areas and circuits

No.		Yes	No
1	Separate circuits		
2	Separate septic circuit (rooms, materials, instruments)		
3	Sterilization ward:		
	- its own		
	- shared with separate circuit		
	- none		
4	Permanent access (24 hours) to:		
	- blood transfusion unit		
	- transfusion center		
	- medical tests laboratory		
	- haematology		
	- biochemistry		
	- bacteriology		
	- toxicological determination		
	- medical imaging and X-ray laboratory		
	- conventional radiology		
	- radiography in bed		
	- computed tomography apparatus		
	- MRI		
	- echography		
	- echocardiography		
	- invasive haemodynamic explorations: angiography and cardiac catheterization		
	- gastrointestinal endoscopy		
	- other explorations (please mention)		
5	Access during the working hours to:		
	- blood transfusion unit		
	- transfusion center		
	- haematology laboratory		

No.		Yes	No
	- biochemistry laboratory		
	- bacteriology laboratory		
	- investigation of coagulation disorders		
	- toxicology laboratory		
	- pathological anatomy laboratory		
	- immunology laboratory		
	- cytology laboratory		
	- medical imaging:		
	- conventional radiology		
	- radiography in bed		
	- computed tomography apparatus		
	- MRI		
	- abdominal echography		
	- echocardiography		
	- cardiac catheterization/angiography		
	- gastrointestinal endoscopy		
	- other explorations (please mention)		

### Section 3. Number of employees and no. of doctors on duty

No.		Yes	No
1	The total number of physicians working in the ward:		
	- AIC physicians who are also university teaching staff		
	- AIC specialist physicians (chief physicians:.....; specialists:.....)		
	- AIC residents in their 5 <sup>th</sup> year		
	- AIC specialists working part-time (on duty)		
	Asistenti medicali		
	Nurses		
2	Nursing sisters		
3	Physiokinetotherapists /physiotherapists		
	Stretchers		
	Medical equipment maintenance engineers or technicians		
	Computer operator		
	Medical registrar		
	Secretary		
	The number of AIC physicians on duty/shift		
	Nurses shifts:		
	- 8 hour		
	- 12 hour		
	Nursing sisters shifts		
	- 8 hour		
	- 12 hour		

Section 4. Available equipment for a number of ..... (approved) beds within the schema (out of which: number of IC beds ....., number of ICPC beds ....., number of PACU beds .....,)

No.		Yes	No
1	Anaesthesia machines		
	Anaesthesia machine type .....		
	Anaesthesia machine type .....		
	Anaesthesia machine type .....		
	Anaesthesia machine type .....		
	Anaesthesia machine type .....		
	Anaesthesia machine type .....		
	Anaesthesia machine type .....		
	Anaesthesia machine type .....		
	How many of the aforementioned machines feature the following:		
	- monitoring O <sub>2</sub> conc.		
	- capnograph		
	- volume monitor		
	- airways pressure monitor		
	- anaesthetic gas monitor		
	- Halothane vaporiser		
	- Isoflurane vaporiser		
	- Sevoflurane vaporizer		
	- pulse oxymeter		
	- with vital function monitor comprising:		
	ECG 1 lead		
	ECG 2/several leads		
	ST segment monitoring		
	pulse oxymeter		
	respiration monitoring		
	non-invasive BP		

No.		Yes	No
	invasive pressures		
	cardiac output measurement		
	SvO <sub>2</sub> measurement		
	temperature measurement		
	BIS measurement		
	other (please mention)		
2	Cell saver device		
	Type:		
	Type:		
	Type:		
3	Device for rapid infusion/transfusion and rapid fluids warming		
	Type:		
	Type:		
4	System for maintaining/correcting the patient's body temperature		
	Type:		
	Type:		
5	Mechanical ventilation machines (adults + children)		
	Model:		
6	Mechanical ventilation machines (adults + children)		
	Model:		
7	Vital functions monitor (fixed stations)		

No.		Yes	No
	Model:		
	How many of the above-mentioned machines feature the following?		
	ECG 1 lead		
	ECG 2/several leads		
	ST segment monitoring		
	pulse oxymeter		
	respiration monitoring		
	non-invasive BP		
	invasive pressures		
	cardiac output measurement		
	SvO <sub>2</sub> measurement		
	BIS measurement		
	temperature measurement		
	capnography		
8	Transport (mobile) vital functions monitors		
9	Transport (mobile) mechanical ventilation machines		
10	Electric syringes		
11	Infusion pumps (volumetric pumps)		
12	Enteral feeding pumps		
13	External pacemaker		
14	Bronchoscope		
15	Echograph		
	- of its own		
	- access to echograph		
	- heart		

