Discipline MCP5891
Inovation and Applicability of Electrovectorcardiography to Recognize Electrical Heart Diseases

Concentration area: 5131

Creation: 12/02/2026

Activation: 24/04/2026

Credits: 2

Workload:

Theory (weekly)	Practice (weekly)	Study (weekly)	Duration	Total
10	10	10	1 weeks	30 hours

Professors:
Carlos Alberto Pastore
Horacio Gomes Pereira Filho

Objectives:
The aim of this discipline is to define the new concepts of the electrical diseases of the heart, using Electrovectorcardiography as a tool.

Rationale:
During the last decades Molecular Biology, Genetics and Electrophysiology brought many subsidies to the knowledge on the basics of the electrical heart diseases. Thus, many electrocardiographic concepts have been renovated and new information has been suggested.

Content:
1. Introduction to electrovectorcardiography: concepts and applicability.
2. Ventricular repolarization: definition, evaluation and diagnostic significance of alterations.
3. Electrical heart diseases: concepts, diagnosis and management.
4. Example of the Brugada syndrome.
5. The electrical diseases and their repercussions on the heart activity.

Type of Assessment:
Presentation of seminars, discussion about the practice, tests.

Bibliography:

1. Braunwald – Tratato de Doenças Cardiovasculares, 9ª edição.

2. Tranchesi – Eletrocardiograma Normal e Patológico. Moffa PM e Sanches P; Ed. Roca.

3. Pastore CA, Samesima N, Munerato R – ABC do ECG. 6ª edição.

4. III Diretrizes da Sociedade Brasileira de Cardiologia sobre Análise e Emissão de Laudos Eletrocardiográficos (2016). Arq Bras Cardiol. 2016;106(4Supl.1):1-23.

5. II Diretrizes Brasileiras de Fibrilação Atrial. Arq Bras Cardiol. 2016;106(4Supl.2):1-22.

6. 7ª Diretriz Brasileira de Hipertensão Arterial. Arq Bras Cardiol. 2016;107(3Supl.3):1- 83.

7. Eletrocardiografia Atual – Curso do Serviço de Eletrocardiografia do InCor. Carlos Alberto Pastore, Nelson Samesima, Nancy Tobias, Horacio G. Pereira Filho (eds), 3ª edição. São Paulo: Editora Atheneu, 2016.

8. Aplicabilidade do Eletrovetorcardiograma na Atual Prática Clínica – Um Retrato Preciso da Ativação Elétrica Cardíaca. Applicability of the ElectroVectorcardiogram in Current Clinical Practice. Arq. Bras. Cardiol. 2019; 113(1): 87-99.

9. Ribeiro et al. Automatic diagnosis of the 12-lead ECG using a deep neural network. Nature Communications. 2020;11:1760.

10. Hannun et al. Cardiologist-level arrhythmia detection and classification in mbulatory electrocardiograms using a deep neural network. Nature Medicine. 2019;25:65-69.

11. Raghunath et al. Deep Neural Networks Can Predict New-Onset Atrial Fibrillation From the 12-Lead ECG and Help Identify Those at Risk of Atrial Fibrillation–Related Stroke. Circulation. 2021;143:1287–1298.

Class type:

Presencial