Training in Cardiology: The new era

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• Definition of Cardiologist
  – Generic definition
    • Physician dealing with patient who suffers from CVD diseases
      – Prevention
      – Diagnosis
      – Treatment
  – Practical Problems
    • Cardiologists can not be a “supra” specialist in a every single aspect of Cardiology
    • Need for sub-specialization in different aspects of CVD
Cardiology vs subspecialization in Cardiology

• The term “General Cardiology” has been substituted by the term of “Cardiology”

• To what extend a Cardiologist should be trained during the 6\textsuperscript{th} years of the training in the specialty?
  – Training in Theoretical aspects
  – Training in Practical Procedures
Training in Cardiology

The new ESC core curriculum (draft text)

• 1. The Cardiologist in the Clinical Context
• 2. Multimodality Imaging
• 3. Coronary and Peripheral artery disease
• 4. Valvular heart disease
• 5. Rhythm disorders
• 6. Heart failure
• 7. Acute Cardiac Care
• 8. Prevention, rehabilitation & sports cardiology
• 9. Miscellaneous
   Including ‘Congenital heart disease and pregnancy’ not large enough to have a whole dedicated chapter)
What does the New ESC core curriculum says

• Multimodality imaging part of the training of the General Cardiologist

• Peripheral artery disease very high in the agenda of the training
What does any ESC core curriculum does not say

• A list of chapters can be similar in all levels of training
  – Medical students
  – Trainees in Cardiology
  – Subspeciality training

• The question is

TO WHAT DETAIL THIS KNOWLEDGE SHOULD BE
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Level</th>
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<tbody>
<tr>
<td>1 ECG</td>
<td>III</td>
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<tr>
<td>2 AMBULATORY ECG</td>
<td>III</td>
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<tr>
<td>3 EXERCISE ECG TESTING</td>
<td>III</td>
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<tr>
<td>4 CARDIOPULMONARY EXERCISE TESTING</td>
<td>III</td>
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<tr>
<td>5 AMBULATORY BP Monitoring</td>
<td>III</td>
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<tr>
<td>6 TRANSTHORACIC ECHOCARDIOGRAPHY (replaces ECHO DOPPLER STUDIES)</td>
<td>III</td>
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<td>7 VASCULAR ULTRASOUND</td>
<td>I</td>
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<td>8 TRANSOESOPHAGEAL ECHOCARDIOGRAPHY</td>
<td>II</td>
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<td>9 STRESS ECHOCARDIOGRAPHY</td>
<td>I</td>
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<tr>
<td>10 CARDIAC CT</td>
<td>II</td>
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<tr>
<td>11 CARDIAC MRI</td>
<td>I</td>
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<tr>
<td>12 NUCLEAR IMAGING /NMR</td>
<td>I</td>
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<td>13 RIGHT HEART CATHETERISATION</td>
<td>II</td>
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<tr>
<td>14 ENDOMYOCARDIAL BIOPSY</td>
<td>I</td>
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<tr>
<td>15 CORONARY &amp; LV ANGIOGRAPHY</td>
<td>II</td>
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<tr>
<td>16 PERCUTANEOUS INTERVENTIONS</td>
<td>I</td>
</tr>
<tr>
<td>17 STRUCTURAL INTERVENTIONS: TAVI/MITRAL CLIP/PFO CLOSURE etc</td>
<td>I</td>
</tr>
<tr>
<td>18 CARDIAC SURGERY</td>
<td>I</td>
</tr>
<tr>
<td>19 PACEMAKER PROGRAMMING</td>
<td>II</td>
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<tr>
<td>20 ICD/CRT PROGRAMMING</td>
<td>I</td>
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<tr>
<td>21 TEMPORARY PACEMAKER IMPLANTATION</td>
<td>III</td>
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<td>22 PERMANENT PACEMAKER IMPLANTATION</td>
<td>II</td>
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<tr>
<td>23 ICD IMPLANTATION</td>
<td>I</td>
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<tr>
<td>24 CRT IMPLANTATION</td>
<td>I</td>
</tr>
<tr>
<td>25 ELECTROPHYSIOLOGICAL STUDIES (replaces ATRIAL FLUTTER/ATRIAL FIBRILATION)</td>
<td>I</td>
</tr>
<tr>
<td>26 ELECTROPHYSIOLOGICAL INTERVENTIONS</td>
<td>I</td>
</tr>
<tr>
<td>27 ELECTRICAL CARDIOVERSION( Add on NB &amp; MW)</td>
<td>III</td>
</tr>
<tr>
<td>28 PERICARDIOCENTESIS</td>
<td>II</td>
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</table>
What does the new ESC core curriculum says

