EUROPEAN BOARD OF TRANSPLANT MEDICINE
UEMS-ESOT PROPOSAL

Patrizia Burra  
Chair, Working Group EBTM

Susanne Beckebaum  
General Secretary, Working Group EBTM

Vassilios Papalois  
Chairman, Division of Transplantation  
UEMS
CONTENTS:

1. SUMMARY page 3
2. STATUTES pages 4-6
3. CERTIFICATION pages 7-27
4. FUTURE AMENDMENTS page 28
5. FOUNDING MEMBERS page 29
1. SUMMARY

*Section of Surgery / European Board of Surgery (EBS)*

*Division of Transplantation*

*European Board of Transplantation Medicine (EBTM)*

The Division of Transplantation (called onwards in the document as Division) was formed in 2007. It was the product of the work from May 2005 to February 2007 of the Transplant Working Group of the Section of Surgery of the UEMS and the European Board of Surgery (EBS). The main objective of the Division is to guarantee the best standard of care in organ transplantation in Europe by ensuring that training in transplantation medicine and surgery is maintained at the highest level. The Division operates in close collaboration with the European Society of Organ Transplantation (ESOT). The Division of Transplantation is a non-profit organisation.

The Division shall achieve its objectives by setting and recommending standards to the UEMS and the EBS and by encouraging health authorities, national and international transplantation societies to live up to such standards concerning all aspects of professional practice in transplantation medicine and surgery.

The Division's membership is comprised by up to two representatives from each member state of the UEMS who shall be nominated by the competent professional medical organisation in official communication with the UEMS/EBS. The Division also has a representative of ESOT who is appointed by the ESOT Council. The members of the Transplant Working Group of the UEMS and the EBS are the founding members of the Division.

The Division is directed by an Executive Committee comprised by a Chairman (President), a Vice Chairman (Vice President), two Secretaries (Senior and Junior), a Treasurer and the Representative of ESOT.

The Executive Committee communicates with the General Secretary of the UEMS through the Section of Surgery. The Executive Bureau of the UEMS shall communicate with the Division of Transplantation through the Section of Surgery on behalf of the European Union (EU) bodies.

The Section of Surgery and the Executive of the UEMS shall be entrusted with communicating all opinions issuing from the Division of Transplantation to the Commission of the EU and the Advisory Committee for Medical Training.

The Division is financed by the fees of applicants for their assessment of eligibility and examination for obtaining accreditation in transplantation medicine and surgery. The Division is also financed by any legal financial benefits for its contribution to various professional/scientific activities (i.e. meetings, publications). The Division can accept legal public (i.e. EU bodies, national government bodies, professional/scientific organisations) or private (i.e. gifts, contribution by the commercial sector) contributions/donations. A financial contribution/donation to the Division can only be accepted under the strict rule that is offered in order to help the Division to achieve its objectives and without any obligation of the Division towards the body(ies)/organisation(s)/person(s) offering the contribution/donation.
2. STATUTES

European Board of Transplant Medicine (EBTM) of the Division of Transplantation
UEMS Section of Surgery and the EBS
Union Européenne des Médecins Spécialistes

1. Introduction

A working group aiming to establish the European Board of Transplantation Medicine (EBTM) was established in November 2010 and it was the product of the collaboration of the Division of Transplantation of the UEMS and ESOT. The European Board of Transplantation Medicine (EBTM) operates as part of the Division of Transplantation under the UEMS Section of Surgery and the EBS. The EBTM operates in close collaboration with ESOT. The EBTM advises on issues relating to training and professional practice in transplantation medicine within the EU as well as all member states of the UEMS, aiming to ensure the highest standards of patient care and training of transplant physicians. The EBTM also aims to contribute to the harmonization of standards of practice in Transplantation Surgery in Europe. The EBTM is a not-for-profit organisation.

2. Title

The associate section shall be known as the European Board of Transplant Medicine of the Division of Transplantation, Section of Surgery of the European Union of Medical Specialists and the EBS.

3. Composition

3.1 There shall be up to two representatives, practising transplant physicians, from each member state of the UEMS, preferably nominated by the competent national professional medical organisation and/or scientific society in official communication with the UEMS. In any voting process, each country is entitled to only one vote. If a country has two members and one of them is present at the time of a vote, this member is entitled to vote without consulting the second member. If both members are present and consensus cannot be achieved, the most senior (longer serving member) is entitled to vote.

3.2 The EBTM has a representative from ESOT appointed by the ESOT Council. The representative of ESOT will be a member of the Executive Committee of the EBTM, present the views of ESOT to the Executive Committee and the members of the EBTM and vice versa and forward copies of the documents produced by the EBTM to the SOT Board.

3.3 The tenure of each member shall be for 4 years. Members are can be re-appointed only once. Following completion of their term, the members of the EBTM are responsible for ensuring their succession following consultation with their professional organisations/scientific societies. This is to ensure proper representation of all countries at any given time.

3.4 In the event that none of the full members of a certain country are able to attend a meeting, they may nominate a deputy previously nominated by their medical organisation/professional society to
attend in their place, subject to prior approval of the Chairman of the EBTM. In the event that the ESOT representative cannot attend a meeting he/she should be represented by another member of ESOT nominated by the ESOT Council.

