App Review Series: Cardiac Imaging Planes 1-2-3

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Keywords Cardiology · Imaging · Cardiac CT · Educational · Reference

App Specs

App Icon URL: <https://itunes.apple.com/us/app/cardiac-imaging-planes-1-2-3/id595251859?mt=8>

App Name: Cardiac Imaging Planes 1-2-3

App Developer: RADIOLOGiQ, LLC

App Developer Website: <http://www.radiologiq.com/>

App Price: Free

Apple App Store URL: <https://itunes.apple.com/us/app/cardiac-imaging-planes-1-2-3/id595251859?mt=8>

Google Play Store URL: N/A

Category: educational, reference

Tags: educational, reference, cardiac, CT, free

Works Offline: Y

FDA Approval: N/A

Promotion Code: N/A

Quick Review

(1 star: lowest/5 stars: highest)

Overall Rating (1–5): 4

Content (1–5): 4

Usability (1–5): 4

Pros:

Cardiac Imaging Planes 1-2-3 is a concise application with a simple layout aimed at providing guidance in creating car-

diac imaging planes using cardiac computed tomography (CT) imaging that mirror standard views utilized in cardiac MRI and echocardiography for standardized assessment of cardiac anatomy and function. Directed at the student or trainee in cardiac imaging, one can easily and quickly refer back to these instructions as a pocket reference. The “Which Planes to Use” section greatly enhances the ease of use, allowing the user to quickly reference the imaging planes necessary for the desired cardiac measurement. The instructions for each cardiac view are basic and straightforward.

Cons:

As the application offers primarily basic instructions, its use does not extend far beyond a pocket reference guide. That said, any student or trainee (radiology resident or cardiology fellow) in cardiac imaging who is just being introduced to cardiac CT may require additional resources as this app provides little if any explanations. There are some areas where further detail would be beneficial.

At a Glance:

A pocket reference guide on how to construct and employ cardiac CT planes to properly measure cardiac anatomy and evaluate function.

Full Review

Intro:

Cardiac Planes 1-2-3 provides step-by-step guidance in the construction and use of standardized cardiac CT planes in a 2D/3D Multi-planar Reconstruction (MPR) viewer. This imaging modality makes use of double oblique planes to create views of the heart that mirror standard views utilized in cardiac MRI and echocardiography for standardized assessment of cardiac chambers and aortic root. This technique is primarily employed by cardiologists and radiologists who specialize in cardiac imaging.

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Purpose/Features/Content:

This application includes a broad range of imaging views as well as how to use them appropriately to determine several spatial and functional measurements of the heart. Furthermore, it appropriately groups imaging planes by specific structures, chambers, and valves. The application assumes the user already has a strong grasp of cardiac anatomy and how the anatomy correlates to CT imaging. Apart from an overall heading (i.e., “Two-Chamber View of LV”), no labels of surrounding cardiac anatomy or other anatomical landmarks are employed. However, short videos, 2–3 s long accompany the majority of these images, aiding the user by demonstrating the specific step being described in the description. This aids in orienting the user to the pertinent part of the cardiac anatomy and the correct plane to use for each measurement being made. The content succinctly and accurately describes the essential steps in properly creating cardiac imaging planes and selecting the optimal planes for various measurements. The depth of information provided makes the application suitable for a pocket reference.

Usability:

The user interface is largely intuitive and straightforward. The main menu (Fig. 1) offers a “Which Planes to Use” section, as well as the option to select a specific imaging plane. Both options present the same information but organize it in a different fashion. By selecting a specific imaging plane from the main menu, such as “Four-Chamber View,” the user is taken directly to the step-by-step guide for that view. On the other hand, the user can use the “Which Planes to Use” section (Fig. 2) to direct his or her search based on the clinical situation. In the application’s most recent update at the time of this review, there is now the convenient feature of embedded links that take the user to each of the views recommended for a particular measurement. All of the short instructional videos that are included in many of the steps are well-integrated.

Good:

Highly recommended, concise pocket reference for cardiac CT imaging. Includes which planes are needed for which measurements as well as how to appropriately attain these measurements, employing both written and image/video-based instructions (Fig. 3). The application is particularly

Fig. 1 The opening page of the application, offering the user the “Which Planes to Use” section or the ability to specifically delve into a particular view of the heart

Fig. 2 “Which Planes to Use” section. For each listed measurement (i.e., global function), there are links to the corresponding views used to make the measurement. Measurements are separated into which of the chambers of the heart they correspond to and labeled by color.

Fig. 3 Example of one of the demonstrated views with both written and video instruction

useful for a student or trainee (radiology resident or cardiology fellow) in cardiac imaging.

Room for Improvement:

Adding subsections within each instructional step that offers conceptual explanations and/or clinical correlations. This would make the app more useful for trainees learning cardiac imaging for the first time.

There are a few measurements, such as interventricular septum, interatrial septum, and aortic root that direct the user to the correct views, but the corresponding instructions make no reference to multisociety guidelines that exist for these particular measurements. Additional information in this regard would also serve to improve the application.

The “LV Segmentation & Supply” section could be improved by including the anatomical variants of circulation in addition to the most common vascular supply that is already present.