



# KIDNEY TRANSPLANTATION

Our center has a long tradition in kidney transplantation. Spain's first kidney transplantation was performed in our institution in 1965. Since then we have performed more than 4,500 kidney transplants, more than 800 from living donors

We are considered a national and international reference center, and often we are consulted by other centers for patients that cannot be transplanted in those centers due to technical or immunological challenges

The first blood group incompatible kidney transplant in Spain was performed by us

Since 2015 we have performed robot-assisted kidney transplants as routine surgery and are one of the leading centers in this technology worldwide

# Dedicated to Surgical Innovation and Excellence

Since 2001 all living donors nephrectomies have been performed using a laparoscopic minimally invasive approach. In 2009 we introduced the transvaginal living donor nephroectomy and in 2010 the LESS (Laparo endoscopic single site surgery) technique for living donor nephrectomy. To date more than 100 transvaginal living donor nephrectomies have been performed as well as more than 60 LESS living donor nephrectomies with excellent results.

In August 2015, we introduced robotic surgery (Da Vinci system) in the kidney transplantation. Especially, but not exclusively obese recipients benefit from this technique. In several cases we have been able to introduce the kidney graft trough the vagina leaving the female recipient practically without any scars.

"Our goal is to reach a percentage of 40% of living donor kidney transplants assisted by robot. We have taken a leap forward and we want to carry on this path", says Chief of Urology and Transplant Surgeon Dr. Antonio Alcaraz. Dr. Alcaraz also indicates that "Robotic surgery is our preferred technique for living donor kidney transplantation. We reserve open surgery for cases where surgical difficulties are expected that might make the robotic approach impossible". The incorporation of robotics in kidney transplantation is a breakthrough, according to Dr. Alcaraz, because "we were not able to use conventional laparoscopy, because the instruments did not allow us to maneuver properly. With the Da Vinci we can get more movement than with a human wrist, and we can move it with high accuracy, because every movement is reproduced on a scale of 1 to 10. This means we can get a minimum displacement with a natural movement".