3.5 The EBTM shall elect an Executive Committee from its members, which will include a Chairman, a Vice Chairman, two Secretaries (Senior and Junior) and a Treasurer. The representative of ESOT will also be a member of the Executive Committee.

3.6 The Chairman and Vice Chairman shall have tenure of 4 years. The Chairman does not have the right for re-election. The tenure of the Secretaries will be for 4 years, two years as Junior Secretary and two years as Senior Secretary, Junior also passing automatically to Senior when the Senior retires. The Treasurer shall have tenure of 4 years and shall not be eligible for re-election. The Representative of ESOT cannot hold a second post in the Executive Committee of the Division.

3.7 Election of Executive Officers: The election of the first committee will take place at the first meeting of the EBTM. Subsequently, the following procedure will be followed: the Senior Secretary will notify members of the EBTM of an impending vacancy one year in advance and ask for nominations. All nominations should be proposed and seconded by two members of the EBTM. The Senior Secretary will then arrange an electronic ballot to all members of the EBTM 6 months before the appointment will become active.

3.8 The Chairman and Senior Secretary of the EBTM shall attend meetings of the Division of Transplantation of the UEMS and the EBS as ex-officio members. If the Chairman or the Senior Secretary cannot attend the meeting, the Chairman can authorise any other member of the Executive Committee to represent the EBTM.

3.9 The EBTM may appoint working groups to prepare draft documents or recommendations on specific topics for consideration by the full EBTM.

4. Objectives

The main objective of the EBTM is to guarantee the best standard of care for transplant patients in Europe by ensuring the highest standards of care training in transplantation medicine.

5. Accountability

5.1 The EBTM shall report to the UEMS Management Council through the Division of Transplantation, UEMS Section of Surgery and the EBS.

5.2 Relations with any organisation or institution outside the UEMS shall be in accordance with article 11 (III) of the statute and article 24 (III) of the current rules of procedure.

6. Functioning

6.1 The EBTM shall meet at least twice per year and the minutes of the meeting shall be forwarded to the Division of Transplantation (Section of Surgery and the EBS). The date and place of every meeting is to be decided at the end of the previous meeting. The meeting and the examination process will take place
during the ESOT Congress. In the years that ESOT does not hold a Congress, the Exam will take place in a
city decided by the EBTM Executive Committee. Extraordinary meetings can be called by the Executive
Committee or following the request of three or more members and approval by the Executive Committee.

6.2 Meetings shall be organised in such a way that will allow the maximum possible number of members
to attend and to entail the minimum of expense.

6.3 Meetings may be attended by the Chairman of the Division of Transplantation or the General
Secretary of the UEMS or a nominated deputy who shall be a member of the Management Council.
Meetings may also be attended by the President of the UEMS Section of Surgery or the President of the EBS
or a nominated deputy who is a member of the Executive of the UEMS Section of Surgery. The EBTM
should be informed beforehand in all cases.

6.4 The agenda shall consist of subjects proposed by the Executive Committee of the EBTM, the
members of the EBTM, the Chairman of the Division of Transplantation, the UEMS Section of Surgery, the
EBS or the Secretary General of the UEMS.

6.5 The agenda shall be circulated to the members and the Secretary General of the UEMS, the UEMS
Section of Surgery and the EBS and the Executive of the Division of Transplantation at least 1 month before
the meeting.

6.6 The minutes of the meetings shall be circulated to all members, the Chairman of the Division of
Transplantation, the President and Secretary of the UEMS Section of Surgery, the President of the EBS, the
General Secretary of the UEMS and the Management Council of the UEMS within 1 month of the meeting.

7. Financing

7.1 The EBTM is a non-profit organisation and is financed by the fees of the applicants for the two parts of
the accreditation process: eligibility and examination. The EBTM is also financed by any legal financial
benefits for its contribution to various professional/scientific activities (i.e. meetings, publications). The
EBTM can accept legal public (i.e. EU bodies, national government bodies, professional/scientific
organisations) or private (i.e. gifts, contribution by the commercial sector) contributions/donations. A
financial contribution/donation to the EBTM can only be accepted under the strict rule that is offered in
order to help the EBTM to achieve its objectives and without any obligation of the EBTM towards the body
(ies)/organisation(s)/person(s) offering the contribution/donation.

7.2 The EBTM will have a sub-account in the bank account of the Section of Surgery for its finances to
maximize transparency and facilitate administration. The Treasurer of the EBTM will keep the books and
will have access to the account. The Treasurer will present a financial report at the EBTM annual meeting
and will forward each annual report to the Treasurer of the Section of Surgery of the UEMS and the EBS.

8. Collaboration with other professional societies

This will be promoted in line with the purpose and objectives of the EBTM to further education, training
and research.
3. CERTIFICATION

Modules

Certification can be obtained for the following separate modules:

1. Common module in Transplantation Medicine
2. Kidney transplantation
3. Pancreas transplantation
4. Liver transplantation
5. Heart Transplantation
6. Lung Transplantation
7. Intestinal Transplantation

The Diploma of the European Board of Transplantation Medicine is obtained on Passing Part I (Eligibility) and Part II (Examination). A candidate can be accredited for one or more modules. For obtaining accreditation for any other modules it is mandatory to obtain accreditation in module 1 as well. In case of exceptional experience in modules 2, 3, or 4, some requirements for accreditation for module 1 may be waived. The decision to waive these requirements will be taken by the Executive Committee.

