

Flipping a CPD Class: Lessons Learned from Repackaging an ECG Interpretation Course for Physicians

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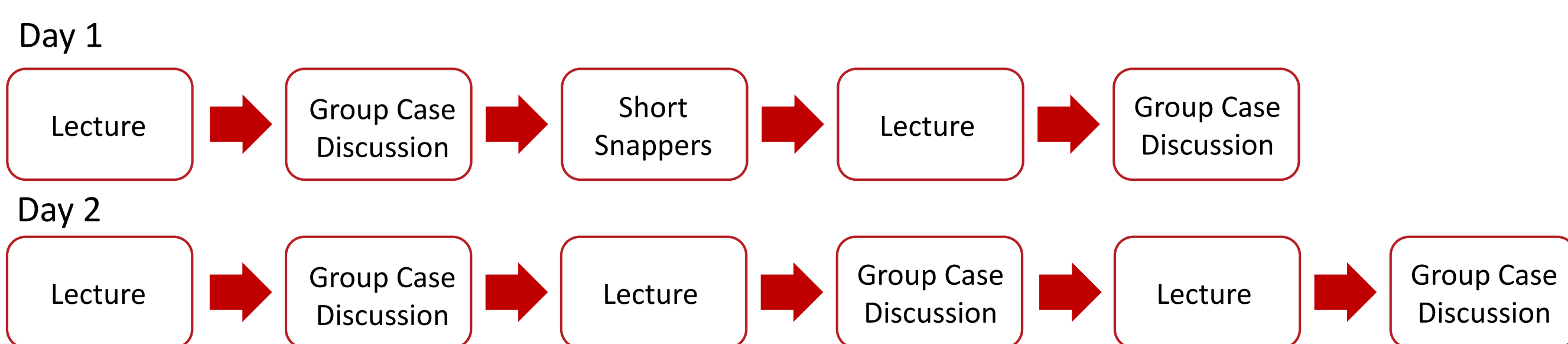
Background

University of Calgary CME&PD and Cardiac Sciences previously ran a two-day ECG Interpretation Course, providing a review of basic 12-lead ECG interpretation skills required for family physicians and hospitalists.

The target audience for the course:

- Family physicians and others wishing to upgrade their ECG interpretation skills
- ECG-certified family physicians and hospitalists looking for a refresher
- Family physicians preparing to write the CPSA ECG Interpretation Examination

Face-to-Face ECG Course 2015



The challenges with the stand-alone face-to-face workshop included: participants' baseline knowledge varied; lack of time to absorb information from lectures before immediately applying it during ECG cases.

Learning Objectives

- Determine rate, rhythm and axis
- Determine the presence of left/right ventricular hypertrophy and bundle branch block
- Identify changes suggesting myocardial ischemia and infarction
- Distinguish among various tachyarrhythmias
- Identify bradycardia and the effects of pacemakers or pacemaker malfunctions
- Identify ST-segment and T-wave changes secondary to drug therapy or other conditions

Pre-course Activity & Workshop 2018



The ECG Interpretation Course utilized the flipped classroom strategy to:

- Promote material relevance
- Augment knowledge acquisition and retention
- Facilitate in-depth active learning
- Provide insight into the impact of skill competence

