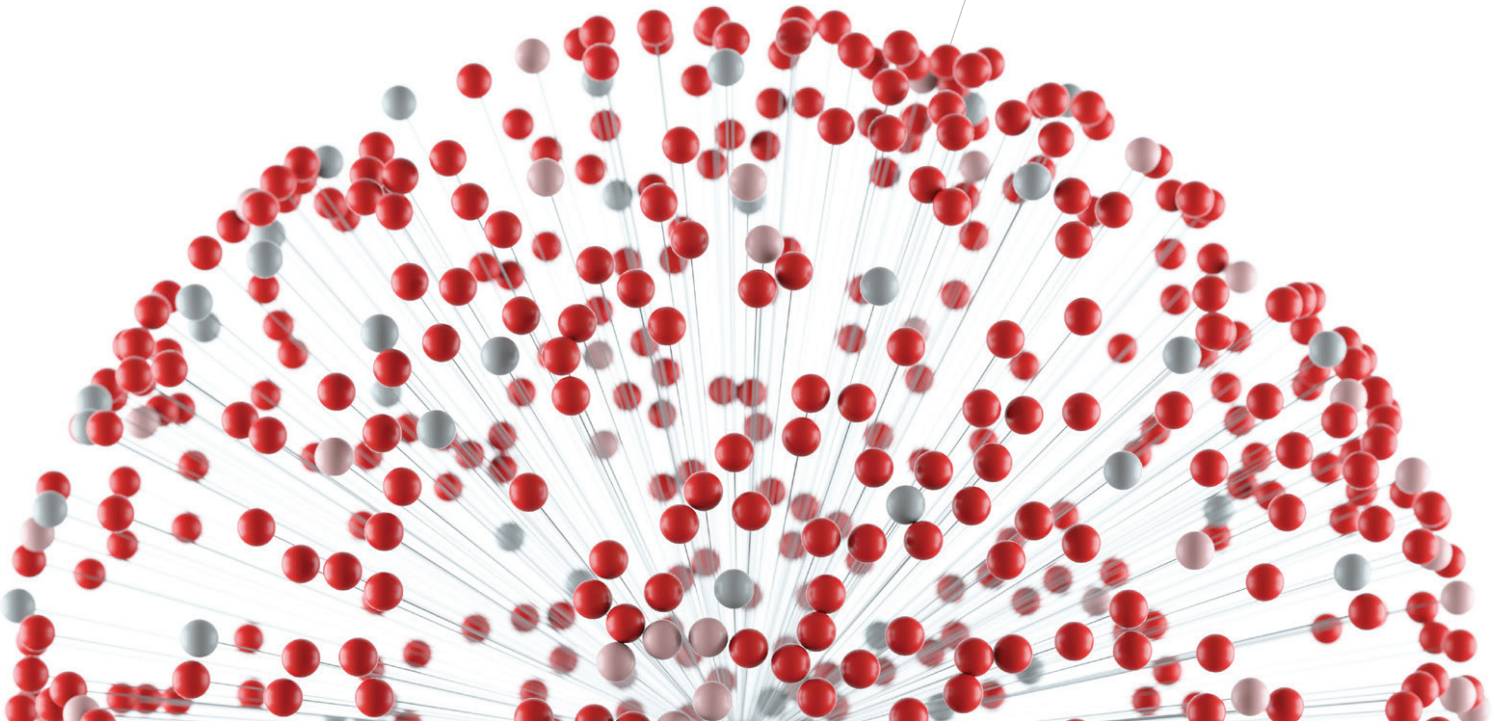
ESC
European Society
of Cardiology

# ESC Congress
# Munich 2018

## 25-29 August

Where the world of
cardiology comes together

**Topic List**



# Topic List

# Topic List

TOPIC A

**A BASICS**

1 History of Cardiology

2 Clinical Skills

- 2.1 History Taking
- 2.2 Physical Examination
  - 2.2.1 Auscultation
  - 2.2.99 Physical Examination, Other
- 2.3 Electrocardiography
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TOPIC B

