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Eurotransplant mission statement

Mission

Service organization for transplant candidates through the collaborating transplant programmes within the organization

Goals

- To achieve an optimal use of available donor organs and tissues.
- To secure a transparent and objective selection system, based upon medical criteria.
- To assess the importance of factors which have the greatest influence on transplant results.
- To support donor procurement to increase the supply of donor organs and tissue.
- To further improve the results of transplantation through scientific research.
- Promotion, support and coordination of organ transplantation in the broadest sense of terms.

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as per December 31, 1998

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Prof.Dr. B. Ringe, Göttingen	on behalf of the liver section
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Prof.Dr. F. Mühlbacher, Vienna	on behalf of the Austrian Transplant Society
Prof.Dr. J. Lerut, Brussels	on behalf of the Belgian Transplant Society
Prof.Dr. G. Kirste, Freiburg	on behalf of the German Transplant Society
Dr. J.A. van der Vliet, Nijmegen	on behalf of the Dutch Transplant Society
Prof.Dr. F.H.J. Claas, Leiden	on behalf of the Eurotransplant Reference Laboratory

TRANSPLANT CENTRES IN 1998

Centre- code	Centre / City	Surgeon	Physician	Transplant coordinators
Renal Transplant Centres				
Austria				
GA	Medizinische Universitätsklinik, Graz	P. Petritsch	H. Holzer	R. Resch
IB	Chirurgische Universitätsklinik, Innsbruck	A. Königsrainer, R. Margreiter	C. Bösmüller, K. Lhotta	H. Fetz, P. Schobel
OE	Krankenhaus der Elisabethinen, Linz	H.-J. Böhmig	H.-K. Stummvoll	E. Leitner
OL	Allgemeines Krankenhaus, Linz	P. Brücke	G. Biesenbach	C. Gabriel
WD	Kinderdialyse Allgemeines Krankenhaus, Wien	F. Mühlbacher, R. Steininger	E. Balzar	F. Langer, Ch. Mittermaier
WG	Universitätsklinik für Chirurgie, Wien	F. Mühlbacher, R. Steininger	W. Hörl, J. Kovarik	F. Langer, Ch. Mittermaier
Belgium				
AN	Universitair Ziekenhuis Antwerpen, Edegem	D. Ysebaert, T. Chapelle	M. Debroe	G. Van Beeumen, W. Van Donink
BJ	Academisch Ziekenhuis der Vrije Universiteit, Brussel	J. Lamote	D. Verbeelen	B. Amerijckx
BR	ULB, Hôpital Erasme, Bruxelles	L. De Pauw	D. Abramowicz	E. Angenon, V. Duthie, B. Van Haelewijck
GE	Universitair Ziekenhuis, Gent	J. De Roose, U. Hesse, F. Vermassen	N. Lameire	L. Colenbie, M. Vandervennet
LA	Cliniques Universitaires St. Luc, Bruxelles	J. Squifflet	Y. Pirson	V. Dumont, C. Lecomte, P. Vanormelingen
LE	Kinderdialyse Universitair Ziekenhuis Gasthuisberg, Leuven	W. Coosemans, J. Pirenne	R. Lombaerts	L. Roels, F. Van Gelder
LG	Centre Hospitalier Universitaire, Liège	M. Meurtisse, O. Detry	M. Beaujean	M.-H. Delbouille, M.-F. Hans
LM	Universitair Ziekenhuis Gasthuisberg, Leuven	W. Coosemans, J. Pirenne	Y. Vanrenterghem	L. Roels, F. Van Gelder
Germany				
AK	Universitätsklinikum der Rheinisch-Westfälischen TH, Aachen	G. Jakse	H.-G. Sieberth	A. Homburg
AU	Zentralklinikum, Augsburg	H. Loepprecht	G. Schlimok	C. Schulz
BB	Ruhr Universität, Bochum	M. Büsing, J. Klemptauer	M. Büsing	A. Deiss
BE	Universitätsklinikum Benjamin Franklin, Berlin	K. Miller	G. Offermann	E. Müller
BM	Kliniken der Freien Hansestadt, Bremen	K. Dreikorn	A. Lison	C. Dobis
BO	Klinikum der Urologischen und Medizinischen Universität, Bonn	S.C. Müller	H.-U. Klehr, T. Sauerbruch	E. Backhaus
BS	Charité-Campus Mitte der Humboldt-Universität, Berlin	A. Lindecke	J. Lippert, H. Neumayer	D. Horch
BV	Charité-Campus Virchow Klinikum der Humboldt Universität, Berlin	P. Neuhaus	U. Frei	D. Horch
DR	Technischen Universität, Dresden	M. Wirth	P. Gross	N.H. Hildebrandt
DU	Med. Einrichtungen der Heinrich-Heine-Universität, Düsseldorf	W. Sandmann	B. Grabensee	A. Voiculescu, B. Schaeppers
EB	Krankenhaus im Friedrichshain, Berlin	G. May	P. Müller	C. Wesslau
ES	Universitätsklinikum, Essen	C.E. Broelsch	Th. Philipp	R. Abel
FM	Klinikum der Johann-Wolfgang-Goethe-Universität, Frankfurt	D. Jonas, P. Kramer	H. Geiger, E.-H. Scheuermann	S. Schleede, A. Schischma
FR	Klinikum der Albert-Ludwigs-Universität, Freiburg	G. Kirste	P. Schollmeyer	M. Blümke, F. Schaub
GI	Klinikum der Justus-Liebig-Universität, Gießen	W. Padberg	S. Friemann, R. Weimer	R. Weimer
GO	Klinikum der Georg-August-Universität, Göttingen	B. Hinge	G.A. Müller	
HA	Klinikum der Martin-Luther-Universität, Halle	H. Heynemann	R. Eismann	C. Wachsmuth
HB	Klinikum der Ruprecht-Karls-Universität, Heidelberg	G. Staehler	O. Mehls, E. Ritz	E. Frey
HG	Universitäts-Krankenhaus Eppendorf, Hamburg	H. Huland	R. Stahl	C. Clausen
HM	Nephrologisches Zentrum Niedersachsen, Hann. Münden	K. Rohwer, W. Schott	E. Quellhorst	K. Rohwer
HO	Klinikum der Medizinischen Hochschule, Hannover	M. Ziegler	K. Koch	H. Basse, F. Vogelsang
HS	Klinikum der Universität des Saarlandes, Homburg/Saar	J. Schubert	H. Köhler, W. Riegel	C. Friedrichssohn
JE	Klinikum der Friedrich-Schiller-Universität, Jena		H. Sperschneider	R. Börner

Centre- code	Centre / City	Surgeon	Physician	Transplant coordinators
KI	Klinikum Christian-Albrechts-Universität, Kiel	D. Henne-Bruns	H. Kraemer-Hansen	N. Robien, G. Schütt
KK	Kinderklinik der Universität, Köln	A.H. Hölscher	D. Michalk	C. Freudenhammer
KL	Klinik der Universität Köln-Lindenthal, Köln	A.H. Hölscher	C. Baldamus	C. Freudenhammer
KM	Städtische Krankenanstalten Köln-Merheim, Köln	A. Paul, H. Troidl	W. Arns, M. Weber	C. Freudenhammer
KS	III. Medizinische Klinik, Kaiserslautern	W. Seybold-Epting	F. Albert, U. Schmidt	B. Brenke
LP	Klinikum der Universität, Leipzig	J. Haus	H. Achenbach	T. Weiskirchen
LU	Klinikum der Medizinischen Universität, Lübeck	J. Hoyer	L. Fricke	L. Fricke, E. Petersen
MA	Klinikum der Stadt, Mannheim	D. Lorenz, S. Post	P. Schüttle, F.J. van der Woude	Ch. Krenzel
MH	Klinikum Rechts der Isar der Technischen Universität, München	C.D. Heidecke	F. Kopp	W. Eberhardt, C. Schulz
ML	Klinikum Großhadern der Ludwig-Maximilians-Universität, München	W. Land	B. Zanker	C. Schulz
MN	Klinikum der Westfälischen Wilhelms-Universität, Münster	K.H. Dietl	S. Heidenreich	S. Kley, M. Mauritz-Bröcker
MR	Klinikum Lahnberge der Philipps-Universität, Marburg	M. Rothmund	H. Lange	A. Brinke-Lang, U. Heck
MZ	Klinikum der Johannes-Gutenberg-Universität, Mainz	G. Otto	E. Wandel	B. Brenke
NB	Med. Einrichtungen der Universität Erlangen-Nürnberg, Nürnberg	K. Schrott	U. Kunzendorf	K. Burkhardt, L. Renders
RB	Klinikum der Universität, Regensburg	K.W. Jauch, C. Zülke	B.K. Krämer	K. Burkhardt, L. Renders
RO	Klinikum der Universität, Rostock	H. Seiter, R. Bast	R. Schmidt	F.-P. Nitschke
ST	Katharinenhospital, Stuttgart	E. Göritz, G. Jenal	C.J. Olbricht	M. Kalus
TU	Klinikum der Eberhard-Karls-Universität, Tübingen	W. Lauchart, R. Viebahn	T. Risler	C. Fischer-Fröhlich
UL	Klinikum der Universität, Ulm	D. Abendroth	C. Wanner	S. Rettenberger, S. Seegmüller
WZ	Klinikum der Julius-Maximilians-Universität, Würzburg	H. Riedmiller		F. Breunig, M. Zwirner
Luxembourg				
LX	Centre Hospitalier de Luxembourg	S. Lamy	P. Duhoux	R. Differding
The Netherlands				
AW	Academisch Medisch Centrum, Amsterdam	C. Kox	V. Surachno	P. Batavier, J. Popma
GR	Academisch Ziekenhuis, Groningen	H. Mensink, R. Ploeg	A. Tegzess	W.J.A. Brokelman, R.E. Nauta, A.L. Stel
LB	Leiden University Medical Centre, Leiden	J. Ringers	L.C. Paul	R. Dam, M. Groot, M. van Gorp, M. Kruyswijk
MS	Academisch Ziekenhuis, Maastricht	G. Kootstra	J. van Hooff	J. Kievit, A. Nederstigt
NY	Academisch Ziekenhuis St. Radboud, Nijmegen	J. van der Vliet	R. Koene	W. Hordijk, H. van Wezel
RD	Academisch Ziekenhuis Dijkzigt, Rotterdam	J. Jeekel	W. Weimar	R. Dam, M. Groot, M. van Gorp, M. Kruyswijk
RS	Sophia Kinderziekenhuis, Rotterdam	J. Bergmeijer	J. Nauta	M. Groot, M. van Gorp, M. Kruyswijk
UT	Academisch Ziekenhuis, Utrecht	R. van Reedt Dortland	R. Hené	P. Batavier, J. Popma
UW	Wilhelmina Kinderziekenhuis, Utrecht	N. Bax	J. van Gool, M. Lilien, C.H. Schröder	P. Batavier, J. Popma
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Austria				
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IB	Chirurgische Universitätsklinik, Innsbruck	H. Antretter, R. Margreiter	O. Pachinger	H. Fetz, P. Schobel
WG	Universitätsklinik für Chirurgie, Wien	M. Grimm, G. Laufer, A. Zuckermann	R. Pacher	H. Jucewicz, M. Zimmerl
Belgium				
AN	Universitair Ziekenhuis Antwerpen, Edegem	A. Mouljin, I. Rodaigus	V. Conraads, A. Vorlat	G. Van Beeumen, W. Van Donink
AS	Onze Lieve Vrouw Ziekenhuis, Aalst	F. Wellens	M. Goethals	T. Gooris, W. Tack
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Centre- code	Centre / City	Surgeon	Physician	Transplant coordinators
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LA	Cliniques Universitaires St. Luc, Bruxelles	P. Noirhomme, J. Schoevaerdts	M. Groenen	V. Dumont, C. Lecomte, P. Vanormelingen
LG	Centre Hospitalier Universitaire, Liège	R. Limet	J-C. Demoulin	M-H. Delbouille, M-F. Hans
LM	Universitair Ziekenhuis Gasthuisberg, Leuven	W. Daenen	J. Vanhaecke	L. Roels, F. Van Gelder
Germany				
AK	Universitätsklinikum der Rheinisch-Westfälischen TH, Aachen	B. Messmer, F. Schönhuber	P. Hanrath	F. Schönhuber
BA	Herz- & Diabeteszentrum Nordrhein-Westfalen, Bad Oeynhausen	R. Körfer, K. Minami	M. Körner	H. Gromzik, S. Wlost
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BH	Kerkhoff Klinik, Bad Nauheim	W. Kloevekorn	M. Schlepper	A. Friedl
DR	Universitätsklinikum 'Carl Gustav Carus', Dresden	S. Schüler	T. Petzold	N.H. Hildebrandt
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ES	Universitätsklinikum, Essen	H. Jakob	T. Bonzel	R. Abel
FD	Klinikum Fulda, Thorax-, Herz- und Gefäßchirurgie, Fulda	Th. Stegmann	T. Bonzel	R. Werner
FM	Klinikum der Johann-Wolfgang-Goethe-Universität, Frankfurt	Th. Fischlein, A. Moritz	H-G. Olbrich	S. Schleede, A. Schischma
FR	Klinikum der Albert-Ludwigs-Universität, Freiburg	F. Beyersdorf	A. van de Loo	M. Blümke, F. Schaub
GI	Klinikum der Justus-Liebig-Universität, Gießen	F.W. Herlein	J. Bauer, W. Haberbosch	J. Bauer, W. Haberbosch
GO	Klinikum der Georg-August-Universität, Göttingen	M. Baryalei	H. Figulla	C. Wachsmuth
HA	Klinikum der Martin-Luther-Universität, Halle	R.E. Silber	R. Lange	M. Heinen
HB	Klinikum der Ruprecht-Karls-Universität, Heidelberg	S. Hagl	W. Rödiger	C. Clausen
HG	Universitäts-Krankenhaus Eppendorf, Hamburg	F. Dapper	H. Drexler	H. Basse, F. Vogelsang
HO	Klinikum der Medizinischen Hochschule, Hannover	A. Haverich	H.J. Schieffer	C. Friedrichsohn
HS	Klinikum der Universität des Saarlandes, Homburg-Saar	H.J. Schäfers	W. Motz	F.-P. Nitschke
KG	Herz- und Diabeteszentrum, Karlsruhe	L. Eckel	A. Jäckle	N. Robien, G. Schütt
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KL	Klinik der Universität Köln-Lindenthal, Köln	E. de Vivie	H. Glunz	P. Stahlhut
KR	Klinik für Herzchirurgie, Karlsruhe	H. Posival	A. Rahmel	B. Brenke
KS	Klinik für Herz- und Thoraxchirurgie, Kaiserslautern	W. Seybold-Epting	B. Permannetter	T. Weiskirchen
LP	Klinikum der Universität, Leipzig	F.W. Mohr	B. Meiser	C. Schulz
MD	Deutsches Herzzentrum, München	H. Meisner, M. Overbeck	M. Weyand	S. Kley, M. Mauritz-Bröcker
ML	Klinikum Großhadern der Ludwig-Maximilians-Universität, München	B. Reichart, P. Überfuhr	J. Meyer	B. Brenke
MN	Klinikum der Westfälischen Wilhelms-Universität, Münster	H.H. Scheld	M. Kaiser	K. Burkhardt, L. Renders
MZ	Klinikum der Johannes-Gutenberg-Universität, Mainz	W. Kasper-König	V. Kühnkamp	C. Fischer-Fröhlich
RB	Klinikum der Universität, Regensburg	D. Birnbaum		F. Breunig, M. Zwirner
TU	Klinikum der Eberhard-Karls-Universität, Tübingen	J. Albes, G. Ziemer		
WZ	Klinikum der Julius-Maximilians-Universität, Würzburg	O. Eiert		
The Netherlands				
RD	Academisch Ziekenhuis Dijkzigt, Rotterdam	L. Maat	M. Simoons	R. Dam, M. Groot, M. van Gorp, M. Kruijswijk
UT	Academisch Ziekenhuis, Utrecht	J. Bredee, J. Lahpor	N. de Jonge	P. Bataviet, J. Popma

Centre- code	Centre / City	Surgeon	Physician	Transplant coordinators
Lung Transplant Centres				
Austria				
IB	Chirurgische Universitätsklinik, Innsbruck	R. Margreiter, L. Müller	Ch. Prior	H. Feitz, P. Schobel
WG	Universitätsklinik für Chirurgie, Wien	W. Klepetko, W. Wisser	W. Klepetko	T. Birsan, E. Huber
Belgium				
AN	Universitair Ziekenhuis Antwerpen, Edegem	I. Rodrigus, P. Van Schil	I. Stappaerts	G. Van Beeumen, W. Van Donink
BR	ULB, Hôpital Erasme, Bruxelles	Ph. de Franquen	M. Estenne	E. Angenon, V. Duthie, B. Van Haelewijk
LA	Cliniques Universitaires St. Luc, Bruxelles	J. Schoevaerdt	P. Evrard	V. Dumont, C. Lecomte, P. Vanormelingen
LM	Universitair Ziekenhuis Gasthuisberg, Leuven	T. Lerut	G. Verleden	L. Roels, F. Van Gelder
Germany				
BA	Herz- & Diabeteszentrum Nordrhein-Westfalen, Bad Oeynhausen	R. Körfner, K. Mimami	M. Kömer	H. Gromzik, S. Wlost
BD	Deutsches Herzzentrum, Berlin	R. Hetzer	R. Ewert, M. Hummel	N. Franz, H. Krieglner
DR	Universitätsklinikum 'Carl Gustav Carus', Dresden	S. Schüler	B. Schönfelder	N.H. Hildebrandt
ES	Universitätsklinikum, Essen	H. Jakob	Th. Wagner	R. Abel
FM	Klinikum der Johann-Wolfgang-Goethe-Universität, Frankfurt	Th. Fischlein, A. Moritz		S. Schleede, A. Schischma
HB	Klinikum der Ruprecht-Karls-Universität, Heidelberg	H. Jakob		M. Heinen
HO	Klinikum der Medizinischen Hochschule, Hannover	A. Haverich	H. Fabel	H. Basse, F. Vogelsang
HS	Klinikum Universitäts des Saarlandes, Homburg/Saar	H.J. Schäfers	G. Sybrecht	C. Friedrichsohn
KI	Klinikum der Christian-Albrechts-Universität, Kiel	D. Regensburger	A. Jäckle	N. Robien, G. Schütt
ML	Klinikum Großhadern der Ludwig-Maximilians-Universität, München	H. Fuerst, B. Reichart	F. Kur, W. Voglmeier	C. Schulz
MZ	Klinikum der Johannes-Gutenberg-Universität, Mainz	E. Mayer	J. Lill	B. Brenke
The Netherlands				
GR	Academisch Ziekenhuis, Groningen	W. de Boer, T. Ebels, J. Meuzelaar	W. van der Bij	W.J.A. Brokelman, R.E. Nauta, A.L. Stel
Liver Transplant Centres				
Austria				
GA	Chirurgische Universitätsklinik, Graz	K-H. Tscheliessnigg	J-A. Kreis	R. Resch
IB	Chirurgische Universitätsklinik, Innsbruck	A. Königsrainer, R. Margreiter	W. Vogel	H. Feitz, P. Schobel
WG	Universitätsklinik für Chirurgie, Wien	F. Mühlbacher, R. Steininger	A. Gangl	F. Langer, Ch. Mittermaier
Belgium				
BR	ULB, Hôpital Erasme, Bruxelles	M. Gelin	M. Adler	E. Angenon, V. Duthie, B. Van Haelewijk
GE	Universitair Ziekenhuis, Gent	B. De Hemptinne, U. Hesse, P. Pattyn	H. Van Vierberghe	L. Colenbie, M. Vandervennet
LA	Cliniques Universitaires St. Luc, Bruxelles	J. Otte, R. Reding, J. Lerut	A. Geubel, E. Sokal	M. Jansen, F. Roggen
LG	Centre Hospitalier Universitaire, Liège	P. Honoré, M. Meurisse, O. Detry	J. Beleiche	M-H. Delbouille, M-F. Hans
LM	Universitair Ziekenhuis Gasthuisberg, Leuven	R. Aerts, W. Coosemans, J. Pirenne	J. Fevery, F. Nevens	L. Roels, F. Van Gelder
Germany				
BO	Chirurgische Universitätsklinik, Bonn	A. Hirner, A. Müller	T. Sauerbruch, U. Spengler	E. Backhaus
BV	Charité-Campus Virchow Klinikum der Humboldt Universität, Berlin	P. Neuhaus	U. Frei	D. Horch
DU	Med. Einrichtungen der Heinrich-Heine-Universität, Düsseldorf	P. Goretzki, W. Röher		B. Schaeepers

Centre- code	Centre / City	Surgeon	Physician	Transplant coordinators
ES	Universitätsklinikum, Essen	C.E. Broelsch	M. Malago	R. Abel
FM	Klinikum der Johann-Wolfgang-Goethe-Universität, Frankfurt	A. Encke, E. Hanisch, B. Markus	C. Allers	S. Schleede, A. Schischma
FR	Klinikum der Albert-Ludwigs-Universität, Freiburg	G. Kirste	H. Blum	M. Blümke, F. Schaub
GO	Klinikum der Georg-August-Universität, Göttingen	B. Ringe	G. Ramadori	E. Frey
HB	Klinikum der Ruprecht-Karls-Universität, Heidelberg	Ch. Herfarth, E. Klar	M. Sterneck	T. Karbe, R. Kütemeier
HG	Universitäts-Krankenhaus Eppendorf, Hamburg	X. Rogiers	M. Manns	H. Basse, F. Vogelsang
HO	Klinikum der Medizinischen Hochschule, Hannover	J. Scheele		R. Börner
JE	Klinikum der Friedrich-Schiller-Universität, Jena	B. Kremer	H. Kraemer-Hansen	N. Robien, G. Schütt
KI	Klinikum der Christian-Albrechts-Universität, Kiel	T. Beckurts	T. Goesser	C. Freudenhammer
KL	Klinik der Universität Köln-Lindenthal, Köln	A. Paul	W. Ams	C. Freudenhammer
KM	Städtische Krankenanstalten Köln-Merheim, Köln	J. Haus	J. Mössner	T. Weiskirchen
LP	Klinikum der Universität, Leipzig	H. Lippert, T. Manger	J. Fahlke, M. Pross, K. Ridwelski	J. Fahlke, C. Wachsmuth
MB	Klinikum Otto-von-Guericke Universität, Magdeburg	C.D. Heidecke	V. Schusdziarra	C. Schulz
MH	Klinikum Rechts der Isar der Technischen Universität, München	H-G. Rau	A. Gerbes	C. Schulz
ML	Klinikum Großhadern der Ludwig-Maximilians-Universität, München	N. Semninger	K.H. Diel	S. Kley, M. Mauritz-Bröcker
MN	Klinikum der Westfälischen Wilhelms-Universität, Münster	G. Otto	A.W. Lohse	B. Brenke
MZ	Klinikum der Johannes-Gutenberg-Universität, Mainz	W. Hohenberger, Th. Reck		K. Burkhardt, H. Müller-Erhard
NB	Chirurgische Klinik der Universität Erlangen-Nürnberg, Erlangen	M. Anthuber, K.W. Jauch		K. Burkhardt, H. Müller-Erhard
RB	Klinikum der Universität, Regensburg	U.T. Hopt, W. Schareck	S. Liebe, M. Lohr	F-P. Nitschke
RO	Klinikum der Universität, Rostock	R. Viebahn	H.D. Becker	C. Fischer-Fröhlich
TU	Klinikum der Eberhard-Karls Universität, Tübingen	W. Timmermann		F. Breunig, M. Zwirner
WZ	Klinikum der Julius-Maximilians-Universität, Würzburg			
The Netherlands				
GR	Academisch Ziekenhuis, Groningen	K. de Jong, P. Peeters, M. Slooff	A. van den Berg, E. Haagsma, I. Klompmaker, L. Meerman	W.J.A. Brokelman, R.E. Nauta, A.L. Stel
LB	Leiden University Medical Centre, Leiden	O. Terpstra	B. van Hoek	R. Dam, M. Groot, M. van Gorp, M. Kruijswijk
RD	Academisch Ziekenhuis Dijkzigt, Rotterdam	J. IJzermans, H. Tilanus	H. Meiselaar	R. Dam, M. Groot, M. van Gorp, M. Kruijswijk
Pancreas (*Islet) Transplant Centres				
Austria				
IB	Chirurgische Universitätsklinik, Innsbruck	A. Königsrainer, R. Margreiter	M. Lechleitner, W. Steurer	H. Fetz, P. Schobel
WG	Universitätsklinik für Chirurgie, Wien	F. Mühlbacher, R. Steininger	A. Gangl	F. Langer, Ch. Mittermair
Belgium				
AN	Universitair Ziekenhuis Antwerpen, Edegem	D. Ysebaert	M. Debroe	G. Van Beeumen, W. Van Donink
BP*	Academisch Ziekenhuis der Vrije Universiteit, Brussel	G. Delvaux	D. Pipeleers	C. Hendrickx
GE	Universitair Ziekenhuis, Gent	U. Hesse	N. Lameire	L. Colenbie, M. Vandervennet
LA	Cliniques Universitaires St. Luc, Bruxelles	J. Squifflet	B. Vandeleene	V. Dumont, C. Lecomte
LG	Centre Hospitalier Universitaire, Liège	M. Meurisse, O. Detry	M. Beaujean	M.H. Delboulle, M.F. Hans
LM	Universitair Ziekenhuis Gasthuisberg, Leuven	R. Aerts, W. Coosemans, J. Pirenne	Y. Vanrenterghem	L. Roels, F. Van Gelder

Centre- code	Centre / City	Surgeon	Physician	Transplant coordinators
Germany				
BB	Knappschaftskrankenhaus, Bochum	M. Büsing	M. Nauck	A. Deiss
BO	Chirurgische Universitätsklinik, Bonn	A. Müller	T. Sauerbruch	E. Backhaus
BV	Charité-Campus Virchow Klinikum der Humboldt Universität, Berlin	P. Neuhaus	U. Frei	D. Horch
ES	Universitätsklinikum, Essen	C.E. Broelsch	W. Niebel	R. Abel
FR	Klinikum der Albert-Ludwigs-Universität, Freiburg	G. Kirste	H. Blum	M. Blümke, F. Schaub
GI*	Klinikum der Justus-Liebig-Universität, Gießen		R.G. Bretzel	M. Brendel
JE	Klinikum der Friedrich-Schiller-Universität, Jena	J. Scheele	H. Sperschneider	R. Börner
KL	Klinik der Universität Köln-Lindenthal, Köln	T. Beckurts	M. Pollok	C. Freudenhammer
KM	Städtische Krankenanstalten Köln-Merheim, Köln	A. Paul	W. Arns	C. Freudenhammer
LP	Klinikum der Universität, Leipzig	J. Hauss	H. Witzigmann	T. Weiskirchen
MH	Klinikum Rechts der Isar der Technischen Universität, München	C.D. Heidecke	F. Kopp	W. Eberhardt, C. Schulz
ML	Klinikum Großhadern der Ludwig-Maximilians-Universität, München	W. Land	R. Landgraf, B. Zanker	C. Schulz
MN	Klinikum der Westfälischen Wilhelms-Universität, Münster	K.H. Diedl	S. Heidenreich	S. Kley, M. Mauritz-Bröcker
MR	Klinikum Lahnberge der Philipps-Universität, Marburg	M. Rothmund	H. Lange	A. Brinke-Lang, U. Heck
NB	Chirurgische Klinik der Universität Erlangen-Nürnberg, Erlangen	W. Hohenberger	U. Kunzendorf	K. Burkhardt, H. Müller-Erhard
RB	Klinikum der Universität, Regensburg	M. Anthuber, K. W. Jauch		K. Burkhardt, H. Müller-Erhard
RO	Klinikum der Universität, Rostock	U.T. Hopt, W. Schareck	R. Hampel	F.-P. Nitschke
TU	Klinikum der Eberhard-Karls-Universität, Tübingen	R. Viebahn	T. Risler	C. Fischer-Fröhlich
UL	Klinikum der Universität, Ulm	D. Abendroth		S. Rettenberger, S. Seegmüller
The Netherlands				
GR	Academisch Ziekenhuis, Groningen	R. Ploeg, R. van Schilfgarde	A. Tegzess	W.J.A. Brokelman, R.E. Nauta, A.L. Stel
LB	Leiden University Medical Center, Leiden	J. Ringers	J.W. de Fijter	R. Dam, M. Groot, M. van Gorp, M. Kruyswijk
MS	Academisch Ziekenhuis, Maastricht	G. Kootstra	J. van Hooff	A. Nederstigt

Head

Tissue Typing Laboratories

ETRL Eurotransplant Reference Laboratory, Leiden University Medical Center, Leiden, The Netherlands

Austria

GA Universitätsklinik, Abteilung für Transfusionsmedizin und Immunohämatologie, Graz
 IB Universitätsklinik, HLA Labor, Innsbruck
 OL Allgemeines Krankenhaus, Blutzentrale, Linz
 OW Allgemeines Krankenhaus, HLA Labor, Wels
 WG Institut für Blutgruppenserologie, Wien

