## E-learning in medicine education



## Innovative e-Learning Tools in Medicine

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# Mobile Apps to support E-learning in medicine education

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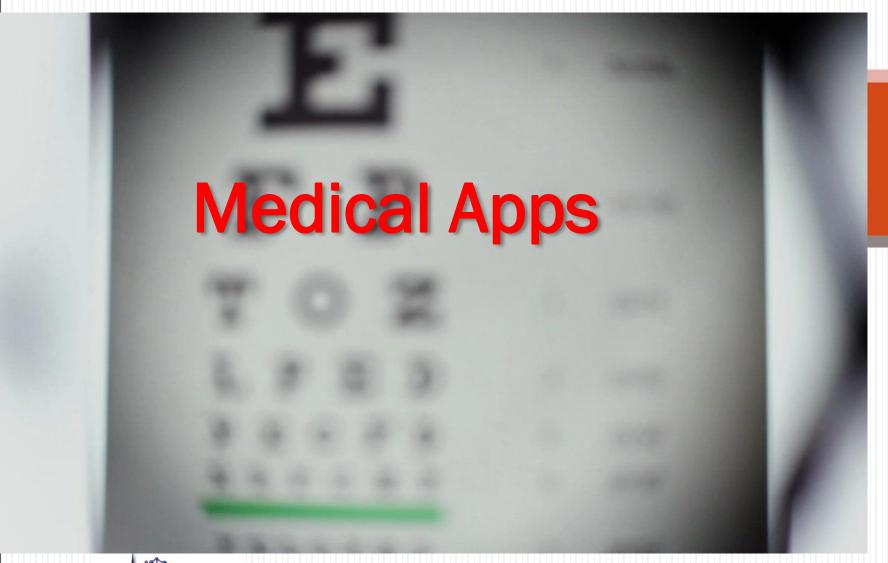
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## Simulation apps in medicine



## Simulation apps in medicine

• A surgery simulator app can simulate surgical procedures for training medical professionals, without the need of a patient, cadaver or animal.

• The concept goes back to the 1980s with video games, but only in the 1990s with three-dimensional graphics and the 2000s with the use of motion sensors for realistic movements has the technology been able to simulate the real situation.





## Simulation apps in medicine

- Best suited for two types of skills needed for surgery, eye—hand coordination and the ability to perform three dimensional actions using a two-dimensional screen as a guide.
- Eye—hand coordination is improved because the simulation can give both visual feedback, by way of a screen, as well as tactile feedback that simulates the manipulation of organs and tissue.





## Limitation of simulation apps in medicine

• Their effectiveness diminishes as the procedure is repeated with students reaching a plateau.

• For more experienced surgeons, the use of these simulators have had very limited use.





- Developed by Visible Body.
- Released Date July 2016.
- Logo:







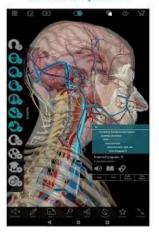
#### • Features :

- Excellent Augmented Reality Functionality.
- Strikingly Detailed Graphics.
- Text Materials Are Available in Various Languages.
- Vast Visualization Database



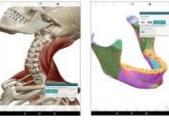


Pick from dozens of popular views or make your own.

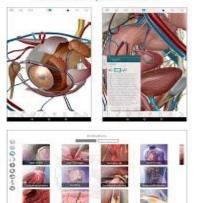


Purchase additional content for specialists or patient education.





Male and female anatomy. Microanatomy. Animations.



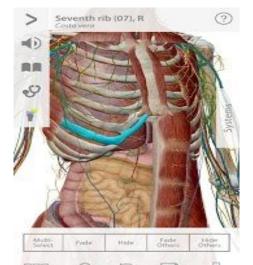
Create a library of favorites.





The most complete 3D anatomy atlas.







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• System Requirements.

#### Operating System :

Android 5 or later (The Augmented Reality (AR) features for Android REQUIRE: Android 7 or later ).

#### o Memory :

2 GB RAM.

#### Storage:

0.93 GB (up to 2.1 GB with in-app purchases).

#### o Network :

No internet connection required after download and installation





Video Demo

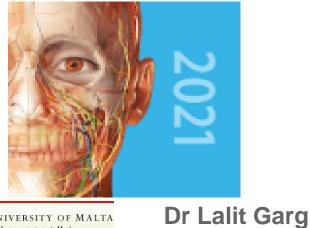


Developed by Visible Body.

• Released Date: March 2021.

• Version : 2021.2.27

• Logo:

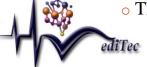






#### • Features :

- o Simple and intuitive interface
- o Rotate and zoom each model in 3D space
- o Option to hide or isolate single or multiple selected models
- Filter to hide or display each system
- Search function to easily find every anatomical part
- Smart rotation which moves the center of rotation automatically
- Transparency function
- o Visualization of muscles through levels of layers from the superficial ones down to the deepest ones
- o By selecting a model or a pin, the related anatomical term shows up
- o Description of the muscles: origin, insertion, innervation and action
- Show/Hide UI interface (very useful with small screens)
- o The anatomical terms and the user interface are available in 11 languages: Latin, English, French, German, Italian, Portuguese, Russian, Spanish, Chinese, Japanese and Korean
- o The anatomical terms can be displayed in two languages simultaneously





#### **Screen Shots**

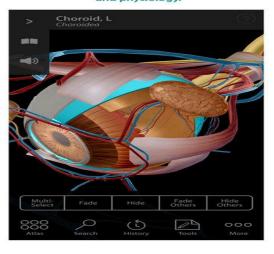




Everything you need. Easy and fast to use.



Male and female anatomy, microanatomy, and physiology.



Definitions. Pronunciations. Disease descriptions.







- System Requirements.
  - Operating System :

Windows 10 version 18362.0 or higher

o Memory :

4 GB RAM.

Storage:

 $0.98\,\mathrm{MB}$ 

o Network :

No internet connection required after download and installation





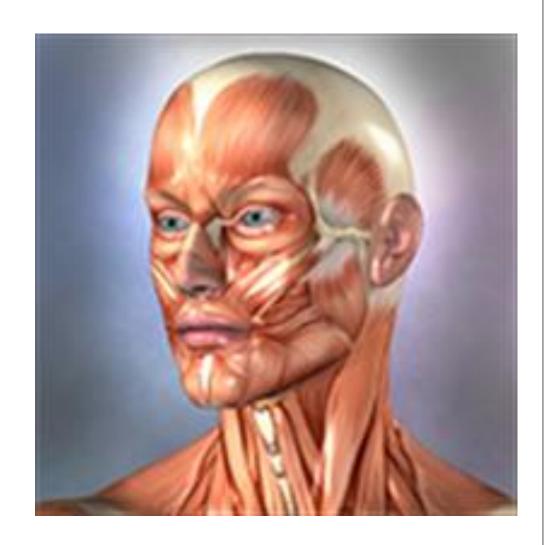
Video Demo







# Muscle & Bone Anatomy 3D







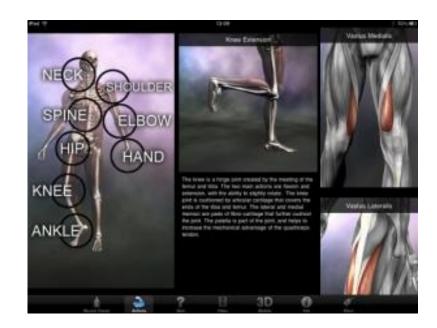
- An amazing reference for anyone interested in the human musculo-skeletal system. Featuring five different ways to learn about the body: The VIEWER, ACTIONS, 3-D MODELS, nine types of QUIZZES, and the MEDIA section.
- The core 3D model has a unique system for exposing the different layers of muscles within the human body. Rotating the model in one direction will slowly remove superficial layers exposing deeper muscles until the skeleton is reached.