The European Board of Transplantation Medicine will work closely with the Division of Transplantation and the Division of Thoracic Surgery of the UEMS/ EBS. The Division of Transplantation works closely with the Division of Thoracic Surgery of the UEMS/ EBS and with ESOT for the promotion of the professional, scientific, training and educational objectives related to heart and lung transplantation.

Part I. Eligibility

V. Cicinnati, G. Reusz

To apply for certification, a candidate must fulfil the following requirements for eligibility:

Requirements

1. The candidate can apply for accreditation when he meets one of the following criteria:

   a. Has completed specialist training in internal medicine/paediatrics or one of their subspecialties (including but not limited to gastroenterology/ hepatology/ endocrinology/ nephrology/ pulmonary medicine/ cardiology), is a board certified/ specialist in a country which is a member of the UEMS and has accomplished his/ her transplant medicine training in UEMS member countries or within officially recognized transplant centres organizations outside of Europe.
b. Has completed specialist training in internal medicine/paediatrics or one of their subspecialties (including but not limited to gastroenterology/ hepatology/ endocrinology/ nephrology/ pneumology/ cardiology) and is a board certified/ specialist in a country which is not a member of the UEMS, but has accomplished his/ her transplant medicine training in UEMS member countries.

c. Has a temporary or a permanent licence to be trained or practise medicine in UEMS member countries and has accomplished his/ her transplant medicine training in UEMS member countries.

d. During an interim period of three years following the creation of the European Board of Transplantation Medicine, the certification may be awarded to experienced and practising transplant physicians upon application. In these cases following submission of the application the examination may be waived. The decision to waive the examination will be taken by the Executive Committee of the European Board of Transplantation Medicine.

2. The candidate must be able to communicate in the English language.

3. The candidate must demonstrate: 1) continuity and 2) width of training covering all the aspects of her/his specialty in transplantation medicine during the years of training. The candidate must have a minimum of 2 years of training in transplantation medicine. The training can be obtained in parts but the time from the initiation of the first part of the training to the end of the last part of the training must be maximum 4 years.

4. The candidate must provide an attestation(*) signed by a senior transplant physician/head of Department which must contain the following information:

   a. Number of solid organ transplants (each individual organ) performed per year at training site.

   b. The candidate’s experience in looking after transplant patients (pre-transplant work up as well as in hospital and outpatient follow-up) and declaration about how many patients approximately the candidate was looking after in each setting per week.

   c. List of specialized medical procedures and indication on whether the physician assisted or performed the procedures.

(*) If it is at all possible, any attestation of activity signed by a Director of the program should be countersigned by either the University or the Hospital Director.

5. The candidate must have a total of 20 credit points (CPs) based on the following system:

- Attendance to transplant courses
  (predominantly -but not exclusively- the ESOT educational courses, advanced post-specialty programs, Master degree programs) 10 CPs

- Participation at recognised international transplant congress
  i. Attendance 5 CPs
  ii. Participation with first or last authorship (poster or abstract) 8 CPs
- Participation at national transplant congress
  i. Attendance 3 CPs
  ii. Participation with first or last authorship (poster or abstract) 5 CPs

- Attendance of transplant symposia (CME accredited) 2 CPs
- Organization of international or national transplant meetings/courses 10 CPs

Attendance to a minimum of two national/international educational transplantation meetings (courses, congresses, symposia) and participation with first or last authorship (poster or abstract) are mandatory.

Note 1: The Continuing Medical Education (CMEs) points of every course/ congress/ symposium will initially count as CPs. Eventually, a sub-committee of the European Board of Transplantation Medicine (two members of the Division of Transplantation and the representative of ESOT) will examine the available educational activities and award CPs to every activity.

Note 2: The following qualifications, although not mandatory, are considered of great importance and can count to the applicants favor:
  – Higher degree (M.Sc., Ph.D.) in the field of transplantation, hepatology, nephrology, or immunology
  – Publication(s) in peer review journals in the field of transplantation (especially as first or last author)
  – Visit of at least one month to a transplant centre/ laboratory either than the one where the applicant was mainly trained

6. The applicant must complete and sign the following application form: (see next page)
APPLICATION FOR EUROPEAN BOARD OF TRANSPLANT MEDICINE QUALIFICATION IN TRANSPLANTATION

1. It is mandatory that a signed hard copy of the application and all the relevant documents (Logbook, certificates of attendance of educational activities, certificates of eligibility and training in transplantation medicine) will be mailed to the Senior Secretary of the European Board of Transplantation Medicine of the Division of Transplantation of the UEMS (name and contact details will be provided). It is useful to also e-mail the application to the Senior Secretary. The deadline for submission of application for eligibility will be six months prior to the date of the next exam.

2. Please attach a copy of your CV.

3. Please provide two passport size photographs.

4. Please attach at the end extra pages with any information that does not fit in the space provided.

FAMILY NAME FIRST NAMES
........................................................................................................................................................................

NATIONALITY DATE AND PLACE OF BIRTH
........................................................................................................................................................................

ADDRESS FOR CORRESPONDENCE HOME ADDRESS (if different)
........................................................................................................................................................................
........................................................................................................................................................................

TELEPHONE FAX E-MAIL
........................................................................................................................................................................
........................................................................................................................................................................

PRESENT APPOINTMENT (title, department and hospital address)
........................................................................................................................................................................
........................................................................................................................................................................