Belgium

AN Bloedtransfusiecentrum Antwerpen, Belgische Rode Kruis, Edegem
 BJ Academisch Ziekenhuis der Vrije Universiteit, Bloedtransfusiecentrum Jette, Brussel
 BR Hôpital Erasme, Tissue typing laboratory, Bruxelles
 GE Universitair Ziekenhuis, Tissue typing laboratory, Gent
 LA Université de Louvain, Tissue typing laboratory, Bruxelles

F. Claas, I. Doxiadis, G. Schreuder

G. Lanzer
 D. Schönitzer
 B. Blauth
 C. Artman
 W. Mayr

L. Muylle
 C. Demanet
 E. Dupont
 B. Vandekerckhove
 M. de Bruyère

Centre-
code / City

LG	Laboratoire des Groupes Sanguins, Liège		
LM	Bloedtransfusiecentrum, Belgische Rode Kruis, Leuven		
Germany			
AK	Mikrobiologie am Universitätsklinikum der Rheinisch-Westfälischen TH, Aachen		
BA	Hertz- & Diabeteszentrum Nordrhein Westfalen, Bad Oeynhausen		
BE	Universitätsklinikum Benjamin Franklin, Labor für Gewebetypisierung, Berlin		
BV	Charité-Campus Virchow Klinikum der Humboldt Universität, Berlin		
EB	Krankenhaus im Friedrichshain, HLA Labor, Berlin		
DU	Institut für Blutgerinnung und Transfusionsmedizin, Düsseldorf		
ER	Institut für Klinische Immunologie, Erlangen		
ES	Universitätsklinikum, Institut für Immunologie, Essen		
FM	Immunohaematologie, Blutspendedienst Hessen, Frankfurt		
FR	Blutspendedienst, Labor für Gewebetypisierung, Freiburg		
GI	Institut für Klinische Immunologie und Transfusionsmedizin, Gießen		
GO	Klinikum der Universität, HLA Labor, Göttingen		
HA	Institut für Pathologische Biochemie, Interdisziplinäres Typisierungslabor, Halle		
HB	Institut für Immunologie und Serologie, Heidelberg		
HG	Universitäts-Krankenhaus Eppendorf, HLA Labor, Hamburg		
HM	Gemeinschaftspraxis, Kassel		
HO	Klinikum der Medizinischen Hochschule, Immunohaematologie/Blutbank, Hannover		
JE	Institut für Transfusionsmedizin, HLA-Labor, Jena		
KI	Klinikum der Christian-Albrechts-Universität, HLA Labor, Kiel		
KM	Institut für Transfusionsmedizin, Köln-Merheim		
KS	Institut für Rechtsmedizin, Transplantationsimmunologie, Kaiserslautern		
LP	Institut für Transfusionsmedizin, Leipzig		
LU	Institut für Immunologie und Transfusionsmedizin, Lübeck		
ML	Kinderklinik der Ludwig-Maximilians-Universität, HLA Labor, München		
MR	Klinikum Lahnberge der Philipps-Universität, HLA Labor, Marburg		
MZ	Klinikum der Johannes-Gutenberg Universität, HLA Labor, Mainz		
RO	Klinikum der Universität, Abteilung für Transfusionsmedizin, HLA Labor, Rostock		
TU	Klinikum der Eberhard-Karls-Universität, Abteilung für Transfusionswesen und Blutbank, Tübingen		
UL	DRK Blutspendezentrale, Transplantationsimmunologie, Ulm		
Luxembourg			
LX	Centre Hospitalier, HLA Labor, Luxembourg		
The Netherlands			
AW	Centraal Laboratorium Bloedtransfusiedienst, Nederlandse Rode Kruis, Amsterdam		
GR	Laboratorium voor transplantatie-immunologie, Groningen		
LB	Leiden University Medical Center, Immunohaematologie, Leiden		
MS	Academisch Ziekenhuis, Laboratorium voor weefseltypering, Maastricht		
NY	Academisch Ziekenhuis St. Radboud, Bloedtransfusiedienst, Nijmegen		
UT	Academisch Ziekenhuis, Bloedbank, Utrecht		
		C. Bouillemne	
		M.P. Emonds	
		K. Schweitzer	
		K. Kleesiek	
		S. Bünte	
		R. Blasczyk	
		C. Schönemann	
		B. Kuntz	
		R. Waßmuth	
		H. Grosse-Wilde	
		C. Seidl	
		H. Lang	
		G. Bein	
		H. Neumeyer	
		H. Machulla	
		G. Opelz	
		P. Kühnl	
		B. Kreuzig, H.D. Weißhaar	
		H. Robin-Winn	
		Th. Binder	
		E. Westphal	
		M. Dörner	
		B. Thiele	
		S. Schröder	
		H. Klüter	
		E. Albert	
		M. Wolf	
		W. Hitzler	
		D. Barz	
		D. Wernet	
		S. Goldmann	
		F. Hentges	
		N.M. Lardy	
		S. Lens	
		F. Claas, G. Schreuder	
		E. van den Berg-Loonen	
		W. Allebes, I. Joosten	
		H. Otten	



Foreword

With great pleasure we present this Annual Report 1998 to all our colleagues involved in organ donation and transplantation within the five member countries of Eurotransplant. As in previous years, this Annual Report again provides a large amount of data on donor and transplant activities during the past year.

The year 1998 was disappointing in terms of numbers of donors procured and transplants performed. Kidney transplants decreased with more than 1%, liver transplants with more than 2.5% and heart transplants with even 3%. In contrast, the number of pancreas and lung transplants increased. The drop in the number of donors was especially marked in Belgium and the Netherlands. It remains difficult to find a good explanation for these very fluctuating figures. Fortunately, the figures for the first part of 1999 look at least for Belgium much more optimistic. The same trend is seen in Austria. These diverging trends in organ donation rates within the Eurotransplant member countries remain a major challenge for the future of Eurotransplant and underline the need for a better harmonization of legislation within Europe.

In Belgium, Germany and the Netherlands new legislation concerning organ donation and allocation has been accepted and already partially implemented. The central office in Leiden has put a considerable effort in negotiating with the health authorities as well as health insurance organizations on the conditions of becoming the national organ allocation organization in these countries. In this respect, it is of major importance that the present allocation schemes are in agreement with the different national regulations and if needed necessary adaptations will be discussed. The Board of Eurotransplant has tried and will further try to maintain the greatest uniformity in the allocation rules within the different countries. In the past, the health authorities in the different countries have not paid much attention to this aspect of harmonization. Fortunately, more recently there have been different contacts between representatives of the health authorities in an attempt to strengthen the international position of Eurotransplant as the organ allocation center. We can only hope that further initiatives will result in an overall increase of the donation rates in all participating countries.

Finally, we would like to take this opportunity to thank all the colleagues in Eurotransplant for their continuous support of the organization. During the past years we have tried to further improve the updating of the follow-up registry after transplantation. Most of the transplant centers have put a lot of work in making their follow-up reports up to date.

Prof. Dr. Yves Vanrenterghem
President

Drs. Bernard Cohen
Director

Dr. Guido G. Persijn
Medical Director

Leiden, August 1999

1. Report of the Board of Stichting Eurotransplant International Foundation

Drs. B. Haase-Kromwijk, Eurotransplant International Foundation, Leiden, the Netherlands

The Board of Stichting Eurotransplant International Foundation met on January 21, June 22, and October 7 and 9, 1998. Prof.Dr. W. Mayr became the new representative of the TissueTyping Section and new representatives of the German and Dutch Transplantation Societies – Prof.Dr. G. Kirste and Dr. J. A. van der Vliet – were also welcomed. Three members of the Board, Prof.Dr. U. Frei, Prof.Dr. M. J. H. Slooff, and Prof.Dr. J. Vanhaecke were re-elected during the year to the positions of Board Member A.

1.1 Policy

In 1998, the Board closely followed the implementation of new legislation in organ donation and transplantation in the Eurotransplant (ET) countries. In Germany, the organization of donation, allocation, and transplantation will be divided into three independent activities and organ allocation will become the responsibility of ET. Therefore, intensive meetings were held with the German Government during the year to prepare this task.

In The Netherlands, the responsibility for organ allocation became the task of the Dutch Transplant Foundation, which was delegated to Eurotransplant.

In Belgium, no further changes have occurred since the publication of a new Royal Decree.

The Board stated that agreements between ET and national organizations should be limited to the basic principles of organ allocation as set out in each country's legislation. Rules and practical guidelines will remain the responsibility of ET.

In view of the above developments, compliance with allocation and submission of postoperative data on transplanted patients is vital. Therefore, the Board stated that submission of follow-up data to the ET database is a precondition for membership of ET and measures have been taken against centres that have seriously violated the allocation rules.

Work continued on the collaboration with international transplant registries. Data requested by the International Heart and Lung Transplant Registry was downloaded from the thoracic database and a link was also formed with the International Pancreas Transplant Registry. An agreement was reached to download data on liver transplants from the European Liver Transplant Registry in the ET database, and, for kidney transplants, data definitions were almost completed. In addition, data exchange with the CTS database was initiated.

The conditions of the so-called twinning arrangements between ET centres and centres outside the region were also discussed. The Board emphasized that the only aim of twinning should be training and that there should be no twinning arrangements without the approval of ET.

The Board is concerned about decreasing donor rates in 1998. Since this is one of the most important threats to the future of organ transplantation, the Board will consider new initiatives for promoting organ donation.

1.2 Central office

The allocation office was redesigned to improve the duty officers' working environment and output.

A new information manager was appointed to continue the development of the Information Technology Department, which was also expanded to clear the backlog of outstanding work. The three priority develop-

ment areas for the department continued to be allocation, improvement of the functionality of the database for remote users, and restructuring of the transplant database including collaboration with the international registries.

1.3 Advisory Committees

In 1998 the Advisory Committees met 19 times in all and submitted 28 recommendations to the Board. Of these recommendations, 21 were accepted, two were accepted with adaptations, three were postponed, and two were rejected. In 1998, the composition of the Advisory Committees was as follows:

KIDNEY ADVISORY COMMITTEE (ETKAC)

Name	As of	Remarks
Prof.Dr. U. Frei (BV)	01.1997	chairman, representative Board
Dr. R. Kramar (OW)	09.1994	representative Austria
Prof.Dr. F. Mühlbacher (WG)	09.1994	representative Austria
Prof.Dr. N. Lameire (GE)	09.1994	representative Belgium
Dr. Y. Pirson (LA)	09.1994	representative Belgium
Dr. U. Albert (KS)	12.1996	representative Germany
Prof.Dr. K. Dreikorn (BM)	12.1996	representative Germany
Prof.Dr. G. Kirste (FR)	07.1996	representative Germany
Prof.Dr. G. Offermann (BE)	09.1994	representative Germany
Dr. P. Duhoux (LX)	09.1994	representative Luxemburg
Dr. R. Hené (UT)	03.1998	representative the Netherlands
Dr. A. Hoitsma (NY)	09.1994	representative the Netherlands
Prof.Dr. F.H.J. Claas (LB)	09.1994	representative TTAC
Prof.Dr. G. Offner (HO)	09.1994	external advisor (pediatric)
Dr. Th. Wujciak (HB)	09.1994	external advisor (allocation)
Dr. G.G. Persijn (ET)	09.1994	secretary

LIVER ADVISORY COMMITTEE (ELAC)

Name	As of	Remarks
Prof.Dr. M.J.H. Slooff (GR)	09.1994	chairman, representative Board
Prof.Dr. R. Margreiter (IB)	09.1994	representative Austria
Prof.Dr. B. de Hemptinne (GE)	09.1994	representative Belgium
Prof.Dr. J.B. Otte (LA)	09.1994	representative Belgium
Prof.Dr. W. Lauchart (TU)	12.1997	representative Germany
Prof.Dr. P. Neuhaus (BV)	09.1994	representative Germany
Prof.Dr. B. Ringe (GO)	09.1994	representative Germany
Dr. H.J. Metselaar (RD)	04.1995	representative the Netherlands
Dr. Th. Wujciak (HB)	05.1998	external advisor (allocation)
Dr. G.C. Wiesenhaan-Stellingwerff (ET)	04.1998	secretary

PANCREAS ADVISORY COMMITTEE (PAC)

Name	As of	Remarks
Prof.Dr. J.P. van Hooff (MS)	06.1998	chairman, representative Board
Dr. A. Königsrainer (IB)	08.1994	representative Austria
Prof.Dr. J-P. Squifflet (LA)	08.1994	representative Belgium
Prof.Dr. D. Abendroth (UL)	08.1994	representative Germany
Prof.Dr. R.G. Bretzel (GI)	09.1996	representative Germany
Dr. M. Büsing (BB)	12.1997	representative Germany
Dr. J. Ringers (LB)	04.1998	representative the Netherlands
Prof.Dr. F.H.J. Claas (LB)	08.1994	representative TTAC
Dr. J. De Meester (ET)	08.1994	secretary

THORACIC ADVISORY COMMITTEE (ThAC)

Name	As of	Remarks
Prof.Dr. A. Haverich (HO)	09.1994	chairman, representative Board
Dr. G. Laufer (WG)	09.1994	representative Austria
Prof.Dr. K. Tscheliessnigg (GA)	09.1994	representative Austria
Prof.Dr. J. Schoevaerdt (LA)	09.1994	representative Belgium
Prof.Dr. J. Vanhaecke (LM)	09.1994	representative Belgium
Prof.Dr. S. Hagl (HB)	09.1994	representative Germany
Prof.Dr. B. Reichart (ML)	09.1994	representative Germany
Prof.Dr. H. Scheld (MN)	12.1996	representative Germany
Prof.Dr. Th. Wahlers (HO)	09.1995	representative Germany
Dr. A. Balk (RD)	03.1998	representative the Netherlands
Dr. W.J. de Boer (GR)	09.1994	representative the Netherlands
Dr. M. Loebe (BD)	12.1995	external advisor (donor)
Dr. M. Antoine (BR)	06.1995	external advisor (database)
Dr. J. De Meester (ET)	09.1994	secretary

ORGAN PROCUREMENT COMMITTEE (OPC)

Name	As of	Remarks
Prof.Dr. J. Lerut (LA)	10.1997	chairman, representative Board
Dr. P. Wamser (WG)	03.1995	representative TC's Austria
Mr. L. Roels (LM)	03.1998	representative TC's Belgium
Ms. H. Basse (HO)	11.1998	representative TC's Germany
Dr. F-P. Nitschke (RO)	09.1995	representative TC's Germany
Mr. W. Hordijk (NY)	11.1998	representative TC's The Netherlands
Prof.Dr. G. Kirste (FR)	09.1996	representative ETKAC
Prof.Dr. W. Lauchart (TU)	05.1998	representative ELAC
Prof.Dr. J-P. Squifflet (LA)	09.1995	representative PAC
Dr. M. Antoine (BR)	06.1998	representative ThAC
Dr. I. Doxiadis (LB)	02.1998	representative TTAC
Dr. J. de Boer (ET)	09.1995	secretary

COMPUTER SERVICES WORKING GROUP (CSWG)

Name	As of	Remarks
Prof.Dr. F. Mühlbacher (WG)	09.1995	chairman, representative Board
Dr. R. Kramar (OW)	09.1995	representative Austria
Prof.Dr. G.A. Verpooten (AN)	09.1995	representative Belgium
Dr. F.A. Zantvoort (BM)	09.1995	representative Germany
Dr. A. Hoitsma (NY)	09.1995	representative the Netherlands + ETKAC
Dr. H.J. Metselaar (RD)	06.1996	representative ELAC
Dr. S. Lems (GR)	06.1996	representative TTAC
Mr. H. Riedl (DSO)	09.1995	external advisor
Drs. W. de Buck (ET)	11.1998	secretary

TISSUE TYPING ADVISORY COMMITTEE (TTAC)

Name	As of	Remarks
Prof.Dr. F.H.J. Claas (LB)	09.1995	chairman, representative Board
Prof.Dr. W. Mayr (WG)	09.1995	representative Austria
Dr. M.P. Emonds (LM)	09.1995	representative Belgium
Dr. G. Bein (LU)	09.1995	representative Germany
Dr. J. Mytilineos (HB)	01.1997	representative Germany
Dr. F. Hentges (LX)	09.1995	representative Luxembourg
Dr. S. Lems (GR)	09.1995	representative the Netherlands
Dr. I.I.N. Doxiadis (ETRL)	09.1995	secretary

ETHICS COMMITTEE (EC)

Name	As of	Remarks
Prof.Dr. F. Lackner (WG)	05.1995	chairman, representative Board
Drs. M. Bos, The Hague	05.1995	representative the Netherlands
Prof.Dr. P. Kinnaert (BR)	05.1995	representative Belgium
Prof.Dr. F. Eigler (ES)	12.1996	representative Germany
Dr. W. Schaupp (WG)	04.1998	representative Austria
Drs. B. Haase-Kromwijk (ET)	05.1995	secretary

FINANCIAL COMMITTEE (FC)

Name	As of	Remarks
Drs. H.M.A. Schippers, The Hague	05.1995	chairman, representative Board
Mag. O. Postl (WG)	05.1995	representative Austria
Dr. D. Ysebaert (AN)	05.1995	representative Belgium
Dr. E. Nagel (HO)	09.1997	representative Germany
Drs. B. Cohen (ET)	05.1995	secretary

2. Eurotransplant: donation, waiting lists, and transplants in 1998

J. De Meester, MD, Eurotransplant International Foundation, Leiden, The Netherlands

2.1 Donation and donor organ availability in 1998

2.2.1 Cadaveric organ donors from the Eurotransplant region

The donation statistics only deal with cadaveric donors, of whom at least one organ has been used in a transplant. Excluded are donors, reported to and/or offered by Eurotransplant, but from whom no organ transplant was realized (1998: N=111).

The total number of cadaveric donors, used in 1998 (N=1636), was about 1% lower than the 1997 number (N=1647) [Table 2.1]. A sharp drop was noted for Belgium (-13.8%) and The Netherlands (-9.3%). During the last 4 years, the annual donation figures of Germany have increased, while a decrease is present in The Netherlands; Austria and Belgium show strongly fluctuating figures.

In 1998, lungs and pancreases, from a higher number of donors than before, were actually used in a clinical transplantation, N=+56 (+32%) and N=+33 (+15%) respectively [Table 2.2]. Donor heart availability decreased by 7.1% (N= -57).

Table 2.1 Number of cadaveric donors, from the Eurotransplant region and used for a transplant, from 1995 to 1998

Country	population (million)	1995	1996	1997	1998	1997/1998 pmp	
Austria	8	172	184	156	166	20.8	+ 6.4%
Belgium	10	196	212	225	194	19.4	- 13.8%
Germany	80	1022	1012	1045	1073	13.4	+ 2.7%
Luxemburg	0.4	2	13	5	7	17.5	-
Netherlands	15	228	226	216	196	13.1	- 9.3%
Total	113.4	1620	1647	1647	1636	14.4	- 0.7%

Table 2.2 Number of organ donors, from the Eurotransplant area and used for a transplant, by organ, from 1995 to 1998

Year	1995	1996	1996	1998
Organ donors, total	1620	1647	1647	1636
Organ donors				
Kidney	1585	1607	1607	1595
Heart	746	773	803	746
Lung	144	168	169	225
Liver	825	934	979	962
Pancreas	119	154	220	253

Table 2.3 Demographic data on cadaveric donors, from the Eurotransplant region and used for a transplant, in 1998

Country	Total	Age (years)			Sex		AB0 Blood group				Cause of death		
		0-15	16-55	≥56	Male	Female	A	AB	B	0	Accident	Natural	Suicide
Austria	166	6	126	34	110	56	75	7	19	65	65	93	8
Belgium	194	14	149	31	116	78	79	6	16	93	76	102	16
Germany	1073	54	687	332	636	437	459	47	133	434	321	713	39
Luxemburg	7	0	6	1	3	4	5	0	1	1	1	6	0
Netherlands	196	16	141	39	110	86	81	8	12	95	57	132	7
Total	1636	90	1109	437	975	661	699	68	181	688	520	1046	70
	100%	5%	68%	27%	60%	40%	43%	4%	11%	42%	32%	64%	4%

Comparing 1997 and 1998, there was 20% increase of the usage of elderly donors (aged 56 years or more): 365 in 1997 versus 437 in 1998 [table 2.3]. The number of donors suffering from accidental injuries decreased from 616 in 1997 to 519 in 1998: – 16%.

As shown in Table 2.4, the percentage of multi-organ donation amounted to 69%. Differences between the Eurotransplant countries remained: Austria and Belgium are ahead of Germany and The Netherlands. However, these differences are less pronounced when the denominator ‘donor population’ is limited to the heart-beating cadaveric kidney donors aged from 16 to 55 years (N=1056/1595): Eurotransplant, 82%; Austria, 91%; Belgium, 87%; Germany, 78%; The Netherlands, 84%.

The multi-organ donation rate from kidney donors aged 56 years or more was 39% (N=168/430).

2.1.2 Cadaveric organ donors from outside the Eurotransplant region

From outside the Eurotransplant region, organs from 336 donors were offered to the duty office of Eurotransplant. Organs from 130 donors were actually accepted and transplanted within the Eurotransplant region [Addenda: Tables 2a and 2b].

These organ offers from outside the Eurotransplant region can be divided into 2 categories:

- a. The first category consists of donor organs, offered by another European organ exchange organization, in case these organs could not be used within the local organization. Through this international collaboration, 29 donor hearts, 18 donor livers, 24 donor kidneys and 10 donor lungs were transplanted in the Eurotransplant region.
- b. To the second category belong the non-renal donor organs, which are made available to a Eurotransplant transplant program by an individual center from outside the Eurotransplant region, in the frame work of their educational collaboration. Organs from a cadaveric donor which cannot be used at the foreign center are considered as a local donor on the account of the fellow Eurotransplant transplant program. For these ‘local donor’ organs, the usual organ allocation procedures of Eurotransplant are applicable. In total, 54 donor livers, 11 donor hearts and 5 donor lungs were used in a transplant in the Eurotransplant region.

2.1.3 Living donor transplants

In 1998, 526 living donors gave their next-of-kin a kidney: +115 (+28%) [Table 2.7].

Thirty-eight times, a liver transplant was performed using a liver segment from a living donor (N=34) or using the explanted native liver of a patient who got a liver transplant [‘domino’] (N=4).

Table 2.4 Type of organ donation in 1998

Country	Kidney donor				No-kidney donor		Cadaveric donor	
	Total	Kidney-only	Multi-organ	%MOD	Total	Total	%	
Austria	161	28	133	83%	5	166	10%	
Belgium	187	32	155	83%	7	194	12%	
Germany	1045	353	692	66%	28	1073	66%	
Luxemburg	7	2	5	71%	0	7	<1%	
Netherlands	195	74	121	62%	1	196	12%	
Total 1998	1595	489	1106	69%	41	1636	100%	
Total 1997	1607	471	1136	71%	40	1647		
Total 1996	1607	535	1072	67%	40	1647		
Total 1995	1585	585	1000	63%	35	1620		

In the Eurotransplant organization, a *kidney donor* is defined as a donor from whom at least one kidney is transplanted (not just procured). A kidney donor from whom at least one non-renal organ is also used in a transplant, is called a *multi-organ donor* (MOD). When only one or more non-renal organs are used, the donor is classified as a *no-kidney donor*.

2.2 Active cadaveric transplant waiting list at the end of 1998

Compared with the waiting list at the end of 1997, the active liver waiting list at the end of 1998 increased significantly: + 118 (+32%) [Table 2.5]. Smaller increases were present on the pancreas waiting list (+11%), the kidney waiting list (+6%) and the lung waiting list (+4%). The heart and the heart+lung waiting lists decreased slightly.

2.3 Inflow on the waiting list during 1998

Registrations concern listing for a first transplant as well as for repeat transplants [Table 2.6].

Compared with 1997, there was a significant increase of the number of registrations for a lung transplant in 1998 (N= +49; 17%); in contrast, the number for heart and heart+lung transplantation declined again slightly. Listing for kidney and liver transplantation in 1998 was comparable with the 1997 number; registration for pancreas transplantation was leveling off, but there was still a +19% rise (N= +56).

Table 2.5 Size of the active Eurotransplant waiting list, by organ, on December 31, 1994 to 1998

December 31, Organ	1994	1995	1996	1997	1998
Kidney	10050	10510	10988	11324	11976
Heart	723	709	744	744	721
Heart+Lung	71	79	71	66	60
Lung	227	224	204	216	224
Liver	212	263	327	374	492
Pancreas	147	138	182	194	217

The data included in this table provide a snapshot of the waiting lists on the last day of each calendar year. Only the patients who are actively awaiting an organ transplant have been counted. Patients with the urgency code 'Not Transplantable' have been excluded. Patients waiting for a simultaneous multiple-organ transplant are registered on the waiting list of each organ awaited.

Table 2.6 Registrations on the Eurotransplant waiting list, by organ, from 1993 to 1998

Year Organ	1995	1996	1997	1998
Kidney	4886	4826	5045	5048
Heart	1208	1319	1310	1250
Heart+Lung	81	71	76	61
Lung	226	219	292	341
Liver	1240	1393	1468	1500
Pancreas	157	219	300	356

2.4 Outflow from the waiting list in 1998

2.4.1 Organ transplants from non-living donors

In 1998, 5404 cadaveric donor organs were used in 5128 transplant operations [Table 2.7]; the lower number of transplant operations is due to multiple-organ transplants, e.g. pancreas+kidney, liver+kidney, etc. Lung transplantation showed a remarkable increase: +73 (+47%), while pancreas (+kidney) transplantation continued its upward movement (N=+32; +14%). The number of heart+lung transplants dropped by half. In addition, 3 intestine transplants were carried out: once an intestine-only and twice a liver+pancreas+intestine transplantation.

2.4.2 Mortality on the waiting list and de-listing

As in 1997, nearly 1200 patients died whilst awaiting a first or repeat organ transplant, irrespective of their urgency code when dying on the waiting list [Table 2.8].

Looking at the kidney and heart transplant waiting list dynamic, de-listing for other reasons than transplantation or death was as important as death on the waiting list. The kidney transplant candidates were most often removed because they were no longer able to undergo a transplantation, while the heart transplant candidates were taken from the list, because of an improved cardiac situation, no longer demanding a heart transplantation.

De-listing is low on the liver and lung transplant waiting list.

Table 2.7 Number of transplants within the Eurotransplant area, by organ, from 1995 to 1998

Year	1995	1996	1997	1998
Cadaveric donors				
Transplanted organs,				
Kidney	3064	3083	3110	3068
Heart	732	759	782	759
Heart+Lung	42	34	43	20
Lung	125	154	155	228
Liver	944	1032	1097	1071
Pancreas	119	154	226	258
Transplant operations,				
Total	4899	5053	5177	5128
Living donors				
Kidney	211	246	411	526
Heart ('domino')	0	1	0	0
Lung (lung lobe)	1	0	0	0
Liver (segment or 'domino')	25	22	43	38

Table 2.8 Mortality on the Eurotransplant waiting list, by organ, from 1995 to 1998

Year	1995	1996	1997	1998
Organ				
Kidney	522	545	570	550
Heart	303	293	294	273
Heart+Lung	28	28	22	27
Lung	70	71	89	81
Liver	167	200	221	212
Pancreas	4	9	5	19

3. Kidney: donation, waiting lists, and transplants

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3.1 Kidney donors

A total of 1722 potential kidney donors were reported to the central office of Eurotransplant in 1998 (Table 3.1). No kidneys were procured from 49 of the donors and, 233 kidneys were judged to be unfit for transplantation, at the time of procurement (N=190) or transplantation (N=43). Kidneys were transplanted from a 1595 donors, which is slightly below the 1607 level of the past 2 years. Single kidneys were used from 95 donors (6%) and two kidneys were transplanted from 1500 donors (94%). In the latter group, the kidneys from 33 donors were transplanted into one recipient.

The number of (used) kidneys per million inhabitants [kpmi] amounted to 27.0, being the usual annual average for the Eurotransplant area. Austria (39.7 kpmi) and Belgium (36.0 kpmi) exceeded Germany (25.6 kpmi) or The Netherlands (25.1 kpmi). Belgium and The Netherlands, however, did not achieve the expected annual level, but there was not an apparent reason for the -12.6% and -8.4% decrease respectively.

Characteristics of the 1998 kidney donor pool include (Table 3.2):

- The number of donors aged over 55 years – 405 (25%) – rose about 50 donors on 1997 (N=358).
- Donor ABO blood group distribution was similar to the average distribution of the last decade, ABO type A having the highest frequency.
- A total of 71 kidneys was transplanted from 37 non-heart-beating kidney donors, doubling the 1997 number: 36 kidneys from 19 such donors. A leading role is played by The Netherlands (33 donors), while the report and the use of such donors are currently not allowed in Germany.
- Kidneys were transplanted from 23 donors who were hepatitis C antibody-positive and from 10 hepatitis B surface antigen-positive donors.