- VIEWER: The viewer allows you to control a 3D view of the body, with labels that lead to full screen images of 145 muscles each with the name, action, origin, insertion, nerve supply and comments for each muscle. The viewer also includes all the bones with detailed landmarks.
- ACTIONS: The best way to learn about muscles is to group them into their actions. In this section, choose from over 37 body actions, and see an animation of the action, with a visual list of muscles that perform that action, plus comments in each section.
- 3D MODELS: There are seven 3D models, each model allows you to control a body area in 3-D space, with multiple stops along the way that identify the structures and give comments on each area. Models cover the ankle, knee, pelvis, shoulder, face, hand, and a detailed look at the vertebrae.







- **QUIZZES**: There are 9 types of quizes to measure your knowledge.
- MEDIA: Thirty beautiful pages of basic muscle and bone info along with common musculoskeletal conditions. Five imbedded videos (16 minutes) that give the basics of the muscular and skeletal system. These videos cover the arm, torso, face, leg, and fascia.







## **Full Code**







### Full Code

FullCode is an app that helps you to simulate some practice clinical scenarios. Democratize medical training & education with simulation.



#### Full Code - Emergency Medicine Simulation

Minerva Medical Simulation, Inc. Tip

PEGI 3

Bu uygulama cihazınızda kullanılabilir

Yüklü

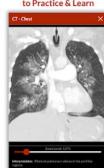




#### Stabilize, Diagnose & Treat with Dozens of Actions



#### For Medical Professionals to Practice & Learn



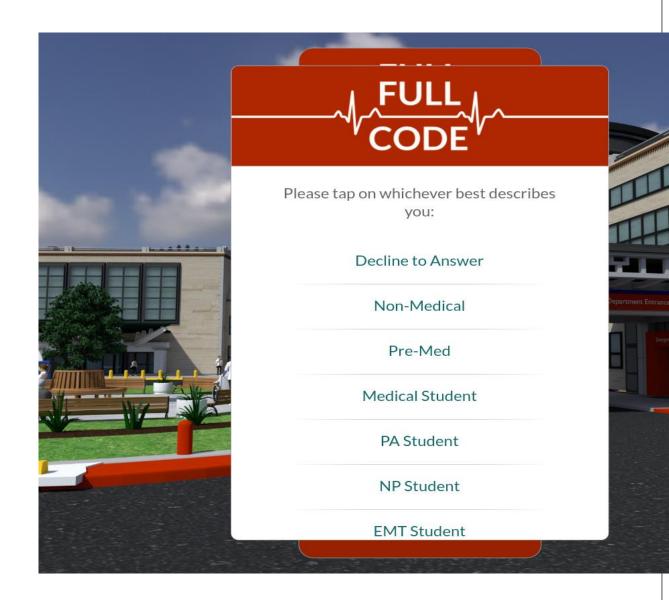
#### Critical Pa







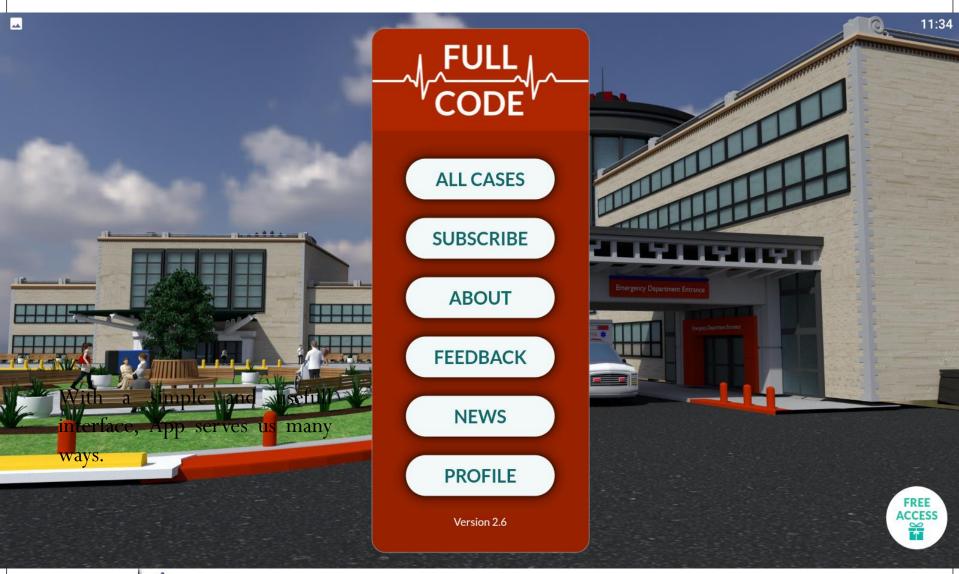
You can start with select the department (degree) of your study.







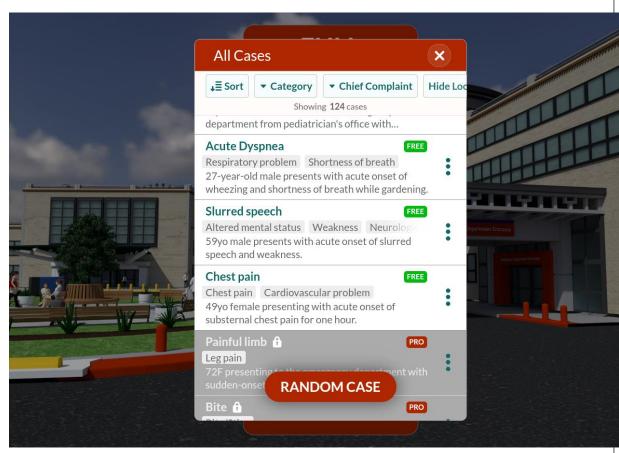
**Dr Lalit Garg** 





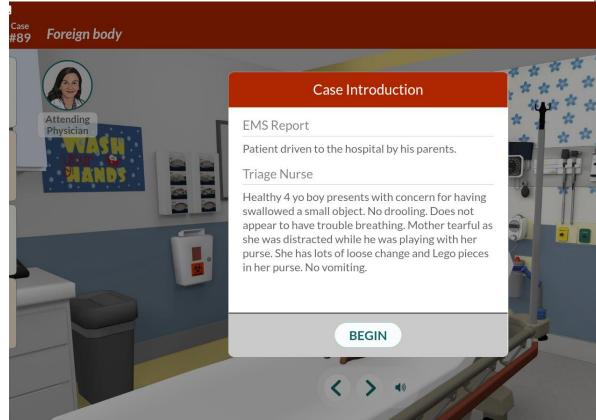


- You can choose a topic and app give you a case about it. Also, you can choose a specific case from top of interface over 105 emergency medicine scenarios.
- By opening some scenarios to premium buyers, we can see where the application earns.









• You can read the chief complaints of 3D patient which ensure to get users attention.

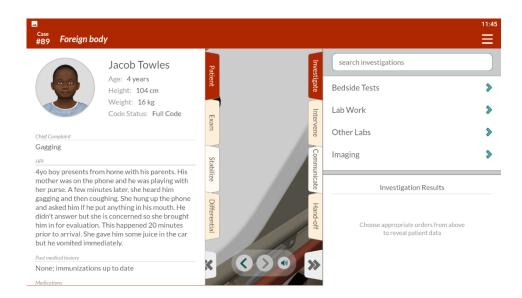




 Patients could be in unstable condition therefore sometimes you need to administer oxygen etc..