No.		Yes	No
	- vessels		
	- abdomen, gynaecology		
	- transoesophageal		
16	Blood gas apparatus		
	(its own)		
	(access to)		
	- Hb./Ht. determination		
	- ions determinations (Na+, K+, Ca++)		
	- lactate determination		
	- blood sugar determination		
17	Device for rapid measurement of blood sugar		
18	Device for rapid measurement of Hb./Ht.		
19	Continuous haemodialysis/haemofiltration/ plasmapheresis machine		
	Type:		
	Type:		
	Type:		
20	Conventional haemodialysis machine		
	Type:		
	Type:		
	Type:		
21	Mobile X-ray machine (of its own)		
	Mobile X-ray machine (access to)		
22	System for the administration of nitric oxide (of its own)		
	System for the administration of nitric oxide (access to)		
23	Defibrillator		
24	ECG machine		
25	Coagulation measurement device		
	Type:		
	Type:		
	Type:		

No.		Yes	No
	Type:		
26	Console for handling the intra-aortic balloon pump		
27	Incubator		
28	Table with radiant heat for new-born care		
29	Special antidecubitus intensive care beds		
	Type:		
	Type:		
30	Systems for self-administration of analgesics		
31	Gastrointestinal endoscopy		
	- its own machine		
	- access to		
32	Number of places within the PACU room		
	- with monitor		
	- with monitor and ventilator		
33	Other (please mention)		
34	Other (please mention)		
35	Other (please mention)		

Section 5. Local context, accessibility, communications

No.		Yes	No
1	Telephone network		
	- communication between wards using "extension telephones"		
2	Permanent loco-urban access		
3	Intermittent loco-urban access		
4	Permanent long-distance access		
5	Intermittent long-distance access		
6	Radiotelephone network (radio communication)		
7	Internet access		
8	Ambulance of its own		
9	The shortest arrival time of the ambulance on call (minutes)		
10	The longest arrival time of the ambulance on call (minutes)		
11	The shortest transportation time to the next divisional level (hours)		
12	The longest transportation time to the next divisional level (hours)		

Comments - Observations



## **APPENDIX No. 6.2 to the regulation**

### **ANALYSIS of the activity of the AIC departments / compartments**

(1) Hospitals which comprise AIC departments / compartments will send an analysis of the activity of the said wards (by filling in sect. A and B of the present appendix and the OMEGA -RO score in appendix no. 6.3) twice a year to the Ministry of Health (General Directorate for Public Health, Medical Care and Programs) as follows:

- until July 15 of the current year (for the first 6 months); and
- until January 15 of the next year (for the last 6 months and centralized for the entire past year).

(2) The first submission of data will be on July 15, 2010.

#### **A. Analysis of anaesthesia activity**

1. Number of anaesthesia workstations:
  - a) in the surgical unit
  - b) outside the surgical unit
2. Number of general anaesthesia with volatile anaesthetics
3. Number of IV general anaesthesia
4. Number of central regional anaesthesia:
  - a) subarachnoid anaesthesia;
  - b) epidural anaesthesia.
5. Number of plexus anaesthesia
6. Number of combined general/regional anaesthesia

7. Number of anaesthesia outside the surgical unit
8. Patients' risk according to the ASA scale
9. Number of anaesthesia for:
  - a) small-scale surgery;
  - b) medium-scale surgery;
  - c) major surgery (abdominothoracic surgery with general anaesthesia lasting more than 45 minutes);
  - d) open heart surgical operations;
  - e) major neurosurgical operations;
  - f) kidney transplantation;
  - g) liver transplantation;
  - h) cardiac transplantation;
  - i) polytrauma.

## **B. Analysis of intensive care activity**

1. Data concerning the activity of the ward:
  - a) number of beds;
  - b) beds occupancy rate (total no. of days);
  - c) average occupancy rate;
  - d) average hospitalization period within the AIC ward;
  - e) % of patients admitted and deceased within the AIC ward;
  - f) % of AIC-related intrahospital mortality;

g) the average hospitalization period of patients deceased within the AIC ward.