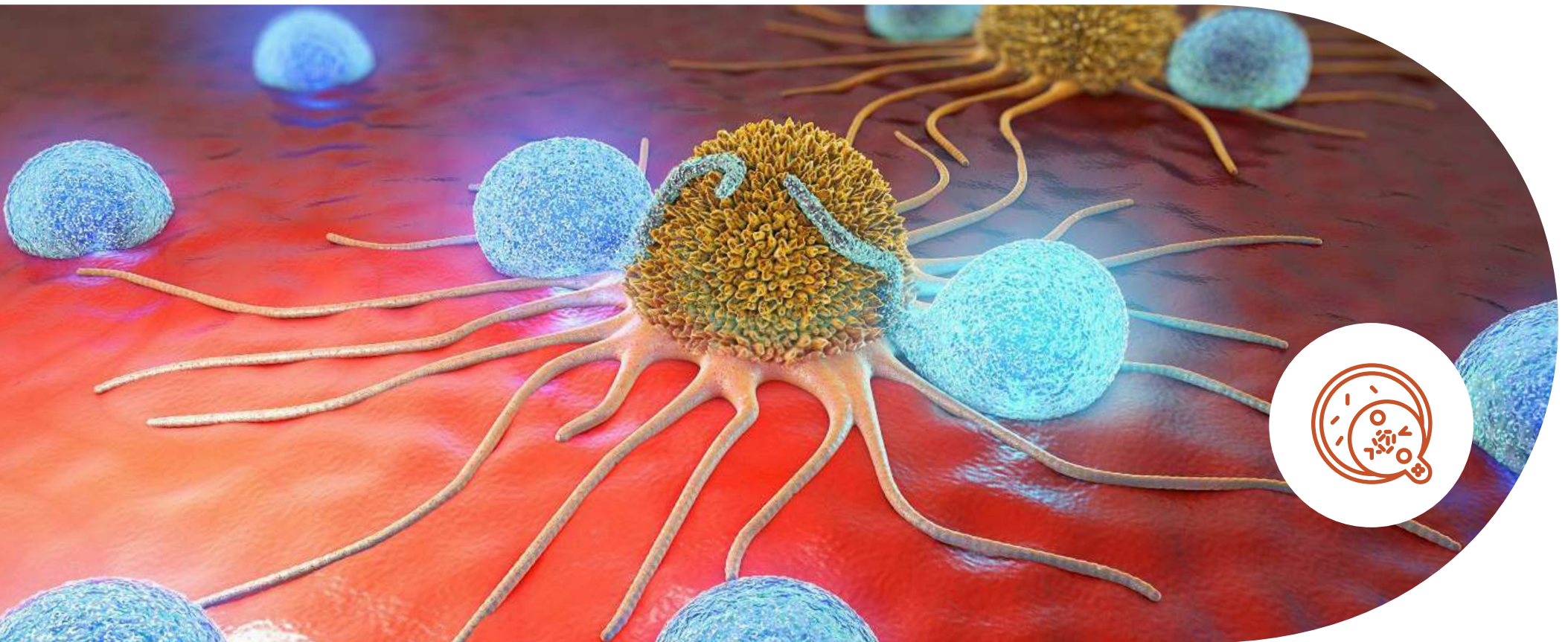
# Medical and Immunological Expertise

Our team of transplant nephrologists is experienced in all different kinds of kidney transplantations and is exclusively dedicated to transplantation.

Being one of the largest kidney transplant centers in Spain this exclusive dedication to transplantation is more than justified and reflected by the excellent results.

Moreover, we can count on the expertise of Catalonia's histocompatibility laboratory that handles more than 1000 solid organ transplants per year and that is located on our premises.

Our institution offers all medical and surgical specialties also including a transplant infectious diseases department.







## Our Milestones in Living Donor Kidney Transplantation



- 1965 The Hospital Clinic performed the first kidney transplantation in Spain
- Since then continuous activity in cadaveric and living donor kidney transplants; more than 4500 performed
- Since 2001 only laparoscopic donor nephrectomy
- 2006 First ABO incompatible living donor kidney transplantation in Spain
- 2009 First transvaginal donor nephrectomy worldwide
- 2010 introduction of LESS (Laparo endoscopic single site surgery) technique for living donor nephrectomy
- 2015 First robotic surgery in living donor kidney transplant recipient

# Teaching & Research & Innovation



## Teaching

- Our Kidney Transplant Unit participates in the education of medical students of the University of Barcelona and in several Master Programs
- Most of our staff physicians are professors or lecturers of the University of Barcelona
- Moreover, the Kidney Transplant Unit plays a crucial role in the education of resident physicians
- In addition to that each year around 15 visiting physicians from other national or international institutions spend periods of one month up to one year in the Kidney Transplant Unit
- The Kidney Transplant Unit performs preceptorship programs of several days duration for transplant physicians from all over the world





