

Review of UBC Radiology Teaching App

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Keywords Technology · Mobile app · Undergraduate · Student · Radiology · Learning

App Specs

App Icon URL: <http://www.ubcradiologyapp.ca/>

App Name: UBC Radiology Teaching App

App Developer: Kathryn Darras (Department of Radiology, University of British Columbia) and Matthew Toom (Tallinn Technology, Department of Family Medicine, University of British Columbia)

App Developer Website: <http://www.tallinntechology.ca>

App Price: Free

Apple App Store URL: <https://itunes.apple.com/ca/app/ubc-radiology/id1178452022?mt=8>

Google Play Store URL: <https://play.google.com/store/apps/details?id=com.TallinnIT.UBCRadiology&hl=en>

Category: Medical

Tags: Clinical reference, medical, educational, anatomy, radiology, Android, iOS

Works Offline: Y

FDA Approval: N/A

Promotion Code: N/A

Quick Review

Overall rating (1–5): 5

Content (1–5): 5

Usability (1–5): 5

Pros The relevant and reliable information displayed in a user-friendly platform with immediate feedback quizzing capabilities make this an outstanding and fun educational resource. The app is organized as a curriculum, progressing through general anatomy to clinical pathological integration in a system by system approach.

Cons Quizzing capabilities are only offered in a multiple-choice format for radiology anatomy, ultrasound, and imaging appropriateness testing, enhancing recognition without promotion of verbatim recall.

At a Glance UBC Radiology Teaching app for iOS and Android. A fantastic educational resource for improving knowledge and confidence in identifying X-ray, ultrasound, CT, and MRI anatomy, as well as radiological pathology at a medical undergraduate level.

Full Review

Intro

Imaging tests are ordered by all healthcare professionals throughout their careers; thus, a strong basis in basic radiology knowledge is essential for today's

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physicians in order to provide exceptional patient care. Understanding anatomical connections within the human body and visualizing disease processes through radiology improves medical student understanding of many clinical cases. With the advent of technology and movement from didactic lectures towards problem-based learning in many medical curricula, formal lecture time has decreased, creating the need for a novel educational tool. The Radiology Teaching App provides just this interface.

Purpose/Features/Content

The Radiology Teaching app is a mobile app free for download on iOS iPhone, iPad, and Android. This user-friendly and portable educational platform is intended for undergraduate medical students targeting the “need to know” information upon completion of an undergraduate medical program. The app is designed to promote

knowledge and confidence of normal radiology anatomy, appropriate test ordering, ultrasound skills, approaches to common radiology modalities, and common clinical pathologies.

The app menu expertly organizes the information into pre-clinical and clinical relevance (Fig. 1), beginning with an approach to common radiological modalities of chest radiographs, abdominal radiographs, and head CT (Figs. 2). The pre-clinical section includes radiology anatomy and ultrasound subdivisions, both of which incorporate pertinent body systems in a quizzing format for interactive learning. The images are high quality and appropriately labeled utilizing a contrasting color scheme (Figs. 3, 4). Quizzes are provided in a multiple-choice format with immediate feedback upon correct selection of the anatomical structure of interest.

The clinical section is subdivided into the following: (1) which test?—a multiple choice quizzing tool to assess students’ knowledge of appropriate image

