Introduction
Better Evidence and UpToDate

ghd project
global health delivery
BETTER EVIDENCE

Brigham and Women's Hospital
Founding Member, Mass General Brigham

HARVARD
MEDICAL SCHOOL

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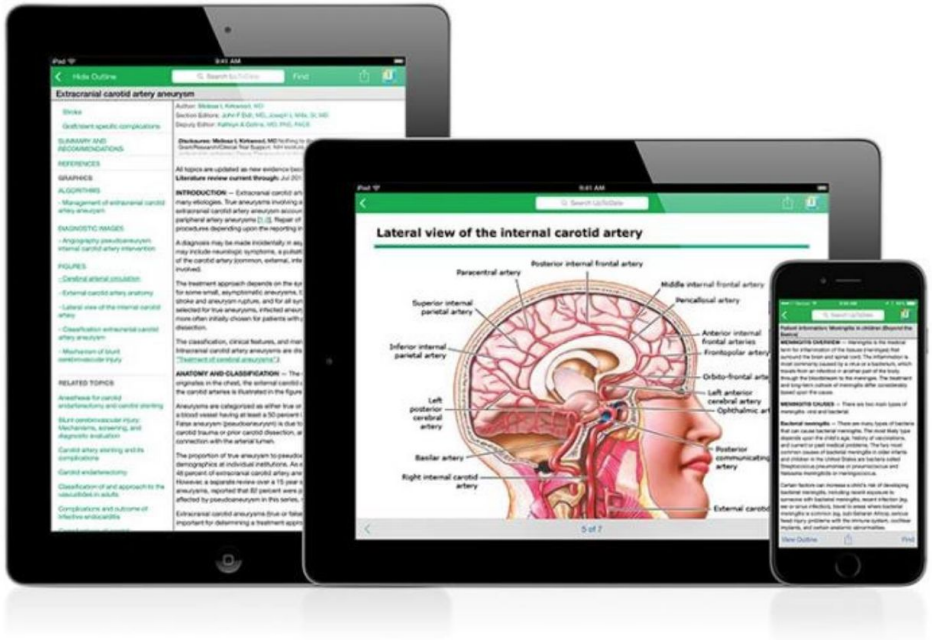
What is UpToDate?

- UpToDate is a clinical decision support tool authored by 7,300 world-renowned physicians who synthesize the most recent medical information into trusted, evidence-based recommendations accessible via the web or download, on a computer or a smartphone.
- Over 2 million clinicians in over 190 countries rely on UpToDate to find the answers to pressing questions.
- Every year, clinicians view topics covering 25 specialties over 617 million times.

What is UpToDate?



- UpToDate impacts **300,000 medical decisions** globally every day
- Clinicians report information provided by UpToDate **changes their decision 30%** of the time

What is UpToDate *Anywhere*?

With an UpToDate Anywhere subscription, you are getting the most comprehensive package with many special features including:

- **Remote access** from any computer with an Internet connection.
- **History, Most Viewed, Bookmarks** — quickly access the content you find most valuable.
- **Automatically Sync** your History, Bookmarks and Most Viewed across all devices you use to access UpToDate, such as a desktop or mobile device.
- **What's New Notifications** alert you when topics you've previously viewed have been updated to include discussion of new articles from the medical literature.
- The **"Current UpDate"** bi-weekly e-newsletter with important clinical updates from UpToDate's editorial team.