**B IMAGING**

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  - 3.1.2 Echocardiography: Dimensions, Volumes and Mass
  - 3.1.3 Echocardiography: Systolic and Diastolic Function
  - 3.1.4 Echocardiography: Valve Disease
  - 3.1.5 Echocardiography: Masses and Sources of Emboli
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  - 3.2.3 Computed Tomography: Systolic and Diastolic Function
  - 3.2.4 Computed Tomography: Valve Disease
  - 3.2.5 Coronary Calcium Score
  - 3.2.6 Coronary CT Angiography
  - 3.2.7 Computed Tomography: Plaque Imaging
  - 3.2.8 CT Myocardial Perfusion
  - 3.2.9 CT Imaging of Structural Heart Disease
  - 3.2.10 CT-derived FFR
  - 3.2.11 Computed Tomography: Extracardiac Findings
  - 3.2.12 Computed Tomography: Radiation Exposure
  - 3.2.99 Computed Tomography, Other
- 3.3 Cardiac Magnetic Resonance
  - 3.3.1 Cardiac Magnetic Resonance: Physics and Technology
  - 3.3.2 Cardiac Magnetic Resonance: Dimensions, Volumes and Mass
  - 3.3.3 Cardiac Magnetic Resonance: Systolic and Diastolic Function
  - 3.3.4 Cardiac Magnetic Resonance: Valve Disease
  - 3.3.5 Cardiac Magnetic Resonance: Deformation Imaging
  - 3.3.6 Cardiac Magnetic Resonance: Flow Imaging
  - 3.3.7 Stress CMR
  - 3.3.8 Late Gadolinium Enhancement and Viability
  - 3.3.9 T1 and T2 Mapping, T2*
  - 3.3.10 Cardiac Magnetic Resonance: Coronary Imaging
  - 3.3.11 Cardiac Magnetic Resonance: Plaque Imaging

- 3.3.12 Cardiac Magnetic Resonance: Angiography
- 3.3.13 Cardiac Magnetic Resonance: Safety
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3.4 Nuclear Imaging
- 3.4.1 Nuclear Imaging: Technology and Tracers
- 3.4.2 Single Photon Emission Computed Tomography (SPECT)
- 3.4.3 Positron Emission Tomography (PET)
- 3.4.4 Nuclear Imaging: Dimensions, Volumes and Mass
- 3.4.5 Nuclear Imaging: Systolic and Diastolic Function
- 3.4.6 Molecular Imaging
- 3.4.99 Nuclear Cardiology, Other

3.5 Hybrid and Fusion Imaging

3.6 Cross-Modality and Multi-Modality Imaging Topics
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- 3.6.2 Imaging: Systolic and Diastolic Function
- 3.6.3 Imaging: Valve Disease
- 3.6.4 Imaging: Arrhythmias
- 3.6.5 Imaging: Heart Failure
- 3.6.6 Imaging: Coronary Artery Disease
- 3.6.7 Imaging: Acute Coronary Syndromes
- 3.6.8 Imaging: Myocardial Disease
- 3.6.9 Imaging: Pericardial Disease
- 3.6.10 Imaging: Congenital Heart Disease
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3.99 Imaging - Other



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- 4.1.2 Genetic Aspects of Arrhythmias
- 4.1.3 Arrhythmias, General – Pathophysiology and Mechanisms: Ion Channel Disorders
- 4.1.99 Arrhythmias: Pathophysiology and Mechanisms, Other

4.2 Arrhythmias, General – Epidemiology, Prognosis, Outcome

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- 4.3.2 Arrhythmias, General – Diagnostic Methods: Signal-averaged ECG
- 4.3.3 Arrhythmias, General – Diagnostic Methods: Holter Monitoring and Event Recorder
- 4.3.4 Arrhythmias, General – Diagnostic Methods: Non-invasive Diagnostic Methods
- 4.3.5 Arrhythmias, General: Invasive Diagnostic Methods
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- 5.1.2 Cell-cell Interactions
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- 5.1.4 Genetic Causes of Atrial Fibrillation
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  - 5.1.4.2 Common Gene Variants in Atrial Fibrillation
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- 5.1.6 Defining Types of Atrial Fibrillation
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- 5.1.99 Atrial Fibrillation, Pathophysiology and Mechanism, Other

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- 5.2.2 Stroke in Atrial Fibrillation
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- 5.2.4 Sudden Death in Patients with Atrial Fibrillation
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  - 5.4.2.1 Rate Control Targets
  - 5.4.2.2 Medical Therapy for Rate Control
  - 5.4.2.3 AV Nodal Ablation and Pacemaker Therapy
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  - 5.4.7.3 Combination of Pacing and Drug Therapy/Ablation
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5.5 Atrial Fibrillation - Stroke Prevention
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  - 5.5.1.1 Oral Anticoagulation: Indications
  - 5.5.1.2 Long-term Treatment, Adherence, Attrition
  - 5.5.1.3 Oral Anticoagulant Drugs
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- 5.6.4 Atrial Fibrillation Heart Teams for Stroke Prevention
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6.6 Supraventricular Tachycardia (non-AF) - Clinical

