

## Workings of the Eurotransplant International Foundation

The Eurotransplant International Foundation is responsible for the exchange and allocation of organ donation procedures in Austria, Belgium, Croatia, Germany, Hungary, Luxembourg, the Netherlands and Slovenia. In this international collaborative framework, the participants include all transplant hospitals, tissue-typing laboratories and hospitals where organ donations take place. The Eurotransplant region has about 135 million inhabitants.

### Mission

Organ transplantation offers life-saving and quality-of-life enhancing treatment options to patients with end-stage organ failure. Aiming to fulfill this potential, Eurotransplant was established and acts as a mediator between donor hospitals and transplant centers, for the benefit of such patients.

Eurotransplant is a non-profit international service organization that facilitates patient-oriented allocation and cross-border exchange of deceased donor organs at the service of its member states.

As such,

- Eurotransplant manages the complex process of achieving the best possible match between available donor organs and patients on the transplant waiting list
- Eurotransplant acts transparently and in accordance with European Union regulations and ethical principles, and fully complies with national member states legislation
- Eurotransplant is actively engaged in developing best practice recommendations and policies to further improve organ allocation and transplant outcomes, based on robust data collection and state-of-the-art scientific research.

### History

Prof. Dr. Jon J. van Rood founded Eurotransplant in 1967, allowing a central registration of all patients waiting for transplantation and of all donors reported. The main aims were and are twofold:

- increasing the chance of finding a good match between the donors and the patients taking into account for example tissue groups. In doing so, the transplant results themselves would improve considerably, according to Van Rood;
- finding a suitable donor for patients in acute life threatening condition in imminent need of a transplantation.

Therefore, one of Eurotransplants most important tasks is the registration of patients who qualify for a transplant operation. At the moment there are more than 75 transplant hospitals participating in Eurotransplant and they have a joint waiting list of approximately 15,000 patients.

Initially, Eurotransplant's activities only concerned kidney transplants but in the late seventies it also came to exchange for liver transplants. A few years later, heart, lung and pancreas transplants followed.

Quite recently, patients qualifying for an intestine transplant have also joined the international waiting list.

## Methods

As mediator between donor and patient, Eurotransplant plays a key role in the acquisition and allocation of donor organs for transplantation. The data of all potential recipients, such as blood group, tissue characteristics (HLA groups), primary disease and clinical urgency, are passed on to Eurotransplant. This information is stored in a central computer database.

Subsequently, the patient is put on the (inter)national waiting list.

At that point, the waiting time starts. For patients on the kidney waiting list the waiting time uniformly starts on the date of the first dialysis. As soon as a donor becomes available somewhere within the Eurotransplant area, the regional tissue typing laboratory determines the donor's blood group and tissue characteristics. All relevant (medical) information about the donor is then transferred to Eurotransplants database.

Subsequently, the Eurotransplant staff enters the donor information into a computer program especially developed for this purpose. After the data entry, the program selects the patient most suitable to receive the organ of this donor. It is crucial that the donor organ matches as good as possible with the patient. The selection criteria for the most suitable patient vary for different donor organs (see table).

## Organ Selection criteria

Organ	Selection criteria
Kidney	Blood group, tissue characteristics, clinical urgency and waiting time
Pancreas	Blood group, (tissue characteristics), clinical urgency and waiting time
Heart+Lung	Blood group, size of the donor, clinical urgency and waiting time
Liver	Blood group, size of the donor, clinical urgency and waiting time

After completing the computer selection procedure, the Eurotransplant staff immediately contacts the physicians in the patient's transplant center to send all information about the donor. These physicians are then responsible for the decision whether or not to accept the organ. If the organ is accepted, the physician immediately contacts the patient.

As soon as the donor organ has been accepted, Eurotransplant, in consultation with the regional coordinator of the donor hospital, arranges for the organs to be removed. At the same time, the (international) transportation of the organs from the donor hospital to the recipients in the transplant hospitals is organized. If there are no suitable recipients within the Eurotransplant area, Eurotransplant gets in touch with one of its sister organizations, such as UK Transplant or Scandiatransplant.

The whole process as from the removal of the donor organ(s) to the implantation into the recipient must take no longer than a few hours, depending on the organ concerned. An impeccably smooth running organization is thus literally of life-saving importance. Hence the Eurotransplant central office is manned 24 hours a day, 7 days a week, by specially trained staff. In addition to the support from the physicians, assistance from the police, ambulance services and airline companies is also indispensable to Eurotransplant.

## Science

After the recipient has undergone transplantation, Eurotransplant remains in touch with the transplant center in order to be kept informed about the outcome. Analysis of these data may help indicate factors which influence the transplantation result in the longer term. Important factors are, among others, the various tissue characteristics, the techniques used to preserve the organs, the donor and recipient ages, and the medication applied to counteract the rejection of the transplanted organ.