After all case, you will score on your actions. You can check what you did correctly or wrongly.

• These features bring the application to life exactly like in real life.







#### My review:

- APP gives an opportinutity of 250 possible actions for each case. These are detailed and carefully designed.
- With 592.000 + downloads, and agreement with 13 medical schools means the App is already quite popular.
- Medical students can study with life-like cases with this fun app.







- Developed by Digital Surgery Limited
- Updated Date: July 2021.
- Version : Varies with device
- Logo:







#### • Features :

- Step by step simulations of surgical procedures.
- o Prepare for procedures anytime, anywhere.
- Explore our entire library straight to your smartphone.
- Experience surgical cases with state-of-the-art 3D graphics.
- Master new techniques from top physicians.
- Free to download and use, with over 150 free procedures to choose from. Purchasable procedures are also available.

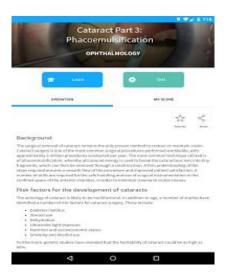


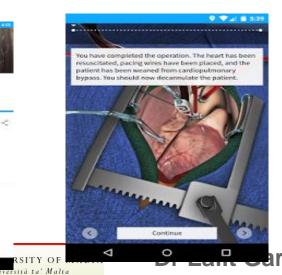


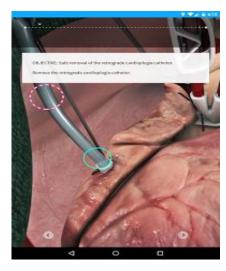
#### **Screen Shots**

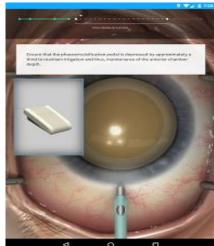














• System Requirements.

Operating System :

Varies with device

o Memory :

6 GB RAM.

Storage:

512 MB

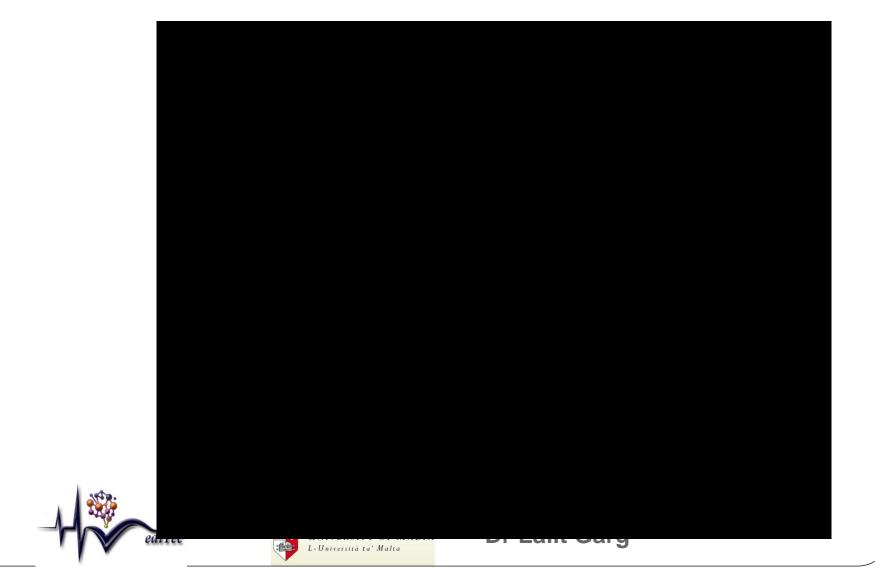
o Network :

Internet connection required after download and installation





Video Demo



## Amateur Surgeon 4

- Developed by Burke & Best
- Released Date: Dec 2016.
- Platform : iOS & Android
- Logo:







- Features :
  - Hilarious Narrative-Driven Story.
  - Unique tools and Contraptions.
  - Organized and structured Simulation.
  - Diverse Mode and user friendly.





#### **Screen Shots**









• System Requirements.

#### Operating System :

iOS 9/Android 5.0 (CPU : Snapdragon 429 Quad Core 1.8 GHz or equivalent)

o Memory :

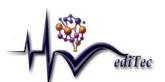
2GB.

Storage:

250MB

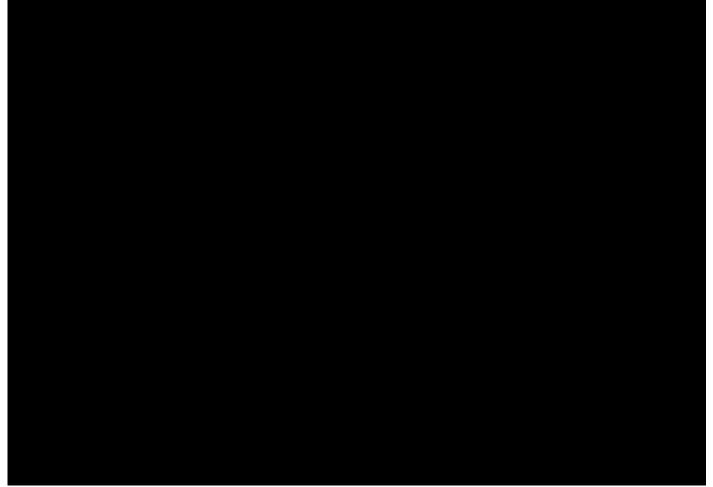
o Network :

No Internet connection required after download and installation





Video Demo





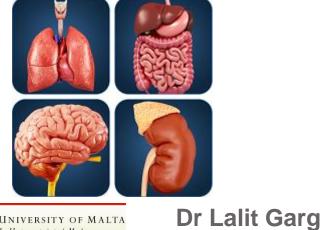


• Developed by visual3dscience

Released Date: 2020.

• ASIN: B0849VHJCC

• Logo:







#### Features :

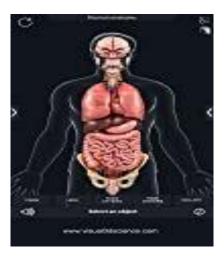
- User friendly interface.
- Simple navigation 360° rotation, Zoom and Pan
- Selection Mode
- Hide and show mode
- Animation Mode
- Search options.
- Audio pronunciation for all anatomy terms.
- Draw or white on screen and share screenshots.
- Highly realistic male/female Organs 3D model.

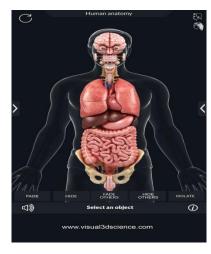


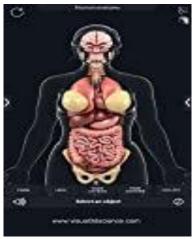


#### **Screen Shots**

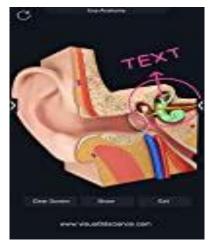
















- System Requirements.
  - Operating System :

Android 4.0

o Size : :

47.8MB.

Approximate Download Time:

More than 5 minutes.

o Network :

Open network sockets.