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- 7.1.2 Bradycardia - AV-Block
- 7.1.3 Tachycardia
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- 7.2.1 Syncope and Bradycardia - Epidemiology, Prognosis, Outcome: Epidemiology
- 7.2.2 Syncope and Bradycardia - Epidemiology, Prognosis, Outcome: Prognosis and Risk Stratification

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- 7.3.2 Provocation Tests, Assessment of Autonomous Nervous System
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TOPIC C

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  - 8.1.3 Ventricular Arrhythmias and SCD - Pathophysiology and Mechanisms: Arrhythmogenic Right Ventricular Cardiomyopathy
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  - 8.1.5 Ventricular Arrhythmias and SCD - Pathophysiology and Mechanisms: Ion Channel Disorders
  - 8.1.6 Long QT Syndrome
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  - 8.1.99 Ventricular Arrhythmias and SCD: Pathophysiology and Mechanisms, Other
- 8.2 Ventricular Arrhythmias and SCD - Epidemiology, Prognosis, Outcome
  - 8.2.1 Ventricular Arrhythmias and SCD - Epidemiology, Prognosis, Outcome: Epidemiology
  - 8.2.2 Ventricular Arrhythmias and SCD - Epidemiology, Prognosis, Outcome: Risk Factors and Risk Assessment
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9 Device Therapy
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TOPIC D

## D HEART FAILURE

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- 10.3.1 Chronic Heart Failure – Diagnostic Methods: Biomarkers
- 10.3.2 Chronic Heart Failure – Diagnostic Methods: Imaging
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11.3 Acute Heart Failure – Diagnostic Methods

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## E CORONARY ARTERY DISEASE, ACUTE CORONARY SYNDROMES, ACUTE CARDIAC CARE

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- 12.1.4 Coronary Artery Disease: Inflammation and Immunity
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12.2 Coronary Artery Disease – Epidemiology, Prognosis, Outcome

12.3 Coronary Artery Disease – Diagnostic Methods

- 12.3.1 Coronary Artery Disease : Noninvasive Diagnostic Methods

- 12.3.2 Coronary Artery Disease: Angiography, Invasive Imaging, FFR
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12.4 Coronary Artery Disease – Treatment
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- 12.4.2 Coronary Artery Disease: Non-pharmacological Treatment
- 12.4.3 Coronary Artery Disease: Pharmacotherapy
- 12.4.4 Coronary Artery Disease: Treatment, Revascularization
  - 12.4.4.1 Percutaneous Coronary Intervention
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- 12.4.99 Coronary Artery Disease: Treatment, Other

12.5 Coronary Artery Disease – Prevention

12.6 Coronary Artery Disease - Clinical
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- 13.1.4 Vulnerable Plaque
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13.2 Acute Coronary Syndromes – Epidemiology, Prognosis, Outcome

13.3 Acute Coronary Syndromes – Diagnostic Methods
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TOPIC E

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TOPIC F

## F VALVULAR, MYOCARDIAL, PERICARDIAL, PULMONARY, CONGENITAL HEART DISEASE

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- 18.4 Pericardial Disease – Treatment
  - 18.4.1 Pericardial Disease: Pharmacotherapy
  - 18.4.2 Pericardial Disease: Intervention and Surgery
  - 18.4.99 Pericardial Disease: Treatment, Other
- 18.5 Pericardial Disease – Prevention
- 18.6 Pericardial Disease – Clinical
  - 18.6.1 Pericarditis
  - 18.6.2 Pericardial Effusion
  - 18.6.3 Pericardial Constriction
  - 18.6.99 Pericardial Disease: Clinical, Other
- 18.99 Pericardial Disease - Other

**19 Tumors of the Heart**

- 19.1 Tumors of the Heart – Pathophysiology and Mechanisms
- 19.2 Tumors of the Heart – Epidemiology, Prognosis, Outcome
- 19.3 Tumors of the Heart – Diagnostic Methods
- 19.4 Tumors of the Heart – Treatment
- 19.5 Tumors of the Heart – Prevention
- 19.6 Tumors of the Heart – Clinical
  - 19.6.1 Myxoma
  - 19.6.99 Tumors of the Heart: Clinical, Other
- 19.99 Tumors of the Heart - Other