PLEASE INDICATE FOR WHICH OF THE MODULES YOU WANT TO APPLY
(Please tick where appropriate)
1. Module 1: Common module in Transplantation Medicine
2. Module 2: Kidney transplantation
3. Module 3: Pancreas transplantation
4. Module 4: Liver transplantation
5. Module 5: Heart transplantation
6. Module 6: Lung transplantation
7. Module 7: Intestinal transplantation
FEES

The amount of 400 Euros must be paid to the European Board of Transplantation Medicine of the Division of Transplantation of the UEMS/ EBS. This can be done by cheque, money order, or by providing details of a credit card. From the total amount, 200 Euros allow you to be considered for eligibility for all modules. The amount is the same if you are applying for fewer modules. The other 200 Euros are the examination fees and allow you to be examined in all four modules. The amount is the same if you are applying to be examined in fewer modules. If you are not going to be considered eligible for the exam, the 200 Euros for the examination fees will be refunded to you.

In exceptional circumstances, an application for a reduced eligibility and/ or examination fees can be considered. The reasons for such an application must be clarified.

PLEASE ATTACH CERTIFICATES (TRANSLATED IN ENGLISH IF NOT IN ENGLISH ORIGINALLY) CONFIRMING THAT YOU BELONG TO ONE OF THE FOLLOWING CATEGORIES:

a. You have completed your medical training in one specialty (including but not limited to nephrologist, gastroenterologist/hepatologist, endocrinologist, cardiologist, respiratory medicine including in the equivalent paediatric specialities) and you are a board certified/ medical specialist in a country which is a member of the UEMS and have accomplished your transplant medical training in UEMS member countries.

b. You have completed your medical training in one speciality (including but not limited to nephrologist, gastroenterologist/hepatologist, endocrinologist, cardiologist, respiratory medicine including in the equivalent paediatric specialities) and you are a board certified/ medical specialist in a country which is not a member of the UEMS, but have accomplished your transplant medical training in UEMS member countries.

c. You have a temporary or a permanent licence to be trained or practise in a medical speciality in UEMS member countries and have accomplished your transplant medical training in UEMS member countries.

The translated in English certificates need to be co-signed by one of the representatives in the EBTM of the country where the certificates provided by the applicant were originated. If the member of the EBTM raises any concerns further documentation will be required.

UNDERGRADUATE AND POSTGRADUATE MEDICAL EDUCATION

Medical Degree (please provide certified copies of the relevant certificates translated in English if not in English originally)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Dates (from-to)</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>..................</td>
<td>..................</td>
<td>...............</td>
</tr>
<tr>
<td>..................</td>
<td>..................</td>
<td>...............</td>
</tr>
<tr>
<td>..................</td>
<td>..................</td>
<td>...............</td>
</tr>
</tbody>
</table>

EUROPEAN BOARD OF TRANSPLANT MEDICINE | EUEMS-ESOT
Medical specialty training (please provide certified copies of the relative certificates translated in English if not in English originally)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Dates (from-to)</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Transplantation medicine training (please provide certified copies of the relative certificates translated in English if not in English originally)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Dates (from-to)</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL DURATION OF TRAINING IN TRANSPLANTATION MEDICINE

Years ...................................... Months ......................................
APPLICANT’S DECLARATION

I wish to apply for Part I (Eligibility) of the European Board of Transplantation Medicine (EBTM) for modules (please put in circle) 1, 2, 3, 4, 5, 6, and 7, which I understand may be awarded upon the recommendation of the European Board of Transplantation Medicine based upon assessment of my training experience. I declare that all information provided on this form in support of my application is correct.

Signature ..........................................................................................................

Print name ........................................................................................................

Date ...................................................................................................................

NAME AND HOSPITAL ADDRESS OF TWO PRINCIPAL TRAINERS IN TRANSPLANTATION MEDICINE

1 ..............................................................................................................................

2 ..............................................................................................................................

THE APPLICANT MUST PROVIDE A LETTER BY ONE OF THE DIRECTORS OF THE TRANSPLANT PROGRAMMES WHERE HE/ SHE OBTAINED TRAINING IN TRANSPLANTATION MEDICINE IN SUPPORT OF THE APPLICATION
8. The application will be considered by a sub-committee of the EBTM. The sub-committee will have three members: the Senior or Junior Secretary and two nominated members of the European Board Transplantation Medicine who are not members of the Executive Committee. The two nominated members must not be from the same country as the applicant (if he/she is a citizen of a UEMS member country) or UEMS member country where the applicant obtained his training in transplantation medicine. The applicant will be informed by mail and e-mail for the acceptance or rejection of his/her application no later than one month from the date the application was received by the Senior Secretary of the EBTM.

9. If the applicant is successful:

- He/she will be provided with information regarding the date/time/venue of the exam and a list of suggested textbooks to study in preparation for the exam.

- He/she will be provided with the Syllabus of the examination which is as follows for each module: (see next page) as well with the relevant suggestive reading.

10. Transplant Medicine Seniors may apply for an Honorary Diploma.

The requirements for the Honorary Diploma are as follows:

Colleagues are eligible to apply only if they have a minimum of 10 consecutive years of practice, or experience in formally recognised National Health Service or University posts.

