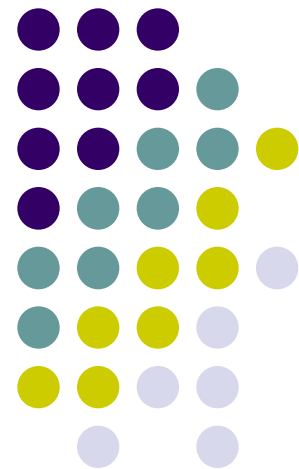


Apheresis Medicine Physician Training Around the World- TURKEY

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Background on the Apheresis Unit in Turkey



- ✍ Departments set up in the early 1990' s
- ✍ Currently 61 departments certificated by authorities
- ✍ Specifically for apheresis procedures
- ✍ Performed 65.000 procedures 2012
- ✍ Currently 331 members of nursing staff certificated

The Turkish Society of Apheresis (TSA)



- ✓ Established in **October 2000**
- ✓ Non-profit organization
- ✓ Currently the association has **more than 100 members**
 - ✓ from different professions related to apheresis

The Turkish Society of Apheresis (TSA)



- Main purpose:
 - ✓ To **support** and **promote** scientific research within this field
 - ✓ To support apheresis medicine physician and technician training
 - ✓ To **ensure** and **encourage** communication between the different scientific fields
 - such as hematology, oncology, dermatology, neurology, immunology, rheumatology, endocrinology, gastroenterology, nephrology, intensive care unit, cardiology, etc
 - all of which are related to hemapheresis.

The Turkish Society of Apheresis (TSA)



- 👍 We inform our members regarding the most recent developments in apheresis.
- 👍 We also aim to advance the knowledge and inspire “continued professional development” in this discipline.

Continuing Medical Education



- The European Hematology Association (EHA) awards Continuing Medical Education (CME) points for participation in scientific and educational programs such as congress, symposium, workshop etc.
- **All scientific and educational program are approved by the EHA with CME credits.**

The Turkish Society of Apheresis Activities



- The scientific activities of TSA include:
 - Translation of the **apheresis textbook** into Turkish
 - **Scholarships** for hematology fellows
 - **Financial support** for both clinical trials and theses for hematology fellows
 - Apheresis **certification courses**

Turkish Ministry of Health

Therapeutic Apheresis Regulation



- **Therapeutic Apheresis Regulation** was published by the Ministry of Health in 2010.
- Aim: **to standardize** all apheresis centers in terms of office space, equipment, and personnel, according to international standards.

Turkish Ministry of Health

Therapeutic Apheresis Regulation



DEVICES NECESSARY FOR THE THERAPEUTIC APHERESIS CENTERS

- a) At least two apheresis devices
- b) A portable patient bed
- c) A portable electrocardiography device and defibrillator
- d) An emergency bag including ambulator and airway
- e) Multiple oxygen support devices
- f) A weight scale
- g) An air conditioning system
- h) A computer system with data automation and internet supply
- i) A patient examination room



Turkish Ministry of Health

Therapeutic Apheresis Regulations

THERAPEUTIC APHERESIS CENTER STAFF

- a) At least one Certified Hematology Specialist
 - either adult or pediatrician
- b) Doctors and nurses with Master's degree in Apheresis
 - requires three years experience in a therapeutic apheresis unit
- c) Biologists with Master's degree in apheresis
 - requires three years experience in a therapeutic aphereses unit
- d) A quality control coordinator.
- e) At least two certified medical staff for each shift.

Turkish Ministry of Health

Therapeutic Apheresis Regulation



APHERESIS EDUCATION CENTERS

- a) Must be certified by and registered with The Ministry of Health.
 - Medical Schools and Government Training Hospitals can register for this certification course

- b) Certification requires centers to have performed at least 500 therapeutic procedures within the previous three years.

APHERESIS EDUCATION CENTERS



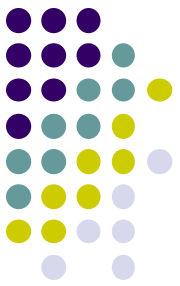
| INSTITUTION | Therapeutic apheresis center | Therapeutic Apheresis Training Center |
|---------------------|-------------------------------------|--|
| Training Hospital | 12 | 2 |
| University Hospital | 33 | 10 |
| Private Hospital | 15 | 0 |
| Military Hospital | 1 | 0 |
| Total | 61 | 12 |

Apheresis Certification Program



- ✓ In the registered apheresis centers, certification courses, including theoretical and practical training, are given in **basic and clinical apheresis**.
- ✓ These courses last **three months**.
- ✓ Those who complete the training successfully **receive certification to work** in apheresis centers.
- ✓ To date around **400 technical personnel and physicians** have completed this program.
- ✓ The number of centers and their qualified personnel continue to increase.

THERAPEUTIC APHERESIS THEORETICAL COURSE PROGRAM FOR DOCTORS



| Topic | Hours |
|--|--------------|
| Apheresis Principles and Devices | 1 |
| Donor Apheresis Types and Practice | 1 |
| Therapeutic Apheresis Principles | 1 |
| Therapeutic Apheresis Indications | 1 |
| Donor and Patient Preparation for Apheresis | 1 |
| Therapeutic Apheresis Practice | 2 |
| Apheresis Complications | 2 |
| Pediatric Therapeutic Apheresis | 2 |
| Intravenous Lines for apheresis procedures | 1 |
| Apheresis in Emergency Situations | 1 |
| Math for Apheresis | 1 |
| Pharmacology for Apheresis | 1 |
| Therapeutic Apheresis Quality Control Principles | 1 |
| Criopreservation and storage | 1 |
| Case Discussions and Seminars | 7 |

THERAPEUTIC APHERESIS PRACTICAL PROGRAM



| TOPIC | TIMES |
|---|--------------|
| Patient Preparation for Therapeutic Apheresis | 20 |
| Therapeutic Apheresis Procedures | 20 |
| Pediatric Therapeutic Apheresis | 5 |
| Integration of Devices | 10 |
| Photopheresis | 5 |
| Therapeutic Apheresis Quality Control | 20 |
| Donor Apheresis | 20 |
| Intervention for Complications | 20 |
| Intervention for Alarming Conditions | 25 |



Turkish Ministry of Health

Therapeutic Apheresis Regulation

Apheresis Certification Exam

- After training, attendants must take the exam to be certificated by TMH
- Exam include theoretical and practical training
- These exams last **two days**.
 - **One day is** theoretical
 - Second day is practical.
- The mark to be successful must be 70 out of 100 for both.
- Those who complete the training successfully **receive certification to work** in apheresis centers.
- This certification validate 5 year-terms

Certificated Therapeutic Apheresis Staff (2010-2013)



Distribution of staff on training according to years

| Years | Physicians | Technicians | Total |
|-------|------------|-------------|-------|
| 2010 | 13 | 136 | 149 |
| 2011 | 16 | 96 | 102 |
| 2012 | 15 | 66 | 81 |
| Total | 44 | 297 | 331 |

Turkish Ministry of Health

Apheresis Science Commission



- Therapeutic Apheresis Science Commission works for the Turkish Ministry of Health.
- There are 6 scientific members on the advisory board, plus one director from the Ministry of Health.
- To establish legal regulations related to apheresis
- To inspect the apheresis centers and training centers
- Prepared the **National Therapeutic Apheresis Guide**.
 - This guide serves as a **reference guide** and maintains clinical standardization in terms of therapeutic apheresis applications.
 - It is **updated annually** in accordance with new scientific progress.