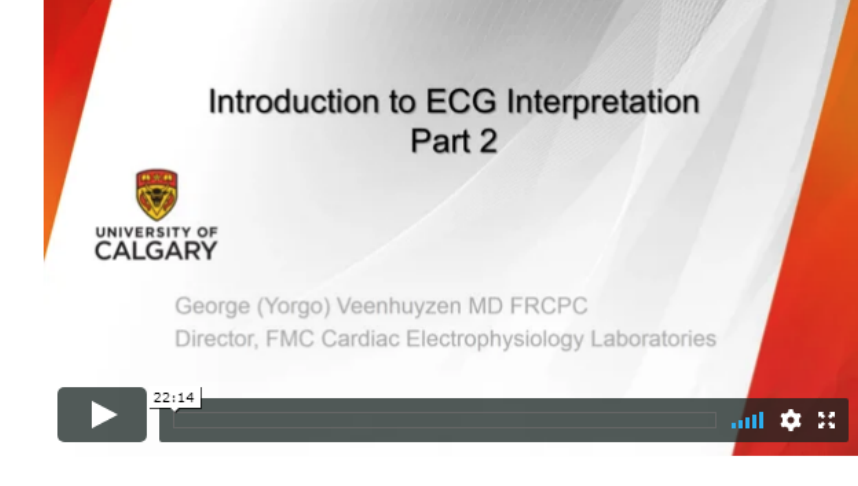
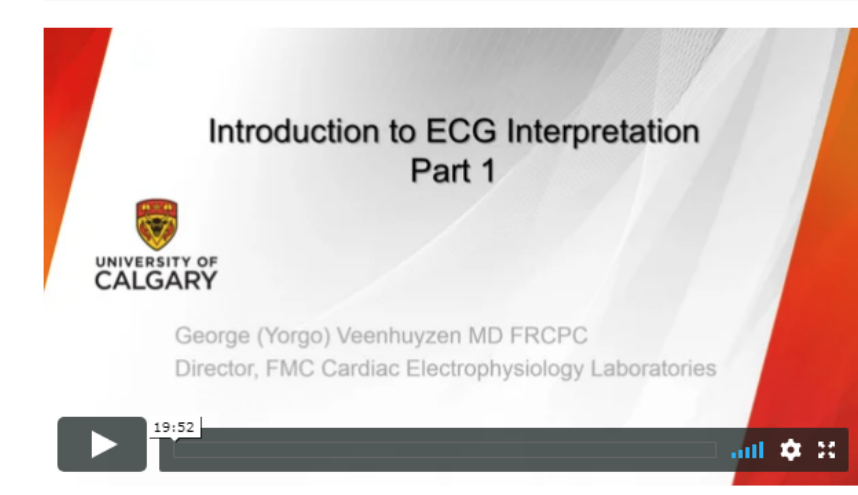
Pre-course Activity: Self-learning Online Modules

1. Introduction to ECG Interpretation

Home > Programs > Confident ECG Interpretation: Pre-Course Activity

You will learn to:

- Demonstrate how an ECG is recorded and how the different leads relate to the anatomy of the heart
- Develop a methodical approach to interpretation of the ECG
- List the features of a normal ECG



- Each workshop topic has a corresponding module in the pre-course content
- Modules consist of podcasts, handouts, and practice questions

2 thoughts on "1. Introduction to ECG Interpretation"

constance says: MARCH 22, 2018 AT 10:28 AM EDT

Looking forward to improving my ECG skills.