Based on experience, colleagues can apply for obtaining the Honorary Diploma in one or more or all of the 4 following categories/modules:

- Multi-Organ Retrieval
- Kidney Transplantation
- Pancreas Transplantation
- Liver Transplantation

A complete application must include:

1. A cover letter highlighting the achievements of their career.
2. A complete updated CV
3. Letters from two peers of their choice who will explain in detail why they are in support of your application.
4. A photo
5. Payment of application fees of 200 Euros to the account attached (only via bank transfer). Note: it is the same account we use for the fees for the Exam.

Applications will then be reviewed by a subcommittee of the Division (for Medicine by the EBTM): three members, one from the Executive, one from the Country of the applicant and a third form a country different from that of the applicant. The recommendation will then be presented to all members of the EBTM, who will decide on approval or rejection.
SYLLABUS FOR TRAINING IN TRANSPLANTATION MEDICINE

Common Trunk Module

J. Homan van der Heide, G. Parry, L. Szönyi

Introduction
The common trunk is the basic knowledge every transplant physician should have. This knowledge is general and is not specific for any given organ to be transplanted. For the diverse organs transplant modules there are requirements which can be more focused. For instance in depth knowledge of Hepatitis viruses for the liver transplant physician and more in depth knowledge on HLA and matching for the kidney transplant module.

Objective: Knowledge of basic principles underlying solid organ transplantation.

1: – A brief History of transplantation medicine.

2: Ethical and moral considerations
Informed consent
Concept of death
Concept of brain death
Organ procurement
Live donor issues

3: Organization of transplant medicine
Structure and Function of NHS- BT, Eurotransplant-UNOS.
This of course is somewhat colored by the local practice: Eurotransplant, Scandia Transplant, France transplant, UK etc. Each of them with different allocation algorithms, adapted to local law and practice. I think we should be general on this, and that we require knowledge on the fact that there are a multitude of different ways to organize organ procurement and allocation. I specifically would like to emphasize differences between the European approach and the US/American approaches. Some-times this knowledge is required to interpret literature from the US, and the awareness that US findings are not automatically transferable to the European situation.

4: Immunology:
Normal immune response
Acquired immune response

15
Innate immune response
Role and position of ABO blood group antigens.
Role, nomenclature of HLA
Concept of sensitization
Role of HLA antibodies
Methods of typing for HLA
Role of cross matching
Stem cells, present and future
Principles of tolerance

5: General mechanisms of rejection.

Immune response to allograft
Mechanism of recognition
Effectors mechanisms
Inflammatory response to the allograft

6: Immune suppression:

Modes of action and pharmacology of the diverse immunosuppressant agents.
Understanding of synergy and the rationale for the diverse immunosuppressant combinations.

The intrinsic effects/side-effects of commonly used drugs.
- Prednisolone
- CNI’s
- Mtor inhibitors
- MPA
- Azathioprine
- Biologicals:
  - ATG/ALG
  - OKT 3
  - IVIG
  - IL2 receptor blocker
  - Campath
  - Anti CD 20 (Rituximab)
- Co stimulatory pathway inhibitors: belatacept

Long term side effects of immune suppression in general
- Cancer
- Skin cancer
- Renal function
- Cardiovascular function
- Diabetes
- Quality of life

Induction and management of tolerance
7: Infectious diseases

General knowledge on immune response to infections in the compromised host
Both banal and opportunistic infections

Knowledge of window of the occurrence of the diverse types of infection following transplantation.
With special emphasis on
- Herpes viruses, CMV, EBV
- Hepatitis viruses: A, B, C, E
- *Pneumocystis jiroveci* pneumonia
- Tuberculosis
- Fungal infections

Vaccination programs
Knowledge on the occurrence and treatment of diseases associated with viruses (Kaposi’s sarcoma, skin cancer, cervical cancer, and post-transplant lymphoproliferative disorders).

8: Pregnancy and transplantation

General knowledge on the effects of transplantation and immune suppression on the reproductive capacity
Effects of commonly used drug on embryonal development
Optimization of the drug regime prior to conception
Breast feeding
Cardiac Transplantation Module

J. Vanhaecke, G. Parry

Subject objective:
- Ability to assess patients for cardiac transplantation;
- Ability to manage the care of cardiac transplant recipients both immediately post transplant and in the long term.

Knowledge:
- Causes and management of acute and chronic class III/IV heart failure;
- Understanding of appropriate investigations utilised in the assessment of potential cardiac transplant recipients;
- Understanding of alternative modes of management of acute and chronic class III/IV heart failure;
- Immunology: HLA matching – flow cytometry, cytotoxic crossmatch, donor specific antibodies;
- Rejection – acute cell mediated/antibody mediated, graft coronary artery disease;
- Immunosuppression: - strategies used early/late post-transplant;
- Complications of immunosuppression per se and of the individual drugs used – e.g. infection, malignancy, renal failure;
  General knowledge of issues related to pediatric cardiac transplantation.

Clinical skills:
- Evaluation/assessment of potential cardiac transplant recipients;
- Management during early post-transplant phase – identify and treat complications, drug therapy, haemodynamics, biochemical and haematological monitoring, endomyocardial biopsies;
- Post-operative management: Knowledge of support for the failing right ventricle including pharmacology, ECMO and VAD’s
- Management in the long term – biochemical and haematological monitoring, identify and treat complications; modification/reduction of immunosuppression to manage complications, surveillance and management of graft coronary artery disease;
- Identifying patients needing and suitable for re-transplant.