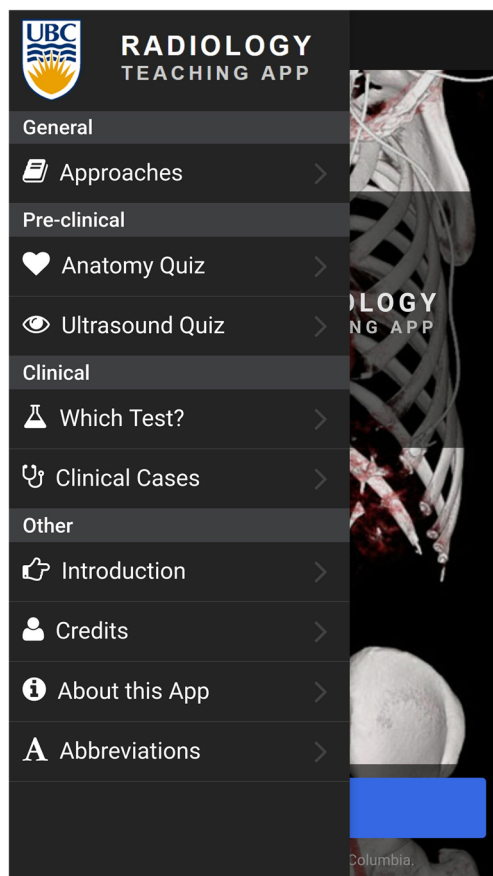


Fig. 1 App menu

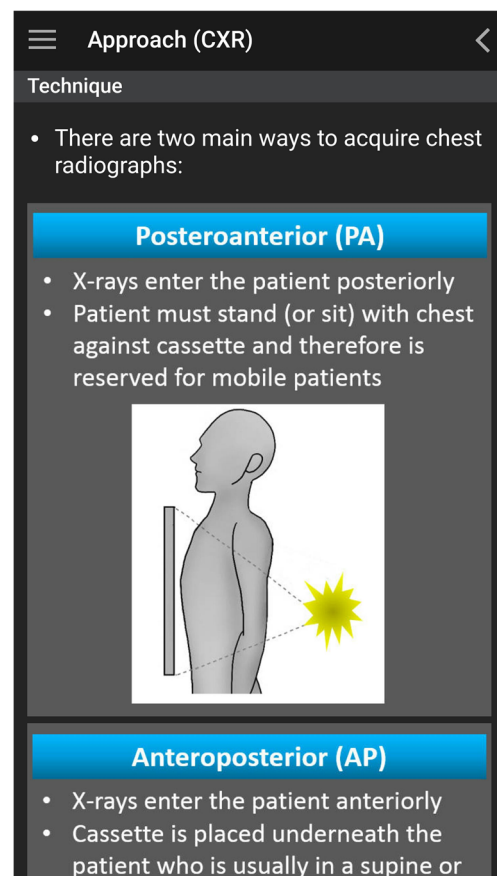


Fig. 2 Approach to CXR

ordering procedures (Fig. 5) and (2) clinical cases—a total of 60+ cases allowing students to work through a differential diagnosis, an approach to imaging, a diagnosis, and clinical pearls (Fig. 6). The case formatting utilizes drop down menus to allow the student to contemplate case avenues before viewing the answer.

Each educational component is linked back to a standardized set of objectives adapted from the undergraduate objectives produced by the Alliance of Medical Student Educators in Radiology (AMSER) which is a division of the Association of University Radiologists, the European Radiology Society, and the Canadian Association of Radiologists. These adapted objectives are available in the “About the App” Section on the main app menu, expertly organized based on topic: curriculum milestones, anatomy objectives, and ultrasound objectives. All medical students regardless of future career goals will benefit from this educational app.

Usability

The app offers a user friendly and extremely well-organized interface. The simple arrangement into pre-clinical and clinical years with relevant subdivisions is intuitive for all learners. The upper left hand corner “App Menu” indicator allows one to easily navigate between sections of interest. Furthermore, appropriate color schemes are utilized to provide learner stimulation without distraction.

Good

The app is a great educational reference, providing a portable, open-access means of learning reliable and relevant radiology anatomy in one condensed resource. Alternative radiology app references are available for download; however, the UBC Radiology Teaching App differs in that it is tailored for medical students,