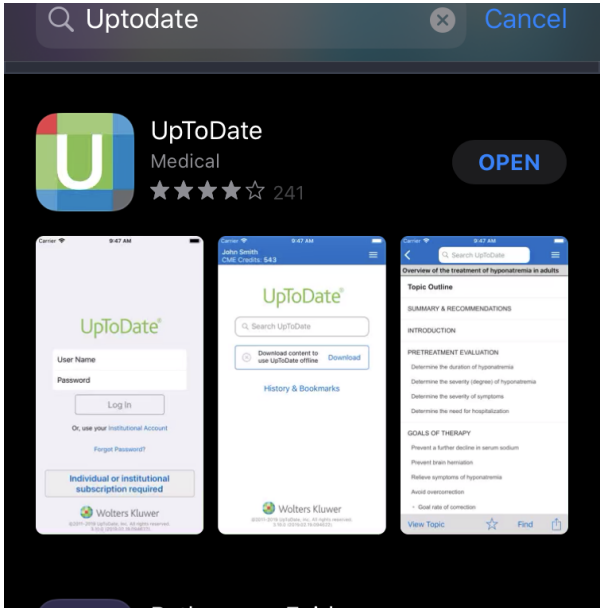
How to Apply for Free UpToDate

- Visit https://www.better-evidence.org/
- Click on "**Log In or Sign Up To Apply**"
- Create an account, proceed with the application, and click "**Submit Application**" when complete
- To monitor your application progress, visit the same website and use the same email and password to log in
- Your application will be reviewed and you will be notified of the admissions decision over email within 60 days
- If you are granted access, UpToDate will email you your account details and you can use the tool for free for one year
- 2-3 months before the year ends, you can request to renew your account by logging in to https://www.better-evidence.org/ and applying again

How to use UpToDate - Online & On Site

- Visit www.uptodate.com/online on any computer, tablet, or phone connected the internet and log in
- Download the **mobile app** to use UpToDate **MobileComplete** on your mobile phone or tablet
- To keep your **account active**, make sure to renew your account 2-3 months before it is set to expire
- If your account gets deactivated because you did not renew in time, **reactivate it by applying for renewal on** https://www.better-evidence.org/

How to Download the Mobile App



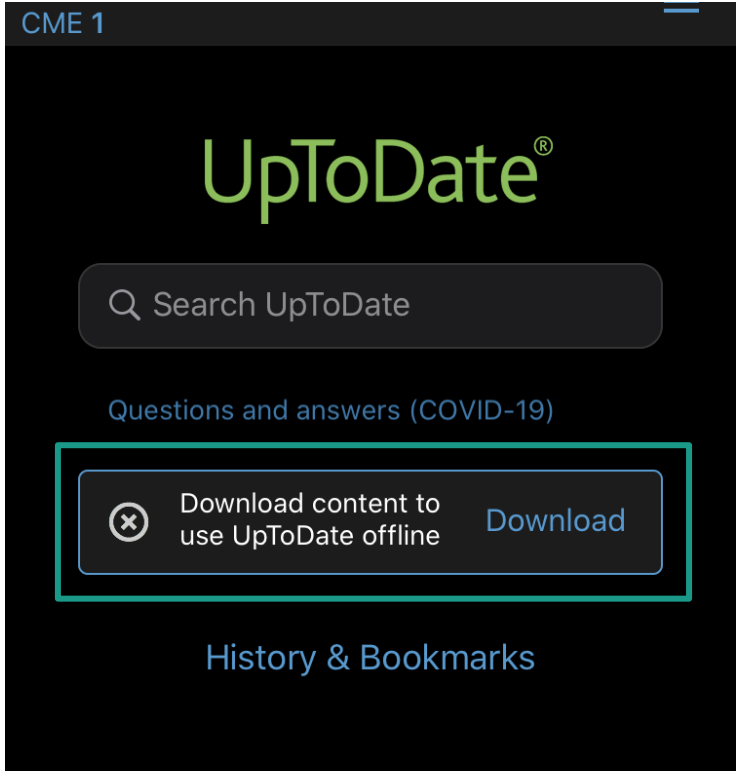
- In the Google Play, Amazon for Android Android or Apple App store, search “UpToDate”
- Download the UpToDate App
- All subscriptions come with the option to download UpToDate content for use offline through the app, called MobileComplete