## Research and Innovation

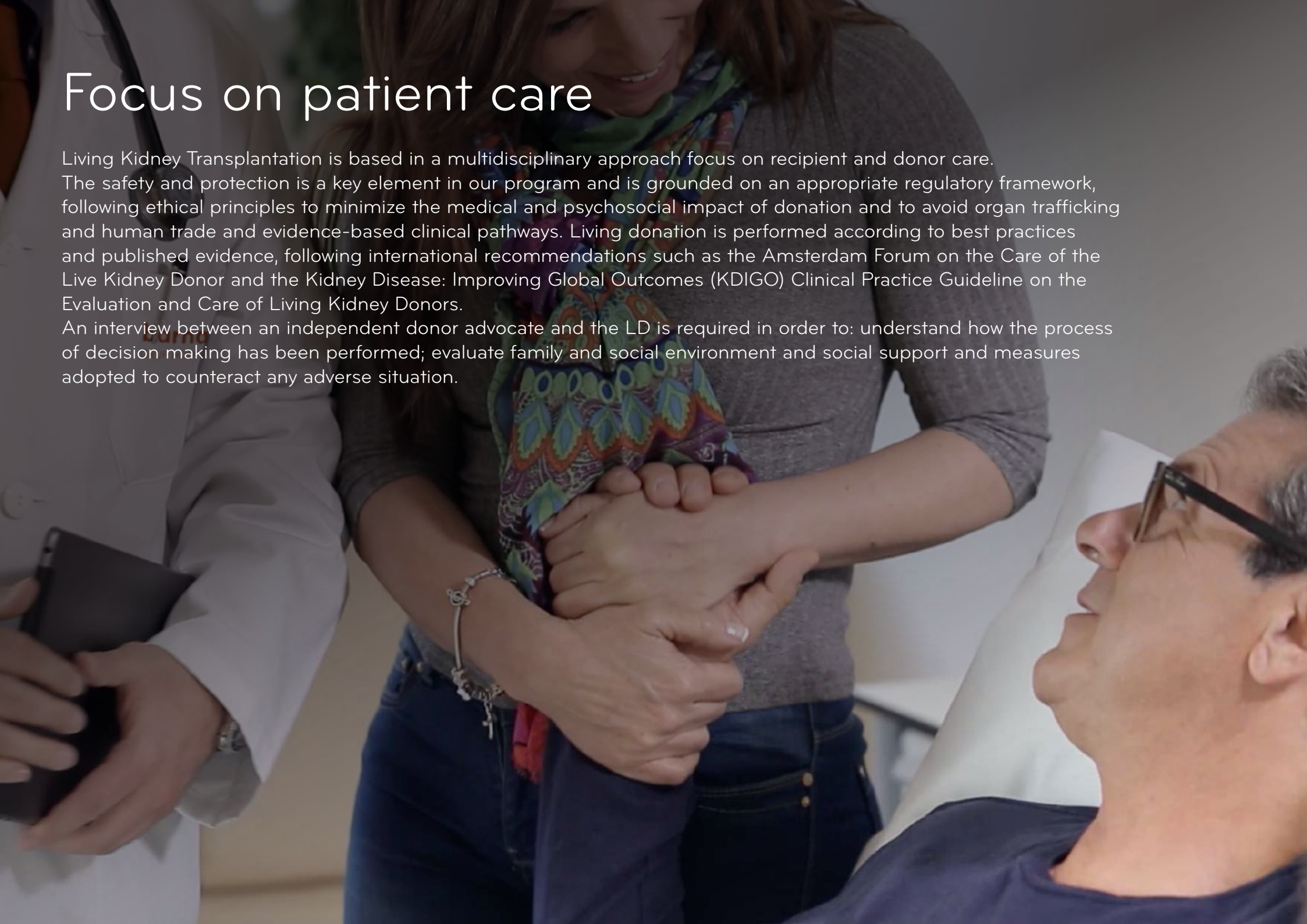
- The Kidney Transplant Unit has participated in all major international multicenter trials in immunosuppression after kidney transplantation of the last decade
- In addition to that the Kidney Transplant Unit has its own experimental laboratory (LENIT Laboratori Experimental de Nefrologia i Trasplantament Renal; Dr. Diekmann, the Chief of the Kidney Transplant Unit is also Director of LENIT) and counts with a clinical studies unit
- Physicians of the Kidney Transplant Unit are principal investigators and collaborators in several national and international experimental and clinical trials and research cooperations (Dres. Diekmann, Oppenheimer, Torregrosa, Revuelta, Ricart, Ventura)

# Focus on patient care

Living Kidney Transplantation is based in a multidisciplinary approach focus on recipient and donor care.

The safety and protection is a key element in our program and is grounded on an appropriate regulatory framework, following ethical principles to minimize the medical and psychosocial impact of donation and to avoid organ trafficking and human trade and evidence-based clinical pathways. Living donation is performed according to best practices and published evidence, following international recommendations such as the Amsterdam Forum on the Care of the Live Kidney Donor and the Kidney Disease: Improving Global Outcomes (KDIGO) Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors.

An interview between an independent donor advocate and the LD is required in order to: understand how the process of decision making has been performed; evaluate family and social environment and social support and measures adopted to counteract any adverse situation.



