



Annual Report

Transplant Centre
University Hospital Zurich

2015

1. The Transplant Centre in its 8th year	3
1.1. The last year.....	3
1.2. Outlook.....	4
2. Cross-sectional functions and research activities	4
2.1. Transplant coordination.....	4
2.2. Interdisciplinary HLA typing laboratory.....	7
2.2.1. HLA analyses for recipients of solid organs.....	7
2.2.2. HLA analyses for stem cell transplantation.....	7
2.2.3. HLA analyses for potential organ donors.....	7
2.2.4. Evaluation of HLA associated diseases and drug intolerance.....	7
2.2.5. New typing method.....	7
2.3. Research highlights of the Transplant Centre.....	7
2.4. Involvement in national and international committees.....	10
2.5. Continuing education.....	11
2.6. Swiss Transplant Cohort Study (STCS).....	11
3. Organ donation network	11
3.1. Organ donation activities 2015.....	11
4. Care of transplant recipients	12
4.1. Anaesthesiologic aspects of transplantation.....	12
4.1.1. Organisation.....	12
4.1.2. Clinic.....	12
4.2. Nursing care in the Transplant Centre.....	12
4.2.1. Inpatient TPL care.....	12
4.2.2. Network Transplant Care Switzerland.....	12
4.2.3. ANP "Kidney Transplantation".....	12
4.2.4. ANP "Liver Transplantation".....	13
4.3. Infectious disease service for transplanted patients.....	14
4.4. Dermatological care of transplanted patients.....	14
4.5. Psychosocial evaluation of transplant patients.....	14
4.5.1. The last year.....	14
4.5.2. Organization of the team.....	15
4.5.3. Research.....	15
5. The transplantation programs	15
5.1. Allogeneic stem cell transplantation.....	15
5.2. Autologous stem cell transplantation.....	15
5.3. Heart transplantation.....	16
5.4. Lung transplantation.....	18
5.5. Liver transplantation.....	19
5.6. Kidney transplantation.....	19
5.7. Pancreas transplantation.....	22
5.8. Islet transplantation.....	22
5.8.1. Islet transplantation in the reporting year.....	22
5.8.2. Cost evaluation of islet transplantation.....	22
5.8.3. Diabetic care.....	23
5.8.4. Key aspects of the islet transplantation program for the next years.....	23
5.9. Small bowel transplantation.....	24
5.10. Reconstructive transplantation.....	24
6. Attachments	25
6.1. Staff of the Transplant Centre 2015.....	25
6.2. Transplantation activities 2008 – 2015.....	26
6.3. Outcome organ transplantations.....	26
6.4. International Advisory Board (IAB) Meeting 2015.....	27
6.5. Scientific publications 2015.....	28
6.6. Transplantation awards 2015.....	31
6.7. Continuing education program 2015.....	33
6.7.1. Autumn Symposium 2015 "Individualized medicine in transplantation".....	33
6.7.2. Monthly Seminar „Hot topics in transplantation“ (TNT) 2015.....	33

1. The Transplant Centre in its 8th year

Nicolas Müller – Head of the transplant center

1.1. The last year

2015 was characterized by intense transplantation activities made possible by a record number of donors in Switzerland. The important role of the center as a collaborative platform for all relevant actors was again highlighted.

On November 16, 2015, the International Advisory Board held its last meeting in the old composition. Having reached the statutory 2x4 year mandate this year will see a significant change with almost all advisors leaving, and new ones starting with the first meeting in the fall of 2016. In the name of all those involved in transplantation at the University Hospital Zurich and in particular of the boards of trustees and directors I would like to express my sincere thanks to the resigning advisors for their dedication and willingness to accompany us with lots of diligence and benevolence through the first years of the center.

Their great work was acknowledged on the occasion of the 9th transplantation seminar on November 20, 2015, which under the title "Personalized Medicine" looked at the potential of some of these concepts in the transplant field.

Transplant activities

Transplant activities of all programs were on a very good level in 2015, in part even with new record numbers. The exact numbers of the individual programs are outlined in attachment 6.2 of this report.

The following milestones merit to be mentioned specifically:

- The DCD (Donation after Cardiocirculatory Determination of Death) program which was resumed in 2011, has led to the transplantation of 38 kidneys, 37 livers and 17 lungs with organs from DCD donors. As for kidney transplantation where national allocation is already done, allocation of all organs will be performed nationally. The exact process, however, needs to be clarified in detail.
- The outcome data published on www.stcs.ch under the heading Publications as Annual Report 2015 have been released nationwide for the 3rd time. The Zurich Centre has already met this obligation of publication stipulated by law and the bylaws of transplant medicine in its hospital quality report in earlier years.
- The web page has been redesigned completely (<http://www.transplantation.usz.ch/>)

Continuous quality assurance

Under the tight control of our quality manager all processes and documents were adapted to meet with the current requirements. In addition, the redesign of the internet and intranet pages was very time-consuming. The objective is the permanent availability of up-to-date and continuously revised forms which can be retrieved electronically in a simple and intuitive way.

Development of a new program

Considerable progress has been made in the build-up of our new Composite Tissue Allotransplantation Program. In discussions with the Federal Office of Public Health, our Department of Communication and further parties, documents and processes have been elaborated which form the basis for the ethics proposal.

Continuing education

The monthly TNT Seminar has again been able to offer an exciting program. The program and the highlights are specified under point 6.7.2.

1.2. Outlook

Projects in 2016

Of all current projects in 2016 only some are briefly mentioned below:

Benchmarking: Pr. Annette Böhler has advanced the project with big verve in 2015 and in the current year. Starting with the liver and lung transplantation programs, Prof. Böhler has held intensive discussions with all involved and is currently developing analysis models. The results are awaited with great anticipation in the fall of 2016.

Internal audit: As mandated by the Federal Office of Public Health (FOPH), internal audits will be conducted in the present year. To ensure that this result in true quality improvements these will cover as many practical aspects as possible.

Structure of the center: The center has grown in the course of the recent years and along with the new tasks also the demand for quality management has increased. A reassessment of the structure and the bylaws in order to improve is planned.

2. Center specific and integrative functions

2.1. Transplant coordination

Werner Naumer, Head transplantation coordination and Martin Wendt, substitute

In transplantation coordination, the year 2015 was characterized by restructuring, reorientation and quality assurance.

The reorganization was conducted by a supervisor. Under his guidance a reorientation was achieved. Two staff members have left the team. As team leader together with my substitute I have been able to support and accompany this process. In the middle of the year the living kidney donation program was re-integrated into transplantation coordination. Ms. Neff was trained successfully in the program and was able to guarantee a smooth transition for the patients. In August 2015 a new colleague was recruited for the TPL coordination team. She too became integrated quickly and gained security in her activities very rapidly.

Despite new team members and restructuring, the program was able to deliver high quality work throughout.

A very important task in the second part of the year consisted in re-evaluating the different programs to achieve an increase in efficiency. The hospital motto "patient first" is our main goal. With the aid of the quality management all processes were revised and adapted. Quality indices were implemented in order to be able to measure progress.

Another main focus of the last year was the living liver donation program. By implementing different measures a raise of the number of evaluations and donations was initiated. By concentrating on the critical interactions as well as by adjusting the processes a positive turnaround was observed at the end of the year, which continued in the current year. Likewise the collaboration with the responsible clinics was improved.

In November we could celebrate our 500th living kidney donation.

Staff:

6 persons are employed in transplantation coordination.

The FTE of the staff members is as follows:

Naumer, Werner	100 %
Wendt, Martin	100 %
Kokkonen, Sanna	80 %
Neff, Martina	100 %
Eugster, Mia	80 %
Reh, Therese	60 % (not integrated in standby duty)

Coordination hours: 1076 hours

Coordinations performed: 155

Foreign offers: 93

Thereof the subsequent organs were imported from abroad:

FO Koordiniert :	
Herz	2
Lunge	3
Leber	6
Nieren en bloc	1
Gesamt	12

In total 206 organs were coordinated.

Evaluations 2015 by TPL coordinators

Evaluation Liver transplantations by TPL coordination		68
Living liver donation stage 1		13
Living liver donation stage 2		6
Living kidney donation stage 1		50
Living kidney donation stage 2		33
Total evaluations by TPL coordinati0n		170

Patients new on the waiting list 2015

Heart	21
Heart + kidney	0
Lung	33
Liver	69
Small bowel	0
Pancreas + kidney	7
Pancreas single	0
Islet cells	2
Islets + kidney	4
Liver + kidney	1
Liver + islets	2
Kidney	128
Total	267

Events:

- Information evening for kidney patients (Zurich and Ticino)
- Liver information afternoon April 2015
- Referring physicians meeting (Zurich and Ticino)

Project collaboration:

- Data transfer USZ/KISIM-SOAS
- BAG: SOAS release
- STATKO
- SDTA
- STALOS
- Redevelopment brochure living kidney donation
- Redevelopment brochure living liver donation
- Token implementation SOAS
- Intranet redesign
- Process face transplant

Lectures:

- Instruction lessons in Careum
- Medilab Bern
- ZINA, Waidspital Nephrology
- Various advanced trainings on USZ wards

Continuing education:

- Interlaken
- STS
- DSO Frankfurt
- TPM Barcelona
- Lifeport
- EDTCO Brüssel
- Autumn symposium USZ Transplantation
- Grand rounds/TNT

2.2. Interdisciplinary HLA typing laboratory

Barbara Rüsi – Head interdisciplinary HLA typing laboratory

The number of requested HLA typings has again significantly increased compared to the previous year, i.e. from 4823 to 5651. In the course of the last 5 years a total increase of >30% could be registered!

2.2.1. HLA analyses for recipients of all solid organs

Typings: HLA typings were performed in a total of 294 patients. Of these, 126 potential kidney recipients and 58 potential living donors were evaluated.

Anti HLA antibodies: 2925 anti HLA antibodies specifications with Luminex Single Ag class I and/or class II and 2142 screenings with Luminex Mix were performed on patient sera on admission to the waiting list, on monitoring on the waiting list as well as after TPL.

2.2.2. HLA analyses for stem cell transplantation

Typing: 103 patients and 170 family members were typed. 58 allogeneic transplantations were performed (31 related and 27 no-related).

Anti HLA antibodies: In particular in haploidentical transplantations the patient has to be tested for possible HLA immunization. The specification of anti HLA antibodies with Luminex SA class I and II and a crossmatch prior to TPL is thus mandatory.