TOPIC F

20 Congenital Heart Disease and Pediatric Cardiology
- 20.1 Congenital Heart Disease – Pathophysiology and Mechanisms
- 20.2 Congenital Heart Disease – Epidemiology, Prognosis, Outcome
- 20.3 Congenital Heart Disease – Diagnostic Methods
  - 20.3.1 Congenital Heart Disease: Echocardiography
  - 20.3.2 Congenital Heart Disease: CMR
  - 20.3.99 Congenital Heart Disease: Diagnostic Methods, Other
- 20.4 Congenital Heart Disease – Treatment
  - 20.4.1 Congenital Heart Disease: Lifestyle Modification
  - 20.4.2 Congenital Heart Disease: Pharmacotherapy
  - 20.4.3 Congenital Heart Disease: Intervention
  - 20.4.4 Congenital Heart Disease: Surgery
  - 20.4.99 Congenital Heart Disease: Treatment, Other
- 20.5 Congenital Heart Disease – Prevention
- 20.6 Congenital Heart Disease – Clinical
  - 20.6.1 Fetal Heart Disease
  - 20.6.2 Adult Congenital Heart Disease, Clinical
  - 20.6.99 Congenital Heart Disease: Clinical, Other
- 20.7 Pediatric Cardiology
- 20.99 Congenital Heart Disease and Pediatric Cardiology - Other

21 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure
- 21.1 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure – Pathophysiology and Mechanisms
- 21.2 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure – Epidemiology, Prognosis, Outcome
- 21.3 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure – Diagnostic Methods
- 21.4 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure - Treatment
  - 21.4.1 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure: Pharmacotherapy
  - 21.4.2 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure: Intervention
  - 21.4.3 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure: Surgery
  - 21.4.99 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure: Treatment, Other
- 21.5 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure - Prevention
- 21.6 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure – Clinical
  - 21.6.1 Pulmonary Embolism
  - 21.6.2 Venous Thromboembolism
  - 21.6.3 Pulmonary Hypertension
  - 21.6.99 Pulmonary Circulation, Clinical, Other
- 21.99 Pulmonary Circulation, Pulmonary Embolism, Right Heart Failure - Other

TOPIC G

## G AORTIC DISEASE, PERIPHERAL VASCULAR DISEASE, STROKE

22 Aortic Disease
- 22.1 Aortic Disease – Pathophysiology and Mechanisms
- 22.2 Aortic Disease – Epidemiology, Prognosis, Outcome
- 22.3 Aortic Disease – Diagnostic Methods
  - 22.3.1 Aortic Disease: Echocardiography
  - 22.3.2 Aortic Disease: Computed Tomography
  - 22.3.3 Aortic Disease: CMR
  - 22.3.99 Aortic Disease: Diagnostic Methods, Other
- 22.4 Aortic Disease - Treatment
  - 22.4.1 Aortic Disease: Lifestyle Modification
  - 22.4.2 Aortic Disease: Pharmacotherapy
  - 22.4.3 Aortic Disease: Intervention
  - 22.4.4 Aortic Disease: Surgery
  - 22.4.99 Aortic Disease: Treatment, Other
- 22.5 Aortic Disease – Prevention
- 22.6 Aortic Disease – Clinical
  - 22.6.1 Acute Aortic Syndromes, Aortic Dissection
  - 22.6.2 Aortic Aneurysm, Thoracic

- 22.6.3 Aortic Aneurysm, Abdominal
- 22.6.4 Inflammatory Aortic Disease
- 22.6.5 Traumatic Injury of the Aorta
- 22.6.99 Aortic Disease: Clinical, Other
- 22.99 Aortic Disease - Other

**23 Peripheral Vascular and Cerebrovascular Disease**

- 23.1 Peripheral Vascular and Cerebrovascular Disease – Pathophysiology and Mechanisms
- 23.2 Peripheral Vascular and Cerebrovascular Disease – Epidemiology, Prognosis, Outcome
- 23.3 Peripheral Vascular and Cerebrovascular Disease – Diagnostic Methods
- 23.4 Peripheral Vascular and Cerebrovascular Disease - Treatment
  - 23.4.1 Peripheral Vascular and Cerebrovascular Disease: Lifestyle Modification
  - 23.4.2 Peripheral Vascular and Cerebrovascular Disease: Pharmacotherapy
  - 23.4.3 Peripheral Vascular and Cerebrovascular Disease: Intervention
  - 23.4.4 Peripheral Vascular and Cerebrovascular Disease: Surgery
  - 23.4.99 Peripheral Vascular and Cerebrovascular Disease: Treatment, Other
- 23.5 Peripheral Vascular and Cerebrovascular Disease – Prevention
- 23.6 Peripheral Vascular and Cerebrovascular Disease – Clinical
  - 23.6.1 Peripheral Artery Disease
  - 23.6.2 Carotid Disease
  - 23.6.3 Venous Disease
  - 23.6.99 Peripheral Vascular and Cerebrovascular Disease: Clinical, Other
- 23.99 Peripheral Vascular and Cerebrovascular Disease - Other