Table 3.1 Use of cadaveric donor kidneys in the Eurotransplant region in 1998

Donor Eurotransplant country	Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	1997 Total
Total no. of kidney donors reported	173	209	1123	7	210	1722	1719
Kidney donors from whom no kidneys were procured	7	14	23	0	6	50	32
Total no. of potentially available kidney donors	166	195	1100	7	204	1672	1687
Total no. of potentially available donor kidneys*	332	390	2200	14	408	3344	3374
No kidney available for transplant	1	8	31	0	2	42	42
– Donor with a single kidney	0	0	3	0	0	3	5
– Permission for only one kidney	0	0	6	0	0	6	1
– Kidneys en-bloc*, paediatric as well as adult donor	1	8	22	0	2	33	36
Total no. of inspected and/or procured donor kidneys	331	382	2169	14	406	3302	3332
No transplantation	13	22	177	1	27	240	240
– Medical reasons	13	22	170	1	27	233	234
– Organizational reasons	0	0	2	0	0	2	3
– No suitable recipients	0	0	5	0	0	5	3
Transplantation	318	360	1992	13	379	3062 ⁺⁺	3092 ⁺
Kidney donors used in 1998	161	187	1045	7	195	1595	
Kidney donors used in 1997	154	214	1021	5	213		1607

* Conversion: one donor = two kidneys

• Kidneys en-bloc, used in a transplant, are counted as one kidney used and one kidney not available; the transplantation of two adult donor kidneys in the same transplant procedure is also considered one transplant.

+ Two donor kidneys transplanted in 1998

++ Four donor kidneys transplanted in 1999

Table 3.2 Demographics of cadaveric donors whose kidneys were transplanted in the Eurotransplant region in 1998

Country	Total	Age (years)			Sex		ABO Blood group				Cause of death		
		0-15	16-55	≥56	Male	Female	A	AB	B	O	Accident	Natural	Suicide
Austria	161	7	121	33	107	54	73	7	18	63	63	90	8
Belgium	187	19	142	26	110	77	77	6	16	88	75	96	16
Germany	1045	59	679	307	616	429	450	46	130	419	318	689	38
Luxemburg	7	0	6	1	3	4	5	0	1	1	1	6	0
Netherlands	195	22	145	38	110	85	80	8	12	95	57	131	7
Total	1595	107	1093	405	946	649	685	67	177	666	514	1012	69
	100%	7%	68%	25%	59%	41%	43%	4%	11%	42%	32%	64%	4%

3.2 Waiting list

The total active kidney waiting list rose by 5.7% from 11 324 in 1997 to 11 976 in 1998, compared with average annual increases of 4% in previous years (Addenda: Table 6a; Figure 3.1). A similar increase was seen for the active kidney-only waiting list, albeit with major national differences: no change for Austria, slight decrease for Belgium, a 5.7% increase for Germany and a surprisingly high increase of 17.1% for The Netherlands.

Characteristics of the 1998 years' end kidney-only waiting list include (Table 3.3):

- The number of the elderly recipients (aged 56 years or more) rose 23%, and this rise is the key responsible factor for the overall increase. Renal transplant candidates aged 65 years or more represented almost 7% (N=807).
- Kidney-only transplant candidates with ABO type O represented 50% or more of the waiting list in Austria (50%), Belgium (60%) and The Netherlands (52%).
- The Netherlands had the highest percentage of patients sensitized against HLA antigens (6% or more panel reactive antibodies (PRA)) and of patients awaiting a repeat transplant.
- Non-resident transplant candidates – patients who were neither living nor being treated in one of the five Eurotransplant countries – might be considered as resident for the allocation program (i.e. match-resident) when they are awaiting a kidney re-transplant at the same Eurotransplant transplant program where they got their immediate previous kidney transplant. The number of patients considered non-residents for a match is decreasing, even in Belgium.
- The number of patients waiting five years or more for a kidney transplant remained below 10% of the waiting list, except for Belgium (15%); however, 87% of these long-waiting patients are non-residents (N=116).

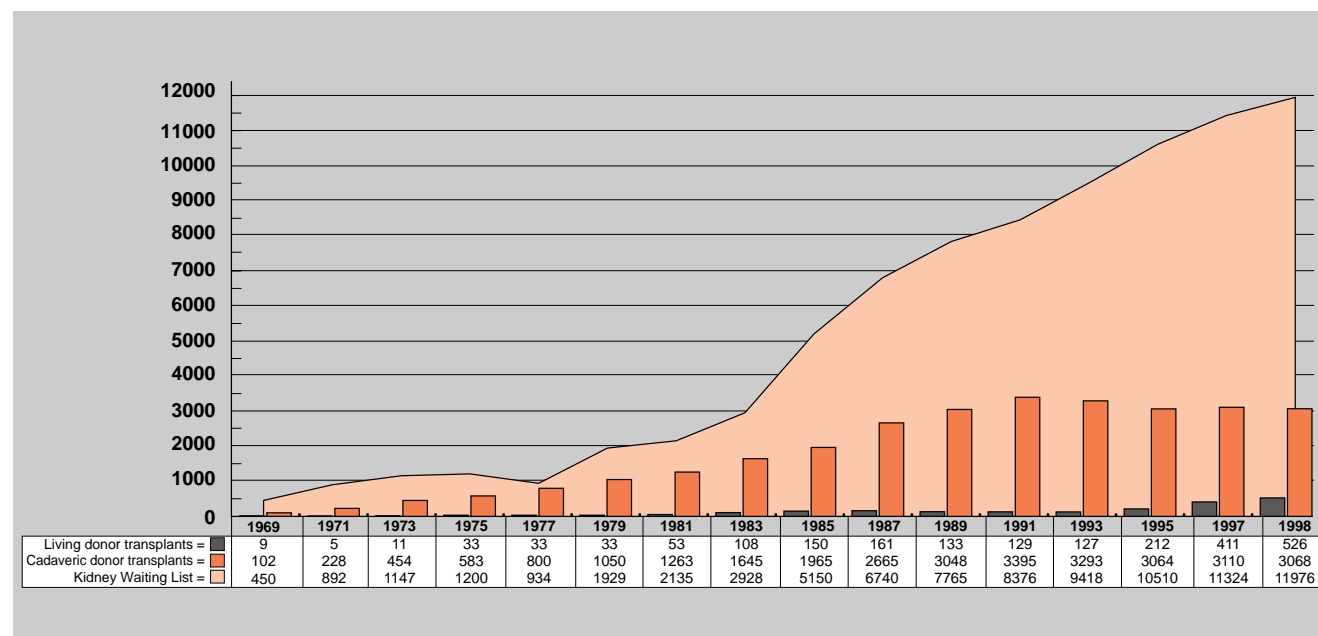


Figure 3.1 Dynamics of the Eurotransplant kidney waiting list and transplants between 1969 and 1998

Table 3.3 Active cadaveric kidney transplant waiting list on December 31, 1998: characteristics

		Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	%	1997 Total
Total		826	890	9067	16	1177	11976		11324
Type of transplant	Kidney-only	807	864	8933	16	1168	11788		11165
	Kidney+heart	1	1	4	0	0	6		10
	Kidney+liver	0	0	0	0	0	0		1
	Kidney+liver+pancreas	2	3	21	0	1	27		21
	Kidney+pancreas	0	0	1	0	0	1		0
	Kidney+islet	14	22	105	0	8	149		121
Kidney-only waiting list		807	864	8933	16	1168	11788	100%	11165
Age (years)	0-15	3	2	71	0	17	93	<1%	74
	16-55	528	692	5961	12	813	8006	68%	8102
	56+	276	170	2901	4	338	3689	31%	2989
ABO	A	325	274	3664	2	431	4696	40%	4454
	AB	4	10	216	0	16	246	2%	226
	B	73	62	914	5	117	1171	10%	1052
	O	403	517	4135	9	604	5668	48%	5432
	Not yet reported	2	1	4	–	–	7	–	1
% PRA current	0-5%	673	753	7884	11	914	10235	87%	9634
	6-84%	121	98	965	4	208	1396	12%	1365
	85-100%	11	10	70	1	46	138	1%	147
	Not yet reported	2	3	14	–	–	19	–	19
Sequence	First	640	721	7600	14	900	9875	84%	9294
	Repeat	167	143	1333	2	268	1913	16%	1871
Time waiting (years)	0-1	531	449	4658	9	629	6274	53%	5967
	2-4	221	282	3539	7	456	4505	38%	4198
	5+	55	133	738	0	83	1009	9%	1000
Match-Residency	Yes	763	570	8915	16	1168	11357	97%	10748
	No	44	294	18	0	0	356	3%	417

Table 3.4 Cadaveric kidney transplant waiting list in 1998: inflow (registrations) and outflow

		Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	%	1997 Total
Registrations		418	422	3366	9	833	5048		5046
Sequence	<i>First transplant</i>	333	349	2909	8	712	4311	85%	4282
	<i>Repeat transplant</i>	85	73	457	1	121	737	15%	763
Age (years)	0-15	11	15	113	0	22	161	3%	–
	16-55	277	281	2294	8	555	3415	68%	–
	56+	130	126	959	1	256	1472	29%	–
ABO blood group	A	177	182	1408	3	320	2090	42%	–
	AB	21	15	190	0	24	250	5%	–
	B	58	38	425	3	97	621	12%	–
	O	157	186	1329	3	368	2043	41%	–
	Not yet reported	5	1	14	–	24	44	–	–
Outflow	Transplantation (cadaveric donor)	325	361	1967	6	379	3068		3110
	Mortality on the waiting list	61	30	374	1	84	550		570
	De-listing	49	50	304	1	119	523		517

3.3 Inflow to the renal waiting list in 1998

The total number of registrations on the (cadaveric) kidney transplant waiting list in 1998 equalled that of 1997 (Table 3.4). The increases seen in The Netherlands and Luxemburg were counterbalanced by decreases in the other countries. Fifteen per cent of new registrations were for patients who required re-transplantation.

It should be reminded that Table 3.4 includes any type of cadaveric kidney transplantation, and that listing on a passive waiting list urgency code is not excluded. Paediatric patients comprised 3% of the total inflow, while 29% was accounted for by the patients aged 56 years or more. The influx of ABO type O patients amounted to 40%, which is much lower than the current portion on the active kidney-only waiting list (48%).

3.4 Outflow from the waiting list during 1998

3.4.1 Kidney transplant activity

A total of 3068 cadaveric kidney transplants was performed in 1998 was slightly less than the 3110 in 1997 (Table 3.5): -1.4%. Due to a further rise of the number of multi-organ kidney transplants (from 231 in 1997 to 272 in 1998), the decline in kidney-only transplant activity was even more accentuated (-2.9%).

Table 3.5 also summarizes the 2796 kidney-only transplants carried out in 1998:

- Twenty-two percent of kidney-only transplants took place between donors and recipients with zero HLA-A, B, DR mismatches.
- The number of paediatric patients who received transplants in 1997 (N=153; 5%) was similar to that in 1996 (N=156). Transplantation of elderly patients, aged 65 years or more, occurred in 182 cases (6.5%).
- Sharing the ABO-O donors with ABO-B recipients and with the patients in the special allocation programs for highly sensitized patients reduces the maximum number of ABO-O transplants: -7.75%, comparable to previous years.
One ABO incompatible transplant occurred due to a wrong entry of the recipients ABO blood group.
- (Long) Waiting time is a major driving force in the ET Kidney Allocation System. Again 22% patients who had been on the waiting list for five years or more were transplanted in 1998, albeit with considerable national differences: Belgium 5.9% versus Germany 27.9%.
- The number of non-residents further declined, following the registration stop in Belgium and the re-definition of non-resident for the purpose of the ET Kidney Allocation System (see 3.2).
- Transplants, realized with kidney procured from a non-heart-beating donor, increased thanks to the major efforts, done in The Netherlands.

In addition, 48 'highly immunized' patients received transplants. Of these, 21 patients received kidneys via the ET Kidney Allocation system, 23 patients via the Highly Immunized Trial (HIT) protocol, and four patients via the Acceptable Mismatch programme. However, the total 1998 activity of the Acceptable Mismatch programme amounted to 14 transplants while 34 transplants in Eurotransplant were realized through the HIT protocol. In the frame of the latter programme, four HIT kidneys were exchanged and transplanted outside Eurotransplant in the Czech Republic.

Transplant activities and kidney exchange are shown in detail in the Addenda. An excellent balance between national kidney procurement and transplantation was maintained throughout the year, while permitting an average local/regional *kidney-only* transplant rate of 60% (1665/2796).

3.4.2 Mortality on the waiting list and de-listing

In 1998, a total of 550 patients died while on the waiting list (Table 3.4). Almost 61% (N=339) of patients died within three years of registration, with a peak of 25% in the first year of registration. Fifty percent was 56 years or older at the time of death.

In addition, a further 523 patients were removed from the waiting list for various reasons, such as they were poor transplant candidates, they received living donor transplants or a transplant outside Eurotransplant, or they were no longer interested, and so on (Table 3.4). Approximately 50% of patients left the waiting list during the first three years after registration, with a peak of 20% during the third year.

3.5 Living donor kidney transplants

Living donor kidney transplantation again expanded: 526 donors in 1998 versus 411 donors in 1997, and 246 in 1996; as such, it represents 15% of the total Eurotransplant kidney transplant activity (Table 3.5). Living related as well as living unrelated donor kidney transplants were responsible for the increase. Spousal transplants accounted for 88% (one-third male donors and two-thirds female) of the living unrelated donor kidney transplants.

Elderly patients are less likely to receive living donor kidney transplant.

A survey of the living donor kidney transplant activity by country and by centre is also present in the Addenda.

Table 3.5 Kidney transplants in 1998: characteristics

		Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	1997 %	1997 Total
<i>Cadaveric donor kidney transplants</i>		325	361	1997	6	379	3068		3110
Type of transplant	Kidney-only	292	339	1797	6	362	2796		2879
	Kidney+heart	4	2	2	0	0	8		9
	Kidney+lung	0	0	1	0	0	1		0
	Kidney+liver	0	4	22	0	1	27		20
	Kidney+liver+pancreas	0	0	2	0	0	2		0
	Kidney+pancreas	29	16	169	0	16	230		189
	Kidney+islet	0	0	4	0	0	4		13
Kidney-only transplants		292	339	1797	6	362	2796	100%	2879
HLA-A,B,DR mismatch	0	42	51	468	1	64	626	22%	643
	1	25	26	128	0	31	210	7%	196
	2	86	104	434	2	94	720	26%	746
	3	94	130	539	3	129	895	32%	896
	4	35	24	197	0	40	296	11%	336
	5	9	4	28	0	3	44	2%	58
	6	1	0	3	0	1	5	<1%	4
Age (years)	0-15	13	14	81	0	13	121	4%	153
	16-55	190	234	1177	6	231	1838	66%	1931
	56+	89	91	539	0	118	837	30%	795
ABO	A	125	147	775	2	135	1184	42%	1216
	AB	22	12	127	0	22	183	7%	192
	B	42	36	242	0	48	368	13%	393
	O	103	144	653	4	157	1061	38%	1078
% PRA prior to transplant									
	0-5%	237	313	1565	5	290	2410	86%	2442
	6-84%	47	25	209	1	56	338	12%	402
	85-100%	8	1	23	0	16	48	2%	35
Time waiting (years)	0-1	158	211	623	2	155	1149	41%	1158
	2-4	110	108	672	3	145	1038	37%	1021
	5+	24	20	502	1	62	609	22%	700
Sequence	First	229	285	1458	5	283	2260	81%	2347
	Repeat	63	54	339	1	79	536	19%	532
Match-residency	Yes	291	326	1797	6	362	2782	99%	2833
	No	1	13	0	0	0	14	<1%	46
Special kidney transplant groups									
	High urgency	5	2	38	0	4	49	2%	53
	Non-heart-beating donor	3	7	0	0	54	64	2%	34
	Acceptable Mismatch	0	0	1	0	13	14	-	17
	Highly Immunized Trial	7	3	20	0	4	34	-	18
	En bloc, paediatric donor	4	5	11	0	1	21	-	23
	En bloc, adult donor	0	4	10	0	0	14	-	14
Origin	Local-regional	189	170	1112	4	190	1665	60%	1662
	National	14	35	469	0	37	555	20%	605
	Other ET countries	86	131	199	2	134	552	20%	590
	Outside ET region	3	3	17	0	1	24	<1%	22
<i>Living donor kidney transplants</i>		49	26	343	0	108	526	100%	411
Type of donor	Living related	39	19	211	0	86	355		297
	<i>Father</i>	9	7	43	0	14	73	14%	52
	<i>Mother</i>	14	4	87	0	22	127	24%	126
	<i>Sibling</i>	14	7	68	0	43	132	25%	105
	<i>Other relatives</i>	2	1	13	0	7	23	4%	14
	Living unrelated	10	7	132	0	22	171		114
	<i>Partner</i>	10	6	115	0	20	151	29%	99
	<i>Other</i>	0	1	17	0	2	20	4%	15
Age (years)	0-15	1	2	14	0	6	23	4%	27
	16-55	41	21	277	0	84	423	81%	322
	56+	7	3	52	0	18	80	15%	62
Sequence	First	44	20	314	0	91	469	89%	366
	Repeat	5	6	29	0	17	57	11%	45
<i>Total kidney transplant activity</i>		374	387	2340	6	487	3594		3521

3.6 Kidney-only high urgency programme

Only a restricted number of grants for 'high urgency' (HU) kidney transplantation are available per ET transplant program. HU patients are mainly those whose dialysis treatment is endangered by imminent lack of access, or who are in a very poor physical or psychological condition.

In 1998, HU requests were made for 51 new patients, compared with 64 in 1997 (Table 3.6). A total of 49 patients got a transplant, of whom 80% within 6 weeks after listing on the HU waiting list.

Table 3.6 Dynamics of the kidney high urgency waiting list in 1998

		Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	1997 Total
Waiting list at the beginning of the year		0	0	3	0	1	4	0
Inflow	New HU patients	4	3	40	0	4	51	64
<i>Reasons for High Urgency</i>								
	<i>Dialysis access problems</i>	2	0	13	0	1	16	26
	<i>Dialysis morbidity</i>	1	0	14	0	0	15	12
	<i>Poor psychological condition</i>	1	1	5	0	1	8	16
	<i>Kidney failure post-kidney/pancreas transplant</i>	0	2	1	0	2	5	7
	<i>Other</i>	0	0	7	0	0	7	4
Outflow	HU kidney transplants	4	2	40	0	3	49	55
	Withdrawn	0	0	1	0	1	2	6
	Died	0	0	1	0	1	2	0
Waiting list at the end of the year		0	1	1	0	0	2	4

4. Thoracic organs: donation, waiting lists, and transplants

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4.1 Thoracic organ donors

4.1.1 Heart donors

Table 4.1 gives an overview of the fate of cadaveric hearts from the 1064 potential donors reported to the central office of Eurotransplant in 1998. Of the hearts accepted for transplantation 15% (N=127) were discarded during procurement. Hearts from a total of 746 donors were eventually transplanted, which represents a decrease of 7.1% compared with 1997. Hearts from 20 donors were used in heart+lung transplants. Only 8% of heart donors were aged over 55 years compared with 25% and 15% of kidney and liver donors, respectively (Table 4.2).

4.1.2 Lung donors

Table 4.3 summarizes the fate of lungs from the 464 potential lung donors reported to the central office of Eurotransplant in 1998: a 22% increase on 1997. Upon inspection, 17% of donor lungs were found to be unsuitable for transplantation. Lungs from 225 donors were ultimately transplanted, even 33% higher than the 1997 number. Approximately 24% of heart donors also donated lungs, and lungs from 20 donors were transplanted together with the heart. Single lungs from 34 donors were transplanted and a total of 171 donors donated both lungs. Of these, 156 procedures were double lung transplants. In 15 cases, the 2 lungs were used for 2 single lung transplants.

There were no major changes in the lung donor characteristics (Table 4.4).

Table 4.1 Use of cadaveric donor hearts in the Eurotransplant region in 1998

Donor Eurotransplant country	Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	1997 Total
Total no. of heart donors reported	128	138	706	4	88	1064	1111
No donor hearts procured	23	22	126	0	18	189	145
– No time for selection / offer withdrawn	3	1	5	0	0	9	14
– Medical reasons	18	18	94	0	12	142	101
– No suitable recipient due to donor size	2	2	6	0	5	15	11
– No suitable recipient due to donor blood group	0	0	4	0	1	5	0
– Centre out of capacity or recipient unfit	0	0	3	0	0	3	1
– Transport problems / other organizational reasons	0	1	5	0	0	6	9
– Cardiovascular instability of donor	0	0	9	0	0	9	9
Donor heart inspection/procurement:	105	116	580	4	70	875	966
No transplantation	12	11	98	0	8	129	163
– Organ unsuitable for transplantation	11	10	98	0	8	127	163
– No back-up recipient	1	1	0	0	0	2	0
Transplantation	93	105	482	4	62	746	803
– Donor for heart+lung	2	7	11	0	0	20	42
– Donor for heart	91	98	471	4	62	726	761

Table 4.2 Demographics of cadaveric donors whose hearts were transplanted in the Eurotransplant region in 1998

Country	Total	Age (years)			Sex		ABO Blood group				Cause of death		
		0–15	16–55	≥56	Male	Female	A	AB	B	O	Accident	Natural	Suicide
Austria	93	1	87	5	69	24	43	3	8	39	40	46	7
Belgium	105	9	92	5	66	39	43	4	8	50	52	45	8
Germany	482	39	396	47	307	175	208	16	68	190	203	258	21
Luxemburg	4	0	4	0	2	2	3	0	1	0	1	3	0
Netherlands	62	7	52	3	29	33	30	2	1	29	25	35	2
Total	746	55	631	60	473	273	327	25	86	308	321	387	38
	100%	7%	85%	8%	63%	37%	44%	3%	12%	41%	43%	52%	5%

Table 4.3 Use of cadaveric donor lungs in the Eurotransplant region in 1998

Donor Eurotransplant country	Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	1997 Total
Total no. of lung donors reported	64	62	275	0	63	464	380
No donor lung procured	23	25	118	0	26	192	162
– No time for selection / offer withdrawn	4	1	5	0	0	10	14
– Medical reasons	16	17	89	0	21	143	115
– No suitable recipient due to donor size	0	2	5	0	1	8	12
– No suitable recipient due to donor blood group	2	0	5	0	0	7	6
– Centre out of capacity or recipient unfit	1	4	9	0	4	18	6
– Transport problems/other organizational reasons	0	1	4	0	0	5	5
– Cardiovascular instability of donor	0	0	1	0	0	1	4
Donor lung inspection/procurement: (either one or two lungs per donor)	41	37	157	0	37	272	218
No transplantation	4	4	34	0	5	47	49
– Organ unsuitable for transplantation	4	4	34	0	3	45	48
– No back-up recipient	0	0	0	0	2	2	1
Transplantation	37	33	123	0	32	225	169
– Donor for heart+lung	2	7	11	0	0	20	42
– Donor for double lung	23	21	85	0	27	156	92
– Donor for single lung	6	3	21	0	4	34	23
– Donor for two single lungs	6	2	6	0	1	15	12

Table 4.4 Demographics of cadaveric donors whose lungs were transplanted in the Eurotransplant region in 1998

Country	Total	Age (years)			Sex		ABO Blood group				Cause of death		
		0–15	16–55	≥56	Male	Female	A	AB	B	O	Accident	Natural	Suicide
Austria	37	0	34	3	26	11	17	2	3	15	19	18	0
Belgium	33	3	29	1	11	22	12	2	0	19	11	21	1
Germany	123	10	105	8	77	46	54	5	21	43	53	63	7
Luxemburg	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	32	3	29	0	16	16	13	1	0	18	14	18	0
Total	225	16	197	12	130	95	96	10	24	95	97	120	8
	100%	7%	88%	5%	58%	42%	43%	4%	11%	42%	43%	53%	4%

While on the thoracic organ waiting lists, transplant candidates are assigned a medical urgency code that is used to prioritize them in the allocation procedure. These codes are:

Code HU: high urgency

Patients whose heart graft fails within three days of transplantation. If a patient is on the HU list, the offer and exchange of a donor heart is mandatory. This HU code does not exist for lung transplant candidates.

Code SU: special urgency

Patients in a critical medical condition but not eligible for the HU code. There is no mandatory offer but, if a donor heart, heart+lung, and/or lung is made available to the Eurotransplant pool, SU patients have priority over elective patients. There is a restricted number of SU grants per year and per programme.

Code T: transplantable

Elective transplantable patients with end-stage heart and/or end-stage lung disease.

Code NT: not transplantable

This code is assigned whenever a patient has a temporary contraindication to transplantation. Temporary is defined as lasting a maximum of six months.

4.2 Waiting lists

The number of heart transplant candidates on the active waiting list on December 31, 1998 decreased 3% compared with the 1997 year's end waiting list (Table 4.5; Figure 4.1). This decline was entirely on the account of Austria. The heart+lung waiting list dropped for the third year in a row, while the lung waiting list has reached a steady state (Tables 4.6, 4.7; Figure 4.2).

Characteristics of the heart waiting list include:

- Differences of heart waiting list size are enormous between the ET countries, in particular when expressed per million inhabitants.
- Patients with ABO blood group type A (ABO-A) made up 48% of the heart waiting list.
- Of all the organ waiting lists, the heart waiting list included the highest percentage of patients aged over 55 years (N=379; 53%).
- In Austria and Germany, a considerable number of patients have already accrued a waiting time of at least 1 year.

Characteristics of the heart+lung waiting list include:

- As in 1996 and 1997, about 40% of patients had been waiting for one year or more by the end of 1998.

Table 4.5 Active heart transplant waiting list at 31 December 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Number		86	32	581	22	721	100%	744
Number per million inhabitants		10.7	3.2	7.2	1.5	6.4		6.6
Type of transplant	Heart-only	85	31	577	22	715	99%	734
	Heart+kidney	1	1	4	0	6	1%	10
Age (years)	0-5	0	0	6	0	6	1%	8
	6-15	1	0	0	1	2	–	3
	16-55	43	17	262	12	334	46%	399
	56+	42	15	313	9	379	53%	334
ABO blood group	A	26	18	291	10	345	48%	369
	AB	6	2	19	1	28	4%	15
	B	17	4	59	2	82	11%	77
	O	37	8	212	9	266	37%	283
Sequence	First	86	31	577	22	716	99%	735
	Repeat	0	1	4	0	5	1%	5
Time waiting (months)	0-5	46	21	254	11	332	46%	415
	6-11	17	11	166	9	203	28%	173
	12-23	15	0	134	1	150	21%	136
	24+	8	0	27	1	36	5%	20

Table 4.6 Active heart+lung transplant waiting list at 31 December 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Number		3	8	47	2	60	100%	66
Number per million inhabitants		–	0.8	0.6	–	0.5		0.6
Type of transplant	Heart+lung	3	8	46	2	59	98%	65
	Heart+lung+liver*	0	0	1	0	1	2%	1
Age (years)	6-15	0	1	7	0	8	13%	4
	16-55	3	7	39	2	51	85%	57
	56+	0	0	1	0	1	2%	5
ABO blood group	A	2	2	20	1	25	42%	24
	AB	0	1	1	0	2	3%	1
	B	0	2	6	0	8	13%	9
	O	1	3	20	1	25	42%	32
Sequence	First	3	8	47	2	60	100%	66
	Repeat	0	0	0	0	0	–	0
Time waiting (months)	0-11	2	5	29	1	37	62%	41
	12-23	1	2	5	0	8	13%	14
	24+	0	1	13	1	15	25%	11

Characteristics of the lung waiting list include:

- The Netherlands had the highest number of patients on the lung transplant waiting list: 3.5 patients per million inhabitants.
- Most patients on the lung waiting list (N=177; 79%) were awaiting double-lung transplantation. The small waiting list for single lung transplantation jeopardizes 100% successful dual single-lung allocation.
- Twenty-nine percent of patients had been on the waiting list for one year or more at the end of 1998, especially in Germany (26%) and in The Netherlands (47%).