2.2.3. HLA analyses for potential organ donors

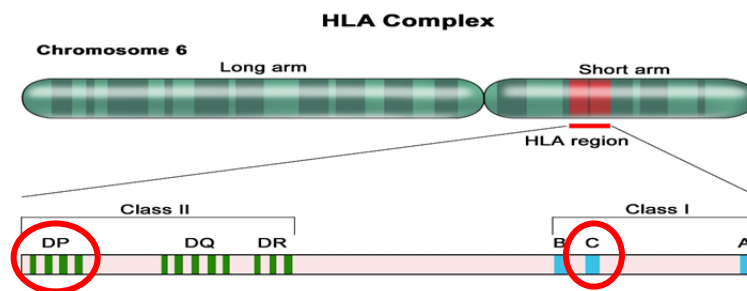
50 emergency typings for potential organ donors were carried out. The working time of the BMA on duty for HLA analyses (typing and crossmatch) is between 7 to 9 hours. In comparison to the last 5 years HLA analyses for organ donors have more than doubled!

2.2.4. Evaluation of HLA associated diseases and drug intolerance

The detection of HLA characteristics is currently used in the differential diagnosis of many diseases. In 563 patients a HLA typing was prescribed.

2.2.5. New typing method

We have implemented a new HLA typing platform. This enables us to specify 12 loci within approximately 2.5 hours in the organ donor as well. As of late also HLA-C and HLA-DPB1* can be considered in the allocation.



2.3. Research highlights of the Transplant Centre

Pancreas transplantation, islet cell transplantation

Comparison of results of combined islet-kidney vs pancreas-kidney transplantation over 13 years. The glycemic control in islet- and pancreas transplantation is quite similar despite the different rates of insulin independence. The kidney function decline of transplanted kidneys over 13 years in patients with simultaneous islet transplantation in comparison to patients with pancreas transplantation does not differ.

Glycemic control in simultaneous islet-kidney vs pancreas-kidney transplantation in type 1 diabetes mellitus: A prospective 13 year follow-up
Lehmann R., Graziani J., Brackman J., Pfammatter Th., Kron Ph., de Rougemont O. , Mueller T., Zuellig RA, Spinass GA, Gerber PA
Diabetes Care 2015; 38:752-59

[Proposal for an evidence-based therapy algorithm with regard to severe hypoglycemia in type 1 diabetes: What should be done in these patients: pancreas- or islet transplantation?](#)

Evidence-based treatment of type 1 diabetes complicated by problematic hypoglycemia: A comprehensive algorithm comprising educational, technological, and transplant interventions
Pratik Chaudhary*, Michael R. Rickets*, Peter A. Senior*, Marie-Christine Vantyghem*, Paola Maffi, Thomas W. Kay, Bart Keymeulen, Nobuya Inagaki, Frantisek Saudek F, Roger Lehmann^{#1} (co-senior author), Bernhard J. Hering[#] (co-senior author)
Diabetes Care 2015; 38:1016–1029

Kidney transplantation

In the evaluation of the kidney transplant function the donor information and thus the quality of the transplanted organ often is not integrated. We have therefore developed a formula which allows calculating the expected kidney transplant function with the inclusion of the donor characteristics and also allows to predict the expected kidney function after living donation. In clinical routine, this allows for a better estimate of the expected organ function.

What Should the Serum Creatinine Be After Transplantation? An Approach to Integrate Donor and Recipient Information to Assess Posttransplant Kidney Function.
Al-Sehli R, Grebe S, Jacaj Z, Chen S, Li S, Craig K, Luyckx V, Mueller T.
Transplantation 2015; 99(9):1960-7

Liver transplantation

Organs from DCD donors are subject to a prolonged ischemic time which causes injuries to the organ. In order to optimize the quality of the donor organ a machine perfusion with cold oxygenated perfusion liquid (HOPE) was developed. In a pilot study with comparable organ parameters 25 DCD livers were treated with HOPE and compared with 50 control DCD livers. The recipients of HOPE treated organs had a significantly improved postoperative course and in particular showed no intrahepatic cholangiopathy.

Dutkowski P, Polak W, Muiesan P, Schlegel A, Verhoeven C, Scalera I, De Oliveira M, Kron P, Clavien PA.
First Comparison of hypothermic oxygenated perfusion (HOPE) vs static cold storage of human DCD liver transplants. An international matched case analysis.
Ann Surg 2015; 262:764-771.

Heart transplantation

Cardiac resynchronization therapy reduces the mortality in patients with cardiac failure with reduced ejection fraction and a broad QRS complex in the ECG. Patients with narrow ECG but with mechanical dyssynchrony in the ECG frequently also got such a device, although no studies had been done so far. In our study published in NEJM we could demonstrate that patients did not benefit or that it was even harmful.

Ruschitzka F et al. NEJM 2013 / The effect of QRS duration on cardiac resynchronization therapy in patients with a narrow QRS complex: a subgroup analysis of the EchoCRT trial, Steffel J et al.
Eur Heart J 2015:

Takotsubo cardiomyopathy is a hitherto insufficiently characterized heart disease with symptoms of an acute coronary syndrome, which is triggered by stress and predominantly affects women. In this international registry run from Zurich 1750 patients from 26 centers were included and it was demonstrated that these had a higher prevalence of neurologic or psychiatric diagnoses than those with an acute coronary syndrome. It also revealed that Takotsubo cardiomyopathy can lead to heart failure with substantial morbidity and mortality.

Clinical Features and Outcomes of Takotsubo (Stress) Cardiomyopathy, Templin C et al, NEJM 2015

Lung transplantation

In a mouse model of acute rejection after lung transplantation Yoshito Yamada et al. could demonstrate that the CD26 costimulatory blockade with Vildagliptin promotes the acceptance of the lung allograft by reduced T cell infiltration, less expression of IL-17 and increased expression of IL-10, most likely by alternatively activated macrophages.

Yamada Y, Jang JH, De Meester I, Baerts L, Vliegen G, Inci I, Yoshino I, Weder W, Jungraithmayr W. *J Heart Lung Transplant*. 2016 Apr; 35(4):508-17.

Prof. Ilhan Inci et al. have investigated the influence of age on short- and long-term survival of emphysema patients at the time of transplantation. It was demonstrated that patients aged 60 years and older have a significantly lower survival rate compared to patients aged 59 years or younger at the time of transplantation.

Inci I, Schuurmans M, Ehsam J, Schneiter D, Hillinger S, Jungraithmayr W, Benden C, Weder W. *Eur J Cardiothorac Surg*. 2015 Dec; 48(6):906-9.

In a retrospective analysis of spinocellular carcinoma of the skin in lung transplanted patients the graduate student Simon Gerber has identified a cumulative incidence of 34% 10 years after lung transplantation. A multivariable analysis revealed that CMV replication (HR 7.7) and moxifloxacin exposure (HR 2.3) during the first year after transplantation were associated as independent risk factors with the tumor development.

Gerber SR, Seifert B, Inci I, Serra AL, Kohler M, Benden C, Hofbauer GF, Schuurmans MM. *J Eur Acad Dermatol Venereol*. 2015 Dec; 29(12):2451-7.

Consultant and liaison psychiatry

A prospective study on life quality and stress in patients after lung transplantation could be successfully concluded. The results in a total of 40 patients demonstrate that lung transplantation leads to a significant improvement of life quality within 6 months in the majority of patients. There is, however, a group of patients (25%) in whom no such trend can be observed. Risk factors for a less favorable course were: age, severity of disease, longer duration of hospitalization (intensive care and regular inpatient care units), comorbidities as well as the use of psychotropic drugs.

Seiler A, Jenewein J, Martin-Soelch C, Goetzmann L, Inci I, Weder W, Schuurmans MM, Benden C, Brucher A, Klaghofer R. Post-transplant outcome-clusters of psychological distress and health-related quality of life in lung transplant recipients. *Swiss Med Wkly*. 2015; 145: w14236. doi: 10.4414/smw.2015.14236. eCollection 2015.

Anesthesia

After it was demonstrated in separate study that the application of volatile anesthetics in liver surgery improves ischemia reperfusion injury, a randomized clinical trial in liver transplantation was conducted in Zurich, Sao Paulo and Ghent, in which sevoflurane anesthesia was compared with propofol anesthesia. Thereby in nearly 100 liver recipients no difference was shown with regard to postoperative liver cell injury. Likewise complications in both groups were comparable. Thus both anesthetics can be used for this intervention.

Conditioning with sevoflurane in liver transplantation. Results of a multicenter randomized controlled trial
Beck-Schimmer B*, Bonvini JM*, Schadde E, Dutkowski P, Oberkofler CE, Lesurtel M, DeOliveira ML, Figueira E, Rocha Filho JA, Costa Auler JO Jr, D'Albuquerque LA, Rayntjens K, Wouters P, Rogiers X, Debaerdemaeker L, Ganter MT, Weber A, Puhan MA, Clavien PA, Breitenstein S*shared first authorship
Transplantation, 2015; 99:1606-12

Reconstructive transplantation

In this study for the first time the immunomodulatory characteristics of mesenchymal stroma cells from bone marrow and from adipose tissue were directly compared *in vitro* and *in vivo* in an extremity transplantation rat model. *In vitro* both cell types exhibited a pronounced immunosuppression, while *in*

[vivo a distinct prolongation of the graft survival without drug immunosuppression could be shown.](#)

Adipose and Bone Marrow Derived Mesenchymal Stem Cells Prolong Graft Survival in Vascularized Composite Allotransplantation.

Plock JA, Schnider JT, Zhang WA, Schweizer R, Tsuji W, Kostereva N, Fanzio PM, Ravuri S, Solari MG, Cheng HY, Marra KG, Gorantla VS

Transplantation 2015;99(9):1765-73

Allogeneic stem cell transplantation

[A Promedica research grant for two years in the field of chronic GvHD was attributed to Mrs. Dr. A. Müller from our group.](#)

[Publication of the results of the international randomized study on the significance of autologous blood stem cell transplantation in inflammatory bowel diseases.](#)

Autologous Hematopoietic Stem Cell Transplantation for Refractory Crohn Disease: A Randomized Clinical Trial.

Hawkey CJ, Allez M, Clark MM, Labopin M, Lindsay JO, Ricart E, Rogler G, Rovira M, Satsangi J, Danese S, Russell N, Gribben J, Johnson P, Larghero J, Thieblemont C, Ardiszone S, Dierickx D, Ibatci A, Littlewood T, Onida F, Schanz U, Vermeire S, Colombel JF, Jouet JP, Clark E, Saccardi R, Tyndall A, Travis S, Farge D.