**24 Stroke**

- 24.1 Stroke – Pathophysiology and Mechanisms
- 24.2 Stroke – Epidemiology, Prognosis, Outcome
- 24.3 Stroke - Diagnostic Methods
- 24.4 Stroke - Treatment
  - 24.4.1 Stroke: Lifestyle Modification
  - 24.4.2 Stroke: Pharmacotherapy
  - 24.4.3 Stroke: Acute Intervention
  - 24.4.4 Stroke: Surgery
  - 24.4.99 Stroke: Treatment, Other
- 24.5 Stroke - Prevention
- 24.6 Stroke – Clinical
  - 24.6.1 Stroke: Carotid Stenosis
  - 24.6.2 Stroke: Persistent Foramen Ovale and PFO closure
  - 24.6.3 Stroke: Cardiogenic Embolism
    - 24.6.3.1 Stroke: Atrial Fibrillation
    - 24.6.3.2 Stroke: LAA and LAA closure
    - 24.6.3.99 Stroke: Cardiogenic Embolism, Other
- 24.6.99 Stroke: Clinical, Other
- 24.7 Heart and Brain Interaction
- 24.99 Stroke - Other



## H INTERVENTIONAL CARDIOLOGY AND CARDIOVASCULAR SURGERY

**25 Interventional Cardiology**

- 25.1 Invasive Imaging and Functional Assessment
  - 25.1.1 Invasive Hemodynamic Assessment/Right Heart Catheterization
  - 25.1.2 Coronary Angiography
  - 25.1.3 Peripheral Angiography
  - 25.1.4 Intracoronary Ultrasound
  - 25.1.5 Optical Coherence Tomography
  - 25.1.6 Fractional Flow Reserve
  - 25.1.7 Coronary Flow Reserve
  - 25.1.99 Invasive Imaging, Other
- 25.2 Coronary Intervention

- 25.2.1 Coronary Intervention: Vascular Access
- 25.2.2 Coronary Intervention: Devices
- 25.2.3 Coronry Intervention: Stents
- 25.2.4 Coronary Intervention: Technique
- 25.2.5 Coronary Intervention: Complications
- 25.2.6 Coronary Intervention: Primary and Acute PCI
- 25.2.7 Coronary Intervention: CTO
- 25.2.8 Coronary Intervention: Adjunctive Pharmacotherapy
- 25.2.9 Coronary Intervention: Mechanical Circulatory Support
- 25.2.10 Coronary Intervention: Restenosis
- 25.2.11 Coronary Intervention: Stent Thrombosis
- 25.2.12 Coronary Intervention: Outcome
- 25.2.99 Coronary Intervention, Other
- 25.3 Non-coronary Cardiac Intervention
  - 25.3.1 Aortic Valve Intervention
  - 25.3.2 Mitral Valve Intervention
  - 25.3.3 Tricuspid Valve Intervention
  - 25.3.4 Pulmonary Valve Intervention
  - 25.3.5 PFO/ASD Closure
  - 25.3.6 LAA Closure
  - 25.3.99 Non-Coronary Cardiac Intervention, Other
- 25.99 Interventional Cardiology - Other

**26 Cardiovascular Surgery**

- 26.1 Cardiovascular Surgery – Coronary Arteries
- 26.2 Cardiovascular Surgery – Valves
- 26.3 Cardiovascular Surgery – Congenital Heart Disease
- 26.4 Cardiovascular Surgery – Aorta
- 26.5 Cardiovascular Surgery – Carotid and Peripheral Arteries
- 26.6 Cardiovascular Surgery – Ventricular Assist Devices and Artificial Heart
- 26.7 Cardiovascular Surgery - Circulatory Support
- 26.8 Cardiovascular Surgery - Transplantation
- 26.9 Cardiovascular Surgery – Arrhythmias
- 26.10 Cardiovascular Surgery – Minimally Invasive Surgery
- 26.99 Cardiovascular Surgery - Other