Table 4.7 Active lung transplant waiting list at 31 December 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Number		21	14	136	53	224	100%	216
Number per million inhabitants		2.6	1.4	1.7	3.5	2.0		1.8
Type of transplant								
	Lung-only	21	14	135	53	223		211
	<i>Double</i>	18	11	113	35	177	79%	143
	<i>Double or single</i>	0	0	0	5	5	2%	2
	<i>Single left</i>	1	2	6	2	11	5%	13
	<i>Single right</i>	1	0	10	11	22	10%	27
	<i>Either single</i>	1	1	6	0	8	4%	26
	Lung+liver	0	0	1	0	1	<1%	4
	Lung+kidney	0	0	0	0	0	0	1
Age (years)								
	0-5	1	0	0	0	1	–	0
	6-15	0	0	0	2	2	1%	6
	16-55	12	13	115	46	186	83%	175
	56+	8	1	21	5	35	16%	35
ABO blood group								
	A	6	6	58	26	96	43%	94
	AB	0	1	2	1	4	2%	5
	B	3	0	5	4	12	5%	18
	O	12	7	71	22	112	50%	99
Sequence								
	First	20	14	129	50	213	96%	202
	Repeat	1	0	7	3	11	4%	14
Time waiting (months)								
	0-5	13	9	61	16	99	44%	102
	6-11	6	3	39	12	60	27%	46
	12-23	2	1	23	19	45	20%	35
	24+	0	1	13	6	20	9%	33

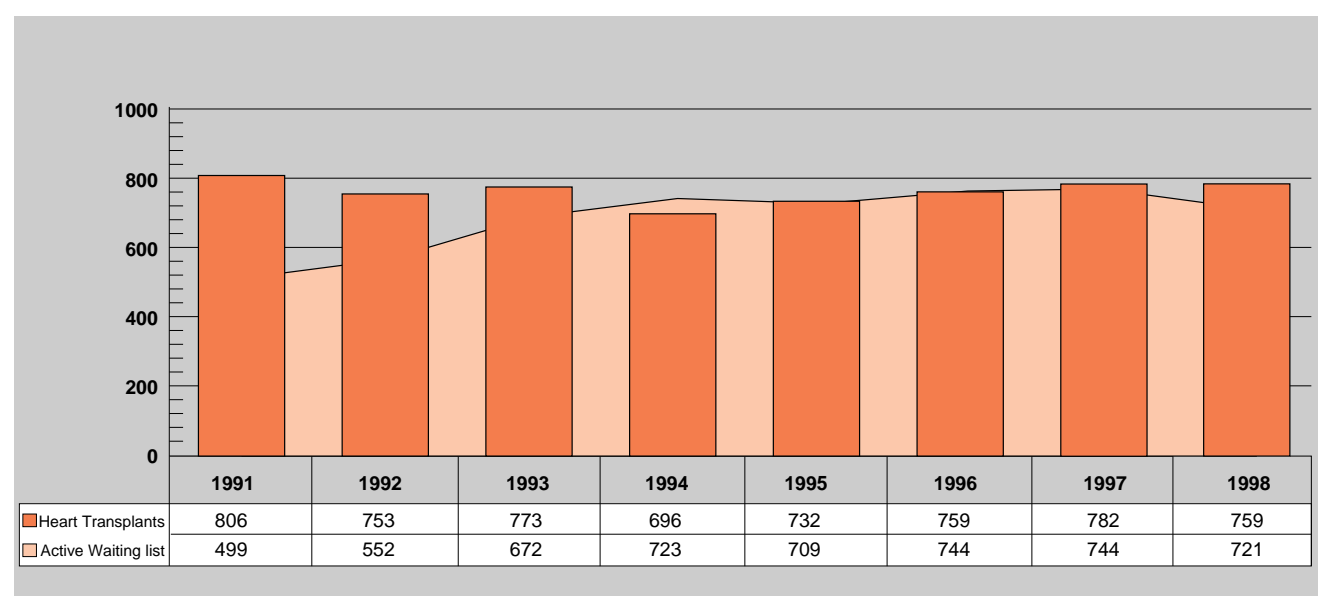


Figure 4.1 Dynamics of the Eurotransplant heart waiting list and heart transplants between 1991 and 1998

4.3 Inflow to the thoracic waiting list in 1998

All ET countries, but in particular The Netherlands, registered fewer patients for a heart transplantation in 1998 (Table 4.8). Paediatric patients comprised 5% of the total inflow, while 45% was accounted for by the patients aged 56 years or more. The ABO type A had the higher influx than the ABO type O.

The annual number of registrations for a heart+lung transplant is rather erratic (Table 4.9). The 17% increase of registrations for a lung transplant is due to higher registrations in Belgium, Austria and Germany (Table 4.10). The proportion of ABO type O in the inflow is lower than that on the waiting list.

It should be reminded that listing on a passive waiting list urgency code is not excluded in Tables 4.8-4.10.

Table 4.8 Heart transplant waiting list in 1998: inflow (registrations) and outflow

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Registrations	Total	137	120	945	48	1250		1310
	Per million inhabitants	17.1	12.0	11.7	3.2	11.0		11.6
<i>Sequence</i>	<i>First transplant</i>	135	117	918	48	1218	97%	1280
	<i>Repeat transplant</i>	2	3	27	0	32	3%	30
<i>Medical urgency</i>	<i>High Urgency</i>	0	1	8	0	9		9
	<i>Special Urgency</i>	7	10	81	5	103		112
<i>Age (years)</i>	0-5	2	1	47	0	50	4%	–
	6-15	2	4	13	3	22	1%	–
	16-55	75	60	453	29	617	50%	–
<i>ABO blood group</i>	56	58	55	432	16	561	45%	–
	A	64	60	443	22	589	47%	–
	AB	8	4	57	2	71	6%	–
	B	19	13	117	4	153	12%	–
	O	46	43	328	20	437	35%	–
Outflow	Transplantation	94	96	528	41	759		759
	Mortality on the waiting list	28	18	219	8	273		294
	De-listing	27	15	175	0	217		227

Table 4.9 Heart+lung transplant waiting list in 1998: inflow (registrations) and outflow

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Registrations	Total	3	10	46	2	61		76
	Per million inhabitants	–	1.0	0.6	–	0.5		0.7
Outflow	Transplantation	1	5	14	0	20		43
	Mortality on the waiting list	0	8	19	0	27		22
	De-listing	0	5	16	0	21		9

Table 4.10 Lung transplant waiting list in 1998: inflow (registrations) and outflow

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Registrations	Total	74	36	200	31	341		292
	Per million inhabitants	9.2	3.6	2.5	2.0	3.0		2.6
<i>Sequence</i>	<i>First transplant</i>	66	35	189	30	320	94%	274
	<i>Repeat transplant</i>	8	1	11	1	21	6%	18
<i>Medical urgency</i>	<i>Special Urgency</i>	7	5	32	0	44		33
<i>Age (years)</i>	0-5	2	0	0	0	2	<1%	–
	6-15	2	0	2	2	6	2%	–
	16-55	48	33	165	26	272	80%	–
<i>ABO blood group</i>	56	22	3	33	3	61	18%	–
	A	27	13	96	12	148	43%	–
	AB	9	2	12	1	24	7%	–
	B	10	1	19	1	31	9%	–
	O	28	20	73	17	138	40%	–
Outflow	Transplantation	61	33	117	17	228		155
	Mortality on the waiting list	10	7	49	15	81		89
	De-listing	3	0	11	4	18		22

4.4 Outflow from the waiting list in 1998

4.4.1 Thoracic organ transplant activities

Heart transplants decreased by 3% compared with 1997 (Table 4.11); a higher usage of donor hearts, offered from outside the Eurotransplant area, alleviated the 7% decrease in donor heart availability. Heart+lung transplants dropped its lowest level in the nineties (N=20) (Table 4.12). Compared with 1997, all ET countries carried out more lung transplants: an overall rise of 47%: 228 in 1998 versus 155 in 1997 (Table 4.13).

Table 4.11 Heart transplants in 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Cadaveric heart transplants		94	96	528	41	759	100%	782
Type of transplant	Heart-only	90	94	526	41	751	99%	773
	Heart+kidney	4	2	2	0	8	1%	9
Urgency code	HU	0	1	5	0	6	1%	6
	SU	5	11	54	4	74	10%	88
	Transplantable	89	84	469	37	679	89%	688
Age (years)	0-5	1	1	28	0	30	5%	19
	6-15	1	4	10	2	17	2%	14
	16-55	51	49	238	23	361	47%	406
	56+	41	42	252	16	351	46%	343
ABO blood group	A	48	45	249	21	363	48%	357
	AB	3	2	33	2	40	5%	58
	B	9	10	78	3	100	13%	110
	O	34	39	168	15	256	34%	257
Sequence	First	91	93	520	41	745	98%	761
	Repeat	3	3	8	0	14	2%	21
Time waiting (months)	0-5	56	64	321	21	462	61%	478
	6-11	21	29	95	18	163	21%	155
	12-23	13	2	80	2	107	13%	113
	24+	4	1	32	0	37	5%	36

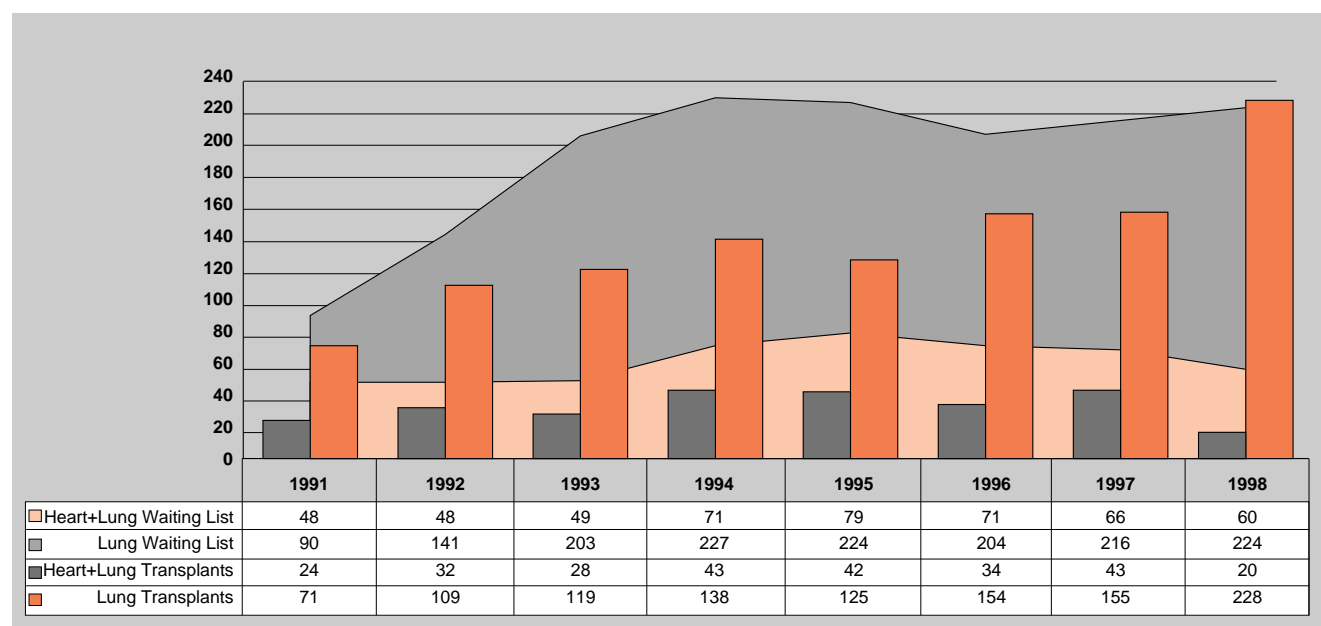


Figure 4.2 Dynamics of the Eurotransplant active heart+lung waiting list and heart+lung transplants and Eurotransplant active lung waiting list and cadaveric lung transplants between 1991 and 1998

Table 4.12 Heart+lung transplants in 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Heart+lung transplants		1	5	14	0	20	100%	43
Type of transplant	Heart+lung	1	5	14	0	20	100%	42
	Heart+lung+liver	0	0	0	0	0	–	1
Urgency code	SU	0	1	2	0	3	15%	6
	Transplantable	1	4	12	0	17	85%	37
Age (years)	6-15	0	0	2	0	2	10%	1
	16-55	1	4	9	0	14	70%	40
	56+	0	1	3	0	4	20%	2
ABO blood group	A	0	2	7	0	9	45%	21
	AB	0	0	0	0	0	–	0
	B	0	0	1	0	1	5%	5
	O	1	3	6	0	10	50%	17
Sequence	First	1	5	14	0	20	100%	43
	Repeat	0	0	0	0	0	0%	0
Time waiting (months)	0-11	1	3	11	0	15	75%	23
	12-23	0	1	1	0	2	10%	11
	24+	0	1	2	0	3	15%	9

Table 4.13 Lung transplants in 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Lung transplants		61	33	117	17	228	100%	155
Type of transplant	Lung-only	61	33	115	17	226	99%	154
	Lung+liver	0	0	1	0	1	<1%	1
	Lung+kidney	0	0	1	0	1	<1%	0
Type of transplant	Double	40	28	81	15	164	72%	101
	Single left	15	2	14	0	31	14%	25
	Single right	6	3	22	2	33	14%	29
Urgency code	SU	5	5	18	0	28	12%	18
	Transplantable	56	28	99	17	200	88%	137
Age (years)	0-5	1	0	0	0	1	<1%	0
	6-15	2	0	4	1	7	3%	3
	16-55	40	29	90	13	172	75%	120
	56+	18	4	23	3	48	21%	32
ABO	A	23	14	56	7	100	44%	91
	AB	10	2	8	2	22	10%	8
	B	8	3	13	2	26	11%	19
	O	20	14	40	6	80	35%	37
Sequence	First	55	31	110	17	213	93%	149
	Repeat	6	2	7	0	15	7%	6
Time waiting (months)	0-5	51	15	64	5	135	59%	94
	6-11	7	11	22	1	41	18%	25
	12-23	3	3	21	3	30	13%	27
	24+	0	4	10	8	22	10%	9

More heart transplants were carried out in neonates and small infants – a procedure mainly carried out in Germany. The application of ABO compatibility blood group match rules in lung transplants is responsible for the blood group distribution of the lung transplants, with a low 35% of ABO type O. ABO-O donor lungs were in 16% used for non-O recipients. This was also the case for the ABO-O donor hearts, mainly in order to optimally use pediatric and marginal donor hearts.

Sixty-one percent of recipients (N=462) underwent heart transplantation within six months of joining the waiting list. A majority of the heart+lung transplants waited less than a year for their heart+lung transplants (N=15; 75%) (Tables 4.11, 4.12). With the exception of patients in The Netherlands, over three-quarters underwent lung transplantation within one year (N=176; 77%) (Table 4.13).

Transplant activities and exchange of thoracic donor organs are shown in detail in the Addenda.

4.4.2 Mortality on the waiting list and de-listing

The 1998 mortality of patients on the heart transplant waiting list (N=273) was less than that of 1997 (N=294) (Table 4.8). The patients had the following characteristics: 60% died within three months of registration, and 23% of the deaths occurred while the patients were on a non-transplantable waiting list urgency code.

De-listing due to improved medical condition occurred in 161 cases, on average 16 months after registration, and in 75%, the patients had previously been put on a non-transplantable waiting list code (excluding them already from the thoracic organ match program).

Eighty-one patients died while awaiting lung transplantation (Table 4.10); 38% of patients died within 90 days of registration. The 1998 mortality rate among patients on the heart+lung waiting list was similar to that of 1999 (Table 4.11) – 44% of the patients died during the first 6 months on the waiting list.

In general, patients were removed from the heart+lung and lung waiting lists as soon as they became unsuitable for transplant. Removal from the heart+lung waiting list also encompassed patients who were switched from the heart+lung transplant procedure to the double-lung procedure (N=4).

4.5 Thoracic high urgency programme

Nine High Urgency (HU) heart transplants were requested in 1998 (Table 4.14). Two patients died prior to a heart offer. Six patients received new transplants.

4.6 Thoracic special urgency programme

Transplants were carried out in 71%, 29%, and 61% of Special Urgency (SU) heart, heart+lung, and lung patients, respectively (Table 4.15). The obligation of a heart give-back ('pay-back') procedure kept the ultimate number of SU heart requests low (Table 4.11).

The average waiting time of SU heart, heart+lung, and lung transplant patients was eight, seven, and 16 days, respectively. The majority of the patients dying on the SU waiting list did so before these average waiting times till a transplant.

Table 4.14 Dynamics of the high urgency thoracic organ waiting lists, from 1995 to 1998

		Requests	Transplants	Deaths on HU waiting list	Withdrawals from HU waiting list
Heart	1995	16	11	2	3
	1996	20	12	6	2
	1997	9	6	0	3
	1998	9	6	2	1
Heart+lung	1995	1	0	1	0
	1996	0	0	0	0
	1997	0	0	0	0
	1998	0	0	0	0
Lung	1995	3	3	0	0
	1996	5	5	0	0
	1997	–	–	–	–
	1998	–	–	–	–

Table 4.15 Dynamics of the special urgency thoracic organ waiting lists, from 1995 to 1998

		On waiting list on January 1	Requests	Transplants	Deaths on SU waiting list	Withdrawals from SU waiting list	On waiting list on December 31
Heart	1995	3	144	107	15	14	11
	1996	11	145	116	12	26	2
	1997	2	112	88	8	15	3
	1998	3	103	74	8	23	1
Heart+lung	1995	0	14	8	3	2	1
	1996	1	11	4	2	2	4
	1997	4	4	6	1	1	0
	1998	0	11	3	4	4	0
Lung	1995	1	28	19	6	3	1
	1996	1	34	18	8	6	3
	1997	3	33	18	10	6	2
	1998	2	44	28	6	10	2

5. Liver: donation, waiting lists, and transplants

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5.1 Liver donors

Table 5.1 shows the fate of livers from the 1336 potential liver donors reported to the central office of Eurotransplant in 1998: 90% of donor livers were accepted. However, 20% (N=235/1198) were discarded at the time of procurement and this proportion discarded rose to 36% for donors aged over 55 years (N=80/223). For the first time, the total number of donors whose livers were transplanted slightly decreased: -2% compared with 1997. Forty livers were divided ('splitted') and transplanted into two recipients.

Liver donors closely resembled kidney donors in terms of demographics (Tables 3.2, 5.2).

Sixty percent of the pediatric donors (age 0-15 years) weighed less than 41 Kg. As of 1998, a pediatric donor will be defined using the criterion of donor weight (< 41 Kg) instead of donor age (< 16 years).

Simultaneous heart and liver donation was accomplished from 77% of heart donors and 60% of liver donors: rather constant figures for the last 3 years.

Table 5.1 Use of cadaveric donor livers in the Eurotransplant region in 1998

Donor Eurotransplant country	Austria	Belgium	Germany	Luxemburg	Netherlands	1998 Total	1997 Total
Total no. of liver donors reported	148	192	853	4	139	1336	1325
No donor liver procured:	15	19	91	0	13	138	108
– No time for selection or offer withdrawn	4	4	3	0	1	12	8
– Medical reasons	10	14	78	0	11	113	89
– No suitable recipient due to donor size	0	0	3	0	0	3	5
– No suitable recipient due to donor blood group	0	0	1	0	1	2	2
– Centre out of capacity or recipient unfit	0	0	4	0	0	4	1
– Transport problems or other organizational reasons	1	1	0	0	0	2	1
– Cardiovascular instability of donor	0	0	2	0	0	2	2
Donor liver inspection/procurement:	133	173	762	4	126	1198	1217
No transplantation	14	31	180	0	11	236	238
– Organ unsuitable for transplantation	14	31	179	0	11	235	236
– No back-up recipient	0	0	1	0	0	1	2
Transplantation	119	142	582	4	115	962	979
– Split-liver donors	3	5	28	0	4	40	39
– Liver donors	116	137	554	4	111	922	940

Table 5.2 Demographics of cadaveric donors whose livers were transplanted in the Eurotransplant region in 1998

Country	Total	Age (years)			Sex		ABO Blood group				Cause of death		
		0–15	16–55	≥56	Male	Female	A	AB	B	O	Accident	Natural	Suicide
Austria	119	5	100	14	84	35	52	6	10	51	51	61	7
Belgium	142	13	112	17	84	58	51	6	12	73	62	70	10
Germany	582	40	440	102	345	237	244	21	86	231	194	360	28
Luxemburg	4	0	4	0	2	2	2	0	1	1	1	3	0
Netherlands	115	11	94	10	59	56	48	4	7	56	34	81	0
Total	962	69	750	143	574	388	397	37	116	412	342	575	45
	100%	7%	78%	15%	60%	40%	41%	4%	12%	43%	35%	60%	5%

5.2 Waiting list

The number of patients on the active waiting list on December 31, 1998 increased immensely, +30% compared with 1997 (Table 5.3; Figure 5.1).

The waiting list showed the following (Table 5.3):

- The pediatric liver transplant waiting list size remained unchanged: N=26 in 1998 versus N=28 in 1997.
- ABO blood group type O comprised 49% of the total active waiting list.
- Only 33% of patients were waiting for six months or more.

The number of non-residents, defined as transplant candidates who neither lived nor were being treated in one of the Eurotransplant countries, was decreasing, in accordance with the guidelines of the ET Board (N=19).

Table 5.3 Active cadaveric liver transplant waiting list at 31 December 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Number		42	63	354	33	492	100%	374
Number per million inhabitants		5.0	6.3	4.4	2.2	4.3		2.9
Type of transplant	Liver-only	40	60	330	32	462	94%	346
	Liver+kidney	2	3	21	1	27	5%	21
	Liver+lung	0	0	1	0	1	–	4
	Liver+pancreas	0	0	0	0	0	–	1
	Liver+pancreas+kidney	0	0	1	0	1	–	0
	Liver+heart+lung	0	0	1	0	1	–	1
Age (years)	0-5	0	3	7	4	14	3%	18
	6-15	0	0	9	3	12	2%	10
	16-55	21	38	239	22	320	65%	251
	56+	21	22	99	4	146	30%	95
ABO blood group	A	17	21	142	5	185	38%	143
	AB	3	2	4	2	11	2%	6
	B	5	9	31	10	55	11%	48
	O	17	31	177	16	241	49%	177
Sequence	First	42	62	338	29	471	96%	360
	Repeat	0	1	16	4	21	4%	14
Time waiting (months)	0-2	29	28	144	22	223	45%	177
	3-5	6	14	82	5	107	22%	93
	6-11	6	15	74	5	100	20%	65
	12+	1	6	54	1	62	13%	39

While on the waiting list, liver transplant candidates are assigned medical urgency codes that are used to prioritize them in the liver allocation procedure. The codes are:

Code HU: high urgency

Patients with *de novo* hepatic failure ranging from acute to fulminant onset, including rapidly progressive Wilson's disease and Budd-Chiari disease, patients in need of a repeat transplant due to an irreversible life-threatening graft failure (within 14 days of the previous transplant), patients with severe hepatic trauma, and anhepatic patients. Patients with liver tumours are not eligible for an HU request.

If a patient is on the HU waiting list, the offer and exchange of a donor liver is mandatory.

Code T: transplantable

Elective transplantable patients with end-stage liver disease.

Code NT: not transplantable

This code is assigned to patients with a temporary contraindication to liver transplant.

5.3 Inflow to the liver waiting list in 1998

A 2% increase in registrations for a liver transplantation was noted in 1998, mainly on the account of registrations for a first liver transplant (Table 5.4). Living donor liver transplants are not included in the statistics, with the exception of patients who ultimately received a domino liver transplant. Paediatric patients comprised 8% of the total inflow, while 31% was accounted for by the patients aged 56 years or more. The influx of ABO type O patients amounted to 39%, which is much lower than the current portion on the active liver waiting list (49%). More than half of the registrations for repeat liver transplants were HU requests (N=86/176; 51%) (Table 5.5).

It should be reminded that listing on a passive waiting list urgency code is not excluded in Table 5.4.

Table 5.4 Liver transplant waiting list in 1998: inflow (registrations) and outflow

Liver Waiting List		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Registrations	Total	173	195	1013	119	1500		1468
	Per million inhabitants	21.6	19.5	12.5	7.9	13.2		12.9
Type of transplant	Liver-only	169	193	990	118	1470	98%	–
	Liver+kidney	4	2	19	1	26	2%	–
	Liver+lung	0	0	1	0	1	–	–
	Liver+pancreas	0	0	1	0	1	–	–
	Liver+pancreas+kidney	0	0	2	0	2	–	–
Sequence	First transplant	158	175	904	96	1333	89%	–
	Repeat transplant	15	20	109	23	167	11%	–
Medical urgency	HU-first	6	27	86	16	135	9%	109
	HU-repeat	9	10	55	12	86	6%	109
Age (years)	0-5	6	20	47	7	80	5%	–
	6-15	1	3	28	10	42	3%	–
	16-55	96	114	629	83	922	61%	–
	56+	70	58	309	19	456	31%	–
ABO blood group	A	70	78	436	50	634	42%	–
	AB	21	8	61	3	93	6%	–
	B	23	22	129	17	191	13%	–
	O	59	87	387	49	582	39%	–
	Outflow	Transplantation (cadaveric donor)	133	139	699	100	1071	
Mortality on the waiting list		35	29	142	6	212		221
De-listing		10	10	65	6	91		126

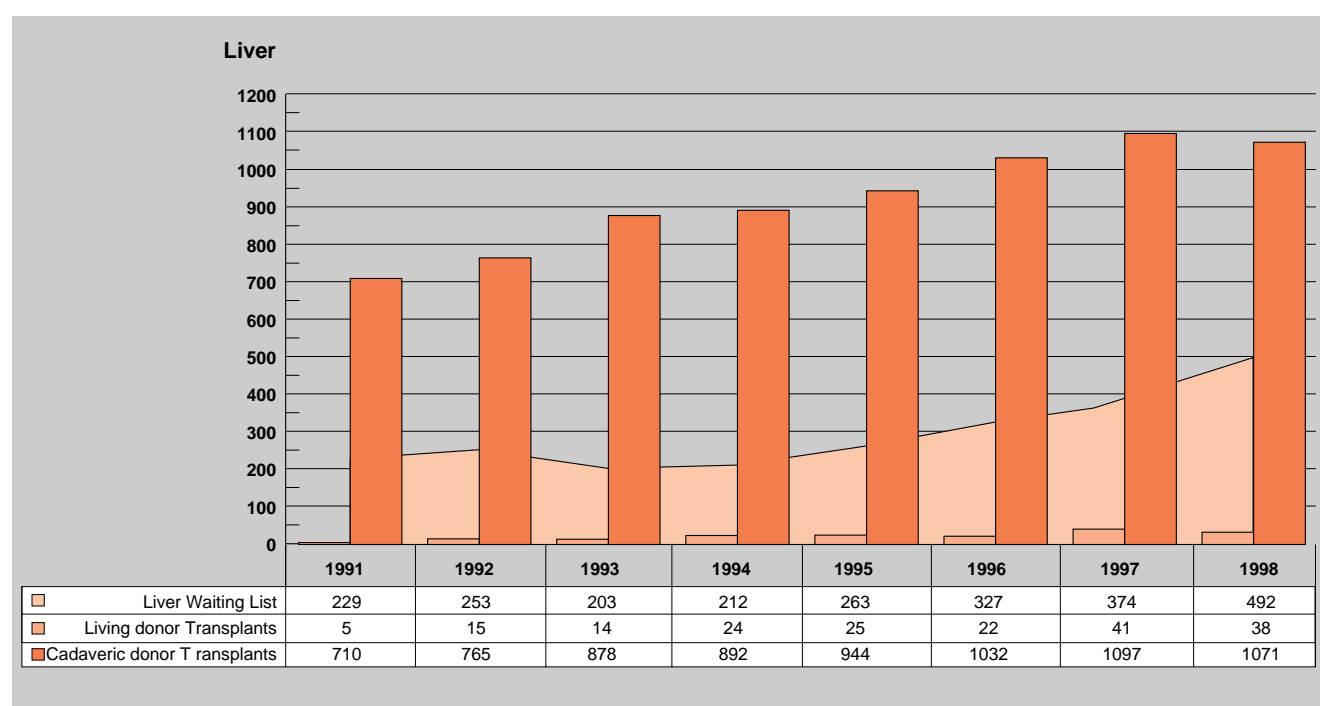


Figure 5.1 Dynamics of the Eurotransplant liver waiting list and liver transplants between 1991 and 1998

5.4 Outflow from the liver waiting list in 1998

5.4.1 Liver transplant activities

The fewer number of liver donors in the Eurotransplant region in 1998 resulted in fewer liver transplants to be carried out – 2% less than were carried out in 1997. The contribution from twinning centres outside the Eurotransplant region was similar to 1997 – 54 transplants in 1998 compared with 55 in 1997. Importantly, centres in Hamburg and Hannover in Germany played a leading role in the development of cadaveric split-liver transplants, respectively 24 and 18.

Other points to note are (Table 5.5):

- Split-liver transplants accounted for 7% of the total liver transplant activity, as in 1997.
- The majority of paediatric liver recipients were younger than six years of age.
- Only 60 ABO blood group type O (ABO-O) donor livers (13%) were transplanted into non-O liver patients, compared with 11% in 1997. Ninety percent was used for HU transplants, and the remaining 10 percent was used for pediatric transplantation. Two adult ABO-incompatible liver transplants were carried out.
- Repeat liver transplants constituted 10% of the total number of transplants and 17% of paediatric transplants.
- Excluding High Urgency transplants, 76% of recipients got a transplant within three months of registration (62% in 1997).

In addition, transplants in non-Eurotransplant residents accounted for 5% of the total liver transplant activity. Transplant activities and liver exchange by country and by centre are shown in detail in the Addenda.

5.4.2 Mortality on the waiting list and de-listing

The number of liver transplant candidates who were removed from the waiting list because they died prior to the transplant amounted to 212 in 1998 (Table 5.4). The patients had the following characteristics: 86% were awaiting a first liver transplantation, 58% died within three months of registration, and 29% of the deaths occurred while the patient was on a non-transplantable waiting list urgency code.

In 1998, 91 patients were removed from the waiting list for a variety of reasons, including: they were poor transplant candidates, they recovered liver function, or they underwent domino liver transplant (N=4).

5.5 Living donor liver transplants

Centres in Essen, Brussels (LA) and Hamburg further expanded their programmes of living-related segmental liver transplantation. Four domino liver transplants were performed using the native liver of a patient who underwent a liver transplant due to familial amyloid neuropathy.

In cases of living related transplants, mothers were more to donate liver segments to their children than fathers (Table 5.5). The majority of patients who received a living donor transplant were younger than five years of age.