JAMA 2015; 14(23):2524-34

2.4. Collaboration in national and international committees

Nicolas Müller

Chairman of the Scientific Committee of the Swiss Transplant Cohort Study

Member of the Scientific Committee of the Swiss Society of Transplantation

Editorial Board Xenotransplantation; Transplant Infectious Diseases.

Roger Lehmann

President of the Central European Diabetes Association (FID) 2013-2017

Board Member of the European Pancreas and Islet Transplant Association 2013-2017

Thomas Müller

Living Donation Advisory Committee of the Canadian Blood Services

- Publication of the Guidelines in Transplantation 2015; end of membership in this committee

Member of the Boards/Scientific Committees

- STAN
- STALOS
- SOL-DHR

Swiss Kidney Paired Donation Program

- Co-Director Steering Committee on establishing Guidelines for cross-over transplantation

Advisory Board for Sanofi on Immunological Risk Assessment

Jan Plock

Basic Science Committee ESOT, since 2015

Urs Schanz

President Swiss Blood Cell Transplantation (SBST)

Member Commission allogeneic stem cell transplantation (KAT)

Administrative Council Blood Donation Swiss Red Cross Committee

Member of the NAC (nuclear accident committee) of the EBMT

Working group hepatitis C in the section of transplantation of the Swiss Red Cross Blood Donor Service

Senior editor: Transfusion and Apheresis Science (2013-2015)

Editorial board member Transfusion and Apheresis Science, since 2016

Frank Ruschitzka

Deputy Editor, European Heart Journal

Incoming President of the Heart Failure Association of the European Society of Cardiology

2016 ESC Guidelines for the management of atrial fibrillation developed in collaboration with EACTS

2016 ESC Guidelines on Acute and Chronic Heart Failure

Atlas of Cardiology

ESC Textbook of Cardiovascular medicine

Christian Benden

STALU, President elect
ISHLT, Member Board of Directors
ISHLT, Scientific Program Chair 2018
IPTA, Education Committee Chair

Journals:

JHLT, Editorial Board Consultant
Pediatric Transplantation, Associate Editor

Ilhan Inci

STALU

2.5. Continuing education

Nicolas Müller – member TNT organizing committee

Our seminar *Hot Topics in Transplantation (TNT)* has again demonstrated the broadness of scientific activities on a local and international level, as can be seen from the list of internationally renowned speakers. This was only enabled thanks to a generous sponsoring (Astellas Pharma AG, MSD AG, Novartis Pharma Switzerland AG, Pfizer AG, Sanofi and Roche Pharma (Switzerland) AG, for which we want to express our sincere gratitude at this point!

• **Franz Immer**, Director of Swisstransplant, addressed an emotional subject: Is the anonymity of donor and recipient an obsolescent model? In different regions of the world, this issue is handled very differently. The great interest resulted in a very lively discussion. • **Annina Seiler** and **Josef Jenewein** presented own results of their study on stress and life quality after lung transplantation. • Donor specific antibodies are a known risk factor after kidney transplantation – does the same apply after heart- and lung transplantation? • **Jean Villard**, Director of the HLA Reference Laboratory in Geneva, showed new data, and gave an overview. • **Jörg Halter** from Basel reported on a topic which has only in recent years got into the focus of interest: The follow-up care of donors of stem cells. • **Beat Mülhaupt** spoke on subject of the fatty liver, one of the important future indications for liver transplantation, but also about the problems in the handling of donor livers. • **Oliver Mauthner** and **Gabriela Schmid-Mohler** presented a new planned study aiming at investigating frailty and its impact on transplantation. • **Luciano Potena** from the University of Bologna presented an excellent survey of the current strategies in the prevention of CMV. • The final contribution came from • **Katrina Bramstedt** from Australia, who spoke on ethical aspects of face transplantation.

2.6. Swiss Transplant Cohort Study (STCS)

Nicolas Müller – Chairman of the Scientific Committee STCS

After yet another evaluation, the Swiss Transplantation Cohort (www.stcs.ch) was again sponsored by the Swiss National Science Foundation. The significance of this worldwide unique data collection increases with every year of follow-up. In the meantime >90 projects are on the way and make use of STCS data and samples. Most studies are with Zurich participation. Zurich is bearing the major burden of the enrolled patients; out of a total of 4818 patients 1715 or 1/3 were transplanted in the Zurich center. This confronts us with a formidable logistic challenge in order to ensure a perfect collection of samples and data. A heartfelt special thank you to all those who contributed!

3. Organ donation network

3.1. Organ donation activities 2015

Since the separation of the organ donation side from the recipients side the activities of the Donor Care Association are referred to in a separate report.

4. General care of transplant recipients in the Transplant Centre

4.1. Anaesthesiologic aspects of transplantation

Marco P. Zalunardo, Rolf Schüpbach

4.1.1. Organisation

With the support of the Transplant Centre and in collaboration with the responsible partners for liver- and lung transplantations (Intensive Medicine and Surgery) the previously existing gap in the information chain in urgent listings could be completely closed

4.1.2. Clinic

Anesthesiology regularly participates in the listing boards for potential lung and liver candidates. 33 patients were newly admitted to the waiting list for lung transplantation while 32 patients were admitted to the list for liver transplantation.

The numbers of transplanted lungs and of recipients taken care of, respectively, have remained stable for lung transplantations as in the previous years (31 in 2015 vs. 32 in 2014).

On the other hand the number of liver transplantations has significantly increased, i.e. from 43 in 2014 to 59 in 2015, which corresponds to an increase of 37%! At the end of the year the 700th liver transplantation was conducted at the USZ.

4.2. Nursing care in the Transplant Centre

Beatrice Biotti – Nurse representative

4.2.1. Inpatient TPL care

Since 2015, patients after kidney- and liver transplantation get a structured education in self-management after organ transplantation by means of new brochures. The coordination between the education topics provided by the nursing team on the transplant ward Ost E III and the education contents of the ANP (Advanced nurse practitioner) nursing consultations was optimized and adapted accordingly in the relevant guidelines and favorites of the electronic patient documentation. For patients after lung transplantation a new structured patient education program for the self-administration of intravenous antibiotic therapies at home was implemented. The nursing team was instructed in advance about the implementation of the new education program. As additional educational material for the education in intravenous self-therapy short movies for the visualization of the education subjects as well as the brochure "Intravenous therapy at home" are newly available were created. There have been changes in responsibilities with regard to the discharge planning of lung transplanted patients. The nursing processes and activities were adapted accordingly.

4.2.2. Network Transplant Care Switzerland

There has been a change in lead of the „Network of Transplant Care Switzerland“ association and the connected SwissTransplant working group of nurses (STAPF). Since May 2015 Mrs. Ramona Odermatt, nursing expert in the division abdomen– metabolism of the USZ is the new president of the network and the STAPF. Mrs. Sandra Schönfeld, nursing expert nephrology, University Hospital Basel, is the newly appointed co-president. Network and STAPF promote the exchange and expert knowledge of qualified nursing persons in the field of transplantation. Two network meetings – one in May and one in October – were held in Bern. Six nursing-specific advanced education lectures were integrated in these meetings.

The Network of Transplant Care Switzerland is furthermore strongly promoted by the division metabolism-abdomen. The preparatory work for a new Certificate of Advanced Studies (CAS) in transplant care started in 2014 was further expedited jointly by the Network of Transplant Care and the Kalaidos University of Applied Science. The new transplant-specific module in CAS transplant care will definitely be offered in March 2016.

4.2.3. ANP „Kidney Transplantation“

APN-nursing care consultations

One-time training and consultation for all freshly transplanted patients: Within the scope of the nursing

care consultations 251 training- or consultation interviews have been conducted by the Advanced Practice Nurse with patients after kidney transplantation. Part of these training- and consultation interviews, which took place within the scope of the study, were conducted by telephone. In addition two patients with renal insufficiency were offered advice on relevant issues.

Program „Transplanted patients support transplanted patients“

An exchange of experience between two patients on the waiting list for kidney transplantation and two experienced transplanted patients were organized.

Transition program

In the scope of a transition afternoon organized jointly with the Children's Hospital Zurich five young transplanted persons changed to the adult medicine department. All of them received – by request together with the parents – training and consultation by an Advanced Practice Nurse.

Study „ANP Education program on Health Behavior“

Additional 30 patients were included in the study “Impact of an Advanced Nursing Practice Education Program on Weight Gain, Motion Behavior and Medicament Intake in the First Year after Kidney Transplantation”. By the end of 2015 a total of 82 patients participated in the study. The calculation of the number of cases was made on the basis of pilot data (n=20) which confirmed the required number of about 120 test persons. The steering committee decided to continue the study until 2018 in order to achieve the required number of test persons. Newly also Italian-speaking patients shall be included in the study.

Congress presentations

Zala, P. (2015, September, 4-5). Individualized APN-Support during Transition. Oral presentation at the 3rd International Advanced Practice Nursing & Advanced Nursing Practice Congress, Munich, Germany.

Schmid-Mohler, G., Zala, P. (2015, December, 2). Self-Management in Daily Life: Prevention of Weight Gain and Support of Physical Exercise in Kidney Transplantation in Daily Practice. Oral presentation at the 47th Annual Meeting of the Swiss Society of Nephrology, Special Satellite Symposium: Care in Nephrology, Basel, Switzerland.

4.2.4. APN “Liver transplantation”

Nursing consultation for liver transplantation

The nursing consultation for liver transplantation is offered by an expert nurse from the Advanced Practice Nurse (APN) program. During nursing consultation patient-oriented education and consultations are performed. The objective is the continuous support of patients and family members before and after transplantation. The patient get individual support in self-management and learn to manage symptoms accordingly.

In 2015, a total of 151 consultations were conducted, whereof 86 took place before and 65 after transplantation. Focal points before transplantation are: symptom management, organization of the waiting list, health behavior (e.g. smoking stop, nutrition and exercise) as well as the emotional handling of the disease situation. After the transplantation the focal points are: drug intake, prevention of infections, self-monitoring, organ rejection, skin care (sunscreen!), general health behavior.

Information brochures

In addition to the consultations patients and family members received the brochures “Need-to-know for the preparation of liver transplantation” and “Need-to-know for the life after liver transplantation”. The brochures serve also as basis for the structured education after transplantation which is conducted in close cooperation with the nursing teams of the inpatient wards E Ost 3 and D Ost 4. The USZ brochures are also used in the Cantonal Hospital St. Gallen and in the rehabilitation clinic Davos-Clavadel. Both institutions are important partners in the patient-centered care of liver transplanted patients. The translation into French and Italian of the brochures and/or of some topics is planned. A brochure on living liver donation is being developed.