## I HYPERTENSION

**27 Hypertension**

- 27.1 Hypertension – Pathophysiology and Mechanisms
  - 27.1.1 Target Organ Damage/ Left Ventricular Hypertrophy
  - 27.1.2 Renin-Angiotensin System
  - 27.1.3 Endocrine Hypertension
  - 27.1.4 Renal Artery Stenosis / Autonomic Nervous System
  - 27.1.99 Secondary Hypertension, Other
- 27.2 Hypertension – Epidemiology, Prognosis, Outcome
- 27.3 Hypertension – Diagnostic Methods
  - 27.3.1 Blood Pressure Measurement
  - 27.3.2 Hypertension: Diagnostic Methods, Other
- 27.4 Hypertension – Treatment
  - 27.4.1 Hypertension: Lifestyle Modification
  - 27.4.2 Hypertension: Pharmacotherapy
  - 27.4.3 Hypertension: Device Treatment and Intervention
    - 27.4.3.1 Renal Denervation
    - 27.4.3.2 Hypertension: Device Treatment and Intervention, Other
  - 27.4.4 Hypertension: Treatment, Other
- 27.5 Hypertension – Prevention
- 27.6 Hypertension – Clinical
- 27.99 Hypertension - Other

## J PREVENTIVE CARDIOLOGY

**28 Risk Factors and Prevention**

- 28.1 Risk Factors and Prevention – Epidemiology
- 28.2 Risk Factors and Prevention – Cardiovascular Risk Assessment
  - 28.2.1 Prevention – Cardiovascular Risk Assessment: Scores
  - 28.2.2 Prevention – Cardiovascular Risk Assessment: Biomarkers
  - 28.2.3 Prevention – Cardiovascular Risk Assessment: Imaging
  - 28.2.4 Prevention – Cardiovascular Risk Assessment, Other
- 28.3 Secondary Prevention
- 28.4 Lipids
  - 28.4.1 Lipids: Drug therapy
  - 28.4.99 Lipids, Other
- 28.5 Tobacco
- 28.6 Obesity
- 28.7 Diabetes and the Heart
  - 28.7.1 Diabetes and the Heart: Pathophysiology
  - 28.7.2 Metabolic Syndrome, Insulin, Insulin Resistance
  - 28.7.3 Diabetes and the Heart: Pharmacotherapy
  - 28.7.4 Diabetes and the Heart: PCI and Surgery
  - 28.7.99 Diabetes and the Heart, Other
- 28.8 Environmental and Occupational Aspects of Heart Disease
  - 28.8.1 Environmental Aspects of Heart Disease
  - 28.8.2 Occupational Aspects of Heart Disease
  - 28.8.99 Environmental and Occupational Aspects of Heart Disease, Other
- 28.9 Stress, Psycho-Social and Cultural Aspects of Heart Disease
- 28.10 Depression and Heart Disease
- 28.11 Nutrition, Malnutrition and Heart Disease
- 28.12 Physical Inactivity and Exercise
  - 28.12.1 Prevention: Physical Inactivity
  - 28.12.2 Prevention: Exercise
  - 28.12.99 Prevention: Physical Inactivity and Exercise, Other
- 28.13 Sleep Disorders
  - 28.13.1 Sleep Apnea
  - 28.13.99 Sleep Disorders, Other
- 28.99 Risk Factors and Prevention - Other

**29 Rehabilitation and Sports Cardiology**

- 29.1 Exercise Testing
  - 29.1.1 Spiroergometry
  - 29.1.99 Exercise Testing, Other
- 29.2 Cardiovascular Rehabilitation
  - 29.2.1 Rehabilitation: Exercise Programmes
  - 29.2.2 Rehabilitation: Education
  - 29.2.3 Rehabilitation: Outcomes
  - 29.2.99 Cardiovascular Rehabilitation, Other
- 29.3 Sports Cardiology
  - 29.3.1 Athlete´s Heart
  - 29.3.2 Sports Cardiology: Electrocardiography (ECG)
  - 29.3.3 Sports Cardiology: Arrhythmias
  - 29.3.4 Sudden Death in Sports
  - 29.3.5 Pre-Competition Screening and Sports Eligibilty
  - 29.3.6 Cardiovascular Effects of Substance Abuse/Doping
  - 29.3.99 Sports Cardiology, Other
- 29.99 Rehabilitation and Sports Cardiology - Other