## 2. Patients-related data:

a) age;

b) diagnosis upon admission: please mention whether it is:

- medical or surgical (absolute number and %);

- with or without appointment (absolute number and %), mentioning the main and the associated diagnosis;

c) classification of the severity of disease:

• for adult patients:

- general severity and mortality prediction scores:

a) APACHE II score;

b) SOFA score;

- traumatology:

- ISS score (injury severity score);

- RTS score (revised trauma score);

- cardiac surgery: EUROSCOR score;

• for paediatrics:

- general severity score:

a) PRISM score (paediatric risk of mortality);

b) P-MODS score (paediatric multiorgan dysfunction score);

- paediatric traumatology: PTS (paediatric trauma score).

### 3. Data relating to medical care

The assessment of the activity volume and complexity shall be based on a score for the assessment of the care activity and on some percentage data:

- a) OMEGA- RO score;
- b) % mechanically ventilated patients;
- c) % ventilated patients < 48 hours;
- d) % ventilated patients > 48 hours.

### 4. Data concerning the prevention and monitoring of nosocomial infections collected through standardized methodology:

- prevention of nosocomial infection:

1. program for the prevention of:

- a) cross-transmission of infections;
- b) invasive devices-associated infections;

2. training of the personnel;

3. application of protocols;

- monitoring nosocomial infections:

- a) gross level: % infected patients: pneumopathy, urinary infections, nosocomial bacteraemia;
- b) attack level: % infected patients exposed to the invasive devices concerned.

## APPENDIX No. 6.3 to the regulation

### INTERPRETATION of data, results and indicators

Data interpretation:

- a) the assessment of the AIC departments / compartments activity is made on a 6-12 months time span (given the great variability of the activity over a short period);
- b) the OMEGA-RO score will be used for this purpose.

#### **OMEGA-RO score: activity score for AIC wards:**

Drafting guidelines:

- the need for a simple score; therefore select a limited number of acts;
- take into account that the intensive care is also a “clinical service”, not only a medical and technical service” provider;
- correct assessment of the overall complexity of care.

The OMEGA-RO score is based on the recording of 48 therapeutic acts graded on a scale ranging from 1 to 10 Omega points and comprising 3 categories:

- 1<sup>st</sup> category: a number of 29 acts/medical manoeuvres recorded only once, regardless of the number of times they were performed;
- 2<sup>nd</sup> category: a number of 11 acts/medical manoeuvres recorded and graded each time they are performed; Omega grades are added up every time the manoeuvre is carried out during patient hospitalization;
- 3<sup>rd</sup> category: a number of 8 medical acts/manoeuvres recorded each day they are performed; Omega grades are obtained by multiplying the value of the act with the duration of its performance, in days.

Omega activity score is computed at the end of the hospitalization period and is equal to the sum of the grades in each category.

Omega score = 1<sup>st</sup> category grades + 2<sup>nd</sup> category grades + 3<sup>rd</sup> category grades.

For a better appraisal of the department activity, besides the total score, the value of each category throughout hospitalization shall also be analyzed.

### **OMEGA-RO score: medical acts and manoeuvres**

1<sup>st</sup> category – Acts to be graded during throughout the medical care within the AIC ward

D 100 Tracheotomy: installation or monitoring	6
D 101 Thoracic/pericardial drainage tube: installation or monitoring	6
D 102 Peripheral catheter: installation or monitoring	2
D 103 Central catheter: installation or monitoring	4
D 104 Pulmonary arterial catheter: installation or monitoring	7
D 105 Arterial catheter: installation or monitoring	4
D 106 Endocavitary cardiac stimulation probe: installation or monitoring	3
D 107 Tracheal intubation: installation or monitoring	6
D 108 Intra-aortic balloon pump: installation or monitoring	10
D 109 Cardioversion	3
D 110 Circulatory arrest therapy	10
D 111 Use of vasomotor drugs	6
D 112 Use of fibrinolytic drugs	10
D 113 Transfusion of blood products, exceeding 10% of the circulating volume/24 hours	10
D 114 Gastric lavage	1
D 115 Parenteral nutrition: 35 calories/kg/day for a minimum of 10 days	6
D 116 Enteral feeding: 35 calories/kg/day for a minimum of 10 days, at a constant rate	3
D 117 Reinjection of ascitic fluid	10
D 118 Oesophageal varices buffering: installation or monitoring	3
D 119 Arteriovenous shunt: installation or monitoring	10
D 120 Ureteral catheter: installation or monitoring	3
D 121 Suprapubic catheter: installation or monitoring	1
D 122 Complex orthopaedic traction	6
D 123 Neurological balance	1
D 124 Cerebrospinal fluid drainage	1
D 125 Monitoring intracranial pressure	4
D 126 Sedation exceeding 24 hours	6
D 127 Peritoneal lavage puncture	3