Accompanying study on the evaluation of the nursing consultation liver transplantation

A study in the “before-and-after” design investigates the patient evaluation of the nursing care in chronic disease. The “before” rating was conducted by means of a questionnaire in July 2014. The “after” rating will be conducted in the spring 2016. A further study on the evaluation of the nursing consultation liver transplantation is planned.

Congress presentations

Beckmann S. and Künzler-Heule P. (2015, June, 17). Bridging the gap between institutions: continuous nursing care and self-management support throughout the liver transplant process. Oral presentation at the 6th Symposium of the Swiss Clinical Trial Organization (SCTO), St.Gallen, Switzerland.

Beckmann S. and Künzler-Heule P. (2015, September, 4-5). Continuity in patient care pre- and post-liver transplantation – cross hospital collaboration of APNs. Oral presentation at the 3rd International Congress Advanced Practice Nursing & Advanced Nursing Practice, Munich, Germany.

Peer-reviewed publication

Beckmann S., Künzler-Heule P., Biotti B., Spirig R. *Mastering together the highs and lows – Patients' and caregivers' perceptions of self-management in the course of liver transplantation*. Progress in Transplantation. Accepted for publication.

4.3. Infectious disease service for transplanted patients

Nicolas Müller – Transplant Infectious Diseases

1'218 infectious disease consultations including follow-up consultations have been documented by our consult service in patients in connection with transplantation. This corresponds to approximately 1/5 of all infectious disease consultations held at the USZ. This emphasizes the high significance of infectious disease treatment and prevention in recipients of new organs or stem cells. In addition to this service all new patients on the waiting list for kidney, pancreas or islet cells are routinely checked for vaccination status, serology and past history of infections. The regular participation in the weekly grand rounds for stem cell patients as well as newly kidney- or pancreas transplanted patients ensures a continuous interaction and close cooperation. The grand round for newly liver transplanted patients was implemented in 2013 and has become an important part of post-transplant care. The optimal infectious disease management is ensured by continuous revision of the different organ-specific guidelines.

4.4. Follow-up of transplanted patients in dermatology

Günther Hofbauer – Dermatology

Recipients of solid organs and also of bone marrow/stem cells are seen in the specialized consultation for immune suppressed patients of the Clinic of Dermatology. Under the guidance of Prof. Günther Hofbauer more than 2'150 consultations were held in 2015. The main focus of this consultation is on prophylaxis, early detection and treatment of the white skin carcinoma (spinocellular skin carcinoma), which represents the most frequent malignant tumor as consequence of long-term immunosuppression. On the one hand existing tumors are detected and removed within the scope of pre-transplant assessment. On the other hand transplanted patients are advised on the risk of white skin cancer and are taught prevention measures by appropriate behavior, clothing, application of sunscreen and early detection.

Within an European multicenter study all patients with skin carcinoma metastases will be systematically analyzed for risk factors. The goal is to target these patients early and to systematically follow-up those patients with the highest risk closely. We are also conducting a multicenter study intending to document the security of a local treatment with ingenol mebutate in transplanted patients. For the first time we have been welcoming a visiting physician from Singapore for one year, who has chosen Zurich for clinical and scientific education in order to offer dermatological follow-up for transplanted patients in Singapore later.

4.5. Psychosocial evaluation of transplanted patients

Josef Jenewein – Psychiatry

4.5.1. General retrospect

The psychiatric-psychotherapeutic evaluation of transplanted patients, donors and collaborators of the USZ is conducted by the Division of Consultant and Liaison Psychiatry of the Clinic of Psychiatry and Psychotherapy (Direction: Prof. Dr. Josef Jenewein).

The number of psychiatric-psychologic evaluations and treatments in patients and donors in 2015 with

altogether 1600 consultations was comparable to the previous year

4.5.2. Organization of the team

The team consists currently of three senior physicians with a medical specialty degree in psychiatry and psychotherapy (total FTE 1,8) and one psychologist (FTE 0.6).

4.5.3. Research

In 2015 two projects have been submitted to the Swiss Transplant Cohort Study (STCS) and approved. A prospective study deals with the topic of life quality and psychic stress in patients three years after lung transplantation. The second study investigates prospectively the influence of the sense of coherence (SOC) on the psychic management after transplantation. In both studies a data collection is currently conducted in all patients included in the STCS. Evaluation and publication are planned for 2016.

5. The individual transplantation programs

5.1. Allogeneic stem cell transplantation

Urs Schanz – Department of Hematology

We are pleased to report that the allogeneic transplantation activity with 58 allogeneic stem cell transplantations in 2015 has again increased as compared to the previous year (2014, n=53). Since the beginning of stem cell transplantation in Zurich in 1976 this represents the highest transplantation activity in any given year. The number of non-related transplantations (n=27) and the number of related transplantations (n=31) were stable. The considerable increase of related transplantations as opposed to the previous year (2014, n=22) may be due to the increased use of haploidentical related stem cell transplantations. The high number of reduced intensive conditioning regimens (62%) reflects the increased age of patients.

As a consequence, post-transplant cyclophosphamide immunosuppression has now been established as new standard of care in haploidentical transplantation in our center and worldwide.

The planning phase for a new ward with a total of 16 beds ward has now resumed after the building license had been granted. Planning is almost concluded; construction works have already started in the park of the USZ. The relocation to the new ward is expected for the end of 2018/beginning 2019.

5.2. Autologous stem cell transplantation

Panagiotis Samaras – Department of Oncology

In collaboration with the Triemli City Hospital 92 patients (compared to 98 patients in 2014) have been treated with high dose chemotherapy and autologous stem cell transplantation in the past year. Main indication was multiple myeloma, followed by lymphoma. Less frequent indications were acute leukemia, germ cell tumors and sarcomas. In total 120 aphereses were conducted in 93 patients (1.29 aphereses per patient). The increase of the number of stored unused preparations already described in the previous years has also been observed in 2015; thus 744 cryoconserved stem cell concentrates have been stored by the end of the year (compared to 691 concentrates in 2014, see also Table 1).

Mortality of the autologous transplantation program at the USZ in 2015 was around 2% and thus again significantly below the worldwide reported average of just under 5%.

Variable	N	% Difference to previous year
Autologous stem cell transplantations	92	-6%
Stem cell collections	120	+11%
Stored stem cell concentrates (cryoconserved)	744	+7%

Table 1: Relation of autologous stem cell transplantations and collections

5.3. Heart transplantation

Markus Wilhelm – Department of Cardiovascular Surgery /Frank Ruschitzka – Department of Cardiology

In 2015 14 hearts were transplanted at the USZ. Together with the year before, this represents a total of 30 heart transplantations (highest number in Switzerland) with a result above average by international comparison (Fig. 1). In three of the heart transplanted patients the waiting period up to transplantation had been bridged by means of a heart support system and in one patient by ECMO (Extra Corporeal Membrane Oxygenation). Among the heart transplanted patients there were two children and one newborn. This was the first heart transplantation in a newborn in Switzerland. Experimental work included the optimization of machine reperfusion of hearts which were harvested after death in cardiac arrest. This may be a future method in order to reduce the shortage of donor hearts.

The implantation of heart support systems has considerably increased in recent years (Fig. 2), as these systems currently are not only used as bridging before heart transplantation, but also as lifelong therapy for patients who are not eligible for heart transplantation. In 2015 heart support systems (Ventricular Assist Devices) were implanted in 15 patients with end stage cardiac failure. Eight patients received a left heart support system (Fig. 3), and seven patients a biventricular heart support system (Fig. 4). Nine of these patients, i.e. 60%, were switched from ECMO to a heart support system. From an experimental point of view we have been working - in collaboration with different research groups of the ETH - on the development of a physiological control of heart support systems and a transcutaneous energy transfer by means of which a cable connection between the intracorporeal pump and the extracorporeal control unit would no longer be required.

The implantation of ECMOs which are used in therapy refractory acute respiratory or cardiac failure has again increased in 2015. With 117 implantations the mark of 100 has been exceeded for the first time (Fig. 5). This corresponds to an increase of 26% compared to the previous year. The transfer of patients with ECMO has considerably increased by 325% compared to the previous years: 17 patients with ECMO implanted in external hospitals were transferred to the USZ.

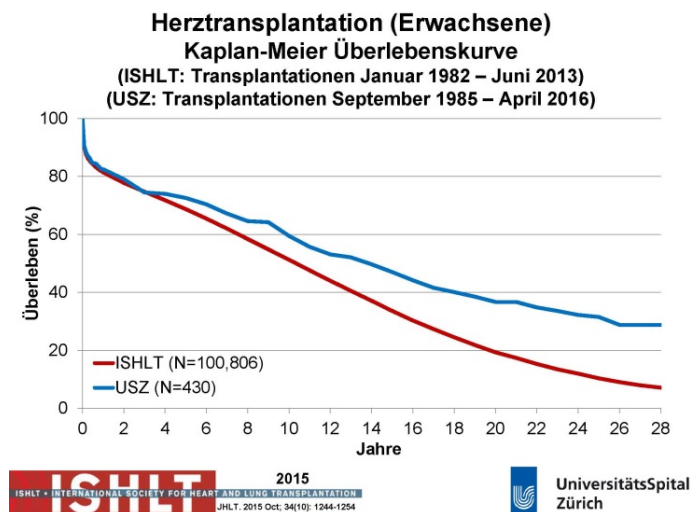


Fig. 1: Survival rate after heart transplantation in Zurich – by international comparison

