

## INTENSIVE CARE

### Clinical activities and areas of excellence

■ ■ ■ **22 beds - 800 admissions/year**

■ ■ ■ **Surgical and Cardiovascular Neonatal Intensive Care**

Surgical (all surgical subspecialties) and cardiovascular (congenital heart disease, severe hemodynamic decompensation, pulmonary hypertension) pathology and extracorporeal life support (ECMO-Extracorporeal Membrane Oxygenation), CRRT-Continuous Renal Replacement Therapy, blood purification), including surgical complications in premature babies.

### Medical-Surgical Pediatric Intensive Care

0 to 16 years (medical and surgical conditions - all surgical sub-specialties), up to adult patients with congenital pathologies.

### Advanced assistance in surgical and medical conditions:

- Neurosurgery - Neurointensive Care (advanced neurologic integrated monitoring, ICP, CPP, SvJO<sub>2</sub>, ICM+, Transcranial Doppler, non-invasive ICP monitoring);
- Status epilepticus, refractory epilepsy, encephalitis (immune and infectious);
- Post-resuscitation care (therapeutic hypothermia, targeted temperature management);
- Cardiac surgery (140 cases on bypass/year, 300 total cases/year) - Cardiovascular Intensive Care (medical and perioperative care of children with cardiovascular diseases);
- Extracorporeal mechanical circulatory support (veno-arterial ECMO);
- Acute lung injury team (advanced respiratory support for patients with ARDS: high frequency oscillatory and percussive ventilation, inhaled nitric oxide, ECMO);
- ECMO Program, percutaneous cannulation in neonates and children, ECPR - Extracorporeal Cardio-Pulmonary Resuscitation;
- Critical Care Transport Service (ECMO and international retrievals, ground, rotor and fixed wing) - Gaslini Critical Care ECMO and Transport Team (CCETT) - +39 010 5636.2440-2442-2443 - +39 335 7593974 (contact numbers for retrievals and teleconsultation);
- Postoperative Intensive Care (care for children undergoing major surgery: neurosurgery, chest surgery, major abdominal surgery, airway surgery, orthopedic surgery, etc.);
- Nephrology (CRRT, blood purification techniques - plasma exchange);
- Hematology-Oncology, Immunology, Rheumatology (intensive care of the immunocompromised host);
- Infectious diseases (isolation section);
- Tracheal Team;
- Difficult airway management (flexible and rigid diagnostic and operative endoscopy);
- Trauma, Trauma Team coordination and lead;
- Intensive care treatment of severe burns;
- Rapid Response Team for intra hospital emergencies and blue codes in Emergency Dept. - ED (intensive care in the ED);
- Delivery Room Intensive Care Unit (DRICU) for the peripartum management and delivery room resuscitation in surgical and cardiovascular congenital conditions (delivery facility adjacent to the Intensive Care Unit - ICU);



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- Ex-Utero Intrapartum Treatment (EXIT);
- Congenital Diaphragmatic Hernia program (plug, unplug, advanced respiratory support, ECMO, surgery at the bedside);
- Percutaneous tracheostomy in children;
- Care of patients with chronic respiratory diseases and home mechanical ventilation program;
- Dedicated team for the education of parents to home mechanical ventilation and tracheostomy care;
- Metabolic intensive care (inborn errors of metabolism, diabetic ketoacidosis, etc.);
- Nutritional support of the critically ill newborn and child (parenteral nutrition, enteral nutrition);
- Dedicated nurse teams for nursing education, transport and pressure wounds prevention;
- Continuing education of the nursing and medical staff according to the latest guidelines;
- European Pediatric Advanced Life Support, Neonatal Life Support (Italian Resuscitation Council) staff certification;
- Clinic for the post-discharge follow-up of critically ill newborns and children.

A psychologist is available to support patients and their families. The presence of parents in the ICU is encouraged, possible limitations of access can be due to emergencies or the clinical needs of the patients. A dedicated physical therapist takes care of patients daily.

## MAIN COLLABORATIONS

- Division of Critical Care, Boston Children's Hospital, Boston, MA, USA;
- Division of Critical Care, Sickkids Children's Hospital, Toronto, Canada;
- Division of Critical Care, Pittsburgh Children's Hospital, Pittsburgh, PA, USA;
- Primary Care Children's Hospital, Salt Lake City, UT, USA;
- Pediatric Intensive Care Unit, Rady Children's Hospital, San Diego, CA-USA;
- Department of Clinical Neurosciences, Cambridge University, UK;
- Neonatal Intensive Care Unit, Royal Prince Alfred Hospital Sydney, Australia;
- Neonatal Intensive Care Unit, Columbia University, New York, USA;
- Division of Cardiology, Keck School of Medicine, University of Southern California Los Angeles, USA;
- University Medical Center, National Research Center for Maternal and Child Health, Nazarbayev University, Astana, Kazakhstan

## PROJECTS

- ICM+ and multimodality monitoring in Neurointensive Care;
- Extracorporeal Cardiopulmonary Resuscitation;
- ECMO for cardiovascular and respiratory support;
- Percutaneous ECMO cannulation;
- Patent Ductus Arteriosus management in ECMO patients;
- Treatment of infectious and immune encephalitis;
- Regional Pediatric Trauma Network development;
- Intensive care of children undergoing tracheal surgery.

### Director

Andrea Moscatelli, MD

Specialties:

Anesthesia and Intensive Care Pediatrics

Phone: +39 010 5636 2448

e-mail: andreamoscatelli@gaslini.org