TOPIC K

## K CARDIOVASCULAR DISEASE IN SPECIAL POPULATIONS

**30 Cardiovascular Disease in Special Populations**

- 30.1 Cardiovascular Disease in Primary Care
- 30.2 Cardiovascular Disease in Women
- 30.3 Cardiovascular Disease in Special Populations: Pediatric Cardiology
- 30.4 Non-cardiac Surgery/Pre-surgical Assessment
- 30.5 Cardiovascular Disease in the Elderly
- 30.6 Cardio-Oncology
- 30.7 Pregnancy and Cardiovascular Disease
- 30.8 HIV and Cardiovascular Disease
- 30.9 Renal Failure and Cardiovascular Disease
- 30.10 Neurologic Disorders and Heart Disease
- 30.11 Psychiatric Disorders and Heart Disease
- 30.12 Autoimmune/Chronic Inflammatory Disorders and Heart Disease
- 30.13 Substance Abuse and Cardiovascular Disease
- 30.99 Cardiovascular Disease in Special Populations - Other

TOPIC L

## L CARDIOVASCULAR PHARMACOLOGY

**31 Pharmacology and Pharmacotherapy**

- 31.1 Cardiovascular Pharmacotherapy
  - 31.1.1 Aldosterone Antagonists
  - 31.1.2 Antiarrhythmic Pharmacotherapy
  - 31.1.3 Angiotensin-Renin-Bradykinine System
  - 31.1.4 Anticoagulants
  - 31.1.5 Antiplatelet Drugs
  - 31.1.6 Beta Blockers
  - 31.1.7 Calcium Channel Blockers
  - 31.1.8 Diuretics
  - 31.1.9 Nitrates
  - 31.1.10 Lipid-Lowering Agents
    - 31.1.10.1 Statins
    - 31.1.10.2 Cholesterol Resorption Antagonists
    - 31.1.10.3 LDL-Receptor Antagonists
    - 31.1.10.4 PCSK9-Antagonists
    - 31.1.10.99 Lipid-Lowering Agents, Other
  - 31.1.11 Anti-Diabetic Pharmacotherapy
  - 31.1.99 Cardiovascular Drug Therapy, Other
- 31.2 Pharmacogenetics
- 31.3 Biotherapies
- 31.4 Cardiotoxicity of Drugs
- 31.99 Pharmacology and Pharmacotherapy - Other

TOPIC M

## M CARDIOVASCULAR NURSING

**32 Cardiovascular Nursing**

- 32.1 Acute Nursing Care
- 32.2 Chronic Nursing Care
- 32.99 Cardiovascular Nursing - Other

TOPIC N

## N E-CARDIOLOGY / DIGITAL HEALTH, PUBLIC HEALTH, HEALTH ECONOMICS, RESEARCH METHODOLOGY

**33 e-Cardiology / Digital Health**

- 33.1 Image Processing and Imaging Standards
- 33.2 Cardiovascular Signal Processing
  - 33.2.1 ECG and Arrhythmia Analysis
  - 33.2.99 Cardiovascular Signal Processing, Other

- 33.3 Computer Modeling and Simulation
- 33.4 Digital Health
  - 33.4.1 Remote Patient Monitoring and Telemedicine
  - 33.4.2 Hospital Information Systems
  - 33.4.3 Digital Health: Big Data Analysis
  - 33.4.4 e-Health
  - 33.4.5 m-Health
  - 33.4.99 Digital Health, Other
- 33.99 e-Cardiology - Other

**34 Public Health and Health Economics**

- 34.1 Public Health
- 34.2 Health Policy
- 34.3 Health Economics
- 34.99 Public Health and Health Economics - Other

**35 Research Methodology**

- 35.1 Biostatistics
- 35.2 Research Methodology: Big Data Analysis
- 35.3 Cardiovascular Epidemiology
- 35.4 Trial Design
- 35.5 Research Ethics
- 35.99 Research Methodology - Other