Video Demo



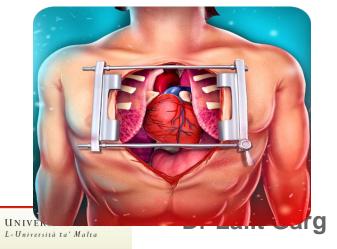
### Emergency Open Heart Surgery Simulator 3D

• Developed by Hammerhead Games

• Released Date : April, 2018.

• ASIN: B07CN8ZJ72

• Logo:





## Emergency Open Heart Surgery Simulator 3D

#### • Features:

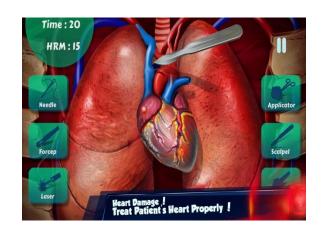
- 3D city environment with realistic graphics
- Realistic Ambulance driving simulator
- Rescue and save lives of sick patients by taking them to the hospital!
- Be a surgeon and operate on patients.
- Realistic open chest Surgery Simulation.
- Use medical tools like scalpel, injection, tweezers, cream, antiseptic lotion, band-aid.
- Save patient's lives from realistic chest pain problems, perform operations, make tests and let your patient a chance to survive.





# Emergency Open Heart Surgery Simulator 3D Screen Shots







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## Emergency Open Heart Surgery Simulator 3D

• System Requirements.

• **Operating System :** Android 4.0

• **Size :** 72.8MB.

• **Version** : 1.2

• **Approximate Download Time:** More than 5 minutes.

• Network: Open network sockets.





# Emergency Open Heart Surgery Simulator 3D video Demo



#### Medical Games

- Operate Now: Hospital.
- Surgeon Doctor 2018 : Virtual Job Sim.
- Heart Surgery ER Emergency Hospital.
- Ice Princess Surgery Simulator.
- Dream Hospital Health Care Manager Simulator.





### Operate Now: Hospital

Developed by SPIL GAMES

Released Date: 2018.

• ASIN: B07HJ48173

• Logo:







#### Operate Now: Hospital (Cont ..)

#### • Features :

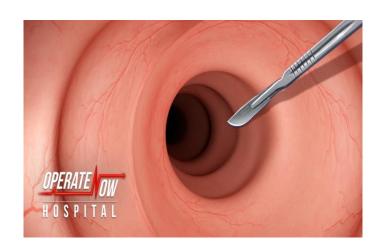
- Build, upgrade, and continually improve multiple hospitals and their facilities.
- Monitor your staff, hospitals, and more on the world map.
- Help your patients by performing incredibly realistic surgeries.
- Exchange duplicate staff members with the new CV feature.
- Keep your progress up-to-date with the new Facebook save feature.
- Speed things up with the builder, a useful tool that will kick your construction projects into overdrive.





### Operate Now: Hospital (Cont ..)

#### **Screen Shots**







L-Università ta' Malta



**Dr Lalit Garg** 

### Operate Now: Hospital

• System Requirements.

• Operating System : Android 4.4

• **Size :** 295.5MB.

• **Version :** 1.20.4

• **Approximate Download Time:** More than 5 minutes.

• **Network**: Open network sockets.





## Operate Now: Hospital

Video Demo



# Surgeon Doctor 2018 : Virtual Job Sim

• Developed by Tap2Play, LLC

• Released Date: 2018.

• ASIN: B07GFNP95R

• Logo:







# Surgeon Doctor 2018 : Virtual Job Sim

#### • Features:

- Smooth and seamless animation with HD graphics
- Play the most realistic surgery simulations
- Life the life of professional surgeon
- Wide range of instruments, tools and supplies
- Simple and intuitive controls
- Really addictive gameplay





# Surgeon Doctor 2018: Virtual Job Sim Screen Shots







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# Surgeon Doctor 2018 : Virtual Job Sim

• System Requirements.

• **Operating System :** Android 4.1

• **Size :** 52.7MB.

• **Version** : 1.0

• **Approximate Download Time:** More than 5 minutes.

• Network: Open network sockets.





# Surgeon Doctor 2018 : Virtual Job Sim Video Demo







## Heart Surgery ER Emergency Hospital

Developed by Hammerhead Games

Released Date: 2018.

• ASIN: B07DK9WRK2

• Logo:







## Heart Surgery ER Emergency Hospital

#### • Features :

- Fun treatments & real surgeries.
- Amazing graphics and crazy game play.
- Realistic open chest Surgery Simulation.
- Use medical tools like scalpel, injection, tweezers, cream, antiseptic lotion, band-aid.
- Save patient's lives from realistic chest pain problems, perform operations, make tests and let your patient a chance to survive.
- Crazy nurses and doctors team to assist you in your cardic surgery clinic.





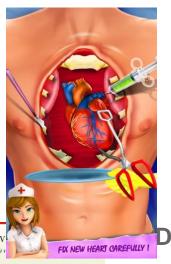
# Heart Surgery ER Emergency Hospital Screen Shots













## Heart Surgery ER Emergency Hospital

• System Requirements.

• **Operating System :** Android 4.0

• **Size :** 64.1MB.

• **Version** : 1.2

• **Approximate Download Time:** More than 5 minutes.

• Network: Open network sockets.





## Heart Surgery ER Emergency Hospital Video Demo







Developed by Hammerhead Games

• Released Date: 2018.

• ASIN: B07DK9WRK2

• Logo:







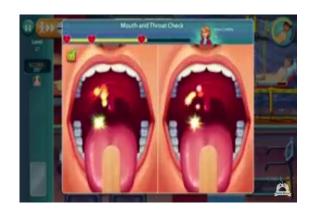
#### • Features :

- Smooth and seamless animation with HD graphics
- Play the most realistic surgery simulations
- Life the life of professional surgeon
- Wide range of instruments, tools and supplies
- Simple and intuitive controls
- Really addictive gameplay





**Screen Shots** 







L-Università ta' Malta



**Dr Lalit Garg** 

Video Demo







## Ice Princess Surgery Simulator

Developed by Hammerhead Games

• Released Date: 2018.

• ASIN: B07DKGXZYR

• Logo:







## Ice Princess Surgery Simulator

#### • Features :

- Choose a patient to treat in your royal ice princess clinic for checkup & surgery simulator
- Be careful little doctor, don't let complications happen in the surgery simulation
- Doctor tools for laser treatment
- Oxygen mask, tweezers, cotton, water spray, dropper, bone catcher, bandage and knife to cut open the wound
- Suggest vitamins and syrup for quick recovery.





## Ice Princess Surgery Simulator

**Screen Shots** 











## Ice Princess Surgery Simulator

• System Requirements.

• **Operating System :** Android 4.0

• **Size :** 42.3MB.

• **Version** : 1.0

• **Approximate Download Time:** More than 5 minutes.

• Network: Open network sockets.





## Ice Princess Surgery Simulator Video Demo





## Dream Hospital - Health Care Manager Simulator

- Developed by Lab Cave Games
- Updated Date: July-2021.
- Current Version: 2.1.22
- Logo:







## Dream Hospital - Health Care Manager Simulator

### • Features :

- o Increased number of patients that arrive to the hospital.
- Improved look of certain UI elements.
- Fixed orientation issues on certain devices.
- Bugfixes and stability improvements.





## Dream Hospital - Health Care Manager Simulator

• System Requirements.

• Operating System : Android 4.0

• **Size :** 101M B.

• **Version :** 2.1.22

• **Approximate Download Time:** More than 5 minutes.

• Network: Open network sockets.