REPLY

constance says: MARCH 22, 2018 AT 10:28 PM EDT

Looking forward to learning

REPLY

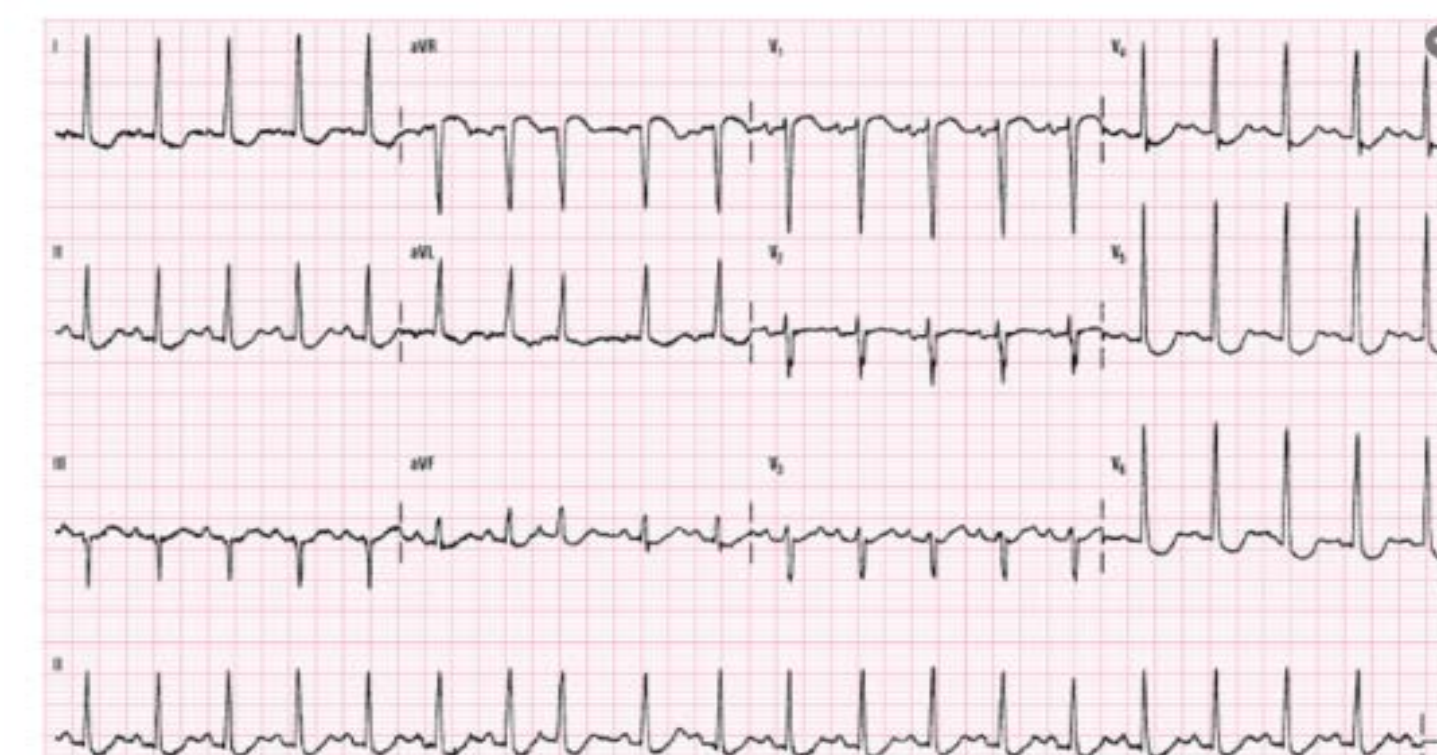
Leave a Reply

Comment

POST COMMENT

- Comment boxes at the end of each module allow participant immediate feedback and/or question on the content
- Participants engage with the content; experts observe the self-learning

Learning Assessments



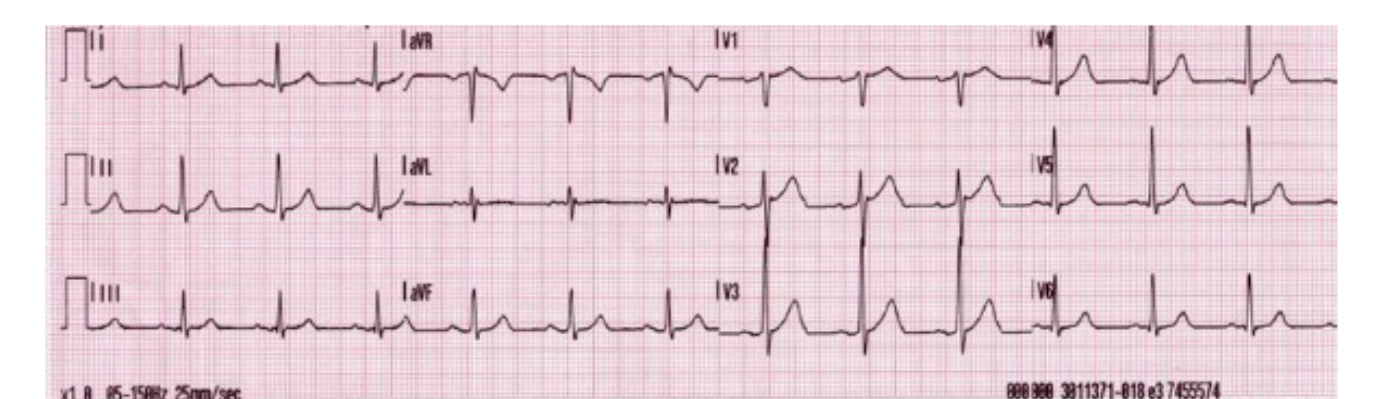
1. What is the ECG diagnosis in this case?

- a) Left atrial enlargement and left ventricular hypertrophy
- b) Right atrial enlargement and right ventricular hypertrophy
- c) Left anterior fascicular block
- d) Left ventricular hypertrophy

Correct. This ECG demonstrates voltage criteria for left ventricular hypertrophy with associated repolarization changes that are best seen in the lateral precordial leads. There is no evidence of left atrial enlargement in this case.

1/1

- Under each podcast, there are real ECGs followed by a series of diagnostic questions
- There is built-in, instant faculty feedback for the answers of the practice questions



What is your interpretation?