Table 5.5 Liver transplants in 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
<i>Cadaveric liver transplants</i>		133	139	699	100	1071	100%	1097
Type of transplant	Liver whole	127	127	606	97	957	89%	992
	Liver split	5	8	63	2	78	7%	80
	Liver split+kidney	–	1	2	–	3	–	1
	Liver+kidney	–	3	20	1	24	2%	19
	Liver+pancreas	–	–	4	–	4	–	3
	Liver+pancreas+intestines	1	–	1	–	2	–	0
	Liver+pancreas+kidney	–	–	2	–	2	–	0
Liver+lung	–	–	1	–	1	–	1	
Urgency code	HU-first	5	21	64	15	105	10%	82
	HU-repeat	7	7	42	8	64	6%	83
	Transplantable	121	111	593	77	902	84%	932
Age (years)	0-5	5	17	42	6	70	6%	71
	6-15	1	4	24	9	38	4%	37
	16-55	78	79	426	68	651	61%	691
	56+	49	39	207	17	312	29%	298
ABO blood group	A	57	57	303	49	466	44%	486
	AB	16	7	45	1	69	6%	67
	B	16	16	109	5	146	14%	140
	O	44	59	242	45	390	36%	404
Sequence	First	124	124	634	82	964	90%	951
	Repeat	9	15	65	18	107	10%	146
<i>Patients</i>		125	131	660	91	1007	–	1002
Time waiting (months)	0-2	78	95	421	66	660	61%	744
	3-5	35	16	136	14	201	19%	191
	6-11	18	23	104	12	157	15%	112
	12+	2	5	37	8	53	5%	50
<i>Living donor liver transplants</i>		1	12	25	0	38	100%	43
Relationship	Father	0	3	8	0	11	30%	18
	Mother	0	8	10	0	18	47%	20
	Other relatives	1	0	3	0	4	10%	1
	Unrelated	0	0	1	0	1	3%	0
	Domino	0	1	3	0	4	10%	4
Age (years)	0-5	0	8	14	0	22	58%	36
	6-15	0	2	3	0	5	13%	3
	16-55	1	1	5	0	7	19%	1
	56+	0	1	3	0	4	10%	3
ABO blood group	A	0	7	9	0	16	42%	13
	AB	0	0	2	0	2	5%	7
	B	0	1	5	0	6	16%	8
	O	1	4	9	0	14	37%	15
Sequence	First	1	12	24	0	37	97%	42
	Repeat	0	0	1	0	1	3%	1
<i>Total liver transplant activity</i>		134	151	724	100	1109		1140

5.6 Liver high urgency programme

Similar to 1997, High Urgency (HU) liver requests in 1998 constituted 15% of the total number of entries on the waiting list (N=221/1500) (Tables 5.4, 5.6). Following the adaptation of the eligibility criteria for a HU repeat transplantation which now required a graft failure less than 14 days after the previous transplant, a reduction in the number of HU repeat transplants occurred in 1998 (-21%).

The chance to receive a transplant, while on the HU waiting list, was 77%, and again 81% of the HU transplants took place within 48 hours. The mortality rate on the HU waiting list was approximately 8%.

Table 5.6 Dynamics of the high urgency liver waiting list, from 1992 to 1998

Year	HU requests	Transplants	Deaths on HU waiting list	Withdrawals from HU waiting list
1992	190	136	13	41
1993	235	203	15	17
1994	221	165	31	25
1995	198	164*	23	11
1996	257	201*	25	31
1997	218	165*	26	27
1998	221	170*	17	34

Reason for HU liver transplant

Subacute-fulminant hepatic failure (first transplant)

1992	108	72	9	27
1993	124	105	11	8
1994	121	94	12	15
1995	116	91*	18	7
1996	146	118*	14	14
1997	109	82	15	12
1998	135	105	8	22

Irreversible graft failure (repeat transplant)

1992	82	64	4	14
1993	111	98	4	9
1994	100	71	19	10
1995	82	73	5	4
1996	111	83	11	17
1997	109	83*	11	15
1998	86	65*	9	12

* One HU liver transplant was performed in the next calendar year.

6. Pancreas: donation, waiting lists, and transplants

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6.1 Pancreas donors

In 1998, 758 pancreas donors were reported to the central office of Eurotransplant (Table 6.1). Almost 85% of all pancreases from donors aged 10–50 years were offered to clinical transplant programmes. Thirty-five percent of all donor pancreases accepted for whole pancreas transplantation (N=135/387) were found to be unsuitable at the time of procurement, but, ultimately, pancreases from 247 donors were used in a whole pancreas transplant, which was an increase of 22% compared with 1997. Table 6.2 presents demographic data of these whole pancreas donors.

The number of pancreases accepted for islet transplantation and pancreas research decreased by 30%, from 285 in 1997 to 202 in 1998. Eleven pancreatic islet transplantations were carried out, a drop of 50% on 1997. Islet transplant practices vary from the use of only one pancreas per transplant to multiple pancreases per procedure. Donor activity and availability for clinical transplant activity and pancreas research programmes, by country and centre, are shown in the Addenda.

Table 6.1 Use of cadaveric donor pancreases in the Eurotransplant region in 1998

Donor Eurotransplant country	Austria	Belgium	Germany	Luxemburg	Netherlands	1998	1997
						Total	Total
Total no. of pancreas donors reported	81	137	443	1	101	763	793
No pancreas donor procurement:	16	16	73	0	16	121	145
– No time for selection or offer withdrawn	2	4	3	0	1	10	9
– Medical reasons	13	9	58	0	13	93	84
– No suitable recipient: size or blood group	0	0	1	0	0	1	1
– Centre/bank out of capacity or recipient unfit	1	2	10	0	2	15	30
– Transplant problems or other organizational reasons	0	1	0	0	0	1	16
– Donor cardiovascular instability	0	0	1	0	0	1	5
Pancreas donor inspection/procurement:	65	121	370	1	85	642	648
No transplantation/research	14	24	147	0	8	193	160
– Organ unsuitable for transplantation	12	9	108	0	6	135	94
– Organ unsuitable for research	2	15	36	0	2	55	66
– No back-up recipient (positive cross-match)	0	0	3	0	0	3	0
Whole pancreas transplantation	35	31	146	1	34	247	203
Research and islet transplantation	16	66	77	0	43	202	285
– β cell project, Brussels	14	61	38	0	26	139	208
– Islet transplants (one transplant/multiple donors)	–	–	–	–	–	5	5
– Pancreas islet research, Gießen	2	0	27	0	1	30	28
– Islet transplants (one transplant/one donor)	1	–	5	–	–	6	17
– Local and other pancreas banks	0	5	12	0	16	33	49
– Islet transplants	–	–	–	–	–	0	0

Table 6.2 Demographics of cadaveric donors whose pancreases were transplanted as a whole pancreas transplant in the Eurotransplant region in 1998

Country	Total	Age (years)			Sex		ABO Blood group				Cause of death		
		0–15	16–55	≥56	Male	Female	A	AB	B	O	Accident	Natural	Suicide
Austria	35	2	31	2	27	8	12	3	4	16	15	19	1
Belgium	31	2	28	1	16	15	9	2	2	18	19	11	1
Germany	146	6	139	1	85	61	67	4	17	58	64	74	8
Luxemburg	1	0	1	0	1	0	1	0	0	0	0	1	0
Netherlands	34	2	32	0	13	21	17	0	1	16	12	22	0
Total	247	12	231	4	142	105	106	9	24	108	110	127	10
	100%	5%	93%	2%	57%	43%	43%	3%	10%	44%	45%	51%	4%

6.2 Waiting list

The overall number of patients on the active waiting list for a pancreas transplant increased by 12% (N=23) compared with 1997; a significant increase in the pancreas (/kidney) waiting list of 39 patients was balanced by a decrease in the islet (/kidney) waiting list of 16 patients (Table 6.3).

The characteristics of the pancreas+kidney waiting list on December 31, 1998 (N=149) are shown in Table 6.3:

- ABO blood group type B was far more present (N=27; 18%).
- Thirteen patients had a current % panel reactive antibodies (PRA) level of 6% or more.
- Waiting times of one year or more were noted in Belgium (72%), probably caused by the necessity of a minimal HLA-match as a criterion to carry out the transplantation.

A waiting list for islet transplants is currently maintained by: Brussels Jette, Belgium (Prof. Dr. D. Pipeleers), Gießen, Germany (Prof. Dr. W. Bretzel), and Innsbruck, Austria (Prof. Dr. R. Margreiter).

Table 6.3 Active pancreas transplant waiting list on December 31, 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	%	1997 Total
Number		23	27	159	8	217		194
Type of transplant	<i>Pancreas+kidney</i>	14	22	105	8	149		121
	<i>Islet+kidney</i>	2	–	3	–	5		6
	<i>Pancreas+liver+kidney</i>	–	–	1	–	1		0
	<i>Pancreas+liver</i>	–	–	–	–	0		2
	<i>Pancreas-only</i>	7	1	17	–	25		12
	<i>Islet-only</i>	–	4	33	–	37		52
Pancreas+kidney waiting list		14	22	105	8	149		121
Age (years)	11-15	0	0	1	0	1	–	0
	16-40	6	7	55	2	70	47%	65
	41+	8	15	49	6	78	53%	56
ABO blood group	A	1	9	36	3	49	33%	39
	AB	0	2	4	0	6	4%	4
	B	4	3	19	1	27	18%	15
	O	9	8	46	4	67	45%	63
% PRA current	0-5%	9	20	99	7	135	91%	108
	6-84%	4	2	5	1	12	8%	9
	85-100%	0	0	1	0	1	1%	3
	Not yet reported	1	0	0	0	1	–	1
Time waiting as pancreas+kidney (months)	0-5	7	3	77	3	90	60%	77
	6-11	5	3	25	4	37	25%	31
	12-23	2	10	3	1	16	11%	8
	24+	0	6	0	0	6	4%	5

6.3 Inflow to the pancreas waiting list during 1998

The number of registrations for a pancreas transplant in 1998 was 18% higher than in 1997 (Table 6.4). Germany again showed a particularly high increase in the number of registrations: from 217 to 276.

The vast majority of registrations remained for pancreas+kidney transplants (88%). Age distribution didn't differ between the ET countries, in contrast to the ABO blood group distribution.

Sixty percent of registrations for pancreas-only transplantation involved a pancreas re-transplant. Some liver transplant programs commenced with a liver+pancreas transplant project.

It should be reminded that listing on a passive waiting list urgency code is not excluded in Table 6.4.

Table 6.4 Pancreas transplant waiting list in 1998: inflow (registrations) and outflow

		Austria	Belgium	Germany	Netherlands	1998 Total	1997 Total
Registrations	Total	32	24	276	24	356	300
Type of transplant	<i>Pancreas+kidney</i>	26	17	246	24	313	
	<i>Islet+kidney</i>	–	–	2	–	2	
	<i>Pancreas+liver+kidney</i>	–	–	2	–	2	
	<i>Pancreas+liver</i>	1	–	7	–	8	
	<i>Pancreas-only</i>	5	1	18	–	24	
	<i>Islet-only</i>	–	6	1	–	7	
Pancreas+kidney	Registrations	26	17	246	24	313	100%
Sequence	<i>First pancreas transplant</i>	26	17	233	24	300	96%
	<i>Repeat pancreas transplant</i>	0	0	13	0	13	4%
Age (years)	<i>16-40</i>	14	7	137	12	170	54%
	<i>41+</i>	12	10	109	12	143	46%
ABO blood group	<i>A</i>	7	7	98	13	125	40%
	<i>AB</i>	3	2	14	1	20	6%
	<i>B</i>	5	2	37	2	46	15%
	<i>O</i>	11	6	97	8	122	39%
Outflow	Transplantation	31	22	189	16	258	226
	Mortality on the waiting list	2	1	15	1	19	5
	De-listing	1	4	9	3	17	40

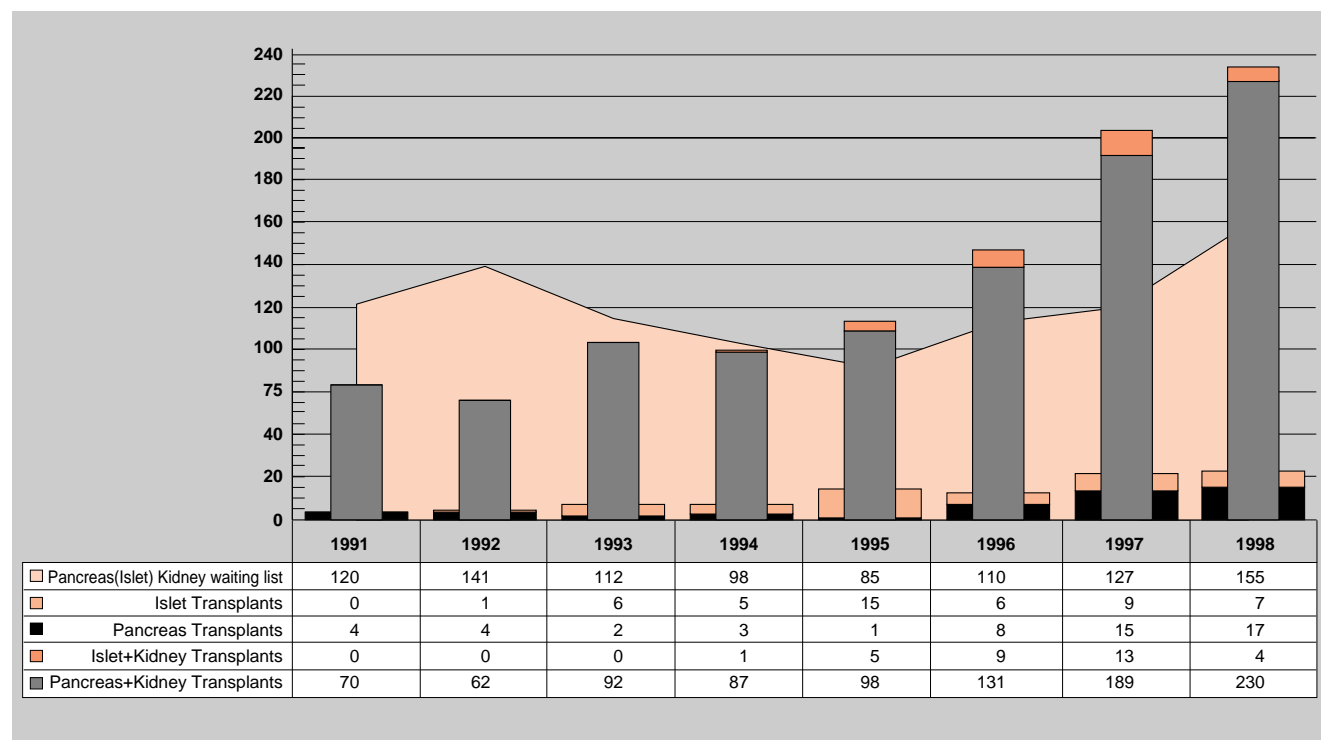


Figure 6.1 Dynamics of the Eurotransplant pancreas+kidney and islet+kidney waiting list, pancreas+kidney, islet+kidney, pancreas and islet-only transplants between 1991 and 1998

6.4 Outflow from the pancreas waiting list in 1998

6.4.1 Pancreas transplant activities

For the third year in a row, pancreas+kidney transplant activity significantly increased from 120 transplants in 1995 to 258 in 1998 (Table 6.5; Figure 6.1). Pancreas-only, pancreas+liver, islet-only, and islet+kidney transplants constituted approximately 10% of the total pancreas transplant activity.

Table 6.5 shows the characteristics of the pancreas+kidney transplants carried out in 1998 (N=230), and the following points should be noted:

- Belgian transplant programmes adhered to a limited number of HLA-antigen mismatches.
- Ten percent had accrued a waiting time of 1 year or more (N=23).
- The majority of patients received a first kidney and first pancreas transplant (N=224; 97%).

Transplant activities and pancreas exchange, per country and per centre, are shown in detail in the Addenda.

6.4.2 Mortality on the waiting list and de-listing

More patients died on the pancreas waiting list (N=19) (Table 6.4), practically all dying within the first year after registration. Seventeen patients were removed from the list when they failed to meet the pancreas(+kidney) transplant criteria or they were no longer eligible for a pancreas transplant but were still eligible for a kidney transplant.

Table 6.5 Pancreas transplants in 1998: characteristics

		Austria	Belgium	Germany	Netherlands	1998 Total	1997 Total
Number		31	22	189	16	258	226
Type of transplant	<i>Pancreas+kidney</i>	29	16	169	16	230	189
	<i>Islet+kidney</i>	–	–	4	–	4	13
	<i>Pancreas+liver+kidney</i>	–	–	2	–	2	0
	<i>Pancreas+liver</i>	–	–	4	–	4	3
	<i>Pancreas+liver+intestines</i>	1	–	1	–	2	0
	<i>Pancreas-only</i>	1	1	7	–	9	12
	<i>Islet-only</i>	–	5	2	–	7	9
Pancreas+kidney transplants		29	16	169	16	230	100% 189
HLA-A, B, DR mismatch	0	0	1	0	0	1	<1% 1
	1	0	1	3	0	4	2% 7
	2	3	2	17	2	24	10% 22
	3	7	7	30	2	46	20% 33
	4	10	4	44	6	64	28% 55
	5	6	1	52	2	61	27% 44
	6	3	0	23	4	30	13% 27
Age (years)	16-40	16	6	93	10	125	54% 124
	41+	13	10	76	6	105	46% 65
ABO blood group	A	9	6	75	8	98	43% 93
	AB	3	1	10	0	14	6% 10
	B	4	1	20	1	26	11% 29
	O	13	8	64	7	92	40% 57
% PRA prior to transplant	0-5%	28	15	160	16	219	95% 176
	6-84%	1	1	8	0	10	4% 12
	85-100%	0	0	1	0	1	1% 1
Time waiting as pancreas+kidney (months)	0-5	12	10	89	3	112	49% 100
	6-11	12	3	70	8	93	41% 57
	12-23	3	2	7	3	15	7% 28
	24+	2	1	3	2	8	3% 4

7. Histocompatibility Testing

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7.1 Introduction

To improve the quality of tissue typing, screening and crossmatching remains the core task of the Eurotransplant Reference Laboratory (ETRL). This task performed by organising quality control exercises (proficiency testing programmes) for the Tissue Typing Centers (TTC) participating in Eurotransplant, initiating studies, and discussing possible new recommendations within the Tissue Typing Advisory Committee (TTAC).

7.2 Eurotransplant Proficiency Testing

The quality control schemes applied in 1998 to determine the individual performance of the TTCs are reported below:

7.2.1 Quality control exercises on HLA typing

In 1998, 16 cell suspensions were sent out to the TTCs. Each participant received eight samples for analysis and was asked to report the results within one month of dispatch.

Almost all participants reported their results on time. The introduction of the 75 % consensus rule, as requested by the European Federation of Immunogenetics (EFI) facilitated the acceptance of possible discrepancies. The consensus rule, introduced already several years ago, makes a result acceptable if 75% of the participants reported it. Every difference to the consensus is then quoted as a discrepancy. A consensus was obtained for all HLA-A, B and DR “broad” antigens. In total 340 HLA typings were evaluated and the results are summarised in Table 7.1.

Table 7.1 Quality control exercise on HLA typing

Locus	Total N Typings	N Discrepant	% Discrepancy
HLA-A	340	6	1.8
HLA-B	340	8	2.4
HLA-DR	340	5	1.5

The results are similar to those obtained in 1997. The trend that HLA-DR typing is more reliable than typing for HLA-A, B continues and is the result of the introduction of molecular typing in the TTCs. Two of the 5 discrepancies in HLA-DR could be attributed to clerical errors.

7.2.2 Quality control exercises on HLA typing by DNA

Two Exercises (DNA#11 and DNA#12) with 10 samples each were sent to 49 TTCs. DNA was isolated from either spleen material from organ donors, peripheral blood from healthy blood donors, or cell lines. Some rare alleles and rare haplotypes were included. One laboratory was not yet performing DNA typing and therefore did not submit any results for the exercise DNA#11. The overall number of HLA-DR discrepancies on the level of ‘broad’ specificities was 2 out of 970 typings or 0.2%. One discrepancy was due to a clerical error. A different picture is obtained analysing the results of HLA-A, B typing by DNA. Here the number of TTCs performing this type of typing increased significantly in the past year. In exercise DNA#11, 10 laboratories and in exercise DNA#12, 21 participated. The number of discrepancies observed was 24 out of 220 typings or 10.9%. The majority of the discrepancies were related to an inadequate usage of the current nomenclature for HLA specificities.

Finally, the results of DNA typing revealed that this method is a very powerful technique. The main problem remains the overestimation of the method and the inadequate reporting of the data.

7.2.3 Quality control on crossmatching

As in the past, TTCs participating in this Quality control exercise were asked to perform crossmatches using the cells provided and four different Eurotransplant patient sera selected by the ETRL. The TTCs used their

local crossmatch techniques to simulate the day to day practice. In total 24 sera had to be crossmatched per TTC (Table 7.2).

Table 7.2 Quality control exercise on crossmatching

Number of crossmatches without DTT	944			
Number of crossmatches with DTT	852			
	- DTT		+ DTT	
	1998	1997	1998	1997
All TTCs agreed	24	20	30	21
One TTC disagreed	8	18	10	11
Two TTCs disagreed	5	9	4	8
>2 TTCs disagreed	20	27	14	34

DTT destroys antibodies of the IgM type

Results can be summarized as follows:

- HLA specific antibodies of the IgG class resulted in a complete consensus result.
- Non donor specific HLA antibodies did not cause problems in the crossmatch.
- Allo- or autoantibodies of the IgM type still cause problems, as well as weak HLA specific antibodies.
- Dithiothreitol (DTT) was used by almost all laboratories, with adequate results.
- Reliability of the participating TTC with respect to crossmatching has increased.

7.2.4 Quality control exercise on screening

For the quality control exercise on screening the participating laboratories received serum samples from the Eurotransplant Reference Laboratory (ETRL) at regular intervals and were asked to test them in their usual screening procedures. In total 16 sera were screened per TTC. The panel size used by the participants ranged between 30 and 100 HLA typed cells. New techniques such as ELISA based ones have been taken up by the TTCs. In many cases an improvement of the results occurred. The results revealed a high concordance in the case of IgG HLA class I specific antibodies, while HLA antibodies of the IgM type were several times defined as being negative (probably loss of activity during shipment!). In summary, the TTCs in Eurotransplant are able to define correctly the specificity of HLA antibodies, when these are of the IgG type and reacting towards HLA-A,B,C antigens. HLA specific antibodies of the IgM type, autoantibodies and antibodies towards HLA-DR,DQ antigens still cause problems.

7.2.5 Proficiency testing on donor retyping

Since September 1996, a selected number of organ donors were retyped in the ETRL. Peripheral blood is sent to the ETRL where DNA is isolated. HLA typing was carried out using molecular techniques such as SSP and SSO. The overall discrepancy rate of 3.2% for HLA-A,B,DR remains comparable to the past years.

7.3 Programmes for the highly immunized patients in Eurotransplant

As reported repeatedly, two programmes are currently available for highly immunized patients participating in Eurotransplant: the Acceptable Mismatch Programme (AM) and the Highly Immunized Trial (HIT). Both programmes are organised and controlled by the ETRL. Sixtyone HIT patients have been transplanted since the start of the program in May 1997. Three months graft survival of 85% is acceptable for this group of patients.

7.4 Eurotransplant Serum Sets

Serum sets for HLA-A,B,C and HLA-DR,DQ are regularly compiled by the ETRL. This effort is achieved through the co-operation of many HLA laboratories within and outside Eurotransplant. The aim of the distribution of the sets remains the same as before: to realise uniform HLA-A,B,C and HLA-DR,DQ typing of organ donors and potential organ recipients and their family members.

In 1998, 23 sets for HLA-A,B,C and 21 sets for HLA-DR typing were sent to TTCs affiliated to Eurotransplant.

7.5 Other activities

7.5.1 Tissue typers meeting

The annual tissue typers meeting was held in Leiden on October 8, 1998. The aim of the tissue typers meeting was to stimulate discussions on 'hot topics' and the influence of the problems arising from these, on the daily work. The scientific part included presentations on current programmes for highly immunized patients and management of such patients. The positive influence of HLA-DR split matching especially for immunized patients was reported as well as the irrelevant effect of CREG matching in Eurotransplant.

7.5.2 Fifth extramural meeting

The fifth extramural meeting was held on February 6, 1998, in Ulm, Germany. Many members of Eurotransplant affiliated laboratories participated. This meeting is intended to act as a forum for ideas and problems occurring in the daily work, leaving sufficient time for discussions and short comments. Several aspects of the day-to-day laboratory work and especially the introduction in Eurotransplant of the patient specific kidney donor profile were discussed.

7.5.3 Tissue Typing Advisory Committee

The fruitful interaction between the ETRL and the TTAC continues. All centers can and should have the possibility of input of ideas. All TTCs receive both the agenda as well as a summary of the minutes of the TTAC.

8. Publications

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8.1 Introduction

In 1998, the ET medical staff received many requests (> 400) for Eurotransplant donor, waiting list and transplant data, from numerous sources, i.e. ET members, ET advisory committees, patient organizations, the different governments, researchers, students and many other individuals. Often specific programming had to be made in order to address the specific questions. Data requests can be made by submitting a fax, in which the desired information is specified appropriately and accurately.

Upon the demand of the Board, acting as the ET scientific advisory committee, the ET medical staff is continuously engaged in research on the Eurotransplant databases, for the benefit of allocation and transplantation.

It goes without saying that only a valid database renders it possible to provide all the requested information. In this respect, all the ET transplant programmes and tissue-typing laboratories are gratefully thanked for their continued efforts to maintain and update the Eurotransplant database, belonging the ET community. As an acknowledgment and tribute to your continuous support and loyalty, an overview of all publications and abstracts, in which the central office of ET participated, is given.

8.2 Publications in 1998

The names of authors who work at the Eurotransplant central office are underlined.

Alfani D, Pretagostini R, Bruzzone P, Smits JMA, Persijn GG, Cortesini R. **Kidney transplantation from living unrelated donors.** In: Clinical Transplants 1998. Edited by Cecka JM, Terasaki PI, 1998. UCLA Tissue Typing Laboratory, p205-212.

Den Boer JD, De Meester JMJ, Persijn GG. **Combined liver+kidney and heart+kidney transplantation in the Eurotransplant region 1992-1996 : results and policy.** Research Project, Biomedical sciences, University of Leiden, The Netherlands.

Claas FHJ. **Histocompatibility.** In: Organ procurement in the Netherlands. Edited by van Wezel HBM, Slooff MJH, van Goor H, 1998. Bohn Stafleu Van Loghem, p61-68.

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Cohen B, McGrath SMC, De Meester JMJ, Vanrenterghem Y, Persijn GG. **Trends in organ donation.** *Clinical Transplantation* 1998; 12: 525-529.

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Doxiadis IIN, De Meester JMJ, Smits JMA, Witvliet M, de Lange P, Persijn GG, Claas FHJ. **The impact of special programs for kidney transplantation of highly sensitized patients in Eurotransplant.** In: Clinical Transplants 1998. Edited by Cecka JM, Terasaki PI. UCLA Tissue Typing Laboratory, p115-120.

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De Meester JMJ, Persijn GG, Wujciak Th, Opelz G, Vanrenterghem Y. **The new Eurotransplant kidney allocation system: impact after one year**. *Transplantation* 1998; 9: 1154-1159.

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De Meester JMJ, Persijn GG. **Allocation of cadaver organs to transplant recipients in Eurotransplant: principles and policies, anno 1998**. In: Organ Allocation. Edited by Touraine JL, 1998. Kluwer Academic Publishers, p61-66.

De Meester JMJ, Persijn GG. **Heart transplantation: need and survival on the waiting list**. *Frontiers in heart failure treatment* 1998; 1: 6-7.

De Meester JMJ, Bok A, van der Velde O, van der Meulen A, Smits JMA, Persijn GG. **Cadaveric kidney transplantation in The Netherlands : renal transplant candidates with a long waiting time**. Research Project, supported by the Dutch Kidney Foundation.

Smits JMA, Houwelingen van HC, De Meester JMJ, Persijn GG, Claas FHJ. **Analysis of the renal transplant waiting list. Application of a parametric competing risk method**. *Transplantation* 1998; 9: 1146-1153.

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Wezel van HBM, De Meester JMJ. **Medical evaluation of heart-beating donors**. In: Organ Procurement in the Netherlands. Edited by van Wezel HBM, Slooff MJH, van Goor H, 1998. Bohn Stafleu Van Loghum, p69-81.

Van Wijngaarden K, De Meester JMJ, de Boer J, Persijn GG. **Logistics at Eurotransplant**. VLO magazine, 1998: Vol. 2.

8.3 Abstracts

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De Boer J, Smits JMA, De Meester JMJ, van der Velde O, Bok A, Persijn GG, Ringe B. **A randomized multicenter study on kidney preservation comparing HTK with UW**. XVIIIth Congress of the International Transplant Society, Montreal, Canada, July 12-17, 1998.

De Boer J, De Winter H, De Meester JMJ, Smits JMA, Persijn GG, Slooff MJH. **The results of liver transplantation in clinically high urgent recipients**. XVIIIth Congress of the International Transplant Society, Montreal, Canada, July 12-17, 1998.

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De Meester JMJ, Smits JMA, Persijn GG, Haverich A. **Underlying pulmonary disease and outcome on the lung transplant waiting list**. XVIIIth Annual Meeting, International Society for Heart and Lung Transplantation, Chicago, USA, April 15-18, 1998.