Available on the App Store

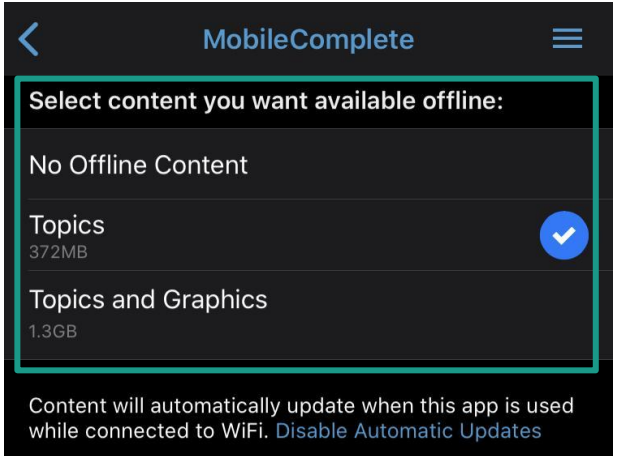
GET IT ON Google play

amazon apps Available at amazon appstore for Android

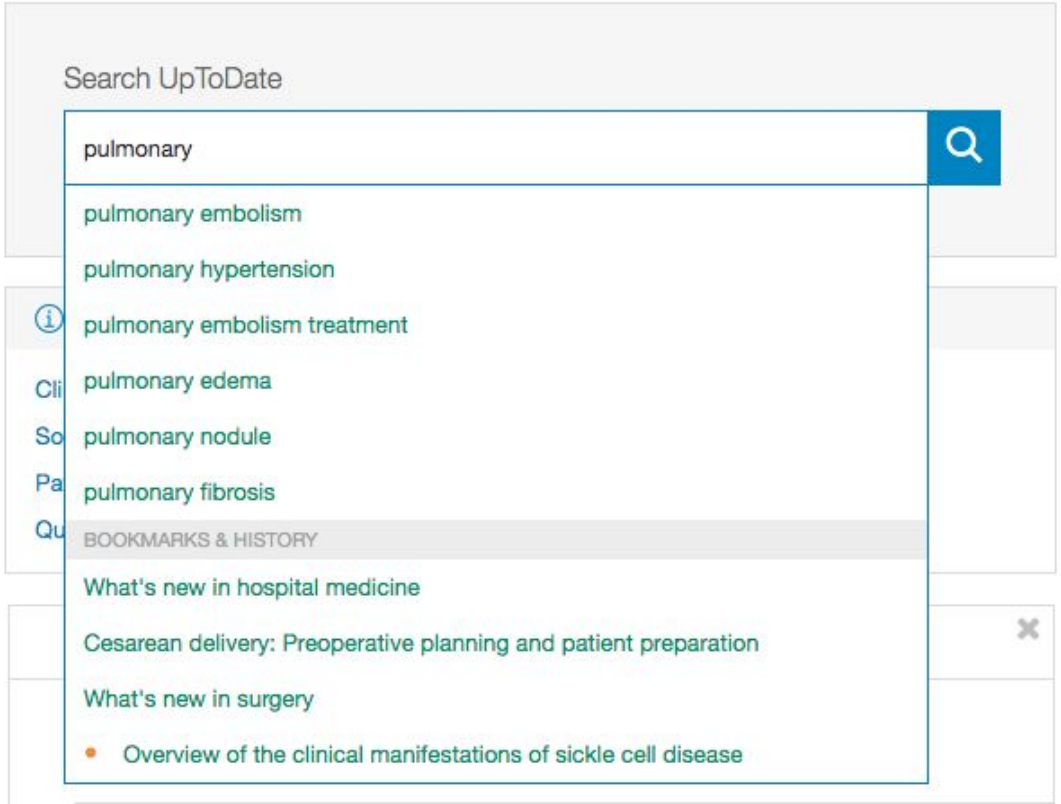
How to use UpToDate Offline with MobileComplete



- Log into the UpToDate Mobile app
- Select “Download content to use UpToDate offline”
- Choose the content you want available offline via **MobileComplete**

