Basics of Cardiac Electrophysiology Study

Amir AbdelWahab, MD

Electrophysiology and Pacing Service
Cardiology Department
Cairo University

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Impulse Formation in SA Node
Atrial Depolarization
Delay at AV Node
Conduction through His bundle and Bundle Branches
Conduction through Purkinje Fibers
Ventricular Depolarization
Plateau Phase of Repolarization
Final Rapid (Phase 3) Repolarization
Catheter Placement – High Right Atrium (HRA)
Catheter Placement – *His Bundle*

*His Bundle Catheter*
Catheter Placement – *Coronary Sinus*

*Coronary Sinus Catheter*
Catheter Placement – Right Ventricular Apex (RVA)
Catheter Placement – *Right Ventricular Outflow Tract (RVOT)*

*Right Ventricular Outflow Tract Catheter*
Handbook of Cardiac Electrophysiology
A Practical Guide to Invasive EP Studies and Catheter Ablation

Francis D Murgatroyd
Andrew D Krahn

with
George J Klein
Raymond K Yee
Allan C Skanes

Foreword by William G Stevenson

ReMEDICA PUBLISHING
Basic EP Study

• Basic intervals

• AV node testing
  – Atrial extrastimulus
  – Ventricular extrastimulus
  – Incremental atrial pacing
  – Incremental ventricular pacing

• Specific pacing manoeuvres, e.g.
  – Parahisian pacing
  – Sinus node testing
Definitions

The effective refractory period (ERP) of a tissue or structure is the longest coupling interval that fails to capture the tissue or be conducted over the structure.

The functional refractory period (FRP) of a tissue or structure is the shortest ‘output’ coupling interval that can be elicited from a tissue or structure by any ‘input’ interval.

The relative refractory period (RRP) is the ‘input’ interval to a tissue or structure at which the ‘output’ interval just begins to differ from the ‘input’ interval.
Exercises