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Addenda

Table 1 Number of patients active on the waiting list on December 31, 1998, stratified by organ, per country and per center

Country	Center	Kidney	Kidney+ Pancreas*	Pancreas*	Heart	Heart+ Lung	Lung	Liver
Austria	GA	87	–	–	25	2	–	2
	IB	251	15	7	14	–	7	26
	OE	79	–	–	–	–	–	–
	OL	45	–	–	–	–	–	–
	OW	2	–	–	–	–	–	–
	WD	3	–	–	–	–	–	–
	WG	343	1	–	47	1	14	14
	TOTAL	810	16	7	86	3	21	42
Belgium	AN	36	1	–	1	–	1	–
	AS	–	–	–	5	–	–	–
	BJ	13	–	–	–	–	–	–
	BP	–	–	4	–	–	–	–
	BR	290	5	–	10	7	7	13
	GE	90	5	–	3	–	–	15
	LA	152	–	1	6	–	3	25
	LE	3	–	–	–	–	–	–
	LG	40	4	–	6	–	1	1
	LM	244	7	–	1	1	2	9
TOTAL	868	22	5	32	8	14	63	
Germany	AK	87	–	–	4	–	–	–
	AU	36	–	–	–	–	–	–
	BA	–	–	–	165	6	7	–
	BB	243	8	6	–	1	–	–
	BD	–	–	–	83	7	8	–
	BE	327	–	–	–	–	–	–
	BH	–	–	–	4	–	–	–
	BM	186	–	–	–	–	–	–
	BO	109	2	–	–	–	–	8
	BS	146	–	–	–	–	–	–
	BV	461	18	–	–	–	–	49
	DR	57	–	–	18	1	4	–
	DU	346	–	–	6	–	–	–
	ES	355	1	–	3	1	–	15
	FD	–	–	–	13	–	3	–
	FM	286	–	–	11	–	–	7
	FR	275	7	–	9	–	–	11
	GI	168	3	33	6	–	2	–
	GO	120	–	–	7	–	–	10
	HA	142	–	–	3	–	–	–
	HB	288	–	–	26	2	1	10
	HG	258	2	–	5	–	–	43
	HM	270	–	–	–	–	–	–
	HO	778	–	–	24	14	61	86
	HS	127	–	–	7	–	16	–
	JE	128	1	–	–	–	–	10
	KG	–	–	–	1	–	–	–
	KI	91	–	–	52	2	15	4
	KK	4	–	–	–	–	–	–
	KL	129	1	–	10	1	–	2
	KM	286	3	–	–	–	–	4
	KR	–	–	–	11	–	–	–
	KS	130	–	–	5	–	–	–
	LP	62	1	–	6	–	–	11
LU	307	–	–	–	–	–	–	
MA	142	–	–	–	–	–	–	
MB	1	–	–	–	–	–	1	
MD	–	–	–	20	–	–	–	
MH	216	–	–	–	–	–	9	
ML	473	26	5	46	7	12	18	
MN	292	1	–	20	5	3	3	
MR	131	2	–	–	–	–	–	
MZ	114	–	–	4	–	4	13	
NB	317	6	–	–	–	–	7	
RB	143	2	–	9	–	–	4	
RO	134	18	5	–	–	–	6	
ST	241	–	–	–	–	–	–	
TU	129	5	–	2	–	–	21	
UL	235	2	1	–	–	–	–	
WZ	188	–	–	1	–	–	2	
TOTAL	8958	109	50	581	47	136	354	
Luxemburg	LX	16	0	0	0	0	0	0
Netherlands	AW	191	–	–	–	–	–	–
	GR	258	–	–	–	2	53	15
	LB	161	8	–	–	–	–	7
	MS	114	–	–	–	–	–	–
	NY	147	–	–	–	–	–	–
	RD	182	–	–	14	–	–	11
	RS	4	–	–	–	–	–	–
	UT	103	–	–	8	–	–	–
UW	9	–	–	–	–	–	–	
TOTAL	1169	8	0	22	2	53	33	
Eurotransplant	TOTAL	11821	155	62	721	60	224	492

11976

*Note: islet+kidney and/or islet-only transplant candidates are listed at IB, Austria (2 islet+kidney), in BP, Belgium (4 islet-only) and in GI, Germany (3 islet+kidney, 33 islet-only).

Table 2a Cadaveric donor activities in 1998, stratified by type of donation, per country and per center

Donor country	Donor center	Total number of donors reported			KIDNEY DONOR			NO-KIDNEY DONOR
		Total	No transplant	Transplant	KL only	MOD	% MOD	
				TOTAL				
Austria	GA	29	1	28	5	20	80.0	3
	IB	48	0	48	6	41	87.2	1
	OL	12	1	11	2	9	81.8	0
	OW	3	0	3	1	2	66.7	0
	WG	83	7	76	14	61	81.3	1
	TOTAL	175	9	166	28	133	82.6%	5
Belgium	AN	20	2	18	4	14	77.8	0
	AS	4	1	3	0	3	100.0	0
	BJ	9	0	9	1	8	88.9	0
	BR	34	4	30	3	23	88.5	4
	GE	25	1	24	1	23	95.8	0
	LA	36	1	35	12	22	64.7	1
	LG	19	0	19	3	16	84.2	0
	LM	69	13	56	8	46	85.2	2
	TOTAL	216	22	194	32	155	82.9%	7
Germany	AK	6	0	6	3	3	50.0	0
	BB	34	3	31	13	17	56.7	1
	BM	23	1	22	9	12	57.1	1
	BO	20	1	19	4	14	77.8	1
	DR	19	2	17	7	10	58.8	0
	DU	32	3	29	8	21	72.4	0
	ES	50	0	50	14	34	70.8	2
	FD	7	0	7	1	5	83.3	1
	FM	29	1	28	10	18	64.3	0
	FR	34	4	30	15	15	50.0	0
	GI	9	0	9	0	9	100.0	0
	GO	22	2	20	4	16	80.0	0
	HA	23	3	20	6	13	68.4	1
	HB	16	0	16	2	13	86.7	1
	HG	34	2	32	8	24	75.0	0
	HO/HM	121	6	115	38	73	65.8	4
	HS	20	0	20	5	15	75.0	0
	JE	57	5	52	9	43	82.7	0
	KI	16	0	16	6	8	57.1	2
	KL	23	2	21	4	16	80.0	1
	KM	20	3	17	9	7	43.7	1
	KS	11	1	10	2	8	80.0	0
	LP	51	5	46	17	29	63.0	0
	LU	18	0	18	13	5	27.8	0
	MA	7	0	7	2	5	71.4	0
	ML/MH/AU	77	2	75	24	48	66.7	3
	MN	46	3	43	15	26	63.0	2
	MR	12	0	12	6	5	45.4	1
	MZ	10	0	10	1	8	88.9	1
	NB	46	0	46	21	25	54.4	0
RB	14	1	13	7	5	41.7	1	
RO	43	3	40	12	27	69.2	1	
ST	8	0	8	1	7	87.5	0	
TU	34	1	33	14	19	57.6	0	
UL	28	4	24	9	15	62.5	0	
VB/BD/BE/BS/BV/EB	97	3	94	24	67	73.6	3	
WZ	18	1	17	10	7	41.2	0	
	TOTAL	1135	62	1073	353	696	66.2%	28
Luxemburg	LX	7	0	7	2	5	71.4%	0
Netherlands	AW	26	4	22	7	15	68.2	0
	GR	35	1	34	5	29	85.3	0
	LB	27	3	24	10	14	58.3	0
	MS	32	6	26	20	6	23.1	0
	NY	49	1	48	16	31	66.0	1
	RD	20	2	18	5	13	72.2	0
UT	25	1	24	11	13	54.2	0	
	TOTAL	214	18	196	74	121	62.0%	1
Eurotransplant, Total		1747	111	1636	489	1106	69.3%	41
					1595			41
Croatia		2	2	0	0	0		0
Czech Republic#		26	2	24	3	1		20
Finland		2	1	1	0	0		1
France		44	32	12	0	1		11
Greece		13	7	6	0	0		6
Hungary#		6	2	4	1	0		3
Israel		10	8	2	0	0		2
Italy		32	21	11	1	2		8
Latvia#		2	0	2	0	0		2
Norway		18	14	4	0	0		4
Poland#		4	1	3	0	0		3
Portugal		1	1	0	0	0		0
Slovenia#		13	3	10	0	2		8
Slovak Republic#		23	1	22	0	0		22
Spain		60	46	14	9	0		5
Sweden		34	27	7	0	0		7
Switzerland		30	25	5	2	0		3
United Kingdom/Ireland		13	10	3	0	0		3
From outside Eurotransplant, Total		336	206	130	16	6		108

#: organ-specific cooperation with Eurotransplant transplant programs

Table 2b Cadaveric donor activities in 1998, stratified by organ used in a transplant, per country and per center

Donor Country	Donor Center	Kidney Donor	Kidneys	Heart Donor	Lung Donor	Liver Donor	Pancreas Donor
Austria	GA	25	50	19	3	21	7
	IB	47	94	29	7	39	15
	OL	11	22	5	3	8	4
	OW	3	6	2	2	2	1
	WG	75	146	38	22	49	9
	TOTAL	161	318	93	37	119	36
Belgium	AN	18	36	8	4	13	6
	AS	3	6	3	1	3	—
	BJ	9	16	7	1	6	—
	BR	26	49	18	5	24	3
	GE	24	45	11	5	21	8
	LA	34	66	18	4	17	5
	LG	19	37	11	2	16	3
	LM	54	105	29	11	42	6
	TOTAL	187	360	105	33	142	31
Germany	AK	6	12	3	—	3	—
	BB	30	56	14	3	12	6
	BM	21	42	9	2	9	1
	BO	18	35	8	1	9	6
	DR	17	30	6	1	7	2
	DU	29	54	11	3	18	3
	ES	48	92	21	6	32	7
	FD	6	12	6	1	5	3
	FM	28	55	11	4	15	1
	FR	30	59	10	—	12	3
	GI	9	17	8	3	7	2
	GO	20	37	11	4	15	2
	HA	19	36	11	3	12	6
	HB	15	30	12	2	12	9
	HG	32	64	12	5	21	2
	HO/HM	111	209	53	15	61	2
	HS	20	37	6	3	13	2
	JE	52	101	24	3	40	14
	KI	14	26	5	2	9	2
	KL	20	40	11	1	15	8
	KM	16	31	5	2	7	3
	KS	10	19	7	3	7	5
	LP	46	87	24	2	21	6
	LU	18	36	3	—	5	3
	MA	7	12	3	—	4	2
	ML/MH/AU	72	141	40	12	33	7
	MN	41	77	16	4	23	—
	MR	11	22	4	1	5	—
	MZ	9	18	4	—	9	1
	NB	46	83	16	3	23	5
RB	12	23	6	1	5	3	
RO	39	73	18	7	25	12	
ST	8	16	3	2	6	—	
TU	33	63	14	2	15	4	
UL	24	46	9	2	12	3	
VB	91	170	52	18	50	14	
WZ	17	31	6	2	5	2	
	TOTAL	1045	1992	482	123	582	151
Luxemburg	LX	7	13	4	—	4	1
Netherlands	AW	22	42	8	3	15	5
	GR	34	67	17	10	28	6
	LB	24	44	9	4	12	2
	MS	26	51	3	1	6	1
	NY	47	91	12	8	29	17
	RD	18	36	6	1	12	1
	UT	24	48	7	5	13	2
	TOTAL	195	379	62	32	115	34
Eurotransplant, Total		1595	3062	746	225	962	253
Czech Republic [#]		4	5	1	2	18	—
Finland		—	—	1	—	—	—
France		1	1	10	1	2	—
Greece		—	—	2	3	1	—
Hungary [#]		1	1	2	—	2	—
Israel		—	—	—	—	2	—
Italy		3	3	8	1	2	—
Latvia [#]		—	—	—	—	2	—
Norway		—	—	—	—	4	—
Poland [#]		—	—	—	—	3	—
Slovenia [#]		2	2	4	2	8	—
Slovak Republic [#]		—	—	4	1	21	—
Spain		9	9	4	—	1	—
Sweden		—	—	2	2	4	—
Switzerland		2	3	1	—	2	—
United Kingdom/Ireland		—	—	1	2	—	—
From outside Eurotransplant, Total		22	24	40	14	72	0

: organ-specific cooperation with Eurotransplant transplant programs

Table 3a Transplant activities [cadaveric donor] in 1998, stratified by organ, per country and per center

Country	Center	Kidney	Kidney+ Pancreas*	Pancreas*	Heart	Heart+ Lung	Lung	Liver
Austria	GA	49	–	–	17	–	–	11
	IB	80	24	2	23	1	6	57
	OE	20	–	–	–	–	–	–
	OL	14	–	–	–	–	–	–
	WD	7	–	–	–	–	–	–
	WG	126	5	–	54	–	55	65
	TOTAL	296	29	2	94	1	61	133
Belgium	AN	23	2	–	7	–	2	–
	AS	–	–	–	10	–	–	–
	BJ	12	–	–	–	–	–	–
	BP	–	–	5	–	–	–	–
	BR	52	–	–	15	2	13	17
	GE	33	7	–	10	–	–	26
	LA	87	3	1	18	–	8	39
	LE	4	–	–	–	–	–	–
	LG	30	–	–	16	–	–	22
	LM	104	4	–	20	3	10	35
TOTAL	345	16	6	96	5	33	139	
Germany	AK	19	–	–	14	–	–	–
	AU	4	–	–	–	–	–	–
	BA	–	–	–	77	1	3	–
	BB	47	27	1	–	–	–	–
	BD	–	–	–	77	6	20	–
	BE	74	–	–	–	–	–	–
	BH	–	–	–	5	–	–	–
	BM	43	–	–	–	–	–	–
	BO	16	9	–	–	–	–	23
	BS	30	–	–	–	–	–	–
	BV	35	22	–	–	–	–	121
	DR	27	–	–	24	1	1	–
	DU	53	–	–	2	–	–	4
	EB (till 01 Oct)	51	–	–	–	–	–	–
	ES	68	3	–	9	–	3	62
	FD	–	–	–	8	–	–	–
	FM	56	–	–	10	–	1	18
	FR	59	6	1	16	–	–	12
	GI	25	4	2	19	–	–	–
	GO	26	–	–	8	–	–	20
	HA	55	–	–	4	–	–	–
	HB	55	–	–	25	–	3	27
	HG	49	–	–	14	–	–	64
	HM	64	–	–	–	–	–	–
	HO	181	–	–	34	2	40	88
	HS	19	–	–	7	–	14	–
	JE	78	7	5	–	–	–	41
	KG	–	–	–	2	–	–	–
	KI	18	–	–	16	–	7	10
	KK	1	–	–	–	–	–	–
	KL	19	4	–	13	–	–	12
	KM	44	8	1	–	–	–	9
	KR	–	–	–	10	–	–	–
KS	16	–	–	5	–	–	–	
LP	41	2	–	27	–	–	26	
LU	51	–	–	–	–	–	–	
MA	15	–	–	–	–	–	–	
MB	–	–	–	–	–	–	12	
MD	–	–	–	15	–	–	–	
MH	36	1	–	–	–	–	11	
ML	105	30	1	39	2	18	29	
MN	64	6	–	23	2	–	21	
MR	17	2	–	–	–	–	–	
MZ	20	–	–	5	–	7	27	
NB	61	6	–	–	–	–	19	
RB	19	5	–	12	–	–	9	
RO	48	19	3	–	–	–	4	
ST	29	–	–	–	–	–	–	
TU	25	7	–	5	–	–	24	
UL	32	7	–	–	–	–	–	
WZ	27	–	–	3	–	–	6	
TOTAL	1822	175	14	528	14	117	699	
Luxemburg	LX	6	0	0	0	0	0	0
Netherlands	AW	59	–	–	–	–	–	–
	GR	58	4	–	–	–	17	57
	LB	32	10	–	–	–	–	15
	MS	53	2	–	–	–	–	–
	NY	65	–	–	–	–	–	–
	RD	46	–	–	18	–	–	28
	RS	7	–	–	–	–	–	–
	UT	42	–	–	23	–	–	–
UW	1	–	–	–	–	–	–	
TOTAL	363	16	0	41	–	17	100	
Eurotransplant, Total		2832	236	22	759	20	228	1071

3068

* Note: islet+kidney and/or islet transplantations were carried out in BP, Belgium (5 Islet-only) and in GI, Germany (4 Islet+Kidney, 2 Islet-only).

Table 3b Transplant activities [living donor] in 1998, stratified by organ, per country and per center

Country	Center	Kidney			Liver			
		Living Related	Living Unrelated	Total	Living Related	Living Unrelated	Domino	Total
Austria	GA	2	0	2	-	-	-	-
	IB	11	3	14	1	0	0	1
	OE	4	2	6	-	-	-	-
	OL	2	0	2	-	-	-	-
	WG	20	5	25	-	-	-	-
	TOTAL	39	10	49	1	0	0	1
Belgium	BR	5	1	6	-	-	-	-
	GE	1	0	1	1	0	1	2
	LA	8	3	11	10	0	0	10
	LG	1	0	1	-	-	-	-
	LM	4	3	7	-	-	-	-
	TOTAL	19	7	26	11	0	1	12
Germany	AK	3	2	5	-	-	-	-
	BB	7	2	9	-	-	-	-
	BE	5	2	7	-	-	-	-
	BM	3	2	5	-	-	-	-
	BO	1	0	1	-	-	-	-
	BS	4	6	10	-	-	-	-
	BV	13	3	16	-	-	-	-
	DR	2	2	4	-	-	-	-
	DU	6	7	13	-	-	-	-
	EB	0	3	3	-	-	-	-
	ES	3	0	3	11	1	0	12
	FM	8	3	11	-	-	-	-
	FR	16	18	34	-	-	-	-
	GI	9	2	11	-	-	-	-
	GO	8	3	11	-	-	-	-
	HA	0	1	1	-	-	-	-
	HB	12	0	12	0	0	1	1
	HG	2	2	4	9	0	0	9
	HM	4	2	6	-	-	-	-
	HO	18	13	31	1	0	1	2
	HS	3	2	5	-	-	-	-
	JE	2	5	7	-	-	-	-
	KL	1	1	2	-	-	-	-
	KM	7	5	12	-	-	-	-
	KS	4	0	4	-	-	-	-
	LP	1	2	3	-	-	-	-
	LU	10	0	10	-	-	-	-
	MH	3	5	8	-	-	-	-
	ML	19	19	38	-	-	-	-
	MN	6	3	9	-	-	-	-
MR	1	0	1	-	-	-	-	
MZ	3	0	3	0	0	1	1	
NB	2	1	3	-	-	-	-	
RB	3	0	3	-	-	-	-	
ST	13	8	21	-	-	-	-	
TU	4	1	5	-	-	-	-	
UL	2	1	3	-	-	-	-	
WZ	6	3	9	-	-	-	-	
	TOTAL	214	129	343	21	1	3	25
Luxemburg	LX	0	0	0	0	0	0	0
Netherlands	AW	5	1	6	-	-	-	-
	GR	7	2	9	-	-	-	-
	LB	6	3	9	-	-	-	-
	MS	5	3	8	-	-	-	-
	NY	29	3	32	-	-	-	-
	RD	22	6	28	-	-	-	-
	RS	1	0	1	-	-	-	-
	UT	10	4	14	-	-	-	-
	UW	1	0	1	-	-	-	-
	TOTAL	86	22	108	0	0	0	0
Eurotransplant, Total		358	168	526	33	1	4	38

Table 4 Organ exchange of the Eurotransplant countries, based upon the cadaveric donor transplant activities in 1998

Table 4a Survey of donor kidney exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Luxemburg	Netherlands	ET	Others ^a	Total available	Difference
Austria	234	9	66	0	9		0	318	+7
Belgium	16	217	91	3	29		2	358	+3
Germany	55	95	1740	2	96		4	1992	+5
Luxemburg	0	8	3	1	1		0	13	-7
Netherlands	17	29	80	0	243		10	379	-
Total Eurotransplant	322	358	1980	6	378	3044	16	3060	+8
Others ^b	3	3	17	0	1	24	0	24	-8
Total transplanted	325	361	1997	6	379	3068	16	3084	

a. Transplant country: Others: Pakistan (7), Czech Republic (4), Sweden (3), Switzerland (2).

b. Donor country: Others: Spain (9), Czech Republic (5), Italy (3), Switzerland (3), Slovenia (2), France (1), Hungary (1).

Table 4b Survey of donor heart exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Netherlands	ET	Others ^a	Total available	Difference
Austria	77	1	11	2		0	91	+3
Belgium	1	80	13	0		4	98	-2
Germany	2	7	459	1		2	471	+57
Luxemburg	0	4	0	0		0	4	-4
Netherlands	3	1	19	38		1	62	-21
Total Eurotransplant	83	93	502	41	719	7	726	+33
Others ^b	11	3	26	0	40	0	40	-33
Total transplanted	94	96	528	41	759	7	766	

a. Transplant country: Others: United Kingdom (2), Finland (1), Italy (1), Norway (1), Spain (1), Sweden (1).

b. Donor country: Others: France (10), Italy (8), Slovenia (4), Slovak Republic (4), Spain (4), Greece (2), Hungary (2), Sweden (2), Czech Republic (1), Finland (1), Switzerland (1), United Kingdom (1).

Table 4c Survey of donor heart+lung exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Netherlands	Total available	Difference
Austria	1	0	1	-	2	-1
Belgium	0	5	2	-	7	-2
Germany	0	0	11	-	11	+3
Netherlands	-	-	-	-	-	-
Total Eurotransplant	1	5	14	-	20	-

Table 4d Survey of donor double lungs exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Netherlands	ET	Others ^a	Total available	Difference
Austria	15	1	5	1		1	23	+17
Belgium	4	12	4	0		1	21	+7
Germany	8	7	61	8		1	85	-4
Netherlands	5	8	8	6		0	27	-12
Total Eurotransplant	32	28	78	15	153	3	156	+8
Others ^b	8	0	3	0	11	0	11	-8
Total transplanted	40	28	81	15	164	3	167	

a. Transplant country: Others: Switzerland (2), United Kingdom (1).

b. Donor country: Others: Greece (3), Czech Republic (2), United Kingdom (2), France (1), Slovenia (1), Slovak Republic (1), Sweden (1).

Table 4e Survey of donor single lung exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Netherlands	ET	Others ^a	Total available	Difference
Austria	11	0	4	0		3	18	+3
Belgium	2	2	2	1		0	7	-2
Germany	6	1	24	1		1	33	+3
Netherlands	1	2	3	0		0	6	-4
Total Eurotransplant	20	5	33	2	60	4	64	-
Others ^b	1	0	3	0	4	0	4	-
Total transplanted	21	5	36	2	64	4	68	

a. Transplant country: Others: United Kingdom (2), Denmark (1), Switzerland (1).

b. Donor country: Others: Italy (2), *Slovenia* (1), Sweden (1).

Table 4f Survey of donor liver exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Netherlands	ET	Others ^a	Total available	Difference
Austria	88	6	19	3		0	116	+12
Belgium	4	87	35	11		0	137	-7
Germany	21	24	480	26		3	554	+80
Luxemburg	0	2	2	0		0	4	-4
Netherlands	7	7	39	58		0	111	-13
Total Eurotransplant	120	126	575	98	919	3	922	+68
Others ^b	8	4	59	0	71	0	71	-68
Total transplanted	128	130	634	98	990	3	993	

a. Transplant country: Others: Denmark (1), Spain (1), United Kingdom (1).

b. Donor country: Others: *Slovak Republic* (21), *Czech Republic* (18), *Slovenia* (8), Norway (4), Sweden (4), *Poland* (3), France (2), *Hungary* (2), Israel (2), *Latvia* (2), Switzerland (2), Greece (1), Italy (1), Spain (1).

Table 4g Survey of donor split liver exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Netherlands	ET	Others ^a	Total available	Difference
Austria	5	0	1	0		0	6	-1
Belgium	0	4	6	0		0	10	-1
Germany	0	5	50	1		0	56	+9
Netherlands	0	0	7	1		0	8	-6
Total Eurotransplant	5	9	64	2	80	0	80	+1
Others ^b	0	0	1	0	1	1	2	-1
Total transplanted	5	9	65	2	81	1	82	

a. Transplant country: Others: Italy (1).

b. Donor country: Others: Italy (1).

Table 4h Survey of donor pancreas+kidney and islet+kidney exchange in 1998

Transplant country Donor country	Austria	Belgium	Germany	Netherlands	Total available	Difference
Austria	27	0	5	0	32	-3
Belgium	1	16	12	1	30	-14
Germany	0	0	139	0	139	+36
Luxemburg	0	0	1	0	1	-1
Netherlands	1	0	18	15	34	-18
Total Eurotransplant	29	16	175	16	236	

Table 5 Organ exchange in cadaveric donor transplantation, in 1998, between the Eurotransplant transplant programs

* How to read the Tables 5a-i

1. Country
 - 2a. Transplant region or center, at which the organ-specific transplants were performed
 - 2b. Donors centers and/or transplant centers within the transplant region (center codes, see page 8 - 14)
3. Donors
 - 3a. *Reported*, total number of organ-specific donors reported to Eurotransplant, of whom organs were transplanted in 1998
 - 3b. *Not used*, number of organ-specific donors not used
 - 3c. *Single organ*, number of organ-specific donors of whom only one kidney or one lung was used
 - 3d. *Two single organs*, number of donors from whom the 2 lungs have been used in 2 different recipients
4. Organs used Total, total number of organs which have been used in a transplant which took place in 1998
5. Destination of organs
 - 5a. *Outside country*, number of organs shipped outside the donor country
 - 5b. *Same country*, number of organs shipped to another center outside the region but in the same country
 - 5c. *Same region*, number of organs shipped to another center in the region
 - 5d. *Local center*, number of organs used at the local center
6. Origin of transplanted organs
 - 6a. *Local center*, number of organs transplanted at the local center
 - 6b. *Same region*, number of organs, received from another center from the same region
 - 6c. *Same country*, number of organs, received from another center outside the region but from the same country
 - 6d. *Outside country*, number of organs, received from outside the donor country
7. Transplants Total, total number of organ transplants performed during 1998
8. Exchange balance, difference between Organs used Total and Transplants Total, i.e. net import:export balance
'+' means, more import than export
'-' means, more export than import

The *programs in italic* represent the individual donor and/or transplant centers in a transplant region. Transplant regions reflect the status at December 31, 1998.