## O BASIC SCIENCE

**36 Basic Science**

- 36.1 Basic Science - Cardiovascular Development and Anatomy
  - 36.1.1 Basic Science - Cardiovascular Development and Anatomy: Stem Cells, Cell Cycle, Cell Senescence, Cell Death
  - 36.1.2 Basic Science - Cardiovascular Development and Anatomy: Genetics, Epigenetics, ncRNA
  - 36.1.99 Cardiovascular Development and Anatomy, Other
- 36.2 Basic Science - Cardiac Biology and Physiology
  - 36.2.1 Stem Cells, Cell Cycle, Cell Senescence, Cell Death
  - 36.2.2 Basic Science - Cardiac Biology and Physiology: Genetics, Epigenetics, ncRNA
  - 36.2.3 Basic Science - Cardiac Biology and Physiology: Signal Transduction, Mechano-Transduction
  - 36.2.4 Basic Science - Cardiac Biology and Physiology: Ion Channels, Electrophysiology
  - 36.2.5 Basic Science - Cardiac Biology and Physiology: Mitochondria
  - 36.2.6 Basic Science - Cardiac Biology and Physiology: Microvesicles, Exosomes
  - 36.2.7 Basic Science - Cardiac Biology and Physiology: Metabolism
  - 36.2.8 Basic Science - Cardiac Biology and Physiology: Leukocytes, Inflammation, Immunity
  - 36.2.9 Basic Science - Cardiac Biology and Physiology: Biomaterials, Tissue Engineering
  - 36.2.99 Cardiac Biology and Physiology, Other
- 36.3 Basic Science - Cardiac Diseases
  - 36.3.1 Ischemia, Infarction, Cardioprotection
  - 36.3.2 Basic Science - Cardiac Diseases: Cardiac Hypertrophy
  - 36.3.3 Basic Science - Cardiac Diseases:Heart Failure
  - 36.3.4 Basic Science - Cardiac Diseases: Arrhythmias
  - 36.3.5 Basic Science - Cardiac Diseases: Cardiomyopathies
  - 36.3.6 Basic Science - Cardiac Diseases: Valvular Heart Disease
  - 36.3.7 Basic Science - Cardiac Diseases: Congenital Heart Disease
  - 36.3.8 Basic Science - Cardiac Diseases: Leukocytes, Inflammation, Immunity
  - 36.3.9 Basic Science - Cardiac Diseases: Fibrosis
  - 36.3.10 Basic Science - Cardiac Diseases: Drugs, Drug Targets
  - 36.3.11 Basic Science - Cardiac Diseases: Gene Therapy, Cell Therapy
  - 36.3.12 Basic Science - Cardiac Diseases: Biomarkers
  - 36.3.99 Cardiac Diseases, Other
- 36.4 Basic Science - Vascular Biology and Physiology
  - 36.4.1 Stem Cells, Cell Cycle, Cell Senescence, Cell Death

- 36.4.2 Basic Science - Vascular Biology and Physiology: Genetics, Epigenetics, ncRNA
- 36.4.3 Basic Science - Vascular Biology and Physiology: Signal Transduction, Mechano-Transduction
- 36.4.4 Vascular Tone, Permeability, Microcirculation
- 36.4.5 Vascular Biology and Physiology: Ion Channels, Electrophysiology
- 36.4.6 Basic Science - Vascular Biology and Physiology: Mitochondria
- 36.4.7 Basic Science - Vascular Biology and Physiology: Microvesicles, Exosomes
- 36.4.8 Lipids, Metabolism
- 36.4.9 Platelets, Haemostasis, Coagulation
- 36.4.10 Basic Science - Vascular Biology and Physiology: Leukocytes, Inflammation, Immunity
- 36.4.11 Basic Science - Vascular Biology and Physiology: Biomaterials, Tissue Engineering
- 36.4.99 Vascular Biology and Physiology, Other

- 36.5 Basic Science - Vascular Diseases
  - 36.5.1 Microcirculation, Angiogenesis, Arteriogenesis
  - 36.5.2 Atherosclerosis, Cerebrovascular Diseases, Aneurysm, Restenosis
  - 36.5.3 Hypertension, Pulmonary Hypertension
  - 36.5.4 Thrombosis, Bleeding
  - 36.5.5 Lipid Metabolism, Metabolic Syndrome, Diabetes
  - 36.5.6 Basic Science - Vascular Diseases: Leukocytes, Inflammation, Immunity
  - 36.5.7 Basic Science - Vascular Diseases: Fibrosis
  - 36.5.8 Basic Science - Vascular Diseases: Drugs, Drug Targets
  - 36.5.9 Basic Science - Vascular Diseases: Gene Therapy, Cell Therapy
  - 36.5.10 Basic Science - Vascular Diseases: Biomarkers
  - 36.5.99 Vascular Diseases, Other
- 36.99 Basic Science - Other



## P OTHER

- **80 Training and Education**
- **90 European Society of Cardiology**
  - 90.1 Acute Cardiovascular Care Association
  - 90.2 Heart Failure Association
  - 90.3 European Heart Rhythm Association
  - 90.4 European Association of Percutaneous Cardiovascular Intervention
  - 90.5 European Association of Preventive Cardiology
  - 90.6 European Association of Cardiovascular Imaging
  - 90.7 Councils
  - 90.8 Working Groups
  - 90.9 ESC Board
  - 90.10 ESC Committees
  - 90.11 European Heart House
  - 90.12 European Heart Agency
  - 90.13 EURObservational Research Programme
  - 90.14 Education and Certification
  - 90.99 European Society of Cardiology - Other
- **99 Other**

ESC
European Society
of Cardiology

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