

RHYTHM INTERPRETATION

Estimated Time: 20 minutes



Scan to Begin



SERIOUS GAME OVERVIEW

In this serious game, students are tasked with interpreting the following cardiac rhythms:

- 1st Degree AV Block
- 2nd Degree AV Block Mobitz I – Wenckebach
- 2nd Degree AV Block Mobitz II
- 3rd Degree AV Block – Complete Heart Block
- Premature Junctional Contraction
- Junctional
- Accelerated Junctional
- Junctional Tachycardia

INSTRUCTIONS

1. Present students with the printed **Rhythm Interpretation Serious Game** student handout.
2. In the ARIS platform, students scan the provided QR code to begin each game.

3. A tutorial begins each of the **Rhythm Interpretation Serious Games** to guide students through the rhythm interpretation process as follows: Step 1: Calculate the rate, Step 2: Determine regularity, Step 3: Assess the P waves, Step 4: Determine the PR interval, and Step 5: Determine the QRS duration. Note: students can skip the tutorial if desired.
4. For each cardiac rhythm, students are shown both a video and a six second ECG strip. Then, they are asked six questions. The first five questions are based on the Steps listed above. For the final question, students are asked to actually interpret the rhythm.
5. A full rationale screen is displayed after the last question for each rhythm and includes: an explanation of the pathophysiology, some common signs and symptoms, treatment options, and possible causes.

LEARNING OBJECTIVES

1. Accurately identify various heart rhythms

CURRICULUM MAPPING

This is a multidisciplinary game that can be mapped to any specific program competency that involves cardiac rhythm interpretation.

SCORING

1. Throughout each serious game, students earn “stars” for correct answers. Their goal is to collect all of the possible stars and become a “Star Rhythm Interpreter.”
2. At the end of each game, a “Star Score” screen is displayed on the iPad which shows both the number of stars earned and a statement stating how well they did. Scores and statements correspond to the following table:

Total Stars Awarded	Accompanied iPad Language
100%	Outstanding! You identified all of the cardiac rhythms correctly. Keep up the great work!
99-93%	Great job! You answered most of the questions about cardiac rhythms correctly.
92-85%	You did well, but we think you can do even better. Try interpreting the cardiac rhythms again.

84-80%	Not bad, but your cardiac interpretation skills still need some work. Try interpreting the cardiac rhythms again.
79% or lower	Try again! We know you can do better next time at interpreting cardiac rhythms.

3. As an option, a timestamp is also provided on the final “Star Score” screen. Students can take a screen shot of this and email it to their instructor as “evidence” that they completed this serious game successfully.

SURVEY

Print this page and provide to students.

Students, please complete a brief (2-3 minute) survey regarding your experience with this ARISE simulation. There are two options:

1. Use QR Code: Survey



2. Copy and paste the following survey link into your browser

CREDITS

ECG gif downloaded from Wikimedia Commons

REFERENCES

ACLS Training Center. (January 2018). Algorithms for Advanced Cardiac Life Support 2017.

Downloaded from <https://www.acls.net/aclsalg.htm>

Asystole. (January 2018). Downloaded from <https://en.wikipedia.org/wiki/Asystole>

Atrial Fibrillation. (January 2018). Downloaded from
https://en.wikipedia.org/wiki/Atrial_fibrillation

Atrial Flutter. (December 2017). Downloaded from
https://en.wikipedia.org/wiki/Atrial_flutter#Management

Berul, C. (December 2017). Acquired long QT syndrome: Definitions, causes, and pathophysiology. Downloaded from UptoDate at [https://www-uptodate-com.proxy.cvtc.edu/contents/acquired-long-qt-syndrome-definitions-causes-and-pathophysiology?search=torsades%20de%20pointes&source=search_result&selectedTit](https://www-uptodate-com.proxy.cvtc.edu/contents/acquired-long-qt-syndrome-definitions-causes-and-pathophysiology?search=torsades%20de%20pointes&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1#H2)
[le=1~150&usage_type=default&display_rank=1#H2](https://www-uptodate-com.proxy.cvtc.edu/contents/acquired-long-qt-syndrome-definitions-causes-and-pathophysiology?search=torsades%20de%20pointes&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1#H2)

Clinical Skills Education LLC. (2017). EKG Academy. Downloaded from <https://ekg.academy/>

Dave, J. et al. (1994-2018). Torsades de Pointes. Downloaded from MedScape at
<https://emedicine.medscape.com/article/1950863-overview#a1>

EMT Resource.com. (2018). Junctional Rhythm: A Comprehensive Overview. Downloaded from
<http://www.emtresource.com/blog/ems/junctional-rhythm-a-comprehensive-overview/>

European Heart Rhythm Association. (n.d.). About Atrial Fibrillation. Downloaded from
http://www.afibmatters.org/en_GB/About-atrial-fibrillation

First-degree Atrioventricular Block. (May 2017). Downloaded from
https://en.wikipedia.org/wiki/First-degree_atrioventricular_block

Francis, J. (June 2012). What is the Treatment of Idioventricular Rhythm. Downloaded from <https://cardiophile.org/what-is-the-treatment-of-idioventricular-rhythm/>

Goyal, S. et al. (April 2014). Ventricular Fibrillation. Downloaded from Medscape at <https://emedicine.medscape.com/article/158712-overview>