D 128 Training for ventilation at home 5

2<sup>nd</sup> category - Acts to be graded every time they are performed

D 150 Sequential kidney/corporeal dialysis	10
D 151 Plasmapheresis	10
D 152 Bronchial endoscopy, including alveolar lavage	3
D 153 Gastrointestinal endoscopy	3
D 154 Hyperbaric oxygen therapy	10
D 155 Preparing and accompanying transport outside the intensive care unit (Exclusive of: transport with the ambulance, transport for surgery.)	3
D 156 Preparing for ambulance transportation (Exclusive of transport for surgery)	1
D 157 Echography	3
D 158 Scintigraphy	6
D 159 Angiography	10
D 160 Preparation, accompanying or receipt upon return from the surgical unit (Exclusive of ambulance transportation)	6

3<sup>rd</sup> category – Acts where the number of days the patient benefited from the respective manoeuvre must be graded

D 170 Spontaneous ventilation with PEEP and CPAP	10
D 171 Mechanical ventilation	10
D 172 Continuous peritoneal dialysis or continuous haemofiltration	10
D 115 Complex surgical bandage	6
D 116 Putting back in transit	6
D 129 Patient isolation in the sterile room or isolation room	10
D 177 Child in incubator	2
D 179 Continuous monitoring within the AIC ward	1

## APPENDIX No. 7 to the regulation

### MINIMUM REQUIREMENTS concerning the staff working within the AIC departments / compartments

Personnel categories	3 <sup>rd</sup> category AIC departments / compartments	2 <sup>nd</sup> category AIC departments / compartments		1 <sup>st</sup> category AIC departments / compartments	
AIC physicians*	1 AIC PHYSICIAN – HEAD + 1 AIC physician /operating theatre + in ICPC : 1 AIC physician /4 - 6 ICPCU beds	1 AIC PHYSICIAN – HEAD + 1 AIC physician /operating theatre + for IC : 1 AIC physician / 2 – 4 beds*	for ICPC : 1 AIC physician / 4 – 6 beds	1 AIC PHYSICIAN – HEAD + 1 AIC physician /operating theatre + IC 11 AIC physician/ 2 – 4 beds*	ICPC 11 AIC physician / 4 – 6 beds
Nurses	head nurse + 1 nurse/operating theatre + 1 nurse/shift for the emergency operating theatre + in ICPC 1 nurse/4 beds/shift	head nurse + 1 nurse/operating theatre + 1 nurse/shift for the emergency operating theatre + IC 2 nurses/5 beds/shift	ICPC 1 nurse/4 beds/shift	head nurse + 1 nurse/operating theatre + 1 nurse/shift for the emergency operating theatre + IC 1 nurse/2 beds/shift	ICPC 2 nurses/4 beds/shift
Overspecialized nurses**	-	1-4	-	1-4	-

Nursing sisters	1 sister/ 8 beds/ shift	1 sister/ 4 beds/ shift	1 sister/ 4 beds/ shift	1 sister/ 3 beds/ shift	1 sister/ 4 beds/ shift
Stretcher bearer	1/shift	1/shift	1/shift	1/shift	1/shift
Psychologist	-	1		1	
Physiotherapists /physiotherapists	-	1-3/AIC ward		2-4/AIC ward	
Medical appliances maintenance engineer/ technician	1	1		1	
Computer operators	1	1		1-2	
Secretary Registrar/ Statistician	-	1 1		1 2	

\* Norming may be up to 1 AIC physician/2 intensive care beds within the wards where university education and/or research activities are carried out.

\*\* Extracorporeal circulation, kidney/liver dialysis.