Professional skills:
- Assess patients referred for cardiac transplant and arrange appropriate investigations, counsel patients and carers, obtain informed consent;
- Demonstrate diagnostic, prescribing and counselling skills;
- Demonstrate ability to work in a team, good communication;
- Practise evidence based medicine, audit, clinical trials, journal review;
- Understand medico-legal and ethical issues;
- Ability to act in a multidisciplinary environment.
Lung Transplantation Module

A. Boehler

Subject objective:
- Ability to assess patients for lung transplantation;
- Ability to manage the care of lung transplant recipients both immediately post transplant and in the long term.

Knowledge:
- Causes and management of acute and chronic respiratory failure
- Understanding of appropriate investigations utilised in the assessment of potential lung transplant recipients;
- Understanding of alternative modes of management of respiratory failure (incl. specific treatment of pulmonary hypertension, cystic fibrosis and lung fibrosis)
- Immunology: HLA matching – flow cytometry, cytotoxic crossmatch, donor specific antibodies;
- Rejection – acute cell mediated/antibody mediated, chronic lung allograft dysfunction;
- Immunosuppression: - strategies used early/late post-transplant;
- Complications of immnosuppression per se and of the individual drugs used – e.g. infection, abdominal complications, malignancy, and renal failure.
- Psychological aspects of transplantation including adherence to therapy

General knowledge of issues related to pediatric lung transplantation

Clinical skills:
- Evaluation/assessment of potential lung transplant recipients;
- Management during early post-transplant phase – identify and treat complications, immunosuppressive drug therapy, antimicrobial prophylaxis and treatment, specific complications according to underlying lung disease (e.g. in cystic fibrosis patients), biochemical and haematological monitoring
- Post-operative management: Knowledge of organ support for primary graft failure, including ECMO and Novalung
- Lung allograft surveillance monitoring (lung function testing, bronchoscopy with interpretation of bronchoalveolar lavages and transbronchial biopsies, radiological tests)
- Management in the long term – biochemical and haematological monitoring, identify and treat late complications; modification/reduction of immunosuppression to manage complications, surveillance and management of chronic lung allograft dysfunction
- Identifying patients needing and suitable for re-transplant.

Professional skills:
- Assess patients referred for lung transplant and arrange appropriate investigations, counsel patients and carers, obtain informed consent;
- Demonstrate diagnostic, prescribing and counselling skills;
- Demonstrate ability to work in a team, good communication;
- Practise evidence based medicine, audit, clinical trials, and journal review;
- Understand medico-legal and ethical issues;
- Ability to act in a multidisciplinary environment.
Kidney Transplantation Module

J. Grinyo, J. Homan van der Heide, F. Macário, A. Warrens

Subject Objective:
- Ability to assess and prepare end-stage renal disease patients for renal transplantation and manage their care before the transplant and after it, in the immediate and long term

Knowledge
- Legal and ethical issues in kidney transplantation
- Treatment options for patients with end-stage renal disease
- The immunological basis of allore cognition and graft rejection
- The application of histocompatibility and immunogenetics to clinical renal transplantation
- Clinical pharmacology of immunosuppression
- Indications and contraindications (immune and non-immune) for: deceased and live kidney donation and transplantation
- Principles of organ allocation
- Principles of organ preservation
- Principles of pre-op preparation, peri-operative and early post-operative anesthetic management
- The principles of the surgical management of the renal transplant recipient (immediate and delayed)
- The complications of transplantation and immunosuppression, including nutrition, psychological and social aspects, infection, malignancy and cardiovascular disease
- Imaging in renal transplantation
- The histopathology of renal transplantation
- General knowledge of issues related to pediatric kidney transplantation

Clinical skills
- The evaluation of patients with renal failure as potential organ recipients: indications and contraindications for renal transplantation and risk assessment
- The evaluation of potential live kidney donors
- The evaluation of potential deceased kidney donors
- The pairing of a deceased donor organ with the most appropriate recipient
- Using induction and maintenance immunosuppression
- Using the prophylaxis appropriate for the complications of transplantation and immunosuppression
- Surveillance for and the management of the complications of transplantation and immunosuppression
- Performing and interpreting the renal transplant biopsy
- Managing the early post-operative transplant recipient, including fluid management, metabolic assessment and the need for dialysis and haemofiltration
- Managing early and late impaired graft function, including both medical and surgical complications
- Special situations
  - Managing the highly sensitized patients
  - Managing ABO-incompatible transplantation
  - Managing the renal transplant recipient who has combined solid organ transplants, transplanted either concomitantly or consecutively
    Performing and interpreting the transplant renal biopsy
Undertaking the follow-up of living donors

Professional skills
- Assessment of potential recipients and potential live donors referred for kidney transplantation and patients following renal transplantation (including long-term follow-up of live donors): arrange appropriate investigations and management; counsel patients and families
  - Demonstration of diagnostic, prescribing and counseling skills, good communication and teamwork
  - Practicing of evidence-based medicine: audit, clinical trials, journal review
  - Ability to act in a multidisciplinary environment
  - Understanding of medico-legal and ethical issues in transplantation
  - Recording and retrieve information from databases
  - Understanding the organizational aspects of a renal transplant unit
  - Understanding data management
Pancreatic Transplantation Module

