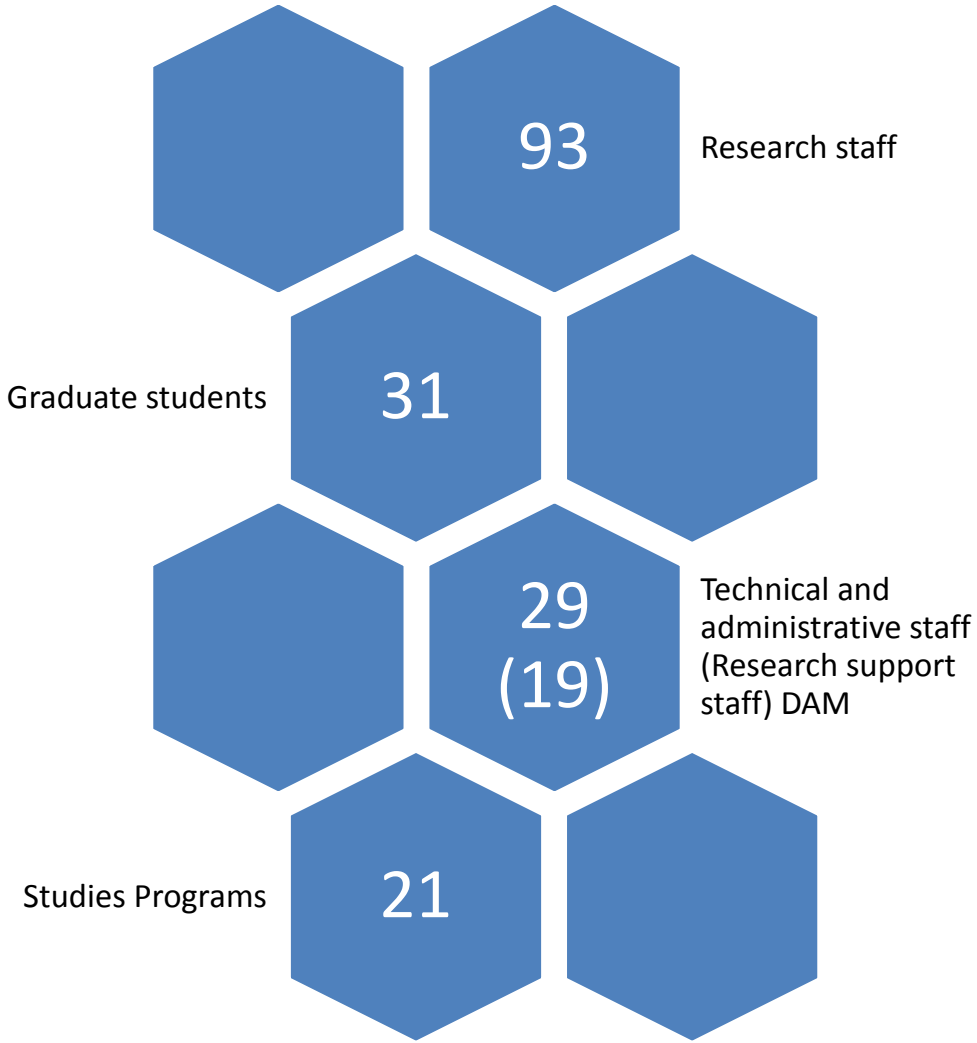
DEPARTMENT

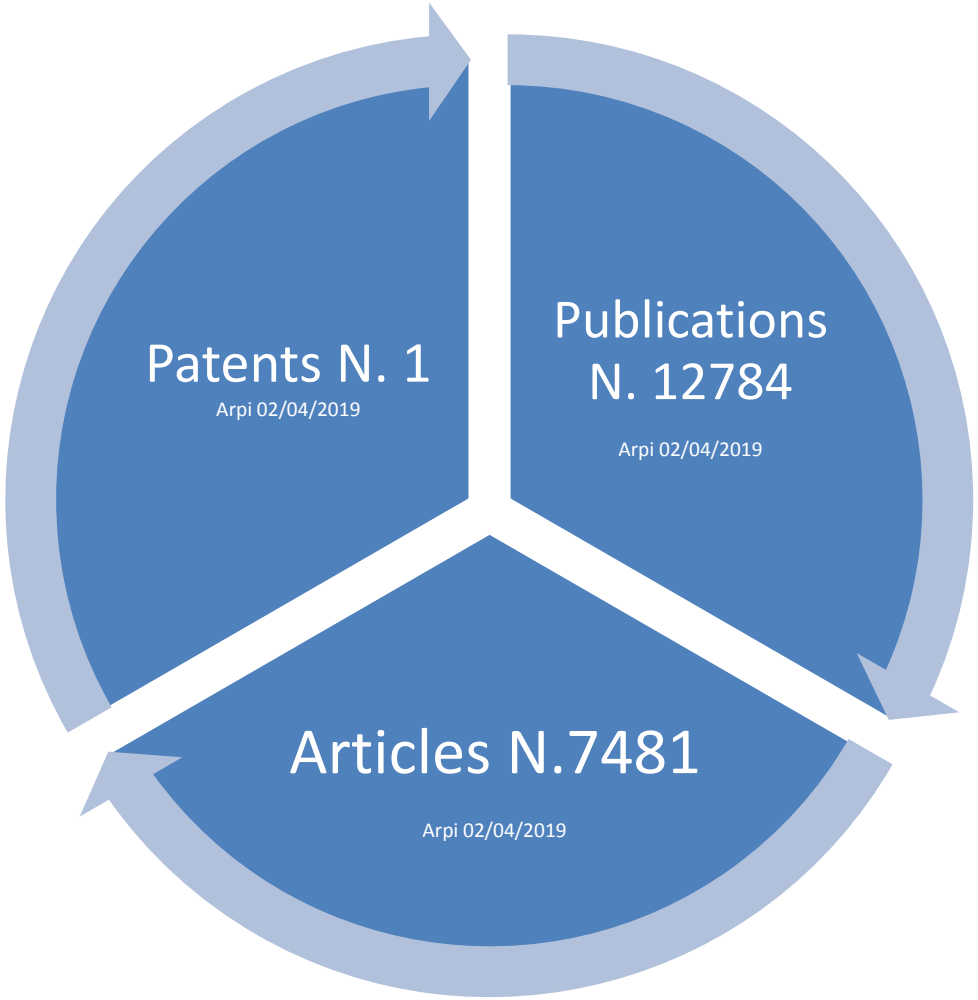
PATHOLOGY

PATOLOGIA CHIRURGIA MEDICA MOLECOLARE E DELL'AREA CRITICA

«INTEGRATING SURGERY WITH CARDIOPULMONARY, PSYCHOLOGICAL AND BASIC SCIENCE RESEARCH»

DEPARTMENT AT A GLANCE

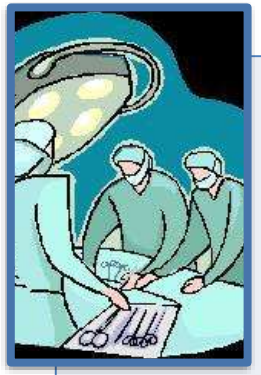




RESEARCH AREAS

Endocrine and liver surgery	We have the leading center in Italy for thyroid surgery and for liver transplantation. Research is aimed at promoting an integrated approach to thyroid and neck surgery, and to develop novel procedures for reconditioning explanted livers, with the support of pathological and biochemical data. Cardiovascular and anestehsiological issues are also dealt with.
Robotics and bioengineering in surgery	Thanks to the availability of the biggest facility for robotic surgery in Italy, a thourough comparison with traditional surgery is performed, especially in the field of thoracic surgery, in order to define guidelines for the implementation of robotic techniques. Advanced materials, procedures and devices are tested and validated for the treatment of deafness and eye disease.
Behavioral correlates of disease and therapy	The general aim is to develop a quantitative approach to the psychological and cognitive impact of disease- and treatment-related stress. Translationals models are developed in experimental animals using advanced electrophysiological, biochemical and behavioral techniques.

RESEARCH PROJECTS



Endocrine and liver surgery

- Optimize indications and reduce side effects of thyroidectomy.
- Validate novel molecular techniques to monitor thyroid function and dysfunction.
- Implement a liver hub facility.

Robotics and bioengineering in surgery

- Define standards for robotic treatment in non small cells lung carcinoma.
- Develop standardized procedures for the treatment of adverse events in robotic surgery.
- Develop and validate novel techniques for cochlear implant surgery.

Behavioral correlates of disease and therapy

- Optimize replacement therapy after thyroidectomy
- Investigate the biochemical, neuroendocrine, cardiovascular and behavioral correlates of stress.
- Develop objective methods to identify the psychological profile of surgeons, with specific reference to traditional vs robotic skills.