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, Luxemburg, 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 numbers well over 124 million.

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 Eurotransplant's 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. 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).

<table>
<thead>
<tr>
<th>Organ</th>
<th>Selection criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kidney</td>
<td>Blood group, tissue characteristics, clinical urgency and waiting time</td>
</tr>
<tr>
<td>Pancreas</td>
<td>Blood group, (tissue characteristics), clinical urgency and waiting time</td>
</tr>
<tr>
<td>Heart + Lung</td>
<td>Blood group, size of the donor, clinical urgency and waiting time</td>
</tr>
<tr>
<td>Liver</td>
<td>Blood group, size of the donor, clinical urgency and waiting time</td>
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</table>

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.