## Dream Hospital - Health Care Manager Simulator Video Demo



## Any Questions?





shutterstock.com · 1054528985

- <a href="https://techigem.com/doctor-games/">https://techigem.com/doctor-games/</a>
- <a href="https://en.softonic.com/top/medical-simulation-apps">https://en.softonic.com/top/medical-simulation-apps</a>
- http://Shutterstock.com-1054528985
- https://www.amazon.in/s?k=Dream+hospital-+Health+care+manager+simulator&i=mobileapps&ref=nb\_sb\_noss
- <a href="https://play.google.com/store/apps/details?id=com.spilgames.">https://play.google.com/store/apps/details?id=com.spilgames.</a>
  OperateNow2&hl=en&gl=US
- <a href="https://support.visiblebody.com/hc/en-us/articles/360001772354-List-of-content-in-app">https://support.visiblebody.com/hc/en-us/articles/360001772354-List-of-content-in-app</a>





## Learning support and practice apps in medicine



## Medical Lab Tests

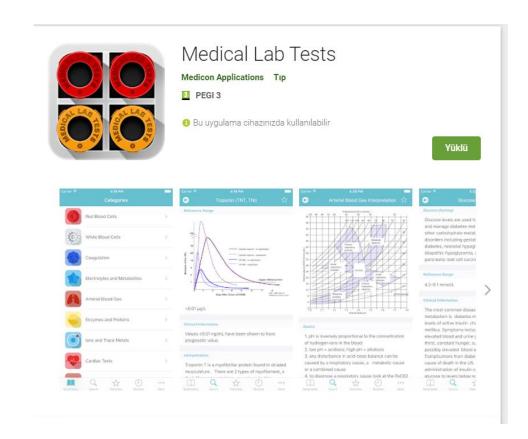






### Medical Lab Tests

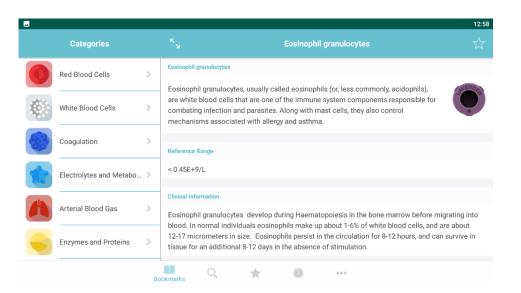
 Medical Lab Tests app allows you to browse library of common laboratory tests to learn about clinical laboratory values.







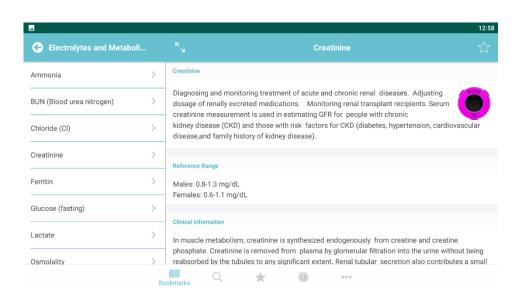
• With a less intuitive interface (there is no home page). you'll get the different categories, however some of them are only for premium users. It provides reference values in US and SI.







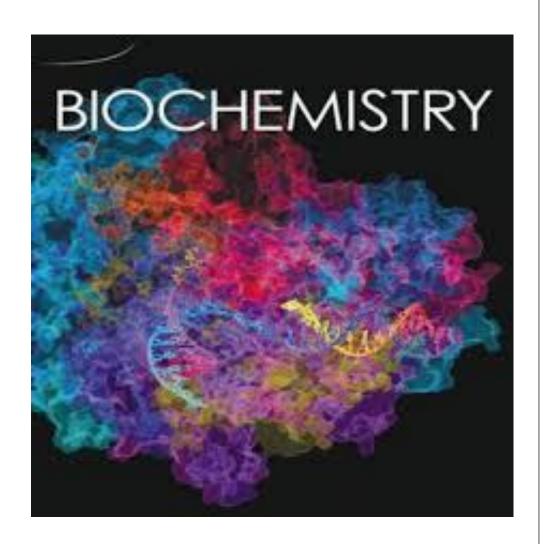
- Once you open lab to get more detail, the brief description will open.
- The application is free, however, has limited features/applications.







### Medical Biochemistry







- This app is designed to help biochemistry students learn and understand the basic biochemistry topics and more.
- You can select the category to get more detailed, Its again free, basic and simple app to help students.







 It has an interface that can be easily accessed from topic to topic.

 App shows might show annoying advertisements per any click.



### **Gene Expression: Transcription and Translation**

Transcription and translation convert a gene into protein. During this process, the genetic information of a gene, the DNA, is converted into RNA so that protein may be realized later on. This article will provide you with exam-related information regarding this process, thus preparing you ideally for the upcoming exams.



### Overview of Gene Expression: The Central Dogma of Microbiology

The first step of transforming the genetic information content of DNA into proteins is called **transcription**. During this first step, a copy (or transcript) of the DNA segment is created via messenger RNA (mRNA). The mRNA, in turn, is transformed into an amino acid sequence, i.e., a protein, via **translation**. This process uses a sort of adapter called transfer RNA (tRNA), which creates the protein according to a triplet base coding system.

Up until the 1970s, a common belief was that transcription of DNA into RNA and the flow of information from gene to protein only took place in this

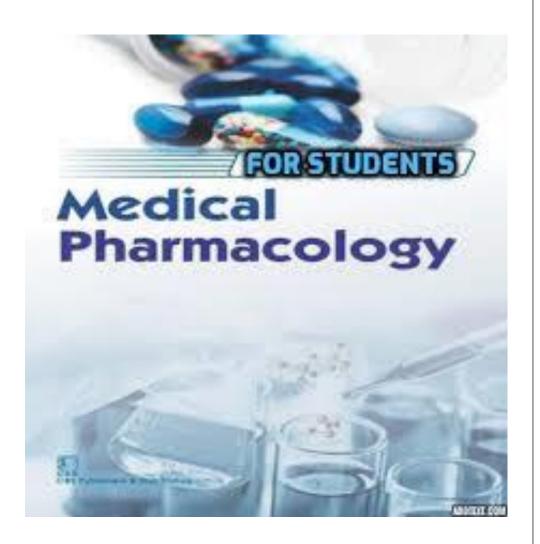
AbTalk Call - Free Phone Call + + + + +
Stop paying for expensive cell minutes and text messages!AbTalk Call - app can help you to contact your all global fr







Medical Pharmacolog y







## Medical Pharmacology

Also, this application designed with 'Medical Biochemistry' app.

To help pharmacology students and researchers to get basics medical pharmacology. It includes simplified information about medical pharmacetucial drugs.



Medical Pharmacology

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0 Bu uygulama cihazınızda kullanılabilir

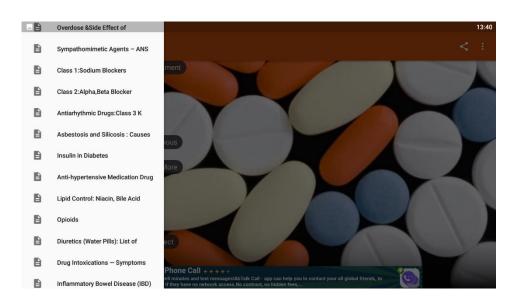








The interface looks like 'Medical Biochemistry' app.







# Diseases Dictionary & Treatments Offline



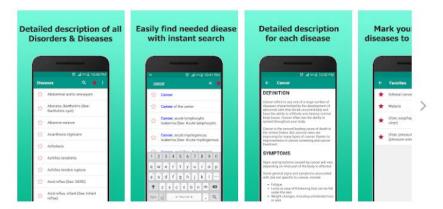




### Diseases Dictionary & Treatments Offline

 This app contains medical disorders & diseases with their information about sympyoms, treatment and some medical terminology.