Table 5a Survey of donor kidney exchange in 1998

1	2a	2b	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8	
Country	Region	Center code	Kidneys used	Destination / Origin							Kidney transplants Total	Exchange balance	
			Total	Outside country	Same country	Same region	Local center	Same region	Same country	Outside country			
Austria	Graz Innsbruck Upper Austria	GA	50	15	8		27		4	18	49	-1	
		IB	94	28	1		65		13	26	104	+10	
			28	6	6	9	7		9	3	15	34	+6
			OE	0	0	0	0	0	8	1	11	20	
			OL	22	4	5	6	7	1	2	4	14	
			OW	6	2	1	3	-	-	-	-	-	
		Wien	WG	146	35	9	2	100	2	4	32	138	-8
			WD	-	-	-	-	-	2	1	4	7	
			WG	146	35	9	2	100	-	3	28	131	
		TOTAL		318	84	24		210		24	91	325	+7
Belgium Luxemburg	Bel_1	AN	102	42	19	23	18	23	8	24	73	-29	
			36	20	6	3	7	7	5	6	25		
			16	6	4	4	2	7	1	2	12		
			LG	37	12	4	13	8	6	2	14	30	
			LX	13	4	5	3	1	3	0	2	6	
		Bruxelles Bruxelles Bel_2	BR	49	20	2		27		4	21	52	+3
			LA	66	25	8		33		10	47	90	+24
				154	55	9	16	74	16	16	46	152	-2
			AS	6	0	1	5	-	-	-	-	-	
			GE	45	17	6	4	18	8	1	13	40	
		LE	-	-	-	-	-	0	1	3	4		
		LM	103	38	2	7	56	8	14	30	108		
	TOTAL		358	138	33		187/187		38	136	361	+3	
Belgium Luxemburg	TOTAL		13	4	5		4/4		0	2	6	-7	
Germany	Aachen Bochum Berlin	AK	12	1	3		8		10	1	19	+7	
			56	5	22		29		30	15	74	+18	
			170	18	22	130	0	130	57	25	212	+42	
			BE	-	-	-	-	-	49	18	6	73	
			BV	-	-	-	-	-	31	19	8	58	
			BS	-	-	-	-	-	20	5	5	30	
			EB	-	-	-	-	-	30	15	6	51	
			VB	170	18	22	130	-	-	-	-	-	
		UNI-TVN		168	22	56	19	71	19	53	18	161	-7
			BM	42	6	10	7	19	6	13	5	43	
			HG	64	11	20	4	29	3	12	5	49	
			KI	26	4	11	4	7	2	9	0	18	
		UNI-RMW	LU	36	1	15	4	16	8	19	8	51	
				217	22	73	49	73	49	48	14	184	-33
			BO	35	2	13	10	10	5	6	4	25	
			FD	12	2	6	4	-	-	-	1	-	
			FM	55	5	12	6	32	13	10	5	56	
			GI	17	1	7	2	7	7	12	3	29	
			HS	37	3	13	9	12	3	3	1	19	
			KS	20	3	5	8	4	7	4	1	16	
			MR	23	2	13	5	3	5	8	3	19	
			MZ	18	4	4	5	5	9	5	1	20	
		Düsseldorf Essen Freiburg Göttingen UNI-TSA	DU	54	4	17		33		12	8	53	-1
			ES	92	15	31		46		18	7	71	-21
			FR	59	11	19		29		24	12	65	+6
			GO	37	10	14		13		10	3	26	-11
				327	40	75	68	144	68	33	32	277	-50
			DR	30	6	5	11	8	13	2	4	27	
			HA	36	0	6	10	20	22	7	6	55	
			JE	101	10	21	12	58	14	8	5	85	
			LP	87	8	23	28	28	4	6	5	43	
			RO	73	16	20	7	30	15	10	12	67	
		Heidelberg Hannover	HB	30	7	14		9		31	15	55	+25
				209	16	41		162		58	35	245	+36
			HO					41		12	10	63	
			HM				111		46	25	182		
		Köln		69	7	18	20	24	20	24	8	76	+7
					-	-	-	-	0	1	0	1	
				KL	38	1	6	19	12	1	6	4	23
			KM	31	6	12	1	12	19	17	4	52	
	Mannheim UNI-NBav	MA	12	1	7		4		8	3	15	+3	
			137	14	48	16	59	16	30	13	118	-19	
		NB	83	6	28	7	42	7	15	3	67		
		RB	23	4	5	7	7	3	10	4	24		
		WZ	31	4	15	2	10	6	5	6	27		
	UNI-SBav		141	17	23		101		49	26	176	+35	
							3		0	1	4		
			AU				23		6	8	37		
		MH				75		43	17	135			
	Münster Stuttgart/Tübingen	MN	77	9	28		40		22	8	70	-7	
			79	22	17	20	20	20	16	5	61	-18	
		ST	16	4	3	4	5	16	7	1	29		
		TU	63	18	14	16	15	4	9	4	32		
	Ulm	UL	46	11	19		16		14	9	39	-7	
	TOTAL		1992	252	547		1193		547	257	1997	+5	
Netherlands	Amsterdam Groningen Leiden Maastricht Nijmegen Rotterdam	AW	42	8	7		27		7	25	59	+17	
			67	28	9		30		11	21	62	-5	
			44	26	7		11		13	18	42	-2	
			MS	51	14	1		36		5	14	55	+4
			NY	91	30	20		41		6	18	65	-26
				36	13	0		23		7	25	53	+17
			RD	36	13	0	2	21	0	5	20	46	
			RS	-	-	-	-	0	2	0	5	7	
		Utrecht		48	17	7		24		4	15	43	-5
				48	17	7		24		4	14	42	
	UT		-	-	-		0		0	1	1		
	TOTAL		379	136	51		192		51	136	379	0	
Eurotransplant, Total			3060	614	660		1786		660	622	3068	+8	
From/To outside ET			24	24	0		0		0	16	16	-8	
Total			3084	638	660		1786		660	638	3084	0	

Table 5b Survey of donor heart exchange in 1998

1	2a	2b	3a	3b	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8
Country	Region	Centre code	Donors Report Total	Donors Not Used	Hearts Used Total	Destination / Origin							Heart trans-plants Total	National Exchange Balance
						Outside country	Same country	Same region	Local centre	Same region	Same country	Outside country		
Austria	Graz Innsbruck Wien	GA	20	2	18	4	1		13		3	1	17	
		IB	35	7	28	1	6		21		1	1	23	
		WG	65	20	45	9	0	5	31	5	3	15	54	
		OL	7	2	5	2	0	3						
		OW	3	1	2	0	0	2						
		WG	55	17	38	7	0		31	5	3	15	54	
		TOTAL			120	29	91	14	7		70	7	17	94
Belgium Luxemburg	Bel_1 Antwerpen Liège Bruxelles Bruxelles Bel_2 Aalst Gent Leuven	AN	11	4	7	4	0	0	3	1	2	1	7	
		BJ	8	1	7	2	3		2					
		LG	12	2	10	1	2	0	7	4	3	2	16	
		LX	4	0	4	0	1	3						
		BR	18	2	16	2	3		11		2	2	15	
		LA	23	5	18	3	5		10		5	3	18	
		AS	3	0	3	6	2	16	16	16	4	4	40	
		GE	11	1	10	1	2	0	7	7	0	1	10	
		LM	35	8	27	3	0	5	2	7	0	1	10	
		TOTAL			121	23	98	18	15		65/68	16	12	96
Luxemburg	TOTAL		4	0	4	0	1		3/0	0	0	0	-4	
Germany	UNI-NRW Aachen Düsseldorf Essen Köln L Münster Berlin UNI-TVDM Bad Nauheim Fulda Frankfurt Gießen Göttingen UNI-TSA Dresden Halle Leipzig Karlsruhe UNI-SW Freiburg Heidelberg Tübingen UNI-TVN Hamburg Karlsruhe Kiel Hann/B.Oeyn B.Oeynhaus Hannover UNI-RLP Homburg/Saar Kaiserslautern Mainz München München DHZ München GH UNI-NBav Regensburg Würzburg	AK	3	0	3	0	1	0	3	10	1	0	14	
		BB	18	4	14	0	11	3						
		BO	10	2	8	1	3	4						
		DU	17	7	10	1	1	7	1	1	0	0	2	
		ES	28	8	20	1	4	7	8	1	0	0	9	
		KL	16	5	11	0	3	2	6	6	0	1	13	
		KM	6	1	5	0	2	3						
		MN	29	13	16	0	4	2	10	10	2	1	23	
		BD	69	19	50	0	8	42	0	42	24	11	77	
		VB	69	19	50	0	8	42						
		BH	0	0	0	2	9	19	6	19	18	7	50	
		FD	6	0	6	0	0	5	1	5	2	0	8	
		FM	16	5	11	0	5	4	2	2	4	2	10	
		GI	8	0	8	1	3	3	1	6	7	5	19	
		GO	12	1	11	1	1	7	2	2	4	0	8	
		DR	11	5	6	0	1	1	4	17	2	1	24	
		HA	16	5	11	0	1	10	0	4	0	0	4	
		JE	37	13	24	0	5	19						
		LP	34	11	23	1	5	10	7	19	1	0	27	
		KR	0	0	0						4	6	10	
		FR	20	10	10	0	0	2	8	6	0	2	16	
		HB	12	0	12	0	3	1	8	9	3	5	25	
		MA	5	2	3	0	1	2						
		ST	6	3	3	0	0	3						
		TU	20	6	14	0	9	3	2	2	0	1	5	
		UL	15	6	9	1	2	6						
		HG	19	7	12	1	6	1	4	9	1	0	14	
		KG								2	0	0	2	
		KI	8	4	4	0	1	1	2	8	3	3	16	
		LU	3	0	3	0	1	2						
		RO	27	10	17	1	1	15						
		HO/BA	80	20	60	1	10	25	24	25	38	24	111	
		BA	0	0	0					25	32	20	77	
		BM	15	6	9	0	2	7						
		HO/HM	65	14	51	1	8	18	24	0	6	4	34	
		HS	11	5	6	1	2	1	2	2	2	1	7	
		KS	7	0	7	1	1	3	2	1	2	0	5	
		MZ	5	1	4	0	1	2	1	3	1	0	5	
		ML/MD	50	11	39	0	6	8	25	8	15	6	54	
		MD							0	8	7	0	15	
		ML	50	11	39	0	6	8	25	0	8	6	39	
		MR	5	1	4	0	4							
NB	20	5	15	0	7	8								
RB	8	2	6	0	3	0	3	8	1	0	12			
WZ	6	0	6	0	4	1	1	1	1	0	3			
TOTAL			663	192	471	12	119		340	119	69	528	+57	
Netherlands	Rotterdam Utrecht	RD	32	6	26	9	3	9	5	9	2	2	18	
		AW	9	1	8	4	0	4						
		LB	10	1	9	4	2	3						
		MS	3	0	3	1	0	2						
		RD	10	4	6	0	1		5	9	2	2	18	
		UT	50	14	36	15	2	16	3	16	3	1	23	
		GR	23	6	17	8	1	8						
		NY	17	5	12	3	1	8						
UT	10	3	7	4	0		3	16	3	1	23			
TOTAL			82	20	62	24	5		33	5	3	41	-21	
Eurotransplant, Total			990	264	726	68	147		511	147	101	782	+33	
From/ To outside ET	Twinning		16	5	11	3	0	8	0	0	0	0	0	
	No twinning		113	84	29	29	0	0	0	0	0	7	7	
TOTAL			129	89	40	32	0	8	0	0	0	7	7	-33
Total			1119	353	766	100	147	8	511	1471	108	766	0	

Table 5c Survey of donor heart+lung exchange in 1998

1	2a	2b	3a	3b	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8	
Country	Region	Centre code	Donors Report Total	Donors Not Used	Heart/Lung Used Total	Destination / Origin						He/Lu transplants Total	National Exchange Balance		
						Outside country	Same country	Same region	Local centre	Same region	Same country			Outside country	
Austria	Graz	GA	1	0	1	1	0		0		0	0	0		
	Innsbruck	IB	1	0	1	0	0		1		0	0	1		
	Wien	WG	5	5	0	0	0	0	0	0	0	0	0	0	
		OL	2	2	0	0	0	0	0	0	0	0	0	0	
		WG	3	3	0	0	0	0	0	0	0	0	0	0	
TOTAL			7	5	2	1	0		1		0	0	1	-1	
Belgium	Bel_1		4	2	2	2	0	0	0	0	0	0	0		
	-	AN	2	1	1	1	0	0	0	0	0	0	0	0	
	-	BJ	1	1	0	0	0	0	0	0	0	0	0	0	
	-	LG	1	0	1	1	0	0	0	0	0	0	0	0	
	Bruxelles	BR	2	0	2	0	0	0	2	0	0	0	2		
	Bruxelles	LA	2	2	0	0	0	0	0	0	0	0	0		
	Bel_2		8	5	3	0	0	1	2	1	0	0	3		
	-	GE	2	1	1	0	0	1	0	0	0	0	0	0	
	Leuven	LM	6	4	2	0	0	0	2	1	0	0	0	3	
	TOTAL			16	9	7	2	0		5		0	0	5	-2
Germany	UNI-NRW		12	10	2	0	0	2	0	2	0	0	2		
	-	BB	3	3	0	0	0	0	0	0	0	0	0	0	
	-	BO	2	2	0	0	0	0	0	0	0	0	0	0	
	Düsseldorf	DU	1	0	1	0	0	1	0	0	0	0	0	0	
	Essen	ES	2	1	1	0	0	1	0	0	0	0	0	0	
	-	KL	1	1	0	0	0	0	0	0	0	0	0	0	
	Münster	MN	3	3	0	0	0	0	0	2	0	0	0	2	
	Berlin	BD	6	4	2	0	0	0	0	2	3	1	6		
	-	VB	6	4	2	0	0	2	0	0	0	0	0	0	
	UNI-TVDM		0	0	0	0	0	0	0	0	0	0	0	0	
	Göttingen	GO	0	0	0	0	0	0	0	0	0	0	0	0	
	UNI-TSA		5	4	1	0	0	1	0	1	0	0	0	1	
	Dresden	DR	1	1	0	0	0	0	0	1	0	0	0	1	
	Halle	HA	1	1	0	0	0	0	0	0	0	0	0	0	
	-	JE	2	2	0	0	0	0	0	0	0	0	0	0	
	-	LP	1	0	1	0	0	1	0	0	0	0	0	0	
	UNI-SW		3	3	0	0	0	0	0	0	0	0	0	0	
	Freiburg	FR	0	0	0	0	0	0	0	0	0	0	0	0	
	Heidelberg	HB	0	0	0	0	0	0	0	0	0	0	0	0	
	-	MA	1	1	0	0	0	0	0	0	0	0	0	0	
	-	ST	1	1	0	0	0	0	0	0	0	0	0	0	
	-	UL	1	1	0	0	0	0	0	0	0	0	0	0	
	UNI-TVN		5	3	2	0	2	0	0	0	0	0	0	0	
	Kiel	KI	2	1	1	0	1	0	0	0	0	0	0	0	
	-	RO	3	2	1	0	1	0	0	0	0	0	0	0	
	Hann/B.Oeyn	HO/BA	3	1	2	0	1	1	0	1	1	1	1	3	
	B.Oeynhaus	BA	0	0	0	0	0	0	0	0	1	0	0	1	
	Hannover	HO/HM	3	1	2	0	1	1	0	0	1	1	1	2	
	UNI-RLP		2	2	0	0	0	0	0	0	0	0	0	0	
	Mainz	MZ	2	2	0	0	0	0	0	0	0	0	0	0	
München GH	ML	2	1	1	0	1	0	0	0	1	1	1	2		
UNI-NBav		1	0	1	0	1	0	0	0	0	0	0	0		
-	NB	1	0	1	0	1	0	0	0	0	0	0	0		
TOTAL			39	28	11	0	5		6		5	3	14	+3	
Netherlands	Groningen	GR	6	6	0	0	0	0	0	0	0	0	0		
	-	AW	2	2	0	0	0	0	0	0	0	0	0	0	
	-	GR	2	2	0	0	0	0	0	0	0	0	0	0	
	-	MS	1	1	0	0	0	0	0	0	0	0	0	0	
	-	RD	1	1	0	0	0	0	0	0	0	0	0	0	
TOTAL			6	6	0	0	0		0		0	0	0	0	
Eurotransplant, Total			68	48	20	3	5		12		5	3	20	0	
From/ To outside ET	Twinning		0	0	0	0	0	0	0	0	0	0	0		
	No twinning		14	14	0	0	0	0	0	0	0	0	0		
	TOTAL		14	14	0	0	0	0	0	0	0	0	0	0	
Total			82	62	20	3	5	0	12		5	3	20	0	

Table 5d Survey of donor double lungs exchange in 1998

1	2a	2b	3a	3b	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8	
Country	Region	Centre code	Donors Report Total	Donors Not Used	Lungs Used Total	Destination / Origin								Lung transplants Total	National Exchange Balance
						Outside country	Same country	Same region	Local centre	Same region	Same country	Outside country			
Austria	Graz	GA	7	6	1	0	1		0		0	0	0		
	Innsbruck	IB	9	4	5	3	0		2		0	2	4		
	Wien	WG	29	12	17	5	0	4	8	4	1	23	36		
	-	OL	4	2	2	0	0	2	-	-	-	-	-		
	-	OW	2	0	2	0	0	2	-	-	-	-	-		
		WG	23	10	13	5	0	-	8	4	1	23	36		
	TOTAL		45	22	23	8	1		14		1	25	40	+17	
Belgium	Bel_1		9	6	3	2	0	1	0	1	0	0	1		
	<i>Antwerpen</i>	<i>AN</i>	5	3	2	2	0	0	-	1	0	0	1		
	-	<i>BJ</i>	2	1	1	0	0	1	-	-	-	-	-		
	<i>Liège</i>	<i>LG</i>	2	2	0	0	0	0	0	0	0	0	0		
	Bruxelles	BR	4	1	3	0	0		3		0	8	11		
	Gent	GE	5	1	4	4	0		0		0	0	0		
	Bruxelles	LA	9	5	4	1	0		3		1	4	8		
	Leuven	LM	14	7	7	2	1	0	4	0	0	4	8		
	-	<i>AS</i>	2	1	1	1	0	0	-	-	-	-	-		
	-	<i>LM</i>	12	6	6	1	1	-	4	-	0	4	8		
	TOTAL		41	20	21	9	1		11		1	16	28	+7	
Germany	UNI-NRW		29	15	14	6	5	2	1	2	0	0	3		
	-	<i>BB</i>	4	1	3	2	1	0	-	-	-	-	-		
	-	<i>DU</i>	3	1	2	0	1	1	-	-	-	-	-		
	<i>Essen</i>	<i>ES</i>	9	5	4	2	1	0	1	2	0	0	3		
	-	<i>KL</i>	4	3	1	1	0	0	-	-	-	-	-		
	-	<i>KM</i>	3	1	2	0	2	0	-	-	-	-	-		
	<i>Münster</i>	<i>MN</i>	6	4	2	1	0	1	0	0	0	0	0		
	Berlin	BD	35	20	15	4	4	7	0	7	5	3	15		
	-	<i>VB</i>	35	20	15	4	4	7	-	-	-	-	-		
	UNI-TVDM		16	8	8	3	5	0	0	0	0	0	2		
	<i>Fulda</i>	<i>FD</i>	2	2	0	0	0	0	0	0	0	0	0		
	<i>Frankfurt</i>	<i>FM</i>	4	1	3	1	2	0	0	0	0	0	0		
	-	<i>GI</i>	4	2	2	1	1	0	-	-	-	-	-		
	-	<i>GO</i>	6	3	3	1	2	0	-	-	-	-	-		
	UNI-TSA		24	16	8	0	7	1	0	1	0	0	1		
	<i>Dresden</i>	<i>DR</i>	4	3	1	0	1	-	0	1	0	0	1		
	-	<i>HA</i>	6	3	3	0	2	1	-	-	-	-	-		
	-	<i>JE</i>	9	6	3	0	3	0	-	-	-	-	-		
	-	<i>LP</i>	5	4	1	0	1	0	-	-	-	-	-		
	UNI-SW		15	10	5	2	2	1	0	1	1	1	3		
	-	<i>FR</i>	2	2	0	0	0	0	-	-	-	-	-		
	<i>Heidelberg</i>	<i>HB</i>	4	2	2	1	1	0	0	1	1	1	3		
	-	<i>MA</i>	1	1	0	0	0	0	-	-	-	-	-		
	-	<i>ST</i>	1	1	0	0	0	0	-	-	-	-	-		
	<i>Tübingen</i>	<i>TU</i>	5	3	2	0	1	1	0	0	0	0	0		
	-	<i>UL</i>	2	1	1	1	0	0	-	-	-	-	-		
	UNI-TVN		20	9	11	4	4	2	1	2	3	1	7		
	-	<i>HG</i>	6	1	5	2	2	1	-	-	-	-	-		
	<i>Kiel</i>	<i>KI</i>	2	1	1	0	0	-	1	2	3	1	7		
	-	<i>LU</i>	2	2	0	0	0	0	-	-	-	-	-		
	-	<i>RO</i>	10	5	5	2	2	1	-	-	-	-	-		
	Hann/B. Oeyn	HO	24	14	10	2	0	2	6	2	15	11	34		
	<i>B.Oeynhaus</i>	<i>BA</i>	-	-	-	-	-	-	-	1	0	1	2		
	-	<i>BM</i>	7	5	2	1	0	1	-	-	-	-	-		
	<i>Hannover</i>	<i>HO/HM</i>	17	9	8	1	0	1	6	1	15	10	32		
	UNI-RLP		8	4	4	0	2	2	0	2	4	4	10		
	<i>Homburg/Saar</i>	<i>HS</i>	3	2	1	0	1	0	0	1	4	2	7		
	-	<i>KS</i>	4	1	3	0	1	2	-	-	-	-	-		
	<i>Mainz</i>	<i>MZ</i>	1	1	0	0	0	0	0	1	0	2	3		
	München	ML	18	13	5	2	3	0	1	0	7	0	8		
	-	MR	2	1	1	0	0	-	-	-	-	-	-		
	UNI-NBav		18	14	4	1	3	0	-	-	-	-	-		
	-	<i>NB</i>	12	10	2	0	2	0	-	-	-	-	-		
	-	<i>RB</i>	3	2	1	1	0	0	-	-	-	-	-		
	-	<i>WZ</i>	3	2	1	0	1	0	-	-	-	-	-		
	TOTAL		209	124	85	24	35		26		35	20	81	-4	
Netherlands	Groningen	GR	51	24	27	21	0	3	3	3	0	9	15		
	-	<i>AW</i>	5	4	1	1	0	0	-	-	-	-	-		
	-	<i>GR</i>	12	2	10	7	0	-	3	3	0	9	15		
	-	<i>LB</i>	11	7	4	4	0	0	-	-	-	-	-		
	-	<i>MS</i>	4	3	1	1	0	0	-	-	-	-	-		
	-	<i>NY</i>	12	6	6	4	0	2	-	-	-	-	-		
	-	<i>RD</i>	2	1	1	0	0	1	-	-	-	-	-		
	-	<i>UT</i>	5	1	4	4	0	0	-	-	-	-	-		
	TOTAL		51	24	27	21	0		6		0	9	15	-12	
Eurotransplant, Total			347	191	156	62	37		57		37	70	164	+8	
From/ To outside ET	Twinning		8	4	4	0	0	4	0	0	0	0	0		
	No twinning		48	41	7	7	0	0	0	0	0	3	3		
	TOTAL		56	45	11	7	0	4	0	0	0	3	3	-8	
Total			403	236	167	69	37	4	57		37	73	167	0	

Table 5e Survey of donor single lung exchange in 1998

1	2a	2b	3a	3c	3d	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8
Country	Region	Centre code	Donors	1 Single Lung	2 Single Lung	Lungs Used	Destination / Origin							Lung trans-	National
			Total	Donor	Donor	Total	Outside country	Same country	Same region	Local centre	Same region	Same country	Outside country	plants Total	Exchange Balance
Austria	Graz	GA	1	0	1	2	0	2		–		–	–	–	
	Innsbruck	IB	1	1	0	1	0	0		1		1	0	2	
	Wien	WG	10	5	5	15	7	1	1	6	1	2	10	19	
	–	OL	1	0	1	2	0	1	1	–	–	–	–	–	
	–	WG	9	5	4	13	7	0	–	6	1	2	10	19	
	TOTAL		12	6	6	18	7	3	1	7	1	3	10	21	+3
Belgium	Bel_1		2	1	1	3	2	0	0	1	0	0	0	1	
	<i>Antwerpen</i>	AN	1	0	1	2	1	0	0	1	0	0	0	1	
	–	LG	1	1	0	1	1	0	0	–	–	–	–	–	
	Bruxelles	BR	0	0	0	0	0	0	–	0	–	0	2	2	
	Leuven	LM	3	2	1	4	3	0	–	1	–	0	1	2	
	TOTAL		5	3	2	7	5	0		2		0	3	5	–2
Germany	UNI-NRW		4	4	0	4	2	2	0	0	0	0	0	0	
	–	BO	1	1	0	1	1	0	0	–	–	–	–	–	
	<i>Essen</i>	ES	1	1	0	1	1	0	0	0	0	0	0	0	
	–	KM	2	2	0	2	0	2	0	–	–	–	–	–	
	Berlin	BD	1	1	0	1	0	1	0	0	0	3	2	5	
	–	VB	1	1	0	1	0	1	0	–	–	–	–	–	
	UNI-TVDM		4	3	1	5	2	3	0	0	0	0	1	1	
	<i>Fulda</i>	FD	1	1	0	1	0	1	0	0	0	0	0	0	
	<i>Frankfurt</i>	FM	1	1	0	1	0	1	0	0	0	0	1	1	
	–	GI	1	1	0	1	0	1	0	–	–	–	–	–	
	–	GO	1	0	1	2	2	0	0	–	–	–	–	–	
	UNI-TSA		0	0	0	0	0	0	0	1	0	0	2	3	
	<i>Dresden</i>	DR	0	0	0	0	0	0	–	1	0	0	2	3	
	UNI-SW		3	2	1	4	3	1	0	0	0	0	0	0	
	–	ST	2	1	1	3	3	0	0	–	–	–	–	–	
	–	UL	1	1	0	1	0	1	0	–	–	–	–	–	
	UNI-TVN		1	0	1	2	0	2	0	0	0	0	0	0	
	–	RO	1	0	1	2	0	2	0	–	–	–	–	–	
	Hann/B. Oeyn		5	5	0	5	1	1	0	3	0	3	3	9	
	<i>B.Oeynhaus</i>	BA	–	–	–	–	–	–	–	0	0	1	0	1	
	<i>Hannover</i>	HO	5	5	0	5	1	1	–	3	0	2	3	8	
	UNI-RLP		2	2	0	2	0	0	1	1	1	4	2	11	
	<i>Homburg/Saar</i>	HS	2	2	0	2	0	0	1	1	0	1	5	7	
<i>Mainz</i>	MZ	0	0	0	0	0	0	0	0	1	3	0	4		
München	ML	6	3	3	9	1	1	0	7	0	2	1	10		
UNI-NBav		1	1	0	1	0	1	0	–	–	–	–	–		
–	WZ	1	1	0	1	0	1	0	–	–	–	–	–		
	TOTAL		27	21	6	33	9	12		12		12	12	36	+3
Netherlands	Groningen	GR	5	4	1	6	6	0	0	0	0	0	2	2	
	–	AW	2	1	1	3	3	0	0	–	–	–	–	–	
	–	GR	0	0	0	0	0	0	–	0	0	0	2	2	
	–	NY	2	2	0	2	2	0	0	–	–	–	–	–	
	–	UT	1	1	0	1	1	0	0	–	–	–	–	–	
	TOTAL		5	4	1	6	6	0		0		0	2	2	–4
Eurotransplant, Total			49	34	15	64	27	15		22		15	27	64	0
From/ To outside ET	Twining		1	1	0	1	0	0	1	0	0	0	0	0	
	No twining		2	1	1	3	3	0	0	0	0	0	4	4	
	TOTAL		3	2	1	4	3	0	1	0	0	0	4	4	0
Total			52	36	16	68	30	15	1	22		15	31	68	0

Table 5f Survey of donor whole liver exchange in 1998

1	2a	2b	3a	3b	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8	
Country	Region	Centre code	Donors	Donors	Livers	Destination / Origin							Liver	National	
			Report	Not Used	Used	Outside	Same	Same	Local	Same	Same	Outside	trans-	Exchange	
			Total	Total	Total	country	country	region	centre	region	country	country	Total	Balance	
Austria	Graz	GA	23	2	21	9	5		7			2	2	11	
		IB	46	8	39	8	2	-	28	3	4	20	55		
	Wien	OE/OL/OW	12	2	10	3	0	7	-	-	-	-	-	-	-
		WG	64	17	47	8	4	-	35	4	5	18	62		
	TOTAL		145	29	116	28	11		77		11	40	128	+12	
Belgium Luxemburg	Liège	LG	45	7	38	17	10	5	6	5	4	7	22		
		AN	16	3	13	4	4	5	-	-	-	-	-		
		BJ	6	1	5	4	1	0	-	-	-	-	-		
		LG	19	3	16	7	3	-	6	5	4	7	22		
		LX	4	0	4	2	2	0	-	-	-	-	-		
	Bruxelles	BR	32	8	24	10	4		10		5	2	17		
		GE	24	4	20	5	3		12		3	9	24		
	Bruxelles	LA	29	14	15	2	2		11		9	13	33		
		LM	61	17	44	18	8	1	17	1	6	10	34		
		AS	3	0	3	2	0	1	-	-	-	-	-		
	LM	58	17	41	16	8	-	17	1	6	10	34			
	TOTAL		187	50	137	50	25		62		27	41	130	-7	
Belgium Luxemburg	TOTAL		4	0	4	2	2		0		0	0	0	-4	
Germany	Bonn	AK	3	0	3	0	0		0		0	0	0		
		BO	22	7	15	3	6	4	2	4	11	6	23		
		BO	14	6	8	2	4	-	2	4	11	6	23		
		KS	8	1	7	1	2	4	-	-	-	-	-		
	Berlin	BV	88	40	48	4	7	37	0	37	26	50	113		
		VB	88	40	48	4	7	37	-	-	-	-	-		
	Düsseldorf	DU	20	2	18	0	17		1		2	0	3		
		ES	61	20	41	6	6	9	20	9	19	7	55		
		BB	23	11	12	2	1	9	-	-	-	-	-		
		ES	38	9	29	4	5	-	20	9	19	7	55		
	Frankfurt	FM	18	3	16	4	5	2	8	2	5	3	18		
		FD	5	0	5	1	2	2	-	-	-	-	-		
		FM	21	7	14	3	3	-	8	2	5	3	18		
	Freiburg	FR	22	10	12	0	2		10		0	2	12		
		GI	8	1	7	2	4		-		-	-	-		
	Göttingen	GO	16	2	14	4	6		4		5	10	19		
		HB	19	4	15	6	1	3	5	3	15	4	27		
	Heidelberg	HB	13	2	11	5	1	-	5	3	15	4	27		
		MA	6	2	4	1	0	3	-	-	-	-	-		
	Hamburg	HG	33	12	21	5	5	2	9	2	16	13	40		
		HG	29	11	18	4	5	-	9	2	16	13	40		
		LU	4	1	3	1	0	2	-	-	-	-	-		
	Hannover	HO	106	44	62	6	18	4	34	4	17	15	70		
		BM	16	7	9	1	4	4	-	-	-	-	-		
		HO/HM	90	37	53	5	14	-	34	4	17	15	70		
	Jena	JE	52	12	40	4	10		26		8	7	41		
	Kiel	KI	13	4	9	2	5		2		4	4	10		
	Köln L	KL	18	3	15	2	5		8		3	1	12		
	Köln M	KM	14	7	7	0	3		4		5	0	9		
	Leipzig	LP	51	24	27	3	12	4	8	4	6	7	25		
		LP	37	17	20	1	11	-	8	4	6	7	25		
		DR	14	7	7	2	1	4	-	-	-	-	-		
	Magdeburg	MB/HA	17	5	12	2	5		5		6	1	12		
		MH	0	0	0	0	0	-	0	7	2	2	11		
	München	ML	50	18	32	3	4	7	18	-	5	4	27		
	Münster	MN	35	12	23	6	8		9		9	3	21		
		MR	7	2	5	0	5		-		-	-	-		
	Mainz	MZ	26	2	24	0	5	10	7	10	8	2	27		
		HS	15	2	13	0	3	10	-	-	-	-	-		
		MZ	9	0	9	0	2	-	7	10	8	2	27		
	Nürnberg	NB	26	4	22	2	13		7		9	3	19		
	Regensburg	RB	7	3	4	0	3		1		4	3	8		
	Rostock	RO	30	7	23	3	17		3		1	0	4		
	Tübingen	TU	31	10	21	3	4	5	9	5	4	4	22		
		ST	7	1	6	0	1	5	-	-	-	-	-		
		TU	24	9	15	3	3	-	9	5	4	4	22		
		UL	19	7	12	4	8		-		-	-	-		
	Würzburg	WZ	7	2	5	0	4		1		2	3	6		
		TOTAL		825	271	554	74	192		288		192	154	634	+80
	Netherlands	Groningen	GR	86	14	72	35	9	16	12	16	4	23	55	
GR			31	5	26	12	2	-	12	16	4	23	55		
MS			7	1	6	3	2	1	-	-	-	-	-		
NY			33	4	29	17	2	10	-	-	-	-	-		
		UT	15	4	11	3	3	5	-	-	-	-	-		
Leiden		LB	17	5	12	6	4	-	2	0	5	8	15		
		AW	18	3	15	9	0	6	-	-	-	-	-		
Rotterdam	RD	14	2	12	3	1	-	8	6	5	9	28			
	TOTAL		135	24	111	53	14		44		14	40	98	-13	
Eurotransplant, Total			1296	374	922	207	244		471		244	275	990	+68	
From/ To outside ET	Twinning		60	6	54	24	0	30	0	0	0	0	0		
	No twinning		68	51	17	17	0	0	0	0	0	3	3		
	TOTAL		128	57	71	41	0	30	0	0	0	3	3	-68	
Total			1424	431	993	278	244	30	471		244	278	993	0	