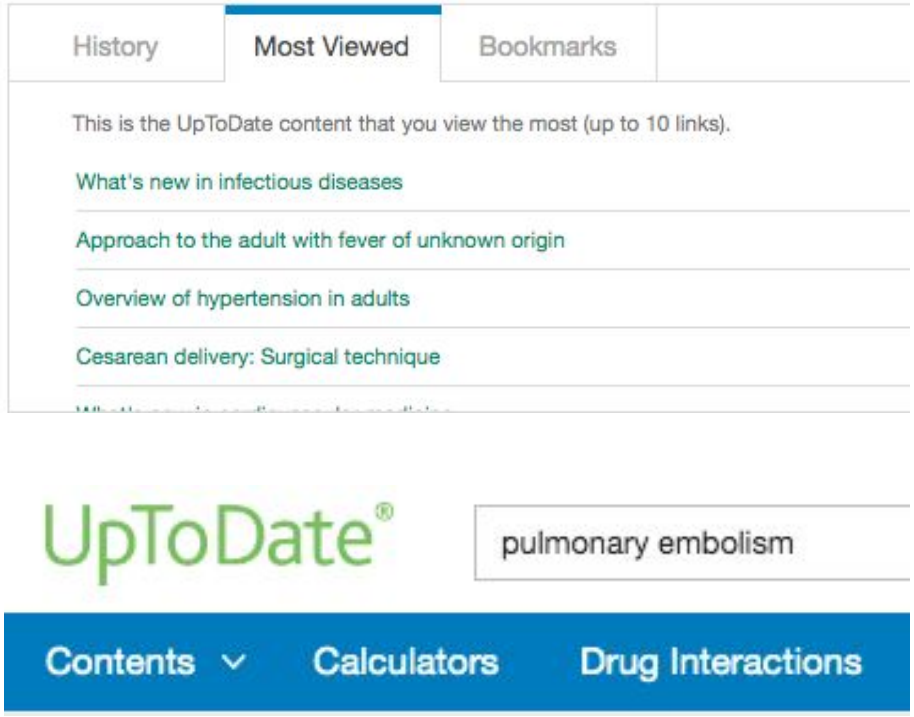


How to Conduct a Search



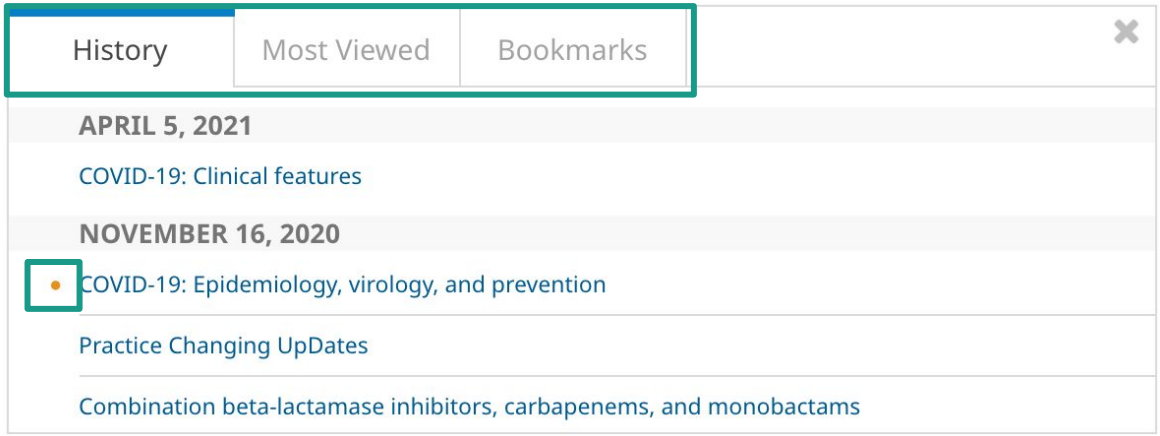
- In the search bar, search by **disease**, **symptom**, **lab abnormality**, **procedure**, or **drug**
- UpToDate will suggest search terms
- Click the search button to go to the search results page
- UpToDate also allows for searches in Spanish, French, English, Chinese, Japanese, German, Portuguese, and Italian