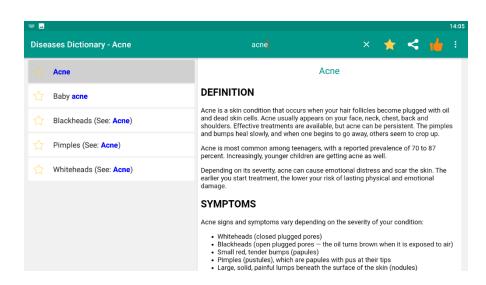






This is like a **handbook**. It can be used for self diagnosis and look up its symptoms, and treatment.

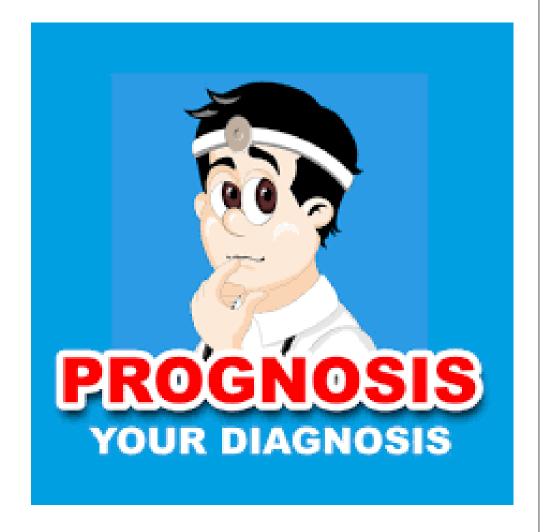
- \*Apllication can work offline.
- \*There are detailed description of all major conditions and diseases.
- \*Use instant search to find a disease.
- \*You can bookmark the disease to add to a favorite list







## Prognosis: Your Diagnosis







## **Prognosis: Your Diagnosis**

With Prognosis, you can improve your ability to diagnose and immediately manage key clinical presentations associated with a disease, having access to relevant facts and succinct explanations behind the underlying diagnostic and management rationale.»



### Prognosis: Your Diagnosis

Medical Joyworks LLC Tip

PEGI 3

Reklam İçeriyor

Bu uygulama cihazınızda kullanılabilir

istek Listesi'ne ekle

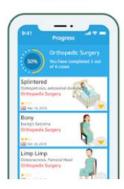
Yükle



### Safely improve your skills



### Access a wealth of content



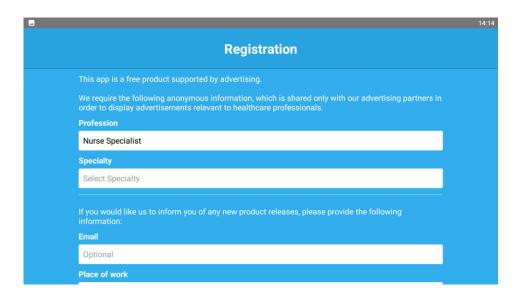
### Invest discov rep







• First step is registration with your email and create a profile.







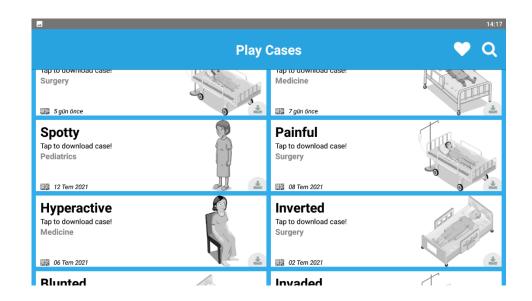
- A user-friendly interface.
- «- Best App for Health & Well Being - World Summit Awards, 2012»





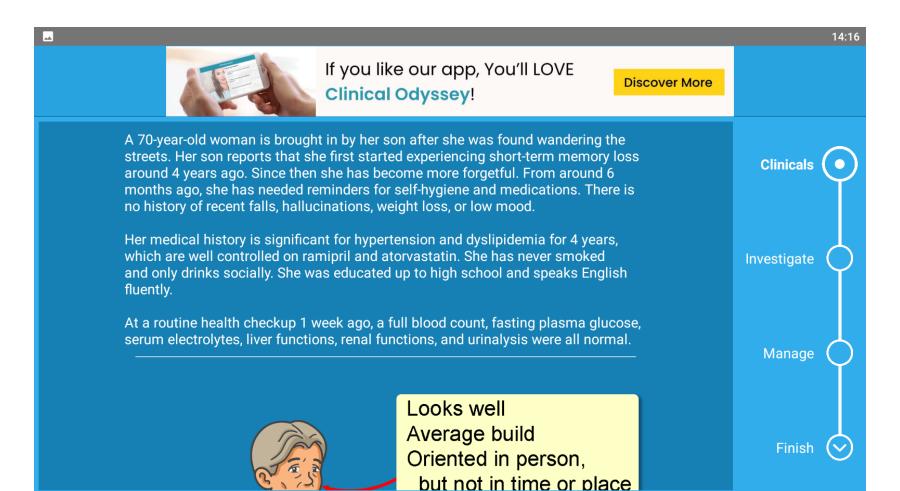


- You can access the case contens to play.
- Each case helps to learn or recall two or three key clinical points that can be applied in your practice.
- A new case is added each week.





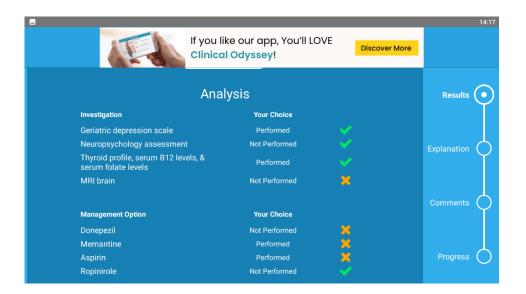








 «The cases also provide excellent preparation for various medical examinations including USMLE Step 2 CS, COMLEX, NCLEX, CCRN and MCAT exams, as well as other board examinations and professional test.»





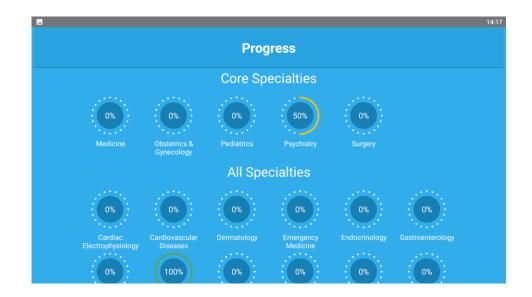


- With this part, users can check the case progress.
- Over 600 case scenarios across 30 specialties

### My Review:

Medical education generally considered boring , but practicing would be interesting.

While being simulating this, the users will have fund and practice the cases to prepare real-life situation. App also provides a feedback.







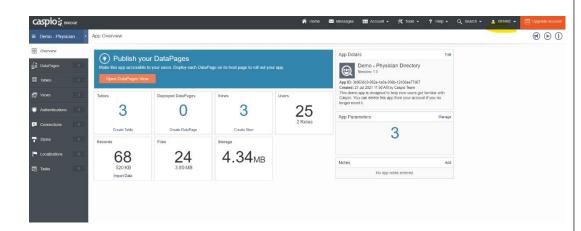






**Dr Lalit Garg** 

- Caspio is an online database platform for creating business applications, custom forms and reports fast and without any coding needed.
- With Caspio's online database platform, you can create apps 20 times faster than conventional development. Your apps are very easy to maintain, and you can scale up or down as your needs change.