# Lines of Care in Living donor kidney transplant



ABO Compatible Blood Group Transplantation



Kidney Transplant procedure using Robotic Surgery



ABO Incompatible Blood Group Transplantation



Transplant Infectious Disease Department



Complex Surgical Procedures and Vascular Access



Transplant Immunology Department



Minimally Invasive Technique for Living Donor Nephrectomies (Single-port, NOTES)



Multidisciplinary care and follow-up



# Material resources



HIGHLY-SPECIALIZED  
TEAM DEDICATED  
100% TO KIDNEY  
TRANSPLANTATION



TRANSPLANT  
IMMUNOLOGY  
LABORATORY ON SITE  
24/24H, 365/365 DAYS



DIALYSIS CENTER  
ON SITE



DA VINCI XI ROBOT



ROOMS



DAY HOSPITAL



SPECIFICALLY  
ORIENTED INTENSIVE  
CARE UNIT



HIGHLY TRAINED  
INTERVENTIONAL  
RADIOLOGY



LAST GENERATION  
3D ULTRASOUND  
SCAN



INTEGRATED OPERATING  
THEATER, INCLUDING  
3D LAPAROSCOPIC  
TOWER AND ROBOTIC  
TECHNOLOGY



EXPERTISE IN  
ULTRASOUND  
EXPLORATION AND  
THERAPEUTIC  
PROCEDURES



GREEN AND  
HOLMIUM LASERS

# Estimated Time Frame\*



RECIPIENT AND DONOR MEDICAL EVALUATION 2 days



ICU STAY RECIPIENT / DONOR 0 days



HOSPITAL STAY

DONOR

2 days

RECIPIENT

7 days



IN BARCELONA

DONOR

2 weeks post-donation  
4 weeks post-transplant

RECIPIENT

\* In case of absence of major additional comorbidity or complications



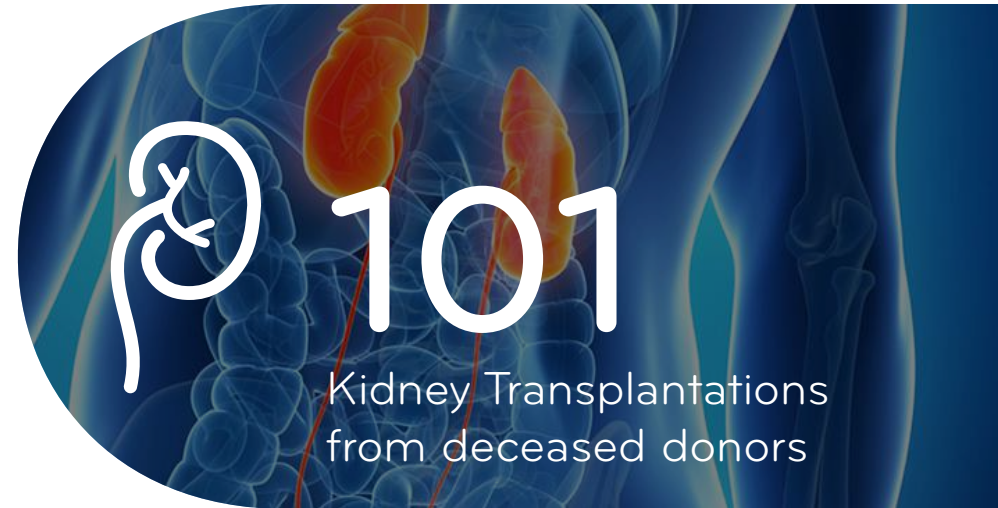
# Our results


## KIDNEY TRANSPLANTATION




**50** Living Donor Kidney Transplantations/ year

**20**  Robotic surgeries



**13**  combined kidney pancreas transplantations

**6**  combined kidney liver transplantations

## Survival rate

### Patient survival

**97 %**



First year

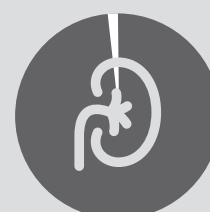
**90 %**



For 10 years

### Graft survival

**97 %**



First year

**80 %**



For 10 years



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