Search Page Additional Functions



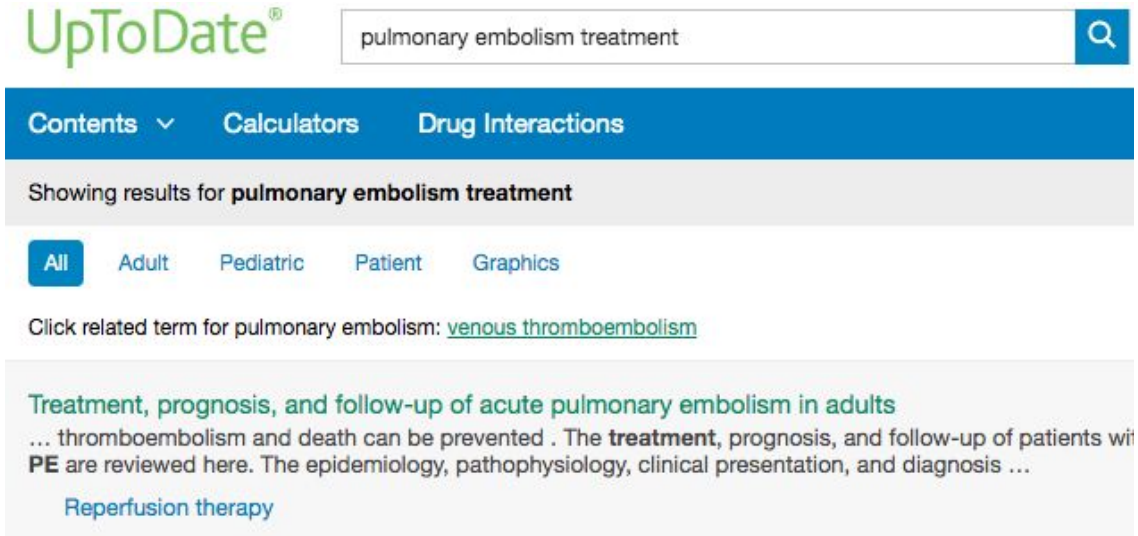
- **What's new?** – provides important topic updates by specialty
- **Bookmarks** – includes pages that you bookmarked
- **Calculators** – links to many calculators that you can use in your clinical practice
- **Practice changing updates** – provides updates for the most recent guidelines, by specialty

Personalizing Your Experience



- View a **history** of content you have previously read
- Keep track of **updates** to topics you visit most frequently - an orange dot next to a topic indicates the topic has been updated since your last viewing
- **Bookmark** UpToDate topics you wish to revisit

