

Current stage of the intensive care units structure in Argentina: results from the *Sociedad Argentina de Terapia Intensiva* self-assessment survey of intensive care units

Cenário atual da estrutura das unidades de terapia intensiva na Argentina: resultados do inquérito de autoavaliação de unidades de terapia intensiva da Sociedad Argentina de Terapia Intensiva

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Table 1S - Variables included in the intensive care unit categorization guidelines

| Variables | Pediatric ICU | Adult ICU | Level of unit | | | |
|---|---------------|-----------|---------------|-------|-------|------------------|
| | | | ICU-1 | ICU-2 | Resus | Intermediate ICU |
| Anesthesiology with pediatric expertise, 24-hour on-duty | X | | M | | | |
| Anesthesiology with pediatric expertise, 24-hour on-call | X | | | M | | M |
| Pediatric surgery, 24 hour on-duty or available within 1 hour, if there's a general surgeon 24-hour on-duty | X | | M | M | | M |
| Anesthesiology, 24-hour on-duty | | X | M | M | R | M |
| Anesthesiology, 24-hour on-call | | X | | | M | |
| General surgery, 24-hour on-duty | | X | M | M | R | M |
| Neurosurgery, 24 hour on-duty or available within 1 hour. | X | X | M | M | R | M |
| Orthopedics 24 hour on-duty; availability to consult with pediatric orthopedics | X | | M | | | |
| Orthopedics 24-hour on-duty | | X | M | M | R | M |
| Orthopedics 24-hour on-call | | X | | M | M | M |
| Pediatric cardiology, 24-hour on-call | X | | M | M | | M |
| Digestive/respiratory endoscopy, 24-hour on-call | X | X | M | M | R | M |
| Possibility of consultation with specialties not considered in the previous items | X | X | M | M | R | M |
| Hemotherapy and blood bank, 24-hour availability (on duty) | X | X | M | M | R | M |
| Hemotherapy and blood bank, 24-hour availability (on-call) | X | X | | | M | |
| Radiology availability 24-hour (XR technician on-duty) | X | X | M | M | R | M |
| Portable X-ray machine available for the ICU | X | X | M | M | | M |
| Computerized tomography on-site, 24-hour available | X | X | M | R | R | R |
| Computerized tomography outside the facility, 24-hour accessible. | X | X | | M | M | M |
| Laboratory services available 24/7 | X | X | M | M | M | M |
| Magnetic resonance imaging on-site or 24-hour available. | X | X | M | M | R | M |
| Ultrasound available within 60 minutes | X | X | M | M | R | M |
| Interventional Rx on-call 24/7 | X | X | M | M | R | M |
| Not less than 4 - 6 beds or 1000 days/patients/year | X | | M | | | |
| Not less than 8 beds/unit | | X | M | M | R | M |
| Not less than 4 beds | X | X | | M | M | M |
| Intermediate ICU: not less than 8 beds and not exceed in 2 the overall ICU beds | | X | | | | M |
| Minimum total area: number of beds x 7m2 x 2 (open areas) | X | | M | M | | |
| Minimum surface: 9 - 12m2 (for ICU open areas) | | X | M | M | M | |
| Working area/patient area ratio, minimum 50 - 50% | X | X | M | M | R | R |
| Working area/patient area, minimum 30 - 70% | X | x | | | M | M |
| Isolation areas: minimum total surface 9m2 (pediatric ICU) 12m2 (ICU) per bed | X | X | M | M | R | R |
| At least 1 bed and 9 m2 | X | X | | | M | M |