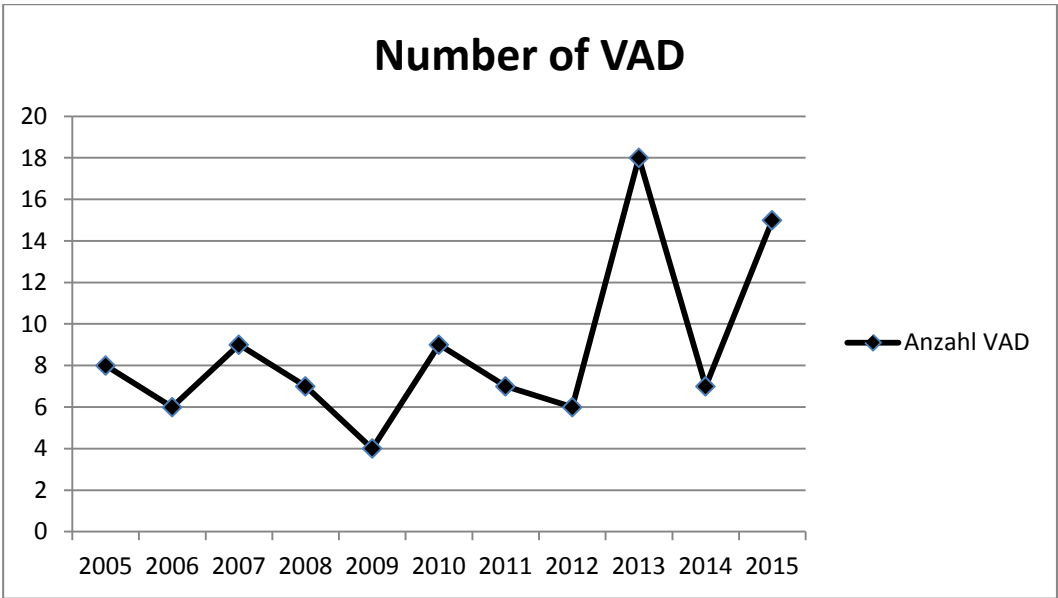


Fig.2: Implantations of heart support systems (VAD) since 2005

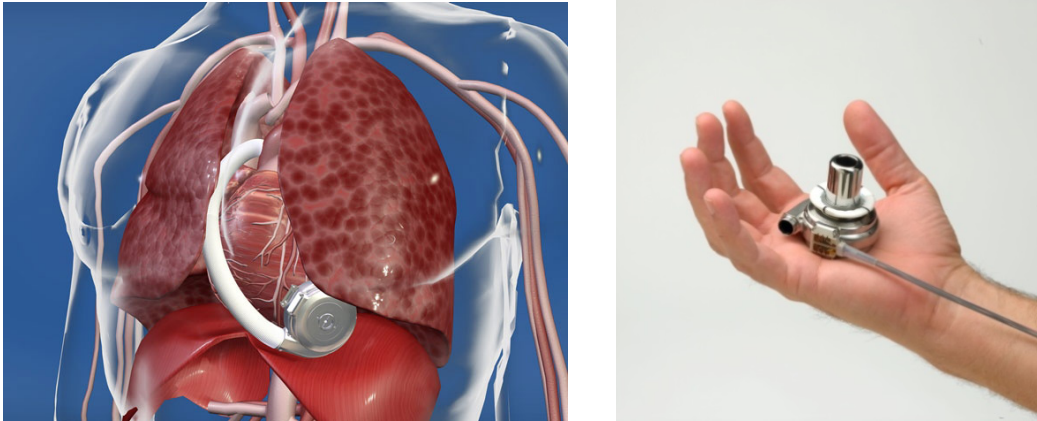


Fig. 3: Left heart support system (HeartWare®)

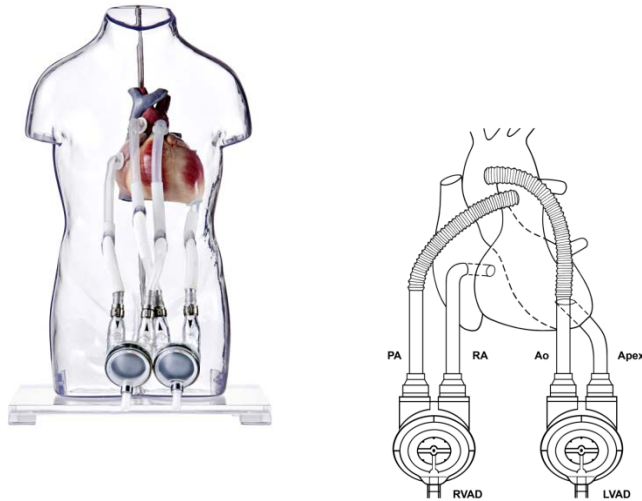


Fig. 4: Biventricular heart support system (Berlin Heart EXCOR®)

5.4. Lung transplantation

Sven Hillinger – Department of Thoracic Surgery / Macé Schuurmans – Department of Pulmonology

In the reporting year 2015 we performed 31 bilateral sequential transplantations. Since the start of the program out of a total of 465 transplantations 448 DBD and 17 DCD donors were used. 9 donor lungs were connected for evaluation to the ex-vivo lung perfusion (EVLP) system; 5 thereof were successfully transplanted.

In the TNT Seminar of November 23, 2015, Prof. Luciano (Pavia) reported on the subject “Preventive CMV Strategies”.

The autumn symposium of our Transplant Centre took place in November 2015 under the title “Individualized medicine in transplantation”. Prof. Laurent Nicod, Lausanne spoke on the subject “Lung: Strategies of Prevention of Chronic Lung Allograft Dysfunction”.

PD Dr. med. Dr. phil. Wolfgang Jungraithmayr has successfully applied for an assistant professorship in experimental lung transplantation, which will start in August, 2016.

PD Dr. med. Macé Schuurmans has successfully concluded his habilitation on the subject „Optimizing management of lung transplant recipients”.

The team of transplant pulmonology had to bid farewell to our excellent long-time coordinator Kathrina Zangger. With Petra Hamp who had been working before as a graduate nurse in our pulmonology division we were lucky to find a superb new person. In addition our long-standing coworker Bruno Isenring left the team to open a private practice.

In the reporting year 33 patients were assessed on the inpatient ward and listed following our interdisciplinary board meeting.

With regard to research we were able to realize a number of publications and presentations on a national as well as international level (ISHLT Registry, SysCLAD study). The elaboration and evaluation of the international ISHLT registry data as well as the collaboration in the writing of consensus guidelines for lung transplantation were activities performed by PD Dr. C. Benden. First results of the prospective international multicenter study “SysCLAD – systems prediction of chronic lung allograft dysfunction” have been published. In collaboration with the team of infectious diseases and medical virology the diagnostic procedure in an unclear respiratory virus infection has been investigated by means of molecular diagnostics (metagenomics) and the responsible virus was identified. Further publications included the analysis of polymorphisms in invasive yeast infections, adenocarcinomas of the gastrointestinal tract in lung

transplanted patients with cystic fibrosis and skin tumors in lung transplanted, where hitherto unknown risk factors were searched for.

In collaboration with two guest fellows from Turkey, Dr. Ilker Iskender and Dr. Tugba Cosgun, Prof. Ilhan Inci was able to conclude numerous experimental lung transplantation projects in a pig model.

Clinical and experimental research of the Department of Thoracic Surgery and Department of Pulmonology has resulted in a total of 24 publications and numerous scientific meeting presentations in 2015.

5.5. Liver transplantation

Philipp Dutkowski – Department of Surgery and Transplantation / Beat Müllhaupt – Department of Gastroenterology and Hepatology

In 2015 for the first time in a Swiss center 59 liver transplantations have been performed (vs. 43 in the previous year), which corresponds to a significant increase of 37%. This increase of liver transplantations was only possible due to extremely careful evaluation of donor/recipient risks as well as the use of *ex vivo* organ optimization by means of hypothermic oxygenated perfusion (HOPE). The results obtained so far in HOPE treated DCD (donation after cardiac death) livers show a much better outcome compared to non-perfused DCD livers from Rotterdam and Birmingham (Annals of Surgery 2015; 262: 746-770).

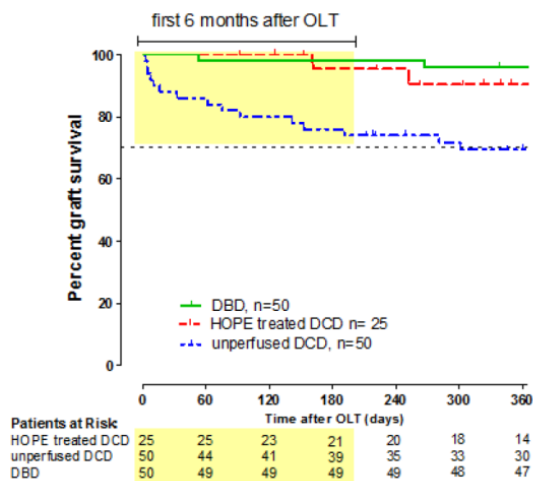


Fig. 1: 1-year graft survival of HOPE perfused DCD (donation after cardiac death) livers in comparison to standard grafts (DBD, donation after brain death) and non-perfused DCD livers

5.6. Kidney transplantation

Thomas Müller – Department of Nephrology / Olivier de Rougemont, Department of Surgery and Transplantation

In 2015 96 kidneys were transplanted at the USZ, which corresponds to approximately one third of all kidney transplantations performed in Switzerland. Compared to the previous year we have been able to increase the number of transplantations by 15%. The reason for this positive development is due to the Swiss-wide increase of the number of organ donors from 118 to 144 in the last year.

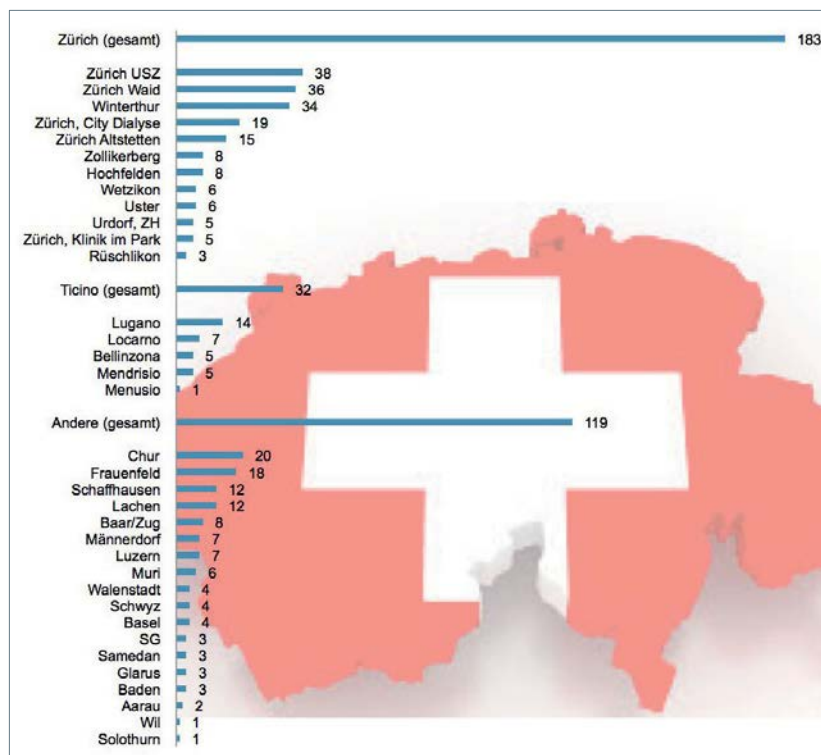
23 living kidney transplantations have been conducted, whereof two within the scope of a crossover transplantation. We are pleased to report that we have been able to perform three transplantations within our program of ABO incompatible donation. On October 5, 2015, we could celebrate the 500th living kidney donation at the USZ.