Table 5g Survey of donor split liver exchange in 1998

1	2a	2b	3a	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8		
Country	Region	Centre code	Donors Report Total	Livers Used Total	Destination / Origin							Liver transplants Total	National Exchange Balance		
					Outside country	Same country	Same region	Local centre	Same region	Same country	Outside country				
Austria	Innsbruck Wien	IB WG	1	2	0	0		2		0	0	2			
			2	4	1	0		3		0	0	3			
	TOTAL		3	6	1	0		5		0	0	5	-1		
Belgium	Liège - Gent Bruxelles Leuven	LG BJ GE LA LM	1	2	2	0	0	0	0	0	0	0	0		
			1	2	2	0	0	0	0	-	-	-	-		
			1	2	0	1		1				0	1	2	
			2	4	2	0		2				0	4	6	
			1	2	2	0		0				1	0	1	
	TOTAL		5	10	6	1		3		1	5	9	-1		
Germany	Bonn Berlin - Düsseldorf Essen Frankfurt Göttingen Heidelberg Hamburg - Hannover Leipzig München Nürnberg Regensburg Rostock Tübingen	BO BV VB DU ES FM GO HB HG HG LU HO LP ML NB RB RO TU	1	2	2	0		0		0	0	0			
			2	4	0	0	2	0	2	3	3	8			
			2	4	2	0	2	-	-	-	-	-	-	-	
			0	0	0	0		0		1	0	1			
			3	6	1	1	-	4	-	1	2	7			
			1	2	0	2		0		0	0	0			
			1	2	0	2		0		1	0	1			
			1	2	1	1		0		0	0	0			
			8	10	0	1	4	5	4	9	6	24			
			3	6	0	1	-	5	4	9	6	24			
			2	4	0	0	4	-	-	-	-	-			
			8	16	1	2	-	13	0	1	4	18			
			1	2	0	1	-	1	-	0	0	1			
			1	2	0	0		2		0	0	2			
			1	2	1	1		0		0	0	0			
			1	2	0	1		1		0	0	1			
2	4	0	4		0		0	0	0						
0	0	0	0		0		2	0	2						
	TOTAL		28	56	6	18		32		18	15	65	+9		
Netherlands	Groningen - -	GR GR UT	4	8	7	0	0	1	0	0	1	2			
			2	4	3	0	0	1	0	0	1	2			
			2	4	4	0	0	-	-	-	-	-			
	TOTAL		4	8	7	0		1		0	1	2	-6		
Eurotransplant, Total			40	80	20	19		41		19	21	81	+1		
From/ To outside ET	Twinning No twinning TOTAL		0	0	0	0	0	0	0	0	0	0			
			1	2	1	0		1		0	0	1			
			1	2	1	0	0	1	0	0	0	1	-1		
Total			41	82	21	19		42		19	21	82	0		

Table 5h Survey of donor pancreas exchange for pancreas & islet transplantation in 1998

1	2b	3a	3b	4										7			
Country	Centre code	Donor Report	Donor Not	Pancreas disposition to										Pancreas transplants			
		Total	Used	Research BP	GI	FR	RO	LB	Others	PA	PA/KI	IS/KI	IS-only	PA	PA/KI	IS/KI	IS-only
Austria	GA	13	3	3	-	-	-	-	-	-	6	-	1	-	-	-	-
	IB	35	13	6	1	-	-	-	-	2	13	-	-	2	24	0	0
	OL	8	3	1	-	-	-	-	-	-	4	-	-	-	-	-	-
	OW	3	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-
	WG	22	9	4	-	-	-	-	-	1	8	-	-	0	5	-	-
	TOTAL	81	30	14	1	0	0	0	0	3	32	0	1	2	29	0	0
Belgium	AN	13	2	5	-	-	-	-	-	-	6	-	-	0	2	0	0
	AS	3	0	3	-	-	-	-	-	-	-	-	-	-	-	-	-
	BJ	8	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-
	BP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	'5'
	BR	17	10	4	-	-	-	-	-	-	3	-	-	-	-	-	-
	GE	24	4	12	-	-	-	-	-	-	8	-	-	0	7	-	-
	LA	25	11	7	-	-	-	-	2	1	4	-	-	1	3	-	-
	LG	6	2	1	-	-	-	-	-	-	3	-	-	-	-	-	-
	LM	41	11	21	-	-	1	1	1	-	6	-	-	0	4	-	-
	TOTAL	137	40	61	0	0	1	1	3	1	30	0	0	1	16	0	5
Germany	AK	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	BB	18	12	-	-	-	-	-	-	6	-	-	1	27	-	-	-
	BM	10	7	2	-	-	-	-	-	1	-	-	-	-	-	-	-
	BO	14	6	2	-	-	-	-	-	-	6	-	-	0	9	-	-
	DR	10	7	1	-	-	-	-	-	-	2	-	-	-	-	-	-
	DU	11	4	4	-	-	-	-	-	-	2	-	1	-	-	-	-
	ES	26	14	1	3	-	-	1	-	-	7	-	-	0	3	-	-
	FD	4	1	-	-	-	-	-	-	-	3	-	-	-	-	-	-
	FM	7	5	-	-	1	-	-	-	-	1	-	-	-	-	-	-
	FR	9	6	-	-	-	-	-	-	2	1	-	-	1	6	-	-
	GI	7	1	1	3	-	-	-	-	-	1	1	-	-	-	4	2
	GO	3	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-
	HA	8	1	-	1	-	-	-	-	-	6	-	-	-	-	-	-
	HB	10	1	-	-	-	-	-	-	-	9	-	-	-	-	-	-
	HG	12	7	1	2	-	-	-	-	-	2	-	-	-	-	-	-
	HO/HM	6	4	-	-	-	-	-	-	-	2	-	-	-	-	-	-
	HS	6	4	-	-	-	-	-	-	-	2	-	-	-	-	-	-
	JE	26	10	1	-	-	-	1	-	5	9	-	-	5	7	-	-
	KI	5	2	-	-	-	1	-	-	-	2	-	-	-	-	-	-
	KL	10	1	1	-	-	-	-	-	-	8	-	-	0	4	-	-
	KM	7	1	2	1	-	-	-	-	-	2	1	-	1	8	-	-
	KS	5	0	-	-	-	-	-	-	-	5	-	-	-	-	-	-
	LP	20	11	2	-	-	-	1	-	-	6	-	-	0	2	-	-
	LU	5	0	-	-	-	1	1	-	-	3	-	-	-	-	-	-
	MA	5	3	-	-	-	-	-	-	-	2	-	-	-	-	-	-
	MH	-	-	-	-	-	-	-	-	-	-	-	-	0	1	-	-
	ML	22	14	1	-	-	-	-	-	1	6	-	-	1	30	-	-
	MN	22	14	5	3	-	-	-	-	-	-	-	-	0	6	-	-
	MR	3	1	1	1	-	-	-	-	-	-	-	-	0	2	-	-
	MZ	4	2	1	-	-	-	-	-	-	1	-	-	-	-	-	-
NB	15	5	3	2	-	-	-	-	1	4	-	-	0	6	-	-	
RB	5	2	-	-	-	-	-	-	-	3	-	-	0	5	-	-	
RO	22	3	2	1	-	2	2	-	1	11	-	-	3	19	-	-	
ST	4	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
TU	13	6	1	2	-	-	-	-	-	3	1	-	0	7	-	-	
UL	14	7	3	1	-	-	-	-	-	3	-	-	0	7	-	-	
VB - BV	68	53	-	1	-	-	-	-	-	14	-	-	0	22	-	-	
WZ	5	0	2	1	-	-	-	-	-	1	1	-	-	-	-	-	
TOTAL	443	220	38	22	1	4	7	0	11	135	4	1	12	171	4	2	
Luxemburg	TOTAL	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Netherlands	AW	13	3	3	-	-	-	2	-	-	5	-	-	-	-	-	
	GR	25	7	5	1	-	-	6	-	-	6	-	-	0	4	-	
	LB	9	2	1	-	-	-	4	-	-	2	-	-	0	10	-	
	MS	6	3	1	-	-	-	1	-	-	1	-	-	0	2	-	
	NY	28	3	8	-	-	-	-	-	-	17	-	-	-	-	-	
	RD	10	2	4	-	-	-	3	-	-	1	-	-	-	-	-	
	UT	10	4	4	-	-	-	-	-	-	2	-	-	-	-	-	
TOTAL	101	24	26	1	0	0	16	0	0	34	0	0	0	16	0		
Eurotransplant, Total		763	314	139	24	1	5	24	3	15	232	4	2	15	232	4	7

Table 5i Survey of donor kidney exchange for pancreas+kidney & islet+kidney transplantation in 1998

1	2a	2b	4	5a	5b	5c	5d/6a	6b	6c	6d	7	8	
Country	Region	Centre code	Pancreas Kidneys Used Total	Outside country	Same country	Destination/Origin Same region	Local centre	Same region	Same country	Outside country Total	Pancreas Kidney transplants	National Exchange Balance	
Austria	Graz	GA	6	2	0		4		0	0	0	-6	
	Innsbruck	IB	13	0	0		13		9	2	24	+11	
	Upper Austria		5	1	4	0	0	0	0	0	0	-5	
		<i>OL</i>		4	1	3	0	-	-	-	-	-	-
		<i>OW</i>		1	0	1	0	-	-	-	-	-	-
	Vienna	WG	8	2	2	2	4		1	0	5	-3	
TOTAL			32	5	10		17		10	2	29	-3	
Belgium Luxemburg	Bel_1		10	9	1	0	0	0	2	0	2	-8	
		<i>AN</i>	6	6	0	0	0	0	2	0	2		
		<i>LG</i>	3	2	1	0	0	0	0	0	0		
		<i>LX</i>	1	1	0	0		-	-	-	-		
	Bruxelles	BR	3	3	0	0	0	0	0	0	0	-3	
	Bruxelles	LA	4	1	1		2		1	0	3	-1	
	Bel_2		14	2	1	3	8	3	0	0	11	-3	
		<i>GE</i>	8	1	1	1	5	2	0	0	7		
	<i>LM</i>	6	1	0	2	3	1	0	0	4			
TOTAL			30	14	3		13		3	0	16	-14	
TOTAL			1	1	0		0		0	0	0	-1	
Germany	Bochum	BB	6	0	1		5		14	8	27	+21	
	Berlin		14	0	3	11	0	11	8	3	22	+8	
		<i>BV</i>	-	-	-		-	11	8	3	22		
		<i>VB</i>	14	0	3	11	-	-	-	-	-		
	Düsseldorf	DU	2	0	2		0		0	0	0	-2	
	UNI-TVN		7	0	7	0	0	0	0	0	0	-7	
		<i>HG</i>	2	0	2	0	-	-	-	-	-		
		<i>KI</i>	2	0	2	0	-	-	-	-	-		
		<i>LU</i>	3	0	3	0	-	-	-	-	-		
	UNI-RMW		20	0	12	3	5	3	5	2	15	-5	
		<i>BO</i>	6	0	2	0	4	3	1	1	9		
		<i>FD</i>	3	0	3	0	-	-	-	-	-		
		<i>FM</i>	1	0	1	0	-	-	-	-	-		
		<i>GI</i>	2	0	1	0	1	0	3	0	4		
		<i>HS</i>	2	0	2	0	-	-	-	-	-		
		<i>KS</i>	5	0	2	3	-	-	-	-	-		
		<i>MR</i>	0	0	0	0	0	0	1	1	2		
		<i>MZ</i>	1	0	1	0	-	-	-	-	-		
	Essen	ES	7	0	5		2		1	0	3	-4	
	Freiburg	FR	1	0	0		1		3	2	6	+5	
	Göttingen	GO	2	0	2		0		0	0	0	-2	
	Hannover	HO	2	0	2		0		0	0	0	-2	
	UNI-TSA		34	0	18	3	13	3	7	5	28	-6	
		<i>DR</i>	2	0	1	1	-	-	-	-	-		
		<i>HA</i>	6	0	5	1	-	-	-	-	-		
		<i>JE</i>	9	0	3	0	6	1	0	0	7		
		<i>LP</i>	6	0	4	1	1	1	0	0	2		
		<i>RO</i>	11	0	5	0	6	1	7	5	19		
	Heidelberg	HB	9	0	9		0		0	0	0	-9	
	Köln		11	0	6	0	5	0	6	1	12	+7	
	<i>KL</i>	8	0	4	0	4	0	0	0	4			
	<i>KM</i>	3	0	2	0	1	0	6	1	8			
Mannheim	MA	2	0	2		0		0	0	0	-2		
UNI-NBav		9	0	5	2	2	2	6	1	11	+2		
	<i>NB</i>	4	0	2	0	2	2	2	0	6			
	<i>RB</i>	3	0	1	2	0	0	4	1	5			
	<i>WZ</i>	2	0	2	0	0	0	0	0	0			
UNI-SBav		6	0	1		5		18	8	31	+25		
	<i>MH</i>	-	-	-	-	0	0	0	1	1			
	<i>ML</i>	6	0	1	0	5	0	18	7	30			
Münster	MN	0	0	0		0		3	3	6	+6		
Stuttgart/Tübingen		4	0	2	0	2	0	4	1	7	+3		
	<i>TU</i>	4	0	2	0	2	0	4	1	7			
Ulm	UL	3	0	0		3		2	2	7	+4		
TOTAL			139	0	77		62		77	36	175	+36	
Netherlands	Amsterdam	AW	5	2	3		0		0	0	0	-5	
	Groningen	GR	6	6	0		0		3	1	4	-2	
	Leiden	LB	2	1	0		1		9	0	10	+8	
	Maastricht	MS	1	1	0		0		2	0	2	+1	
	Nijmegen	NY	17	7	10		0		0	0	0	-17	
	Rotterdam	RD	1	1	0		0		0	0	0	-1	
	Utrecht	UT	2	1	1		0		0	0	0	-2	
	TOTAL			34	19	14		1		14	1	16	-18
Eurotransplant, Total			236	39	104		93		104	39	236		

*The regional alliances, existing for kidney transplantation, have been used, instead of the alliances for pancreas transplantation.

Table 6 Active waiting list and Transplants [cadaveric donor], by organ, per country**Table 6a Kidney: Active waiting list and Transplants [cadaveric donor]**

	Austria		Belgium		Germany		Luxemburg		Netherlands		Eurotransplant	
	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants
1981	237	114	260	154	1342	677	0	2	296	316	2135	1263
1982	272	141	300	139	1554	812	10	2	383	313	2519	1407
1983	337	108	354	194	1844	996	8	5	385	342	2928	1645
1984	486	224	446	206	2475	1232	18	3	459	370	3884	2035
1985	701	229	527	220	3261	1220	19	7	642	289	5150	1965
1986	779	263	616	241	3720	1584	13	2	723	378	5851	2468
1987	862	316	595	344	4488	1585	16	3	779	417	6740	2665
1988	1010	272	663	342	4826	1736	17	5	917	371	7433	2726
1989	992	384	703	380	5100	1917	21	1	949	366	7765	3048
1990	985	409	710	372	5091	1979	16	10	879	401	7681	3171
1991	927	389	714	378	5836	2195	17	7	882	426	8376	3395
1992	868	306	814	330	6437	2034	21	3	883	428	9023	3101
1993	816	380	923	362	6735	2107	13	8	931	436	9418	3293
1994	794	338	952	374	7446	1894	17	4	948	387	10157	2997
1995	819	293	1008	322	7673	2045	17	9	993	395	10510	3064
1996	839	347	1016	410	8112	1887	16	14	1005	425	10988	3083
1997	834	310	932	405	8546	1970	11	6	1001	419	11324	3110
1998	826	325	890	361	9067	1997	16	6	1177	379	11976	3068

Table 6b Heart: Active waiting list and Transplants

	Austria		Belgium		Germany		Netherlands		Eurotransplant	
	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants
1991	70	64	44	154	367	545	18	43	499	806
1992	79	84	66	124	383	501	24	44	552	753
1993	129	105	57	130	456	493	29	45	671	773
1994	111	91	61	115	520	443	31	47	723	696
1995	121	108	50	101	501	475	37	48	709	732
1996	145	104	37	107	536	488	26	60	744	759
1997	103	92	39	106	575	531	27	53	744	782
1998	86	94	32	96	581	528	22	41	721	759

Table 6c Heart+Lung: Active waiting list and Transplants

	Austria		Belgium		Germany		Netherlands		Eurotransplant	
	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants	Waiting List	Trans-plants
1991	5	4	13	10	30	10	0	0	48	24
1992	5	6	8	9	35	17	0	0	48	32
1993	7	5	8	10	34	13	0	0	49	28
1994	5	4	22	7	44	32	0	0	71	43
1995	3	0	20	19	55	23	1	0	79	42
1996	2	1	11	10	57	22	1	1	71	34
1997	1	3	18	9	45	31	2	0	66	43
1998	3	1	8	5	47	14	2	0	60	20

Table 6d Lung: Active waiting list and Transplants

	Austria		Belgium		Germany		Netherlands		Eurotransplant	
	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants
1991	7	18	5	9	61	35	17	9	90	71
1992	8	26	8	20	106	45	19	18	141	109
1993	24	33	14	14	135	58	30	14	203	119
1994	18	33	17	19	152	66	40	20	227	138
1995	17	29	12	16	148	60	47	20	224	125
1996	15	29	21	19	119	86	49	20	204	154
1997	21	30	18	26	115	89	62	10	216	155
1998	21	61	14	33	136	117	53	17	224	228

Table 6e Liver: Active waiting list and Transplants [cadaveric donor]

	Austria		Belgium		Germany		Netherlands		Eurotransplant	
	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants
1991	28	59	39	164	141	411	21	42	229	676
1992	35	66	39	144	161	490	18	65	253	765
1993	26	91	48	143	113	578	16	66	203	878
1994	29	96	46	146	121	575	16	75	212	892
1995	30	110	35	142	175	594	23	98	263	944
1996	33	132	55	135	209	689	30	76	327	1032
1997	47	131	44	139	256	738	27	89	374	1097
1998	42	133	63	139	354	699	33	100	492	1071

Table 6f Pancreas+Kidney and Islet+Kidney: Active waiting list and Transplants

	Austria		Belgium		Germany		Netherlands		Eurotransplant	
	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants	Waiting List	Transplants
1991	12	8	9	8	94	43	5	11	120	70
1992	12	13	20	8	100	30	9	11	141	62
1993	10	14	19	15	77	44	6	19	112	92
1994	5	12	21	12	66	47	6	17	98	88
1995	5	6	12	19	62	67	6	11	85	103
1996	17	7	20	13	61	103	12	17	110	140
1997	21	21	20	15	82	148	4	18	127	202
1998	16	29	22	16	109	175	8	16	155	236

Table 7 Registrations on the waiting list, by organ, per country**Table 7a Kidney: registrations on the waiting list**

	Austria	Belgium	Germany	Luxemburg	Netherlands	Eurotransplant
1993	509	630	3303	7	715	5164
1994	405	506	3392	7	749	5059
1995	422	543	3210	15	696	4886
1996	458	486	3170	12	700	4826
1997	427	440	3385	1	792	5045
1998	418	422	3366	9	833	5048

Table 7b Heart: registrations on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1993	181	157	966	64	1368
1994	154	156	843	65	1218
1995	181	137	823	67	1208
1996	178	130	941	70	1319
1997	154	132	950	74	1310
1998	137	120	945	48	1250

Table 7c Heart+lung: registrations on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1993	8	14	56	0	78
1994	6	27	60	0	93
1995	1	22	57	1	81
1996	1	12	57	1	71
1997	3	21	51	1	76
1998	3	10	46	2	61

Table 7d Lung: registrations on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1993	43	23	128	29	223
1994	27	24	139	33	223
1995	38	17	127	44	226
1996	27	36	118	38	219
1997	51	27	175	39	292
1998	74	36	200	31	341

Table 7e Liver: registrations on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1993	107	200	688	72	1067
1994	122	202	706	84	1114
1995	157	175	797	111	1240
1996	174	193	921	105	1393
1997	186	167	1011	104	1468
1998	173	195	1013	119	1500

Table 8 Mortality on the waiting list, by organ, per country**Table 8a Kidney: mortality on the waiting list**

	Austria	Belgium	Germany	Luxemburg	Netherlands	Eurotransplant
1996	64	41	351	0	89	545
1997	53	26	363	3	125	570
1998	61	30	374	1	84	550

Table 8b Heart: mortality on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1996	30	17	228	18	293
1997	41	14	225	14	294
1998	28	18	219	8	273

Table 8c Heart+lung: mortality on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1996	0	7	21	0	28
1997	0	4	18	0	22
1998	0	8	19	0	27

Table 8d Lung: mortality on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1996	15	5	38	13	71
1997	6	7	63	13	89
1998	10	7	49	15	81

Table 8e Liver: mortality on the waiting list

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1996	22	25	137	16	200
1997	27	30	151	13	221
1998	35	29	142	6	212

Table 9 Living donors used for a transplant, by organ, per country**Table 9a Kidney transplants : living donors**

	Austria	Belgium	Germany	Luxemburg	Netherlands	Eurotransplant
1981	2	21	19	0	11	53
1982	0	36	28	0	24	88
1983	0	33	43	0	32	108
1984	3	41	43	1	24	112
1985	9	42	56	2	41	150
1986	12	38	44	3	43	140
1987	35	33	51	1	41	161
1988	34	32	35	1	37	139
1989	27	31	44	0	31	133
1990	14	14	37	0	40	105
1991	6	21	59	0	43	129
1992	15	10	56	0	60	141
1993	7	6	58	0	56	127
1994	12	12	78	0	66	168
1995	12	20	83	0	97	212
1996	18	18	130	0	81	247
1997	24	17	279	0	91	411
1998	49	26	343	0	108	526

Table 9b Heart transplants: living donors

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1991	–	0	0	–	0
1992	–	0	0	–	0
1993	–	0	0	–	0
1994	–	0	2	–	2
1995	–	0	0	–	0
1996	–	1	0	–	1
1997	–	0	0	–	0
1998	–	0	0	–	0

Table 9c Lung transplants: living donors

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1991	–	–	0	–	0
1992	–	–	0	–	0
1993	–	–	0	–	0
1994	–	–	0	–	0
1995	–	–	1	–	1
1996	–	–	0	–	0
1997	–	–	0	–	0
1998	–	–	0	–	0

Table 9d Liver transplants: living donors

	Austria	Belgium	Germany	Netherlands	Eurotransplant
1991	0	0	5	–	5
1992	0	0	15	–	15
1993	0	2	12	–	14
1994	0	13	11	–	24
1995	0	16	9	–	25
1996	0	12	10	–	22
1997	2	17	24	–	43
1998	1	12	25	–	38

Table 10 Cadaveric donors used for a transplant, by organ, per country**Table 10a Donor kidneys: cadaveric donors**

	Austria	Belgium	Germany	Luxemburg	Netherlands	Eurotransplant
1981	114	154	677	2	316	1263
1982	141	139	812	2	313	1407
1983	108	194	996	5	342	1645
1984	224	206	1232	10	370	2042
1985	207	211	1259	8	270	1955
1986	232	271	1571	8	375	2457
1987	321	371	1585	4	417	2698
1988	295	377	1643	8	370	2693
1989	391	409	1847	6	361	3014
1990	432	369	1885	14	406	3106
1991	396	404	2189	10	431	3430
1992	311	350	2012	12	443	3128
1993	397	403	2070	18	426	3314
1994	329	428	1857	8	376	2998
1995	321	375	1914	4	436	3050
1996	350	399	1897	26	423	3095
1997	305	404	1963	10	414	3096
1998	318	358	1992	13	379	3060

Table 10b Heart donors: cadaveric donors

	Austria	Belgium	Germany	Luxemburg	Netherlands	Eurotransplant
1991	108	156	472	4	92	832
1992	88	115	495	4	69	771
1993	107	123	482	7	65	784
1994	90	121	452	1	60	724
1995	96	117	468	0	65	746
1996	95	108	478	10	82	773
1997	85	126	508	3	81	803
1998	93	105	482	4	62	746

Table 10c Lung donors: cadaveric donors

	Austria	Belgium	Germany	Luxemburg	Netherlands	Eurotransplant
1991	18	16	54	1	12	101
1992	22	24	85	1	11	143
1993	30	32	65	1	13	141
1994	27	30	72	0	24	153
1995	27	34	67	0	16	144
1996	33	33	76	1	25	168
1997	29	30	90	0	20	169
1998	37	33	123	0	32	225

Table 10d Liver donors: cadaveric donors

	Austria	Belgium	Germany	Luxemburg	Netherlands	Eurotransplant
1991	95	133	375	4	84	691
1992	94	111	416	3	87	711
1993	118	130	488	4	103	843
1994	115	143	457	2	110	827
1995	94	134	483	1	113	825
1996	113	145	535	7	134	934
1997	109	174	548	3	145	979
1998	119	142	582	4	115	962

Balance sheet and exploitation result of Stichting Eurotransplant International Foundation

	31.12.1998 x nlg. 1000	31.12.1998 x euro 1000	31.12.1997 x nlg.1000	31.12.1997 x euro 1000
Balance sheet				
Assets				
Short term receivables	5451	2474	5532	2510
Liquid assets	5564	2525	5561	2523
	<u>11015</u>	<u>4999</u>	<u>11093</u>	<u>5033</u>
Liabilities				
Equity	519	236	519	236
Reserve funds	3035	1377	3722	1689
Short term liabilities	7461	3386	6852	3109
	<u>11015</u>	<u>4999</u>	<u>11093</u>	<u>5034</u>
Statement of income and charges				
Income				
Registration fees	5993	2720	6441	2923
Miscellaneous	285	129	199	90
	<u>6278</u>	<u>2849</u>	<u>6640</u>	<u>3013</u>
Charges				
Salaries	3629	1647	3647	1655
General expenses	1371	622	1432	650
Medical expenses	460	209	434	197
Transport	135	61	139	63
Housing	299	136	292	133
Depreciation	391	177	452	205
Miscellaneous	160	73	165	75
	<u>6445</u>	<u>2925</u>	<u>6561</u>	<u>2978</u>
Exploitation balance	- 167	- 76	79	35
	<u>6278</u>	<u>2849</u>	<u>6640</u>	<u>3013</u>

Accounting policies

Current assets and liabilities

These are stated at nominal value. For doubtful accounts a provision has been made.

Exploitation balance

The exploitation balance is defined as the difference between income and charges based on the above mentioned policies.

Auditor's opinion

We have audited the financial statements of Stichting Eurotransplant International Foundation for the year ended December 31, 1998 from which the summarized financial statements were derived, in accordance with relevant auditing standards. In our report dated April 1, 1999 we expressed an unqualified opinion on the financial statements from which the summarized financial statements were derived. These financial statements are the responsibility of the foundation's management. Our responsibility is to express an opinion on these financial statements based on our audit.

In our opinion, the accompanying summarized financial statements are consistent, in all material aspects, with the financial statements from which they were derived.

For a better understanding of the foundation's financial position and the results of its operations for the period and the scope of our audit, the summarized financial statements should be read in conjunction with the financial statements from which the summarized financial statements were derived and our audit report thereon.

Leiden, April 1, 1999

Deloitte & Touche