### The #1 Low-Code Platform for Healthcare Applications

As digital transformation accelerates throughout the healthcare industry, organizations are turning to new technologies to deliver more effective care. Caspio's HIPAA Edition brings the power of our leading low-code development platform to the healthcare sector.



### Solutions That Fit Your Business

Configure patient management applications to your exact specifications using Caspio's visual point-and-click development tools.



### Improve Business Intelligence

Make agile, data-driven decisions on financial and operational performance metrics to optimize your entire healthcare ecosystem.



#### Launch New Services Fas

Implement new solutions and digital experiences in a fraction of the time and cost versus traditional software development.



### Adapt & Scale With Ease

Now more than ever, you need the right tools to quickly launch mission-critical services that can scale and adapt to changing requirements.



#### Azintain Your Bran

Embed white-labeled applications on any site in just a few clicks, whether it's a public website, internal intranet or patient portal.



### Secure & Compliant

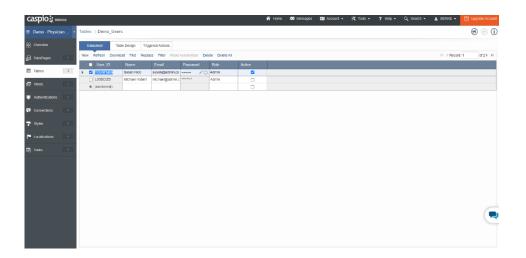
Manage information security, user access permissions and data integrations within a HIPAA-compliant cloud environment.







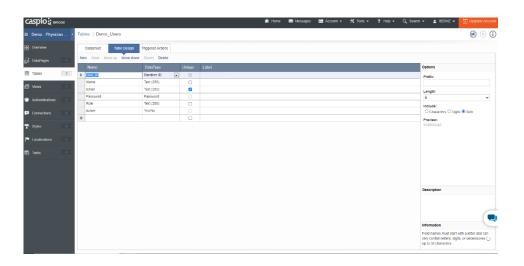
• With this app/website, You can have a good experienced at customer service. Also It has secure database as I read.







• Its looks like an SQL Servers tool, you can create your patient and follow the progress there.









MobiCure

## **MobiCure**

popcornapps

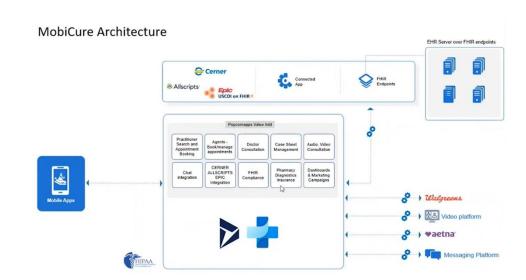


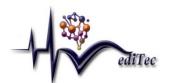


**Dr Lalit Garg** 

### **MobiCure**

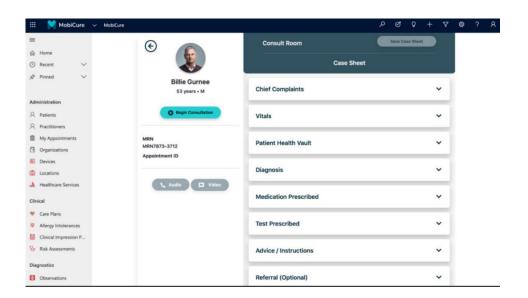
«Enable highest quality care through a 360° view of the patient and an end-to-end patient, doctor and enterprise interface for patient-doctor interactions, prescriptions, diagnostics orders, personalized campaigns, treatment plans, and billing and communications.»

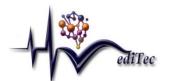






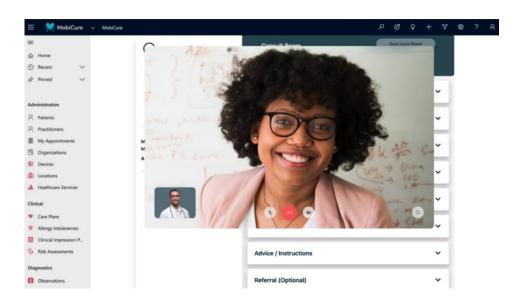
• With MobiCure, Users can book appointment, check calendar, chat with a doctor, pharmacy, diagnostics or insurance.







 Doctors can get more information from the patient and at this point the doctor can have diagnosis.







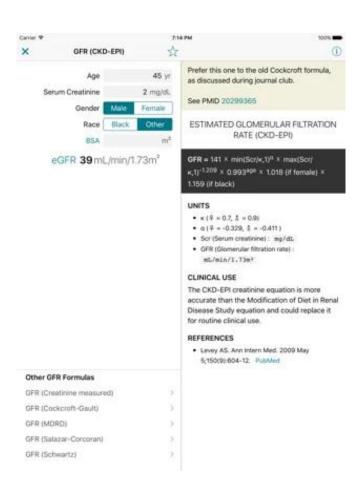
### MedCalX







 MedCalX is a medical calculator for iOS that gives you easy access to complicated medical formulas, scores, scales and classifications.

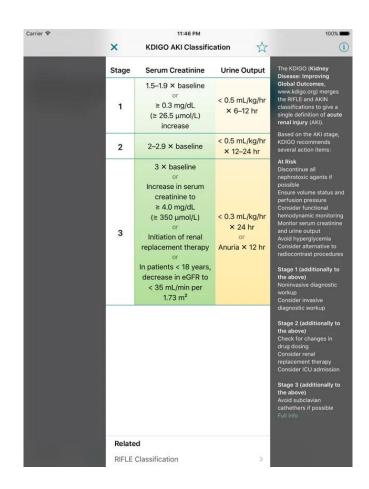






#### **Focused**

- A large selection of relevant formulas, scores, scales and classifications
- Detailed information and bibliographic references about each formula.
- Supports multiple SI and US units, with easy switching from the keypad
- Customizable list of favorite equations
- Access equations by name, category and keywords.
- Exclusive patient management features for saving, accessing and sharing results.





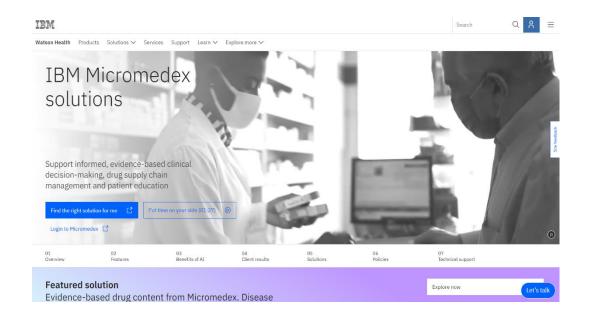








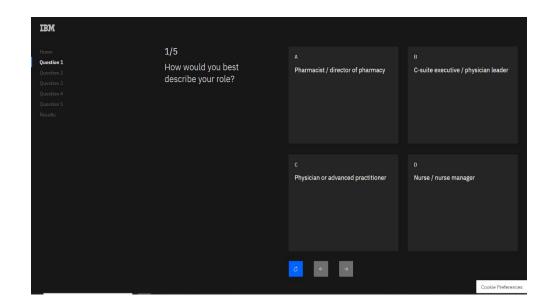
Micromedex with Watson combines evidence-based drug and disease content and AI search capabilities — providing comprehensive insights to help accelerate and inform treatment decisions across the entire clinical enterprise.







- System use conversational search and natural language processing capabilities powered by IBM Watson
- Can be accessed directly from within the EHR, providing efficient support at the point of care.