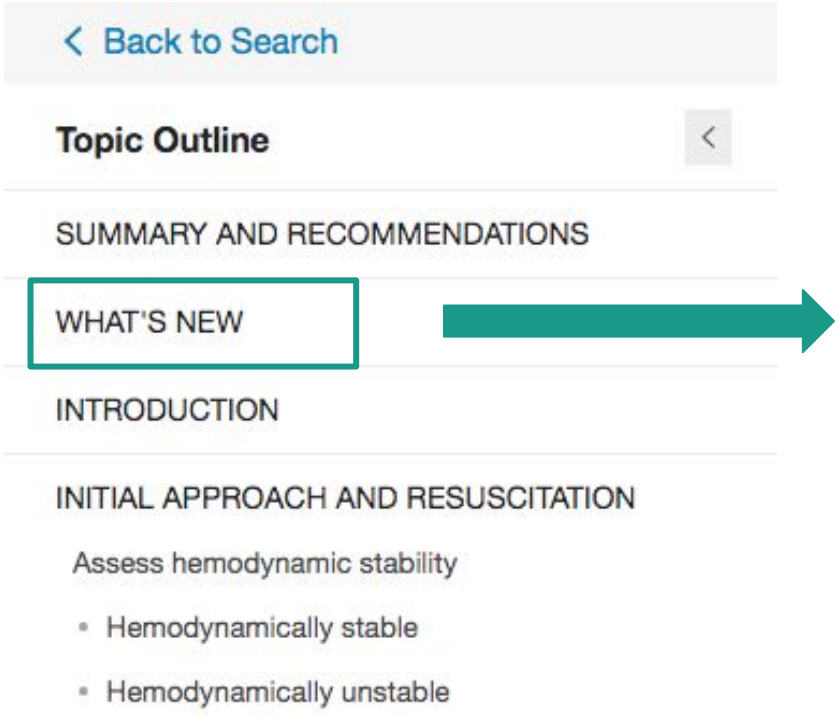
UpToDate Search Results Page



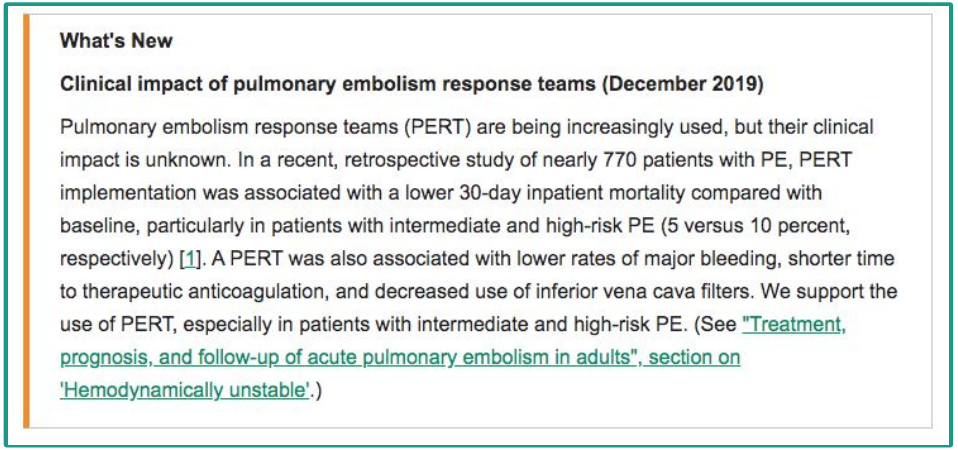
- Topics are displayed by relevance
- To filter a search, select *All*, *Adult*, *Pediatric*, *Patient,* or *Graphics* at the top of the screen under the search bar
  - **Adult**: clinical content relevant to adult patients
  - **Pediatrics**: clinical content relevant to pediatric patients
  - **Patient**: resources for patients (i.e., patient education)
  - **Graphics**: over 30,000 graphics available, can be exported directly to PowerPoint