For patients on the waiting list we did organize two information evenings at the USZ and one in the

canton of Ticino. The events were attended by approximately 100 participants each, showing the interest and importance of these events. Information evenings for patients will also be organized in 2016.

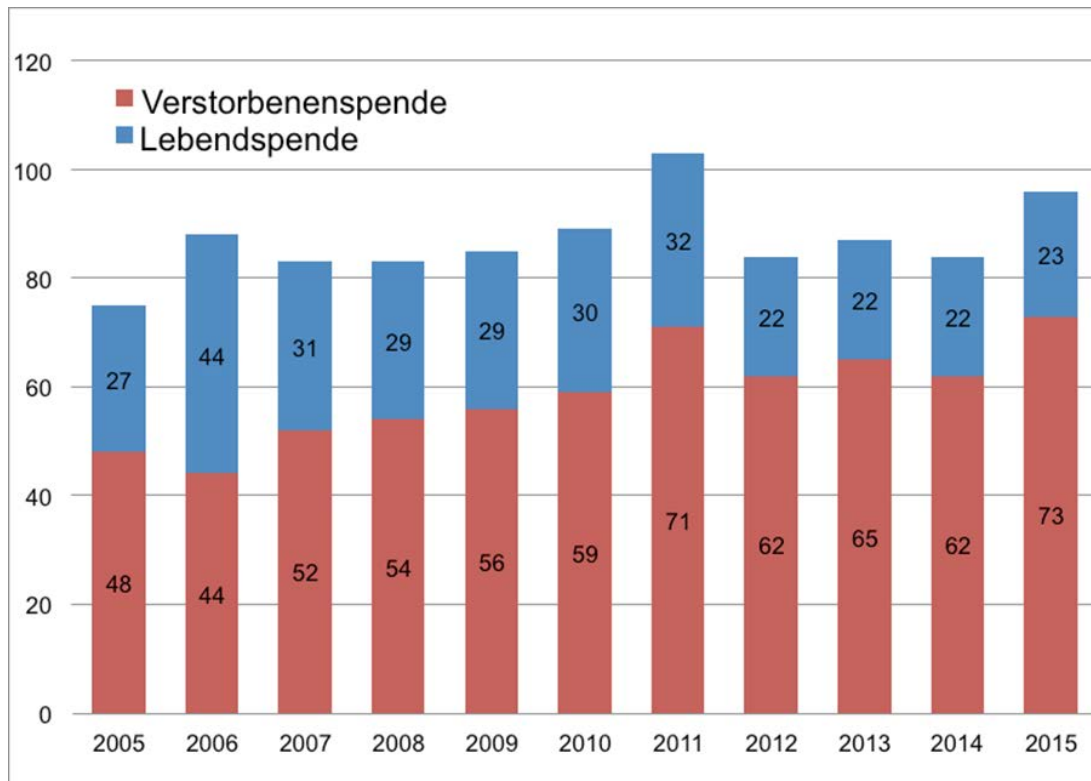
We can look back on a successful collaboration with the referring nephrologists: thanks to their professional know-how, mutual respect, acceptance and confidence they have contributed in a decisive way to the positive development. The monthly exchange of the status sheets of patients on the waiting list ensures that both sides are optimally informed about any transplant-relevant developments. In order to optimize the transparency we have started to inform the referring nephrologists when we had to decline an offer to patients on the waiting list.

We hereby want to show the patients that we indeed carefully evaluate every offer. They ought to know the reasons for the decline of the respective offer. In addition we have established a special consultation service for patients who have been waiting or are expected to wait for an organ for a long time, where we explain to the different, often immunological reasons for the long waiting time.

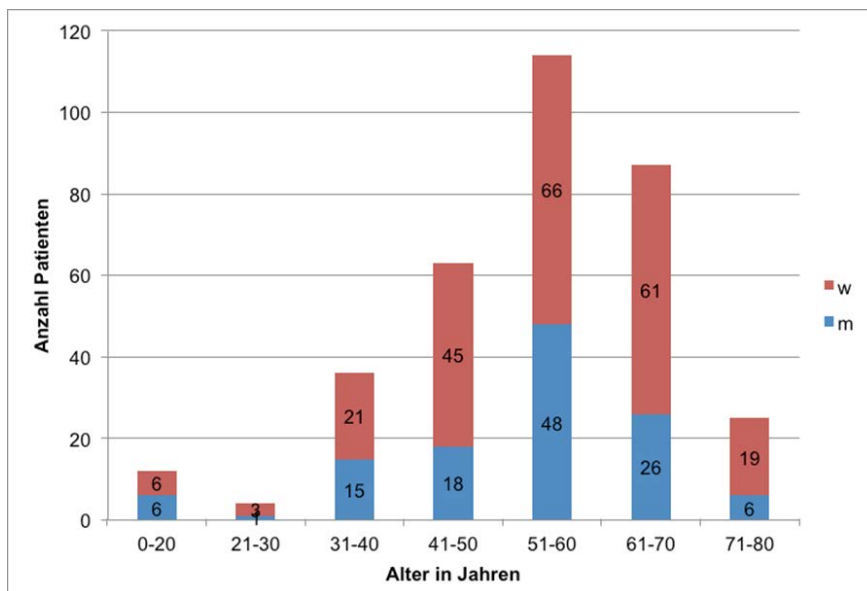


The figure demonstrates from which dialysis centers the patients were referred for transplant evaluation. We are pleased that the patients are again referred from a large geographic area.

Development of kidney transplantations at the USZ over the last 10 years



Age of patients on waiting list (as of January 1st, 2016)



This figure demonstrates that the age spectrum of our patients spreads over all decades – from very young to >70 years. An increasingly old age is shown for patients under dialysis treatment. In Switzerland currently approximately 4'200 patients with a mean age of 67 years are being dialyzed.

5.7. Pancreas transplantation

Olivier de Rougemont – Department of Surgery and Transplantation

A total of 3 combined pancreas/kidney transplantations have been conducted in 2015. 7 patients were newly listed. These numbers are in accordance with the general international trend. Increasingly less pancreata are allocated in aged donors with comorbidities. Nonetheless the surgical standards could be kept up and the three recipients could be discharged with functioning double organs into ambulatory follow-up care, no surgical re-interventions were necessary.

5.8. Islet transplantation

Roger Lehmann – Department of Endocrinology, Diabetology and Clinical Nutrition

5.8.1. Islet transplantation 2015

We are pleased to report that in 2015 there have been more organ donors (139) than in the previous year, but the mean age of donors has again increased by 5 years and is now at 56 years, with 49% of the donors even aged >60 years. This impacts both pancreas- as well as in the islet transplantation, as older donor organs result in a reduced function of the islet graft and in more complications after pancreas transplantation. This important factor resulted a drastic decrease of islet- and pancreas transplantations in Switzerland. While the number in 2013 was still at 30, it declined to 20 in 2015 in Switzerland, allocated to one of the two centers, Geneva or Zurich. For this reason only three islet transplantations were performed in Zurich in 2015.

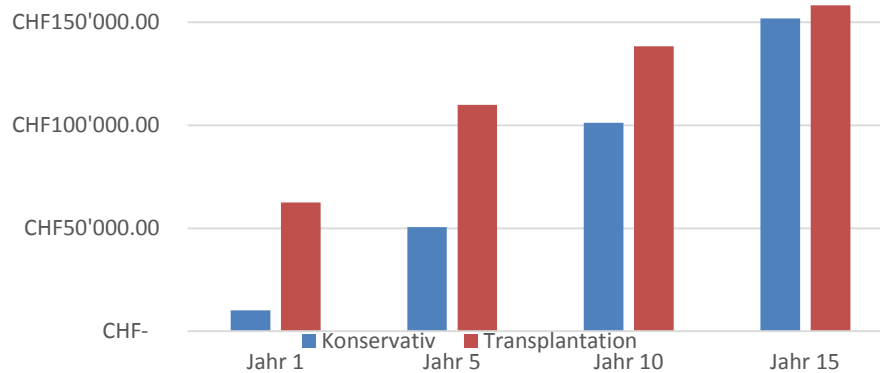
The main objective in islet transplantation is not necessarily insulin independence anymore, but a good glycemic control and prevention of severe hypoglycemia. This objective can be fulfilled in 80-90% of all patients who have received a islet transplantation, also if minor doses of insulin have to be injected. With regard to the transplant function of a simultaneously transplanted kidney a good glycemic control is of prime importance: our own data (R. Lehmann et al, Diabetes Care 2015; 38:752-59) could demonstrate that during a long-term follow-up of 13 years only a minor decline of the kidney function after combined transplantation can be observed (Δ GFR: -1.1 to 1.3 ml/min per year) and that there is no difference between islet- and pancreas transplantation – in contrast to kidney transplantation alone in patients with diabetes mellitus type 1, in which the kidney function during the long-term follow-up declines significantly more rapidly (Δ GFR: -2.5 ml/min per year) due to persisting hyperglycemia.

5.8.2. Cost evaluation of islet transplantation

The evaluation of the cost-benefit ratio of islet transplantation has been one of the main research foci during the last years. Transplantations are usually associated with high costs. In the combined transplantation setting which is predominantly performed in our institution, however, practically no additional costs incur with islet transplantation, since costs for routine controls and immunosuppression, respectively, are “covered” by the simultaneous kidney transplantation. On the other hand costs are lower due to the good glycemic control with little or no exogenous insulin. Thus material costs (insulin pump, glucose test strips) are clearly reduced and so are the costs for the medical treatment of severe hypoglycemia arising frequently before transplantation.

The figure illustrates one of the main results of the relevant study, which has been published in the October 2015 edition of the journal “Transplantation” (Gerber PA et al, Transplantation 2015, 99(10): 2174-80): After approximately 15 years the costs of islet transplantation are practically equal to the costs of conservative therapy.