## **APPENDIX No. 8 to the regulation**

### **CRITERIA for the transfer/discharge of patients from the AIC departments / compartments to other wards**

#### 1. Transfer/discharge criteria from ICPC to other wards:

- a) when the patient's physiological state is stable and intensive monitoring is no longer required, the patient is transferred to the ward he/she belongs to;
- b) when the intake/admission criteria to the ICPC are no longer met.

#### 2. Transfer/discharge criteria from IC directly to other wards:

- a) when the patient's disorders have been stabilized and he/she no longer requires intensive care monitoring and therapy;
- b) when the intake/admission criteria to IC are no longer met and there is no need to transfer the patients to the ICPC, such patients may be transferred to regular hospital wards.

## APPENDIX No. 9 to the regulation

### STRUCTURAL, ARCHITECTURAL AND TECHNICAL CHARACTERISTICS OF THE AIC DEPARTMENT

**Art. 1.** - The AIC section is comprised of the following structural elements:

- a) administrative area;
- b) anaesthesia workstations;
- c) bed ward:
  - intensive care beds (IC);
  - intermediate care/postoperative care beds (ICPC);
  - optionally, depending on the local needs and possibilities: beds in the postanaesthesia care unit (PACU);
- d) medical office for pre-anaesthesia examination and pain therapy;
- e) technical area:
  - storeroom for machines, instruments, pharmaceutical products;
  - laboratory equipment for emergency determinations;
  - clean sheets compartment;
  - sanitary space for processing and cleaning out inventory items;
  - cabin for collecting dirty stuff (clothes, waste material).

**Art. 2.** - The administrative area is shared for the entire AIC ward and it comprises the personnel area, the areas for ward administration and the educational areas.

It is comprised of:

- a) head of the ward's office;
- b) secretariat;
- c) medical offices;
- d) changing rooms;;
- e) rest area for nurses;
- f) physicians' emergency room;
- g) activity report room for on-duty physicians – collective meetings;
- h) waiting room for relatives;
- i) filter for visitors' accoutrement.

**Art. 3.** - The intensive care bed ward (IC) shall comply with the following rules:

**A. Location:**

- a) intensive care beds (IC) must be placed in a definite area, separately from other hospital wards (surgical unit, sterilization, transfusion etc.);
- b) it must have easy access to the emergency department, surgical unit and medical imaging services;
- c) if it is at an upper floor, it must be close to a lift for beds;
- d) intermediate care/postoperative care beds (ICPC) should be near IC, but they must be placed in a separate area;

**B. Access:**

- a) the filter-zone allows access control for patients, personnel, visitors and suppliers;
- b) the distance between IC and other structures related to ward functioning must be as short as possible in order to allow rapid transfer of patients;

- c) it is recommended that the access zone for beds (stretchers), personnel and materials be separate from the visitors' access area;
- d) visitors' access is allowed during the displayed visiting hours;
- e) the IC ward is provided with a warning system (doorbell, interphone) to allow visitors to announce before being allowed to enter;

#### C. Capacity:

- a) depending on the AIC ward category, IC beds should account for at least 5% of the total number of beds within the wards where patients with acute disorders are cared;
- b) in regional emergency hospitals, such beds may account for up to 10-15% of the total number of beds within these hospitals;
- c) within the AIC wards, the intensive care bed units (IC) shall have at least 6 beds;
- d) if there are more than 6 intensive care beds (IC), they may be distributed to different rooms;

#### D. Hospitalization area:

- a) the room's passageway must be at least 2.5m wide and free of structures which may block the passage of the stretcher or of the intensive care bed;
- b) intensive care room:
  - it is recommended to have rooms with 1-2 and 4-6 beds at the most;
  - the net area for each intensive care bed must be of at least 12sqm
  - usable area;
  - the gross area for an intensive care bed must be of at least 40sqm; this area is computed in relation to the whole hospitalization area (including corridors, annexes etc.) divided by the number of beds.