A. Secchi

Subject objective
- Ability to assess patients for pancreatic transplantation and manage their care

Knowledge
- Diabetes: causes, complications, pathophysiology, treatment options (including islet transplantation)
- Pathophysiology of glucose homeostasis
- Characteristics of the main metabolic tests available to study pancreatic β-cell function
- Rationale, modalities and shortcomings of intensive insulin therapy
- Understand ethical and medical-legal issues in organ donation and organ allocation
- Evaluation of donor/ organs suitability (including non heart beating donors)
- Contraindications to organ donation: general, organ-specific
- Criteria for brain/ brainstem death
- Donor transmitted diseases
- Indications and contraindications for pancreatic donation: simultaneous kidney and pancreas transplant, pancreas after kidney transplant, pancreas transplantation alone
- Anatomy: pancreatic graft and implantation site
- Surgical aspects of pancreas transplantation: different options for the management of pancreatic exocrine secretions and venous diversion; post-operative surgical complications, with particular emphasis on graft thrombosis
- Immunology: ABO compatibility, cytotoxic cross match, flow cytometry, HLA matching, rejection, approaches to the induction of tolerance
- Immunological challenges in pancreas transplantation: autoimmunity and the alloimmune response
- Putative benefits and risks of pancreas transplantation
- Principles of pre-op preparation and post op-management
- Immunosuppression protocols: mechanism of action, pharmacokinetics, side effects and drug interactions of immunosuppressive agents
- Diagnosis and treatment of graft rejection and recurrence of autoimmunity against β-cells
- Infections in transplant recipients: opportunistic infections, CMV-related disease
- PTLDs and other malignancies in transplant recipients
- Histopathology elements of pancreatic grafts
- Diagnostic imaging in pancreas transplantation
- Psychological and ethical aspects of transplantation and organ donation
- Knowledge regarding kidney transplantation

Clinical skills
- Evaluation of donor/ organ suitability (including non heart beating donors)
- Select appropriate patient from the waiting list
- Postoperative management: drug therapy, fluid management, laboratory and imaging, pancreatic graft biopsy
- Identify and treat post-op complications: drug side effects, infection, rejection, vascular complications, surgical complications, pancreatic fistula, graft pancreatitis,
Professional skills
- Ability to evaluate donor suitability
- Assess patients referred for pancreas transplantation: arrange appropriate investigations, counsel patients and families and obtain informed consent, prepare patients for theatre
- Demonstrate diagnostic, prescribing and counselling skills, good communication and teamwork.
- Practise evidence-based medicine: audit, clinical trials, journal review
- Ability to act in a multidisciplinary environment
- Understand medico-legal and ethical issues
- Record and retrieve information from databases
C. Duvoux (coordinator), S. Beckebaum, L. Szőnyi, S. László

Liver Transplantation Module

A. Subject objective: An applicant should have special knowledge, meaningful practical experience and clinical skills to evaluate a liver transplant candidate and to manage the patient before transplantation and in the post transplant course, on the short and long terms

B. Knowledge in Liver Transplant Hepatology

- Prognosis of chronic and acute liver diseases: natural history, prognostic models
- Treatment options for end-stage liver diseases
- Indications for liver transplantation in adults and paediatrics (according to age), general principles and specificities by indications and in special situations (HIV, re-transplantation...)
- Contra-indications to liver transplantation
- Principles of organ allocation, listing and delisting
  - MELD/PELD scores, the issue of HCC (priority and delisting), standard exceptions, matching the donor to the recipient
- Principles of organ donation and organ preservation /quality of the graft
- Knowledge about organ shortage: how to expand the donor pool; extended grafts, living donation, non heart beating donors...
- Principles of transplantation immunology; allore cognition; liver graft rejection; special paediatric aspects.
- Principles of liver transplantation surgery: what the hepatologist should know
  - Whole organ transplantation, split liver transplantation: right lobe, left lobe, living donor LT, domino transplantation, paediatric liver transplantation
- Mechanism of action of immunosuppressive drugs and clinical pharmacology of immunosuppression; immunosuppressive regimens after liver transplantation
- Histopathology of the liver graft
- Imaging in liver transplantation
- Short and long term results, according to age, diagnosis, type of transplantation

C. Clinical skills

- Evaluation of the liver transplant candidate: physical, social, psychological assessments, addictive behaviours
- Management of the LT candidate on the waiting list:
  - Pretransplant care/ management of major complications of cirrhosis/ treatment of HCC , viral diseases and other liver diseases/ surveillance protocols, vaccinations, management of acute liver failure.
- Evaluation of the deceased and living donors
- Management of the post transplant course
  - Early postoperative care / intensive care
    1. Prevention of rejection: immunosuppression: initial protocols, monitoring and adjustment to liver and renal function
    2. Fluid management and renal failure; pulmonary and cardiac function
  - Diagnosis and management of early complications:
- Preservation/reperfusion injury, primary non-function/dysfunction, vascular complications, biliary complications
- Monitoring graft function: imaging, histological assessment
- Acute/chronic rejection: diagnosis/staging/management
- Infections: diagnosis, timing, risk factors, prevention and management
  - Long term management
    - Immunosuppression: immunosuppressive strategies in special patient groups (e.g. HCV, HCC, autoimmune diseases...) long term complications, drug interactions,
    - Renal dysfunction, cardio-vascular: prevention and management
    - De novo malignancies: tumour types, timing, prevention, treatment
    - Recurrent disease: viral, alcohol, autoimmune, cancer
    - Diagnosis and management
    - Late biliary and vascular complications
    - Retransplantation