Costs islet transplantation



5.8.3. Diabetes care of transplanted patients

The interdisciplinary collaboration in the Transplant Center with respect to the care of islet- or pancreas- and kidney transplantation with the three Clinics of Visceral and Transplantation Surgery, Nephrology and Endocrinology works extremely well. Patients are discussed and evaluated jointly before listing for transplantation. Again for 2016 it is planned to discuss potential candidates on-site in major neighbor hospitals such as e.g. St. Gallen twice or three times a year and to conduct joint follow-ups.

5.8.4. Key aspects of the islet transplantation program for the next years

Modification of the allocation rules for pancreas- and islet transplantation

When discussing the results of the different beta cell replacement options (whole pancreas, islets) it is important to realize that at the time of organ allocation whole pancreas transplantation is given a priority. Only after an organ has not been accepted for pancreas transplantation or no recipients are listed, potential recipients for an islet transplantation are considered. Thus it is clear that whole pancreas transplantation is at an advantage in many regards:

1. Qualitatively better and mostly younger organs
2. Shorter period on waiting list
3. Better chance of preemptive kidney transplantation before dialysis
4. Better organ survival

The allocation of organs depends on certain criteria which on the one hand should guarantee an optimal matching of the donor organ with the recipient, e.g. with regard to the HLA system, existing infections, age and size. On the other hand these rules should also ensure a similar waiting period on the transplantation list. In the kidney (and in other organs as well) the sensitized recipient plays a major role and in the kidney the rules in the Swiss Organ Allocation System (SOAS) have been defined in order that each recipient should have a minimum 2% of donors of his blood group with an acceptable number of donor-specific antibodies. In order to enable this the allocation rules for kidneys have been modified most successfully in 2012, with the result that now also highly sensitized recipients have a realistic chance to receive an organ.

Until 2010 only the combined pancreas-kidney transplantation was covered by standard insurance. This has changed fundamentally in the meantime. All pancreas- and islet transplantations are covered by health insurance and islet transplantation, formerly considered experimental, has established itself as equivalent alternative to pancreas transplantation. For patients who have decided to undergo islet transplantation or for whom a severe cardiovascular risk resulting in a high operative and perioperative risk prevents them from getting a whole pancreas, a longer waiting period on the transplantation list is no longer acceptable.

Starting the process of revising the allocation criteria, the periods on the waiting list for islet- and pancreas transplantation, respectively, were analyzed for the years 2008 – 2013. Patients who were listed for islet transplantation were clearly at a disadvantage and had to endure an increase in waiting time of 6 months or more as compared to patients undergoing whole pancreas transplantation. The urgent need for modification of the allocation rules was evident to ensure that the choice of the beta cell replacement modality does not influence the waiting period. In 2015 a proposal for modification of the allocation rules was submitted to the Federal Office of Public Health (FOPH), taking into consideration all important factors such as HLA matching, sensitization, waiting period and donor factors such as age and visceral obesity. In most cases pancreas- and islet transplantation would be treated equivalent, only in the extreme areas of allocation either pancreas- or islet transplantation would be privileged. The implementation of the modification is supposed to take place in 2017.

a) Autotransplantation of islets

In order to increase the volume of islet transplantation, lectures and information events will be organized in the next years in different hospitals, in which the possibility of islet autotransplantation after pancreatectomy due to chronic pancreatitis or trauma (pancreas rupture) shall be presented.

b) Participation in an international project on bioartificial pancreata

Collaboration with PD Dr. Barbara Arman and Prof. Dr. St. Bornstein, University of Dresden, within the scope of the German Transregional Collaborative Research Centre 127, Biology of xenogeneic cell, tissue and organ transplantation: from bench to bedside

5.9. Small bowel transplantation

No small bowel transplantations were performed in 2015.

5.10. Reconstructive transplantation

Jan Plock – Reconstructive surgery and hand surgery

In 2015 the administrative basis for the interdisciplinary evaluation of patients with regard to reconstructive transplantation was established. The medical requirements have been specified and a manual has been written. Based on the current international data outcome with a long-term course of more than 15 years after the first successful hand transplantation and 10 years after the first face transplantation there is sufficient evidence to justify bilateral hand/arm transplantation and face transplantation from an ethical and medical point of view. Since both are non-vital transplantations reduction of immunosuppression to restrict drug side effects to a minimum is an important goal.

On an experimental basis studies with international collaboration aiming at the prolongation of ischemia duration by extracorporeal machine perfusion as well as stem cell based immunomodulation in order to reduce immunosuppression were continued.

In the scope of the TNT seminar Prof. Katrina Bramstedt was an invited guest lecturer, who spoke on current ethical aspects of face transplantation in a well-attended meeting. Topics were donor ethics as well as the financing of reconstructive transplantations.

The clarification of the question who will pay for this rare transplantation as well as obtaining the permission from the Federal Office of Public Health (FOPH) are pending in 2016.

6. Attachments

6.1. Staff of the Transplant Centre 2015

	Direktorium	Kuratorium
Head	Coordinators Prof. Nicolas Müller	Chairman Prof. Pierre-Alain Clavien
Heart	Prof. Frank Ruschitzka PD Dr. Markus Wilhelm	Prof. Thomas Lüscher Prof. F. Maisano
Lung	Dr. Macé Schuurmans PD Dr. Sven Hillinger	PD Dr. Christian Benden Prof. Walter Weder
Liver	PD Dr. Thomas Kuntzen Prof. Philipp Dutkowski	Prof. Beat Müllhaupt Prof. Pierre-Alain Clavien
Kidney	Prof. Thomas Müller Dr. Olivier de Rougemont	Prof. Rudolf Wüthrich Prof. Pierre-Alain Clavien
Pancreas and islet cells	Prof. Roger Lehmann	Prof. Giatgen Spinaz Prof. Pierre-Alain Clavien
Small bowel- and multi- visceral transplantation	PD Dr. Christoph Gubler	Prof. Pierre-Alain Clavien
Stem cells	PD Dr. Urs Schanz PD Dr. Panagiotis Samaras	Prof. Markus Manz
Reconstructive transplantations	PD Dr. med. Jan Plock	
Consultant services	Prof. Nicolas Müller, Infectious diseases Prof. Günther Hofbauer, Dermatology Prof. Josef Jenewein, Psychiatry	PD Dr. Urs Schwarz
Anaesthesiology	Prof. Marco Zalunardo	Prof. Donat Spahn
Care	Béatrice Biotti	Prof. Rebecca Spirig
Intensive care medicine	Dr. Peter Steiger	
Transplant coordination	Werner Naumer	
Research	Prof. Rolf Graf	
Data- & Quality manager	Uschi Schäfer	
Clinical manager	Marion Derhaschnig	
Dean		Prof. Dr. Rainer Weber

International Advisory Board	
Heart	Prof. Ernst Wolner, Vienna, Austria
Lung	Prof. Dirk van Raemdonck, Leuven, Belgium
Liver	Prof. Xavier Rogiers, Ghent, Belgium
Kidney	Prof. Ulrich Frei, Berlin, Germany
Pancreas and islet cells	Prof. Peter Friend, Oxford, Great Britain
Stem cells	Prof. Bob Lowenberg, CA Rotterdam ZH, Netherlands
Anaesthesiology & intensive care medicine	Prof. Christian Putensen, Bonn, Germany

Local Advisory Board of the Transplant Centre		
Bellinzona	Ospedale San Giovanni	Prof. Dr. med. Claudio Marone
Chur	Rät. Kantons-/ Regionalspital	PD Dr. med. Reto Venzin
Faltigberg-Wald	Züricher Höhenklinik Wald	PD Dr. med. Matthias Hermann
Frauenfeld	Kantonsspital	Dr. med. Markus Hugentobler
Gais	Klinik Gais AG	Dr. med. Angelika Bernardo
Luzern	Kantonsspital	Dr. med. Dominique Criblez
Seewis	Rehabilitationszentrum	Dr. med. Willhard Kottmann
St. Gallen	Kantonsspital	Dr. Dr. med. David Semela
Winterthur	Kantonsspital	Dr. med. Thomas Kistler
Zollikerberg	Spital Zollikerberg	Dr. med. Jörg Bleisch
Zürich	Stadtspital Waid	Prof. Dr. med. Patrice Ambühl

6.2. Transplantation activities 2008 – 2015

Organ	2008	2009	2010	2011	2012	2013	2014	2015
Heart total	9	9	12	14	11	10	16	14
- Heart and kidney	1	0	0	0	0	1	1	0
Lung total	25	26	26	30	33	28	32	31
<i>thereof DCD</i>	0	0	0	0	2	5	5	5
Liver total	28	50	45	47	43	41	43	59
- NHBD single-liver	23	44	41	39	39	27	28	44
<i>thereof DCD</i>	0	0	0	1	3	9	12	12
- Living donor liver	4	4	2	7	4	2	2	2
- Liver and kidney	1	2	2	1	0	2	1	1
- Liver and small bowel	0	0	0	0	0	1	0	0
Kidney total	83	85	88	100	84	87	84	96
- NHBD single-kidney	42	47	44	57	47	47	44	62
<i>thereof DCD</i>	0	0	0	6	9	6	11	6
- Living donor kidney	29	29	30	32	22	22	22	23
- Kidney and pancreas	10	7	9	9	10	11	5	3
- Kidney and islet cells	0	0	3	1	1	1	1	1
- Kidney and heart	1	0	0	0	0	1	0	0
- Kidney and liver	1	2	2	1	0	2	1	1
Pancreas total	10	7	9	11	12	15	7	3
- Pancreas alone	0	0	0	1	2	3	2	0
- Pancreas and kidney	10	7	9	9	10	1	5	3
- Pancreas/small bowel (multivisc)	0	0	0	1	0	1	0	0
Islets total	7	5	9	6	5	5	6	3
- Islet cells alone	7	5	6	5	4	4	5	2
- Islet cells and kidney	0	0	3	1	1	1	1	1
Small bowel/multivisceral	0	0	0	1	0	1	0	0
Stem cells total	-	-	119	147	128	139	151	150
- autologous	(not in TPLZ)	(not in TPLZ)	65	95	77	92	98	92
- allogeneic	36	34	54	52	51	47	53	58

Multi-organ donations at USZ	2008	2009	2010	2011	2012	2013	2014	2015
Donors from USZ	8	2	7	5	12	18	17	24
- <i>thereof DCD</i>	0	0	0	3	6	9	12	12
Donors from ZH network	7	10	3	7	7	6	9	10
Total donors USZ plus network	15	12	10	12	19	24	26	34

6.3. Outcome Organ transplantations

Since 2013 the results are published nationwide for all centers. This is in accordance with the transplantation law and bylaw. The report is available on www.stcs.ch. An important task is coming up with the benchmarking project, since the crude numbers alone can only be reasonably compared with a good benchmarking in place.