Idioventricular Rhythm. (October 2017). Downloaded from https://en.wikipedia.org/wiki/Idioventricular_rhythm

Jenkins, D. & Gerred, S. (1995-2017). ECG Library. Downloaded from <https://ecglibrary.com/>

Junctional Tachycardia. (November 2017). Downloaded from https://en.wikipedia.org/wiki/Junctional_tachycardia

Kuntz, D. (n.d.). 5 Step Method to EKG Interpretation. Downloaded from <https://ekginterpretation.weebly.com/5-step-method.html>

Life in the Fast Lane. (2007-2018). ECG Library. Downloaded from <https://lifeinthefastlane.com/ecg-library/>

Pozner, C. (December 2017). Advanced Cardiac Life Support (ACLS) in Adults. Downloaded from UptoDate at https://www.uptodate-com.proxy.cvtc.edu/contents/advanced-cardiac-life-support-acls-in-adults?search=ventricular%20fibrillation&source=search_result&selectedTitle=3~150&usage_type=default&display_rank=3

Premature Atrial Contraction. (September 2017). Downloaded from https://en.wikipedia.org/wiki/Premature_atrial_contraction

Premature Junctional Contraction. (May 2017). Downloaded from https://en.wikipedia.org/wiki/Premature_junctional_contraction

Premature Ventricular Contraction. (January 2018). Downloaded from

https://en.wikipedia.org/wiki/Premature_ventricular_contraction#Pathophysiology

Rawshani, A. (2017). Clinical ECG Interpretation. Downloaded from <https://ecgwaves.com/>

Sauer, W. (December 2017). Second degree atrioventricular block: Mobitz type I (Wenckebach

block). Downloaded from UptoDate at [https://www.uptodate.com/contents/second-](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-i-wenckebach-block?search=wenckebach&source=search_result&selectedTitle=1~32&usage_type=default&display_rank=1)

[degree-atrioventricular-block-mobitz-type-i-wenckebach-](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-i-wenckebach-block?search=wenckebach&source=search_result&selectedTitle=1~32&usage_type=default&display_rank=1)

[block?search=wenckebach&source=search_result&selectedTitle=1~32&usage_type=def](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-i-wenckebach-block?search=wenckebach&source=search_result&selectedTitle=1~32&usage_type=default&display_rank=1)

[ault&display_rank=1](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-i-wenckebach-block?search=wenckebach&source=search_result&selectedTitle=1~32&usage_type=default&display_rank=1)

Sauer, W. (December 2017). Second degree atrioventricular block: Mobitz type II. Downloaded

from UptoDate at [https://www.uptodate.com/contents/second-degree-atrioventricular-](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-ii?search=second%20degree%20mobitz%20ii&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1)

[block-mobitz-type-](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-ii?search=second%20degree%20mobitz%20ii&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1)

[ii?search=second%20degree%20mobitz%20ii&source=search_result&selectedTitle=1~1](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-ii?search=second%20degree%20mobitz%20ii&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1)

[50&usage_type=default&display_rank=1](https://www.uptodate.com/contents/second-degree-atrioventricular-block-mobitz-type-ii?search=second%20degree%20mobitz%20ii&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1)

Second-degree Atrioventricular block. (December 2017). Downloaded from

https://en.wikipedia.org/wiki/Second-degree_atrioventricular_block

Sinus Tachycardia. (September 2017). Downloaded from

https://en.wikipedia.org/wiki/Sinus_tachycardia

Sinus Bradycardia. (May 2017). Downloaded from

https://en.wikipedia.org/wiki/Sinus_bradycardia

Supraventricular Tachycardia. (January 2018). Downloaded from

https://en.wikipedia.org/wiki/Supraventricular_tachycardia

Torsades de Pointes. (January 2018). Downloaded from

https://en.wikipedia.org/wiki/Torsades_de_pointes

University of New Mexico. (January 2017). Basic Arrhythmia. Downloaded from

https://learningcentral.health.unm.edu/learning/user/onlineaccess/CE/bac_online/index.html

Ventricular Fibrillation. (January 2018). Downloaded from

https://en.wikipedia.org/wiki/Ventricular_fibrillation

Ventricular Tachycardia. (November 2017). Downloaded from

https://en.wikipedia.org/wiki/Ventricular_tachycardia

WebMD LLC. (2005-2018). Atrial Flutter. Downloaded from [https://www.webmd.com/heart-](https://www.webmd.com/heart-disease/atrial-fibrillation/atrial-flutter#2)

[disease/atrial-fibrillation/atrial-flutter#2](https://www.webmd.com/heart-disease/atrial-fibrillation/atrial-flutter#2)

WebMD LLC. (2005-2018). Supraventricular Tachycardia. Downloaded from

<https://www.webmd.com/heart-disease/tc/supraventricular-tachycardia-cause>

Wesley, K. (2018). Huszar's Basic Dysrhythmias and Acute Coronary Syndromes: Interpretation and Management (4th Ed.). Elsevier.



This work by the Wisconsin Technical College System TAACCCT IV Consortium is licensed under a Creative Commons Attribution 4.0 International license.

Third party marks and brands are the property of their respective holders. Please respect the copyright and terms of use on any webpage links that may be included in this document.

This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The U.S. Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This is an equal opportunity program. Assistive technologies are available upon request and include Voice/TTY (771 or 800-947-6644).c