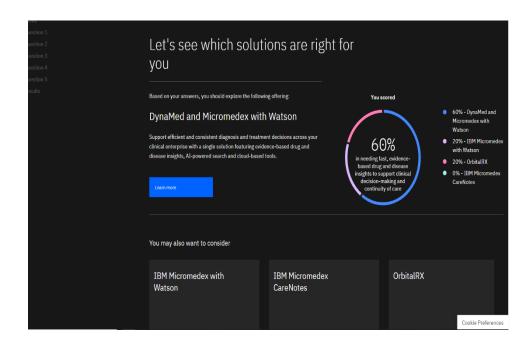






#### Why Micromedex is important

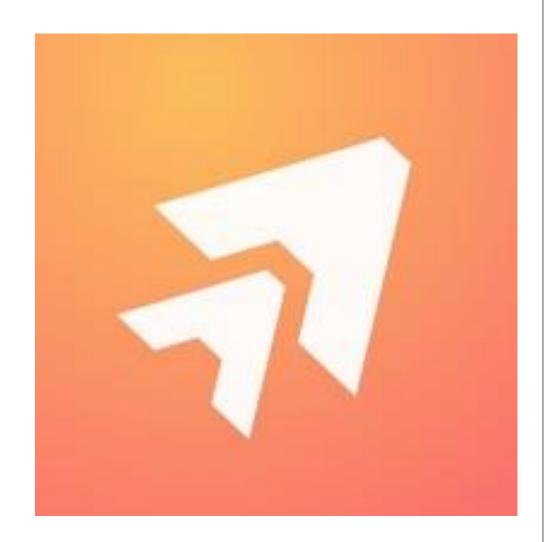
- Micromedex is used to help support safe and effective drug therapy decisions at the point of care. Micromedex can also:
- Helps reduce medication errors and improve patient outcomes.
- Provides evidence ratings and recommendations, supporting clinical decision-making.
- Guides off-label use decisions supported by complete, cited evidence.
- Supports Patient Safety Initiatives and Joint Commission (SPSIJC) compliance







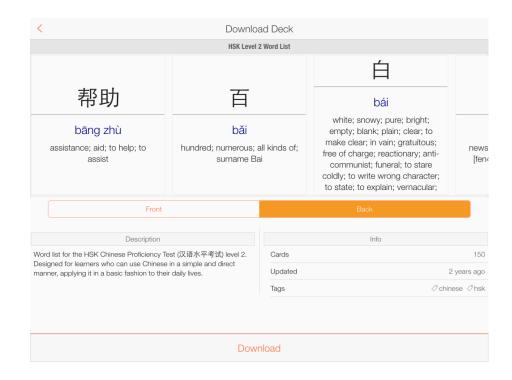
# AnkiApp Flashcards







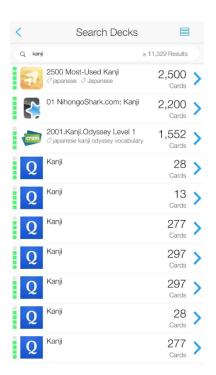
AnkiApp is powerful а flashcard app for academic revisions. With this very app, you can remotely create your own study cards or download useful revision some materials. You'll be exposed to over 80 million pre-made wonderful flashcards which covers tons of study topics and subjects. You can track your progress and easily monitor your efforts.







 You can search through and download sets of flashcards made by other users or you can simply make your own.

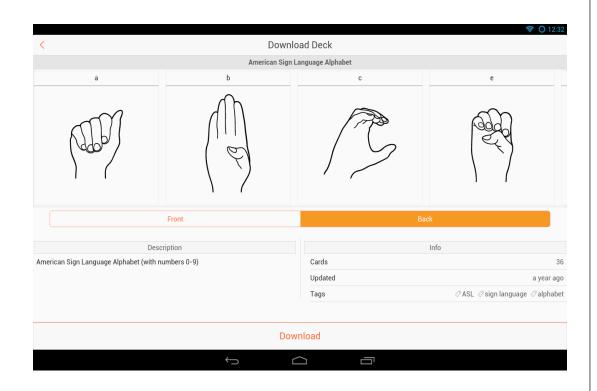






#### • My Review:

Its a beneficial to remember things. And it tests you so you never forget. But, It looks a bit old fashioned app, with a less intuitive inerface.







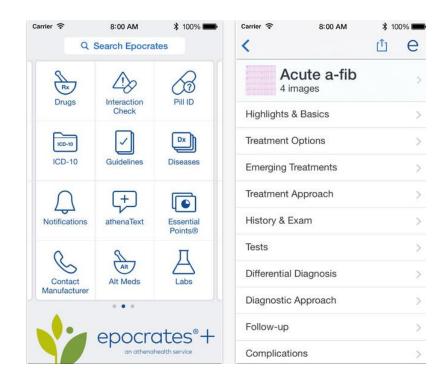
## **Epocrates**







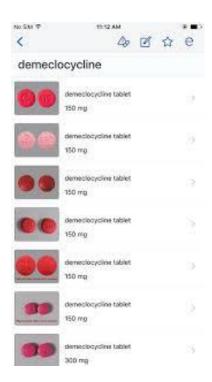
 Epocrates is a well-known webservice and mobile application used by healthcare professionals to check drug dosing, drug interactions, drug safety details, medical news, disease diagnosis and management guidance, as well as evidence-based clinical practice guidelines.







 Additional app functionality includes the ability to identify an unknown pill based on its characteristics, and risk assessment tools and hundreds of medical calculators, laboratory test ordering guide and more.







### **PEPID**







#### **PEPID**

- All tools needed to treat patients at the scene, enroute and/or by the bedside.
- With just a few taps, access the largest drug database on the market, medical calculators, high-res pill photos, illustrations, and much more!



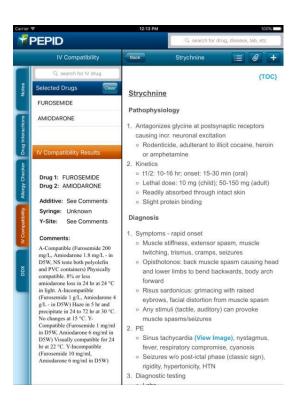




With PEPID apps,

Provide Medical Calculators, Dosing Calculators, Drug Interactions, Allergy Checker.

However, Apps search function is not always helpful.







# **UpToDate**



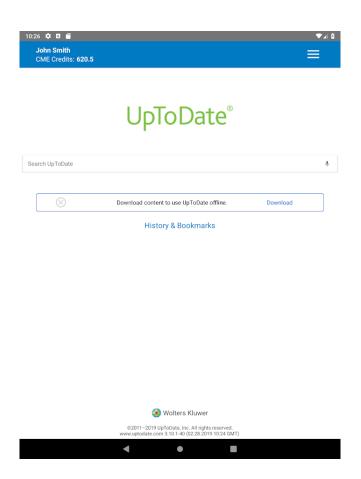




 UpToDate is the leading clinical decision support resource with evidence-based clinical information

 including drug topics and recommendations that clinicians rely on at the point of care.

UpToDate has been the subject of over 30 research studies confirming that widespread usage of UpToDate is associated with improved patient care and hospital performance.







#### **My Review:**

 When open the application, it wants to access my gallery, documents and environment even its just an openbook application. This requirements really dont necessarily. That's why I didnt open the app from my computer.

Permissions the UpToDate app requires and how it uses them:

- · Storage: required to store anything on your device
- Phone calls: used to uniquely identify your device allowing persistent login
- Network communications: used to download and update content from UpToDate
- ${f \cdot}$  Development tools: used to write to device storage (SD card) if needed