6.4. International Advisory Board (IAB) Meeting 2015

Nicolas Müller – coordinator TPLZ

Minutes of the Meeting of the International Advisory Board 2015:

Date and time Friday, November 20, 2015, 10:00 h – 12:00 h
Place Restaurant im Turm, Zurich

The following members were present:

<i>On behalf of the IAB:</i>	Ulrich Frei, Christian Putensen, Xavier Rogiers, Dirk van Raemdonck, Ernst Wolner
<i>Excused:</i>	Peter Friend, Bob Lowenberg
<i>On behalf of the Board of Trustees:</i>	C. Benden, I. Inci, T. Lüscher, M. Manz, B. Müllhaupt, H. Petrowski, R. Wüthrich

In the name of the Board of Trustees N. Müller welcomes the members of the International Advisory Board. As it is the last meeting in the present composition, he briefly recapitulates the history of the center and expresses his sincere thanks to the resigning advisors. After the statutory 2x4 years their mandate is ending with this meeting. The current advisors have accompanied and supported the development of the center from the beginning with lots of benevolence and dedication.

N. Müller presents the annual report 2014 which has been distributed to all members. At the same time the donor development of 2014 and 2015 is discussed.

Subsequently the various programs are briefly presented by the respective representatives and commented by the IAB members.

C. Benden addresses the current problems of lung transplantation: problems of allocation, transplantation in ECMO patients; the question of the adaptation of listing criteria. D. van Raemdonck argues for strict criteria.

The liver program is briefly presented by B. Müllhaupt. The role of DCD donors is discussed. The allocation according to MELD is addressed.

No major issues are to be discussed within the scope of the heart and kidney transplantation programs.

Altogether it is stated that the transplantation numbers are stable. The DCD program has certainly contributed decisively to this, as it has been able to recruit a relevant number of donors in the DCA network.

A lunch is served following the meeting.

For the minutes:
N. Müller

6.5. Scientific publications 2015

[1-80]

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3. Bellin MD, Moran A, Wilhelm JJ et al. Development of Autoimmune-Mediated beta Cell Failure After Total Pancreatectomy With Autologous Islet Transplantation. *Am J Transplant* 2015; 15: 1991-1994
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6.6. Transplantation awards 2015

On the occasion of the symposium in November 2015 the awards of the Transplant Centre Zurich have been assigned for the 6th time. The awards have again been generously sponsored by Astellas Pharma, which is acknowledged with gratitude.

Experimental-scientific award:

Dr. Yoshito Yamada, MD, PhD for his work

“CD26 Co-stimulatory blockade improves lung allograft rejection and is associated with enhanced IL-10 expression”, published in Journal of Heart and Lung Transplantation



Clinical-scientific award:

Dr.med. Philipp A. Gerber, MSC for his work:

„Glycemia, Hypoglycemia and Costs of Simultaneous Islet-Kidney or Islet After Kidney Transplantation Versus Intensive Insulin Therapy and Waiting List for Islet Transplantation“, published in Transplantation



Merit award 2015:

Team HOER E of the USZ (Intensive care)



6.7. Continuing education program 2015

6.7.1. Autumn Symposium 2015 "Individualized medicine in transplantation"

6.7.2. Monthly Seminar „Hot topics in transplantation" (TNT) 2015

9th Annual Symposium of the Transplantation Centre Zürich **Individualized medicine in transplantation**



Organ donation.
The gift of life.

Friday, November 20, 2015, 1.15 pm – 6.30 pm
UniversityHospital Zurich, Great Lecture Hall East

Individualized medicine in transplantation

Friday, November 20, 2015, UniversityHospital Zurich, Great Lecture Hall East

- 12.15 Warm lunch (Dick & Davy)
- 1.15 **Welcome address**
Jürg Hodler
- 1.25 **Transplantation Centre Zürich: Annual Report**
Nicolas Mueller
- Part I: The future**
Chairman: Jan Plock
- 2.00 **The Microbiome and Transplantation**
Luc Biedermann
- 2.30 **Host Genetics and Outcome in Transplantation**
Pierre-Yves Bochud
- 3.00 Coffee break (Dick & Davy)
- 3.30 **Awards Zurich Transplant Center**
Günther Hofbauer
- Part II: The present – practical approach**
Chairman: Beat Müllhaupt
- 3.45 **Kidney: Crosstalk Between Basic Science and Clinician**
Thomas Müller
- 4.15 **Heart: The Failing Heart**
Frank Ruschitzka
- 4.45 **Lung: Strategies of Prevention of Chronic Lung Allograft Dysfunction**
Laurent Nicod
- 5.15 **Liver: Is everybody a Potential Recipient or a Potential Donor?**
Antonio Pinna
- 5.45 **Closing remarks**
Pierre-Alain Clavien
- 6.00 Apéro (Dick & Davy)

Chairs and speakers

Dr. Luc Biedermann

Attending Physician, Department of Gastroenterology and Hepatology, UniversityHospital Zurich

PD Dr Pierre-Yves Bochud, MD

Senior Attending Physician, Infectious Disease Service, University Hospital and University of Lausanne

Prof. Pierre-Alain Clavien

Director of Department, Department of Visceral and Transplant Surgery, UniversityHospital Zurich

Prof. Jürg Hodler

Vice President of the Hospital Executive Board and Medical Director, Director of Department, Institute for Diagnostic and Interventional Radiology, UniversityHospital Zurich

Prof. Günther Hofbauer

Senior Attending Physician, Department of Dermatology, UniversityHospital Zurich

Prof. Nicolas Müller

Head Transplantation Center, Senior Attending Physician, Department of Infectious Diseases, UniversityHospital Zurich

Prof. Thomas Müller

Senior Attending Physician, Department of Nephrology, UniversityHospital Zurich

Prof. Beat Müllhaupt

Senior Attending Physician, Department of Gastroenterology and Hepatology, UniversityHospital Zurich

Prof. Laurent Nicod

Head of the Pulmonology Service, University Hospital and University of Lausanne

Prof. Antonio Pinna

Professor of Surgery, Chief of Organ Failure, Transplantation and HPB Surgery University of Bologna, S. Orsola Hospital, Bologna

Dr. Jan Plock

Senior Attending Physician, Department of Plastic and Hand Surgery, UniversityHospital Zurich

Prof. Frank Ruschitzka

Senior Attending Physician, Vice Director of Department, Department of Cardiology, UniversityHospital Zurich

General information

Credits and thanks

SGC Swiss Society of Surgery:	3 points
SGN Swiss Society of Nephrology:	4.5 points
SGG Swiss Society of Gastroenterology:	3.5 points
SSI Swiss Society of Infectious Diseases:	3 points
SGAR Swiss Society of Anesthesiology:	4 points
SGIM-SGAM Swiss Society of General Internal Medicine:	4 points
Swisscardio Swiss Society of Cardiology:	1.5 points
SGL Swiss Society of Intensive Care Medicine:	2 points

Thanks to our sponsors



Organization and contact

Transplantation Centre Zurich
Katharina Enggist
Tel +41 44 255 14 79
transplantationszentrum@usz.ch
www.transplantation.usz.ch

Registration

Please email your registration by Monday, November 4, 2015 to: transplantationszentrum@usz.ch



Location

UniversityHospital Zurich
Great Lecture Hall East
Gloriastrasse 29
8091 Zurich



UniversitätsSpital
Zürich

TNT SEMINAR – Hot topics in Transplantation

Montag, 17.15–18.00 Uhr, anschliessend Apéro

Kleiner Hörsaal Ost, HOER B 5, UniversitätsSpital Zürich, Gloriastrasse 29

- 23.02.2015 **Donor/Recipient Issues**
Bedeutung der Anonymität von Spender und Empfänger: ein Auslaufmodell?
 PD Dr. Franz Immer, Direktor, Swisstransplant
 Host: Nicolas Müller
- 30.03.2015 **Health-Related Quality of Life**
Psychological distress and Health-Related Quality of Life after lung transplantation. Results from a 6 months observational study
 Annina Seiler, MSc, Klinik für Psychiatrie und Psychotherapie, UniversitätsSpital Zürich
 Host: Josef Jenewein
- 18.05.2015 **Herz**
Is anti-HLA antibody harmful after heart or lung transplantation?
 Prof. Jean Villard, Head, Immunology and Transplant Unit, Geneva University Hospital
 Host: Frank Enseleit
- 24.08.2015 **Stammzellen**
The care for donors – a so far neglected issue
 PD Dr. Jörg Halter, Leitender Arzt Hämatologie, Universitätsspital Basel
 Host: Urs Schanz
- 28.09.2015 **Leber**
Fettleber bei Spender und Empfänger
 Prof. Beat Müllhaupt, Klinik für Gastroenterologie und Hepatologie USZ,
- 26.10.2015 **Psychosoziale Medizin**
ExplorinG frailty and mild cognitive impairmEnt in adult kidney Transplant recipients to predict clinicAl, psychosocial and health economic outcomeS: A multi-center repeated measures study design nested in a nationwide prospective cohort study – GERAS (Greek mythology ‘God of old age’)
Development and feasibility of a self-management program for patients in the first year after kidney transplantation
 Oliver Mauthner, Gabriela Schmid-Mohler, Institute of Nursing Science, Basel
 Host: Thomas Müller
- 23.11.2015 **Lunge**
Preventive CMV strategies
 Prof. Luciano Potena, Heart Failure and Heart Transplant Unit, Cardiovascular Department, University of Bologna
 Host: Sven Hillinger / Macé Schuurmans
- 30.11.2015 **Composite tissue**
Moving Facial Transplant Forward
 Prof. Katrina A. Bramstedt, PhD, Clinical Ethicist, Bond University School of Medicine, Assoc. Editor, Journal of Bioethical Inquiry, Gold Coast, QLD Australia
 Host: Jan Plock

Organisation:

PD Dr. Sven Hillinger, Prof. Roger Lehmann,
 Prof. Nicolas Müller, PD Dr. Urs Schanz, Prof. Thomas Müller

Auskunft:

Klinik für Infektionskrankheiten und Spitalhygiene USZ
 Katharina Enggist, Rämistrasse 100, 8091 Zürich
 Tel: ++41 44 255 14 79, katharina.enggist@usz.ch

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