1. Rate?

60

Feedback

12 P waves and 12 QRS in this standard 12 lead ECG. 12 x 6 = 72. Atrial Rate = 72 bpm; Ventricular Rate = 72 bpm.

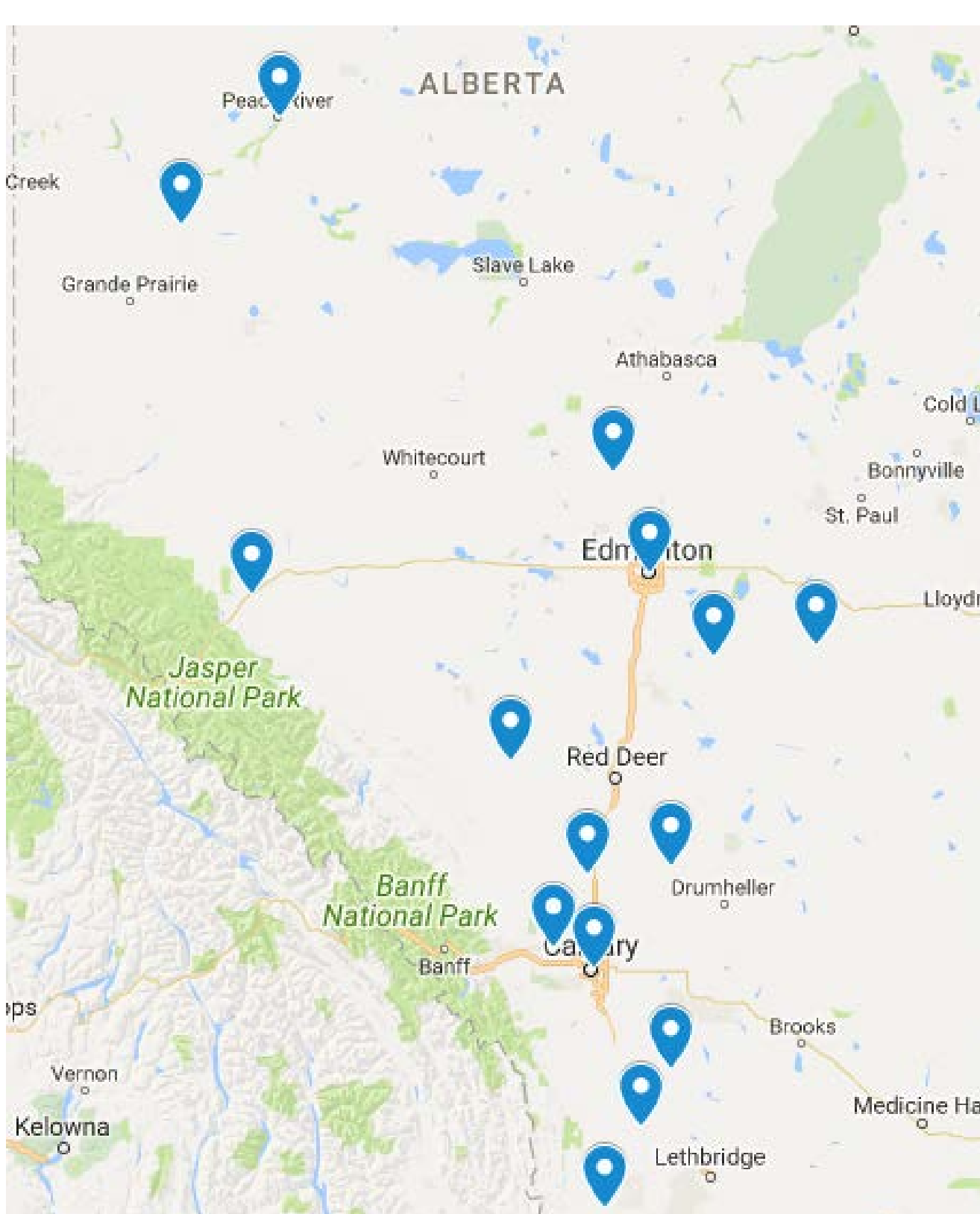
2. Rhythm?