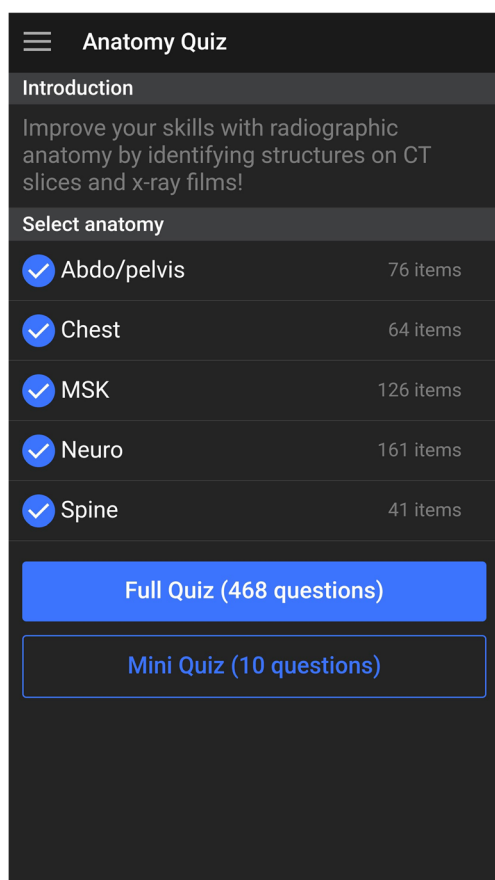


Fig. 3 Anatomy quiz

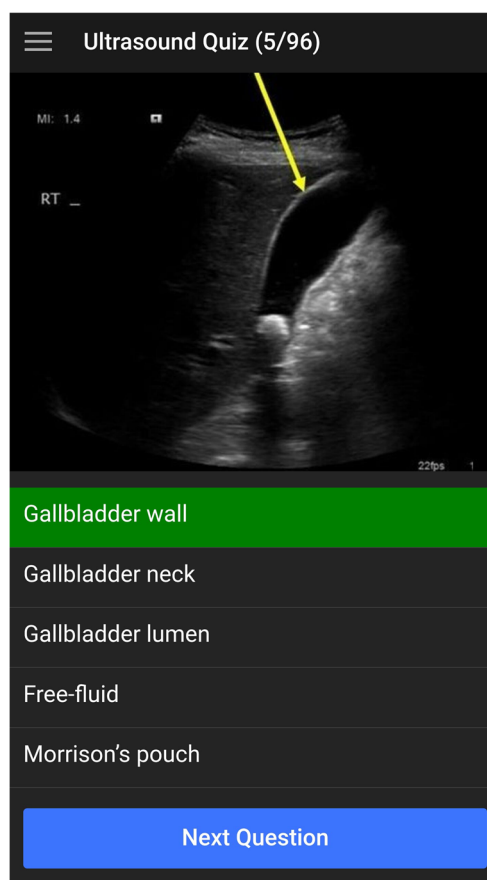


Fig. 4 Ultrasound quiz

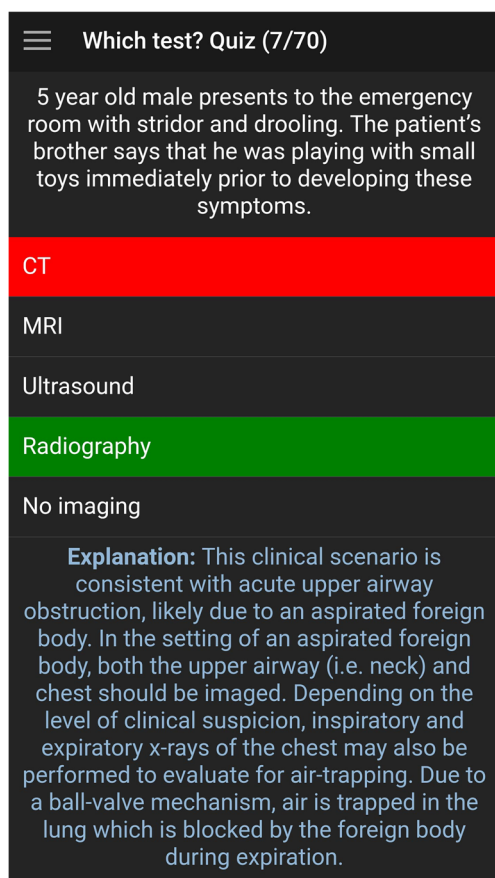


Fig. 5 Which test? Quiz

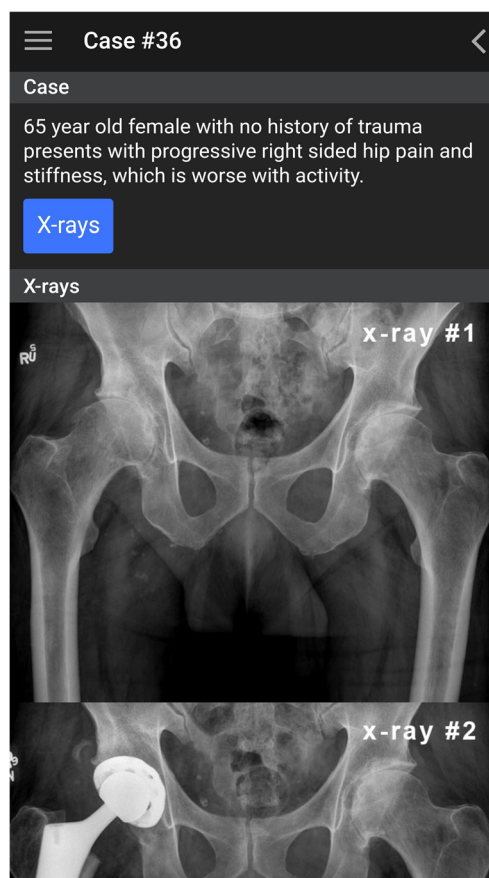


Fig. 6 Clinical Cases

is free for download, and focuses on learning. Many educational strategies are utilized to promote lifelong learning and retention of radiology anatomy within the app. These include discovery learning, immediate feedback providing a mechanism of positive reinforcement, and expert organization reducing the cognitive load of learners as students navigate through the app. The images are high quality, and well-labeled with important anatomical structures clearly visualized. The fact that each component of the app maps back to standardized objectives from the USA, Canada, and Europe, allows the app to not only be inter-provincially applicable, but inter-continentially relevant allowing medical students in any medical school to

benefit from this resource. Taken together, the UBC Radiology Teaching App provides medical undergraduates with a fun and accessible educational tool, stimulating learning and interest in radiology, while building a foundation for the appropriate use of medical imaging tests in patient care.

Room for Improvement The app is an incredibly powerful learning tool for radiology, but could benefit from additional quizzing modes. It is currently only multiple choice that is available which improves recognition without enhancing complete recall. In addition, adding an adaptive learning mechanism to the quiz decks would further personalize student learning.