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| | Variables | Pediatric ICU | Adult ICU | Level of unit | | | |
|---|---|---------------|-----------|---------------|-------|-------|------------------|
| | | | | ICU-1 | ICU-2 | Resus | Intermediate ICU |
| Patient zone | On-site stock of medicines | X | X | M | M | M | M |
| | Handwashing facilities, minimum 1 per 4 beds; alcohol-based hand sanitizer per bed | X | X | M | M | M | M |
| | Handwashing facilities, 1 per 2 beds; Alcohol-based hand sanitizer per bed | | X | M | M | M | M |
| | Windows | X | X | R | R | R | R |
| | Walls (special treatment) | X | X | M | M | M | M |
| | Sanitary plinth | X | X | M | M | M | M |
| | Oxygen outlets, 2/bed | X | X | M | M | M | M |
| | Central vacuum outlets, 1/bed (preferably 2) | X | X | M | M | M | M |
| | Compressed air outlets, minimum 1/bed | X | X | M | M | M | M |
| | Oxygen, vacuum, and compressed air: at least 1/bed | | X | | | M | |
| | General lighting on the ceiling approximately 100W, night light. Intense light for procedures | X | X | M | M | M | M |
| | Doors opening that allows the passage of stretchers and equipment | X | X | M | M | M | M |
| | Direct patient visualization | X | X | M | M | | M |
| | Isolation room | X | X | M | M | | R |
| | Alarm system (coding alarm) per bed | X | X | M | M | R | M |
| | Electrical system: 10 outlets/bed. Plug for portable x-ray machine | X | X | M | M | | R |
| | Electrical system. 4 outlets/bed. Plug for portable x-ray machine | X | X | | | M | M |
| | An air-conditioned system, conveniently filtered. | X | X | M | M | M | M |
| | Multiparametric monitor, 1/bed (ECG, invasive/non-invasive blood pressure, temperature, pulse oximetry) | X | X | M | M | R | R |
| | Multiparametric monitor, 1/bed (ECG, noninvasive blood pressure, pulse oximetry) | X | X | | | M | M |
| | Capnograph monitoring every 4 patients on mechanical ventilation | X | X | M | M | | |
| | Capnograph monitoring device, 1 per unit | X | X | | M | | |
| | Mechanical ventilators available for 100% of beds (micro processed 80%) | | X | M | R | | |
| | Mechanical ventilators available for 70% of beds (micro processed 80%) | X | | M | M | | |
| | Mechanical ventilators available for 75% of beds (micro processed 80%) | | X | | M | R | |
| | Mechanical ventilator for the unit (at least 1) | X | X | | | M | M |
| | High-frequency oscillatory ventilator, at least 1 | X | | M | M | | |
| | Emergency kart, as standard, 1 each sector | X | X | M | M | M | M |
| | Precision infusion pumps, 4/bed (0.1 - 999mL/h) | X | X | M | M | R | R |
| | Precision infusion pumps, 3/bed (0.1 - 999mL/h) | X | X | | M | | |
| | Precision infusion pumps, 2/bed (0.1 - 999mL/h) | X | X | | | M | M |
| | Enteral feeding pumps, 1 every 2 beds | X | X | M | R | | R |
| | Enteral feeding pumps, 1/ bed | X | X | R | | | |
| | Portable electrocardiograph, 1 per unit | X | X | M | M | | |
| | Portable electrocardiograph available | X | X | | | M | M |
| | External pacing (wire and generator), 1 every 3 ICU beds | X | X | M | | | |
| | External pacing (wire and generator), 1 in the ICU | X | X | M | R | | |
| | Resuscitation bag-valve-mask with reservoir device, 1/ bed | X | X | M | M | M | M |
| Vascular access devices from 4 F to 7 F (2 per size) | X | X | M | M | | M | |
| Equipment for intra-osseous access, 1 per unit | X | X | M | M | M | M | |
| Minute volume computer or dock | X | X | R | R | | | |
| Equipment for venous dissection, 1 per unit | X | X | M | M | | M | |
| Chest drainage equipment | X | X | M | M | M | M | |
| Punction equipment (lumbar, abdominal) | X | X | M | M | M | M | |
| Peritoneal dialysis equipment | X | X | M | M | | M | |
| Renal-replacement therapy available 24/7 | X | X | M | R | | | |
| Portable ultrasound available | X | X | M | M | | M | |
| Color Doppler echocardiography available | X | X | M | M | | R | |
| Transcranial Doppler | X | X | R | R | | | |
| Equipment for patient's temperature management | X | X | M | M | | | |
| Portable X-ray machine available for the unit | X | X | M | M | | M | |
| Intracranial pressure monitoring device available | X | X | M | M | | | |
| Transport bed/stretchers with portable multi-parameter monitor and oxygen | X | X | M | M | M | M | |
| Decubitus ulcers prevention devices | X | X | M | M | | R | |

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| | Variables | Pediatric ICU | Adult ICU | Level of unit | | | |
|---|---|---------------|-----------|---------------|-------|-------|------------------|
| | | | | ICU-1 | ICU-2 | Resus | Intermediate ICU |
| Supporting zone | Nursing station | X | X | M | M | | M |
| | Nursing and cleaning staff lounge | X | X | M | M | | M |
| | Equipment storage | X | X | M | M | | M |
| | Clean linen storage | X | X | M | M | | M |
| | Area for stocking of medicines and disposable material | X | X | M | M | M | M |
| | Dirty utility | X | X | M | M | | M |
| | Drug refrigerator | X | X | M | M | M | M |
| | Locked compartment for narcotics and concentrated electrolytes | X | X | M | M | M | M |
| | Independent refrigerator for feeding formulas | X | X | M | M | | M |
| | Soiled workroom | X | X | M | M | | M |
| | Washing and preparation area for surgical material | X | X | M | M | | M |
| | Administrative assistants area | X | X | M | M | | M |
| | Family reception area | X | X | R | R | | M |
| | Medical staff lounge | X | X | M | M | | M |
| | Offices for the medical and nursing director (independent) | X | X | M | M | | M |
| | Physician on-call rooms | X | X | M | M | | M |
| | Staff toilet | X | X | M | M | | M |
| | Patient waste disposals | X | X | M | M | | M |
| | Fire protection measures, evacuation plan | X | X | M | M | | M |
| Internet access, availability of online medical libraries | X | X | M | M | | M | |
| Documentation | Diagnosis, date of admission/discharge, demographic data | X | X | M | M | M | M |
| | Standardized mortality ratio | X | X | M | M | | |
| | State at discharge | X | X | M | M | | M |
| | Healthcare-related acquired Infections acquired in the pediatric ICU | X | X | M | M | | |
| | Adverse events (unplanned extubating, falls from bed, pressure sores) | X | X | M | M | | M |
| | At least 1 process indicator | X | X | M | M | | |
| Indicators | Diagnostic and treatment guidelines (common diseases in the ICU) | X | X | M | M | | M |
| | Nursing care protocols | X | X | M | M | | M |
| | Quality improvement and patient safety program | X | X | M | M | | R |
| | Informed consent policy | X | X | M | M | M | M |
| | Infection control program | X | X | M | M | | M |
| | Invasive procedures protocol | X | X | M | M | M | M |
| | CPR and advanced life support care standards | X | X | M | M | M | M |

ICU - intensive care unit; ECG - electrocardiogram; CPR - cardiopulmonary resuscitation; M - mandatory; R - recommended.