D. Professional skills

- Diagnostic, prescribing and counselling skills, skills in communication and teamwork
- Practicing in evidence-based medicine: audit, clinical trials, journal review
- Ability to act in a multidisciplinary environment
- Understanding of medico-legal and ethical issues
- Ability to record and retrieve information from databases
- Understanding the organizational aspects of a liver transplant unit; in hospital and outpatient management
- Rehabilitation;
  - Children, school, community; professional rehabilitation
  - Donor follow up after living donation
I. General professional skills in
   1. Parenteral and enteral nutrition
   2. Ultrasound of visceral organs
   3. Upper and lower GI endoscopy
   4. Interpretation of histopathology
   5. Interventional sonography/endoscopy
   6. Pharmacotherapy

II. Pretransplant care
   1. Expertise in pathophysiology and management of major complications of diseases resulting in short bowel syndrome
   2. Indications/contraindications to intestinal transplantation
   3. Knowledge of life-threatening complications related to TPN (diabetes, liver disease, sepsis, etc.)
   4. Considering patients with a high-risk of death or high mortality related to underlying intestinal failure (mainly pediatric patients)
   5. Different causes of intestinal failure between adults and children
   6. Indications, benefit and results for isolated intestinal transplantation, liver and intestinal transplantation, multivisceral transplantation, and retransplantation
   7. Vaccination

III. Peritransplant care
   1. Allocation rules
   2. Anesthesia and surgical relevant (co)morbidity
   3. Volume therapy
   4. General information on the surgical procedure (laparotomy, artery and vein reconstruction, digestive tube rebuilding, abdominal closure)
   5. Induction immunosuppressive therapy
   6. Intensive care medicine in immunocompromised patients

IV. Posttransplant care
   1. Diagnosis, management and treatment of acute rejection: routine protocol endoscopy, zoom endoscopy, pathological assessment, ileostomy output, stool character, fever, blood markers
   2. Diagnosis, management and treatment of infection: catheter infection, gastrointestinal tract infection, maintenance of normal bacterial flora, respiratory infections
   3. Nutritional management, tube feeding and TPN, stoma output, oral feedings (mainly for infants)
   4. *De novo* malignancy including epidemiology of PTLD, risk factors and treatment
   5. Graft versus host disease: diagnosis and treatment
   6. Stoma closure
   7. Graft and patient survival: short and long term results
   8. Quality of life after intestinal transplantation compared to TPN
   9. Compliance with immunosuppressive drugs and adherence to medical prescriptions
   10. Cardiovascular risk factors: diagnosis, treatment, prevention
   11. Renal insufficiency: diagnosis, treatment, prevention
   12. Pharmacotherapy in the transplanted intestine
13. Recurrence of disease after transplantation
14. Vaccination
Part II-Examination

1. The examination takes place annually. On the year that ESOT holds its biannual Congress the examination takes place at the ESOT meeting.

2. There is a separate examination for each module.

3. Each candidate is examined individually for every module for which he/she has applied.

4. For each module the examination board has a total of four examiners (the board is quorum if three examiners are present):

   - The chairman who is a member of the European Board of Transplantation Medicine and is an expert in the field examined in the module. The chairman is appointed by the EBTM.

   - Two members of the EBTM who are appointed by the EBTM and of whom one is an expert in the field examined in the module and one in a different field of transplantation medicine. The chairman designates one of the two members to be the examiner responsible for keeping the minutes of the examination process. The minutes are signed by all members of the examining board and are forwarded to the Executive Committee of the EBTM. The minutes are filed by the Senior Secretary of the EBTM.

   - A representative of ESOT appointed by the ESOT Council

5. Examination format

   - Oral examination only.
   - The duration of the exam for each module will be up to 60 minutes.
   - The first part of the exam will be examination on clinical topics that can include: direct questions, discussion of clinical cases, questions based on presentation of radiological and histological findings.
   - The second part of the exam will be a general viva voce with discussion around the topics included in the syllabus of each module.
   - A pass/ fail mark will be decided for each module following discussion among the members of the examining board without the presence of the applicant. Each member of the examining board has one vote. Three votes are necessary for pass or fail mark to be decided. In case of a split 2-2 vote the chairman can cast an extra decisive vote.
   - The decision of the examining board is final and is not subject to appeal. An unsuccessful candidate is entitled to one more chance to take the exam for each module that he/she failed.
   - The candidate is informed via e-mail and in writing regarding the result of the examination no later than a week from the date of the exam.

6. The successful candidates are awarded the European Diploma of Transplantation Medicine (with specification for which modules) and are provided with the relevant Diploma no later than a month from the date of the exam.
4. FUTURE AMENDMENTS

The Statutes as well as the Certification (Part 1-Eligibility, Part 2-Examination) Process can be amended following relevant suggestion by a member of the European Board of Transplantation Medicine and approval by 2/3 (two thirds) of the countries members which are represented at the time of the discussion of the amendment and providing that 50% +1 of the countries members of the Board are represented.

5. NATIONAL REPRESENTATIVES

National Representatives of the European Board of Transplant Medicine of the Division of Transplantation of the UEMS and ESOT will be listed.