• A Cardiologist after the 6 years of training is hardly capable of doing any procedures independently
• There are no numbers for any procedures
• There is no time especially allocated for any part of the training
What a Cardiologist will be able to do safely and possibly covered to do legally

- General Cardiac Consultation
- Exercise ECG
- Simple Echo studies
- CVD prevention?
- Treating Hypertension?
- Know whom and when to refer for further diagnosis and treatment
How a Cardiologist should be trained

- A trainee is a trainee
- Time of the everyday clinical practice should be devoted for the training
- Training should be understood that does not always helps in the everyday clinical practice
Trainee

• How does a trainee learns
  – Personal studying
  – Organized training sessions
  – Everyday clinical practice and discussions
  – Practical procedures under supervision and gradual take over of responsibilities
Trainee

• How does a trainee proves that he has learnt
  – Theoretical Knowledge
    • Reading and formative examination
  – Practical Skills
    • Logbook (all practical skills)
    • DOPS (possibly not necessary according to the new ESC core curriculum)

SUMMATIVE EXAMINATIONS: MCQs (theoretical knowledge based upon practical scenarios)
Training Center

• One vs many Clinical Departments
• Many departments: need for rotation
• Criteria for recognition of a Department as a Training Department:
  – Chief of training
  – Trainers
  – Variety of clinical practice
  – Organized program

REVALIDATION EVERY CERTAIN NUMBER OF YEARS
Revalidation of Training Centers

Questionnaires filled by trainees anonymously
• Local visits by members of Central Committee

MANY PEOPLE and A LOT OF WORK
Trainers

• Chief of trainers
• Person responsible for clinical training
  – In charge of the log books
• Person responsible for theoretical training
• Regular appraisal meeting with the trainees

MANY PEOPLE and A LOT OF WORK
After specialization: Need for further training

• Subspecialization (εξειδίκευση) vs Retraining (μετεκπαίδευση)
• vs Both
• vs either
Topics in which a Cardiologist needs further training

- Interventional procedures (diagnostic and therapeutic: structural, coronary and peripheral)
- Implantation of devices (PPM, ICD etc)
- Electrophysiology
- Imaging (Echo, CT, MRI)
- Heart failure (advanced)
- Pediatric Cardiology and GUCH
- Acute Cardiac Care and Intensive Cardiac Care
- Diabetes and ? Prevention of CVD / Hypertention
- Cardiology and Sports
- Rehabilitation
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Course Directors:
Lampros K. Michalis
Konstantinos P. Toutouzas
Dimitris I. Karmpaliotis
Further training in each one of these topics

• How much of training is needed in each one of these topics
• Structural training programs vs CME
• How we should deal with the already practicing cardiologist
Already practicing Cardiologist

• To be awarded the subspeciality based upon practicing experience
  – Some proof is needed
Trainees in Cardiology

- Structured Programs from 1 to 2 years (according the amount of knowledge and manual procedures of use of new technologies needed)
  - Cardiac Intervention
  - Electrophysiology and Device Implantation
  - Heart failure (advanced)
  - Pediatric Cardiology and GUCH
  - Acute Cardiac Care and Intensive Cardiac Care
  - Diabetes
- Accreditation through CME
  - Cardiology and Sports
  - Rehabilitation

A Cardiologist should be regarded as a Specialist by default in Prevention and Hypertension
What if a practicing Cardiologist wants to get a new subspecialty in the future

- We need special training programs based upon both
  - structured training and
  - CME

  according to the needs of each one physician
Will these changes lead to professional rights and restrictions in the practice of the previously so called General Cardiologist?

• Almost inevitable
• This is going to happen by
  – Either Patients preference, legal consequences and reimbursement
  – Or all the above