The areas set out under lett. b) above are mandatory for hospitals built after the adoption of the present regulations;

- the partitions (or partition walls) between the beds must not impede patients' monitoring by the nurses;

- the distance between beds must be of at least 2.5m;

- each bed must be placed 3-3.5m away from the wall in order to allow mobilization and access to the patient's head without impeding the traffic within the room;

- the floor must be covered with smooth, corrugation free material, easy to disinfect, sound-absorptive, hard-wearing to allow smooth movement of the furniture on wheels and to prevent skidding on the floor;

- where the floor meets the wall, the floor cover must be mounted 10 cm on the wall;

- the suspended ceiling must be smooth and tight;

- the walls must meet the soundproofing requirements and be covered with smooth and washable material;

- in order to make patients' observation easier, the upper part of the doors and partition walls will be provided with double glass panes, with shutters to allow light dimming;

- each room should be provided with a window that can be opened when needed, whereas the glass panes will be provided with washable shutters, washable blinds or smoky glass in order to reduce heat and sun light;

- each room will be provided with a wall clock;

- for the staff to wash their hands, each room will be fitted out with a sink with hot water and cold water, with foot or elbow controlled valves, liquid soap dispenser, a disinfectant dispenser and single use towelettes; hot air dryers are not authorized;

- each room must be fitted out with a 380 V electric outlet to supply power to the mobile X-ray machine;

- lighting requirements: direct and indirect light with adjustable illuminating power and nightlights to allow the medical staff to come in and out without disturbing the patient while sleeping;

- the intensive care room must be provided with ventilation and air refreshing system with an output of at least 6 cubic meters per hour;

- the room temperature must be between 22-26°C, with 30% to 60% humidity;

- it is recommended to have an air-conditioning (climate maintenance) system, preferably central air conditioning, but air conditioners for domestic use are also accepted. Central air conditioning is a must for hospitals built after the adoption of the present regulation;

- each room must have a backup for current use material (syringes, needles, drips, IV kits, bandages, disinfecting solutions etc.) and basic care material (bed sheets, lingerie, various containers). The replacement of the respective stock must be made through a circuit from outside the room;

- the power supply must comply with the rules on low voltage electric wiring for medical use and must have a double circuit in order to avoid power breakdowns in case of power failure. The outlets must be grouped on a wall-mounted board or fitted on a suspended arm;

- the medical gas network must be installed pursuant to the legislation in force;

- it is necessary to have a written protocol stating the procedures in case of power and/or medical gas supply breakdowns;

c) the bed location must:

- allow carrying out external cardiac massage whereas the bed must be permanently approachable from both sides as well as from the side where the patient's feet lie;

- allow the patient to see the caregivers and have the window and watch within his/her eyesight;

- be seen from the central observation post (alternative: closed circuit television system);

- allow moving to the patient's head without impeding the movement around the bed;

d) the isolation room: each bed unit within the AIC ward will have at least one isolation room with bed and bathroom for patients requiring severe epidemiological isolation;

e) central observation post: it is adequately placed so as to allow rough observation of all the patients and it is comprised of:

- a console approachable from both sides with;

- telecommunication equipment (direct connection telephone, interphone, fax machine, computer terminal);

- central monitor;

- desk;

- for an IC ward with 8 beds, a single observation post should be enough; however, if the IC ward has more than 8 beds, the number and location of the observation posts will be decided according to the architectural configuration of the respective area;

- behind or beside the central desk there should be: a medicines cabinet, a refrigerator for medicines, an IV stock, a sink, a place for IV preparation;

- it is useful to have a negatoscope (X-Ray Film Viewer) of at least 150x50 cm close to the central observation post.

**Art. 4.** - The intermediate care/postoperative care (ICPC) bed ward shall meet the following requirements:

A. Location:

- intermediate care/postoperative care (ICPC) bed ward must be placed in a definite area, apart from other hospital wards (surgical unit, sterilization, transfusion etc.);

- it must have easy access to the emergency department, surgical unit and medical imaging services;
- if it is at an upper floor, it must be close to a lift for beds

#### B. Access:

- the filter-zone allows access control for patients, personnel, visitors and suppliers;
- the distance between ICPC and other structures related to ward functioning must be as short as possible in order to allow rapid transfer of patients;
- it is recommended that the access area for beds (stretchers), personnel and materials be separate from the visitors' access area;
- visitors' access must be regulated;
- the ICPC ward shall be provided with a warning system (doorbell, interphone) to allow visitors to announce before being allowed to enter;

#### C. Capacity:

- the number of ICPC beds should be 1.5 times greater than the number of intensive care (IC) beds;
- depending on the needs, a hospital may have one or several ICPC rooms;

#### D. Hospitalization area:

- the hospitalization area for ICPC patients must be structurally similar to the IC area.