Normal Sinus Rhythm

Feedback

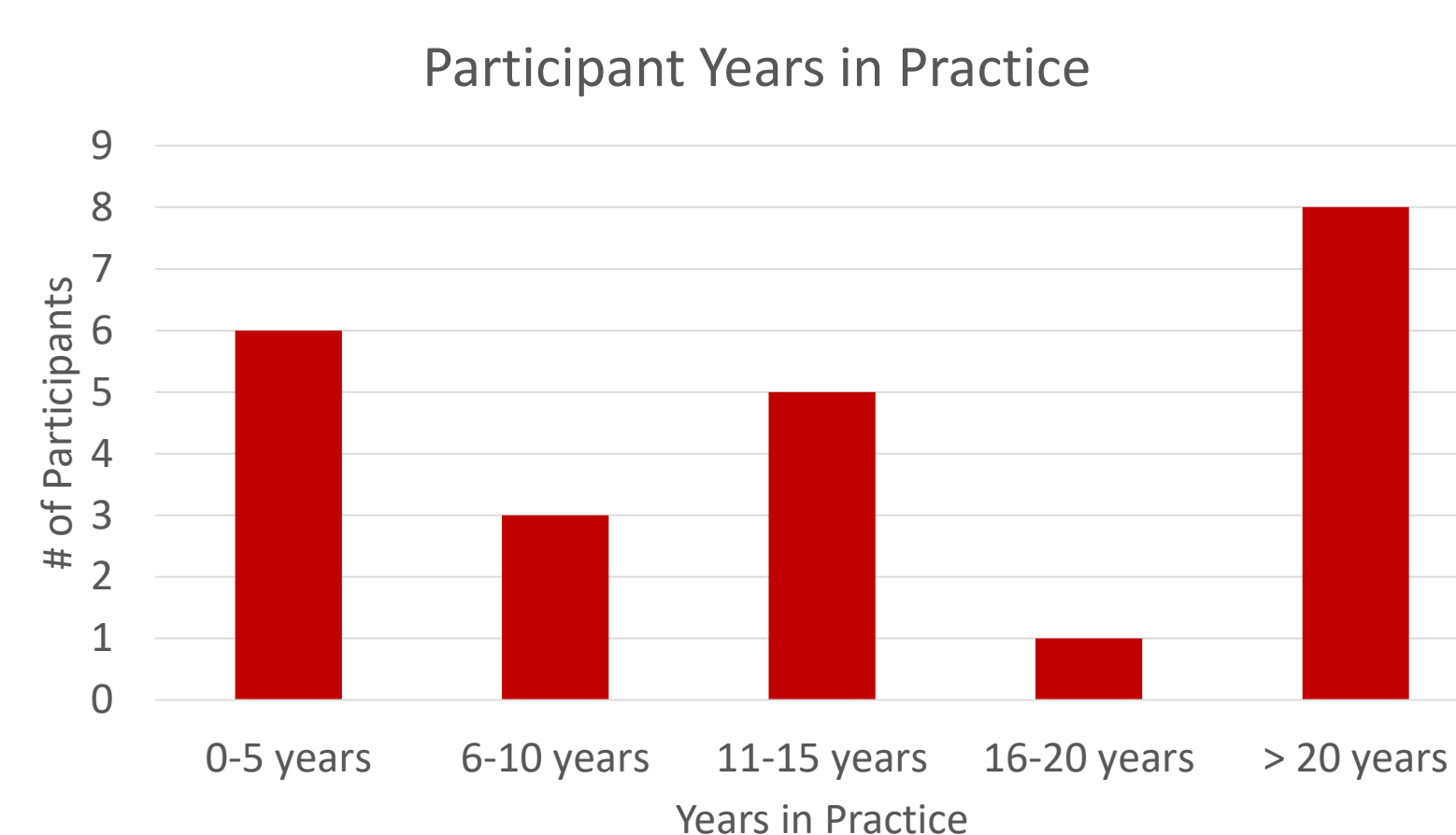
sinus P wave axis is down and to the left (sinus node origin). Rate is between 60-100 bpm. 1:1 AV relationship. "Normal Sinus Rhythm".

Demographics



For the 2018 course, participants included:

- 36 Physicians
- 2 Nurse Practitioners



"I enjoyed the [face to face] small group sessions and I like that the [pre-course] modules could be done at home before hand. It broke it up a bit and allowed more time for the material to sink in. Also the cardiologists teaching the sessions were wonderful, respectful and very knowledgeable."

- 2018 course participant feedback

What We Learned & Conclusion

The ECG Interpretation course now consists of two sets of activities:

- Online pre-course: self-learning podcasts with related online ECG interpretation exercises
- Face-to-face: a workshop with short lectures and small group case-based discussions

Through course re-development, we learned:

1. Formative feedback mechanisms must be built into the pre-course activities and coherently linked to in-class activities
2. Time and effort between pre-course and in-class learning activities must be balanced

What's Next in 2019

Changes to the pre-course activity:

- Pre and post tests have been added for the purpose of tracking learning gains
- An additional module has been added containing the short snapper topics from 2018
- Participants will now upload challenging ECGs as part of the pre-course needs assessment

Changes to the face-to-face workshop:

- The Short Snapper block has been replaced with a Large Group Case Discussion block
- Faculty members will review the participant ECG submissions for the large group case discussion

Planning Committee

James McMeekin MD FRCP (Co-Chair)
 Russell Quinn BA BM BCH MRCP PhD (Co-Chair)
 Ronald Gorsche MD CCFP
 Sarah Weeks MD FRCP
 Chloe Burnett MSc Med (CME Representative)

Faculty

This course is facilitated by cardiologists from the University of Calgary Cardiac Sciences.

Course Information

Office of Continuing Medical Education & Professional Development
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 University of Calgary
cumming.ucalgary.ca/cme

Contact Information

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