Topic Navigation and Functionality

Topic Navigation and Functionality

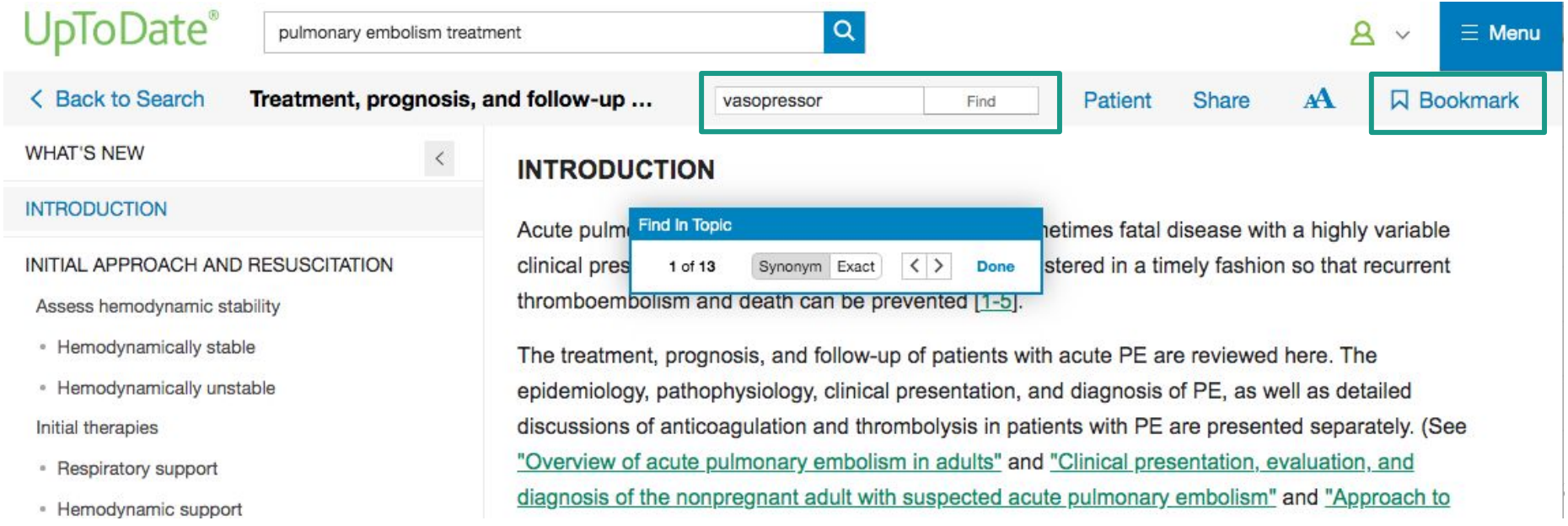


- **Topic Outline** – provides a table of contents and links to related topics in case the search did not yield what you were looking for



Topic Navigation and Functionality

- **Search Bar** – use to search within the topic for specifics (i.e. ‘complications’ or the name of a medication)
- **Bookmark** – click “bookmark” on the top right corner to save the current page



Topic Navigation and Functionality

- **References and full-text Research Articles** – clicking on an in-text citation brings up the full reference and abstract, which you can then access **through HINARI** to read more about the topic

A femoral IV access line with a “built-in” IVC filter that can be opened when the line is placed and collapsed and removed when the line is removed is being studied for high risk patients who cannot be treated with anticoagulants [88].

Medline ® Abstract for Reference 88 of 'Treatment, prognosis, and follow-up of acute pulmonary embolism in adults'

88	PubMed
TI	Pilot study evaluating the safety of a combined central venous catheter and inferior vena cava filter in critically ill patients at high risk of pulmonary embolism.
AU	Cadavid CA, Gil B, Restrepo A, Alvarez S, Echeverry S, Angel LF, Tapson V, Kaufman J
SO	J Vasc Interv Radiol. 2013;24(4):581.

The objectives of this pilot trial were to assess the safety of a new device for pulmonary embolism (PE) prophylaxis. The device, the Angel Catheter, was placed in eight patients who were in the intensive care unit and were at high risk of PE. The device was inserted at the bedside without fluoroscopic guidance via a femoral venous approach. All eight devices were inserted and subsequently retrieved without complications (follow-up, 33-36 d). One filter trapped a large clot.

AD	Critical Care Department, Hospital Pablo Tobon Uribe, Medellin, Colombia.
PMID	23522160

Topic Navigation and Functionality

- **Graded Recommendations** - All recommendations have grades that reflect the strength of the recommendation and the quality of the supporting evidence

- For patients with a **low** risk of bleeding and a high clinical suspicion for PE, we suggest empiric anticoagulation rather than waiting until definitive diagnostic tests are completed (Grade 2C). We use a similar approach in those with a moderate or low clinical suspicion for PE in whom the diagnostic evaluation is expected to take longer than four hours and 24 hours, respectively.

Grade 2C recommendation

A Grade 2C recommendation is a very weak recommendation; other alternatives may be equally reasonable.
Explanation:
A Grade 2 recommendation is a weak recommendation. It means "this is our suggestion, but you may want to think about it." It is unlikely that you should follow the suggested approach in all your patients, and you might reasonably choose an alternative approach. For Grade 2 recommendations, benefits and risks may be finely balanced, or the benefits and risks may be uncertain. In deciding whether to follow a Grade 2 recommendation in an individual patient, you may want to think about your patient's values and preferences or about your patient's risk aversion.
Grade C means the evidence comes from observational studies, unsystematic clinical experience, or from randomized, controlled trials with serious flaws. Any estimate of effect is uncertain.

Topic Navigation and Functionality

- **Drug Referencing** – clicking on the drug name within the search result brings up that drug's Lexicomp page, which describes dosing, contraindications, drug interactions, etc.

- Norepinephrine – Norepinephrine is the most frequently utilized agent in this population because it is effective and less likely to cause tachycardia [16]. Other alternatives include dopamine and epinephrine, but tachycardia, which can exacerbate hypotension, can occur with these agents [20].

Norepinephrine (noradrenaline): Drug information Lexicomp®

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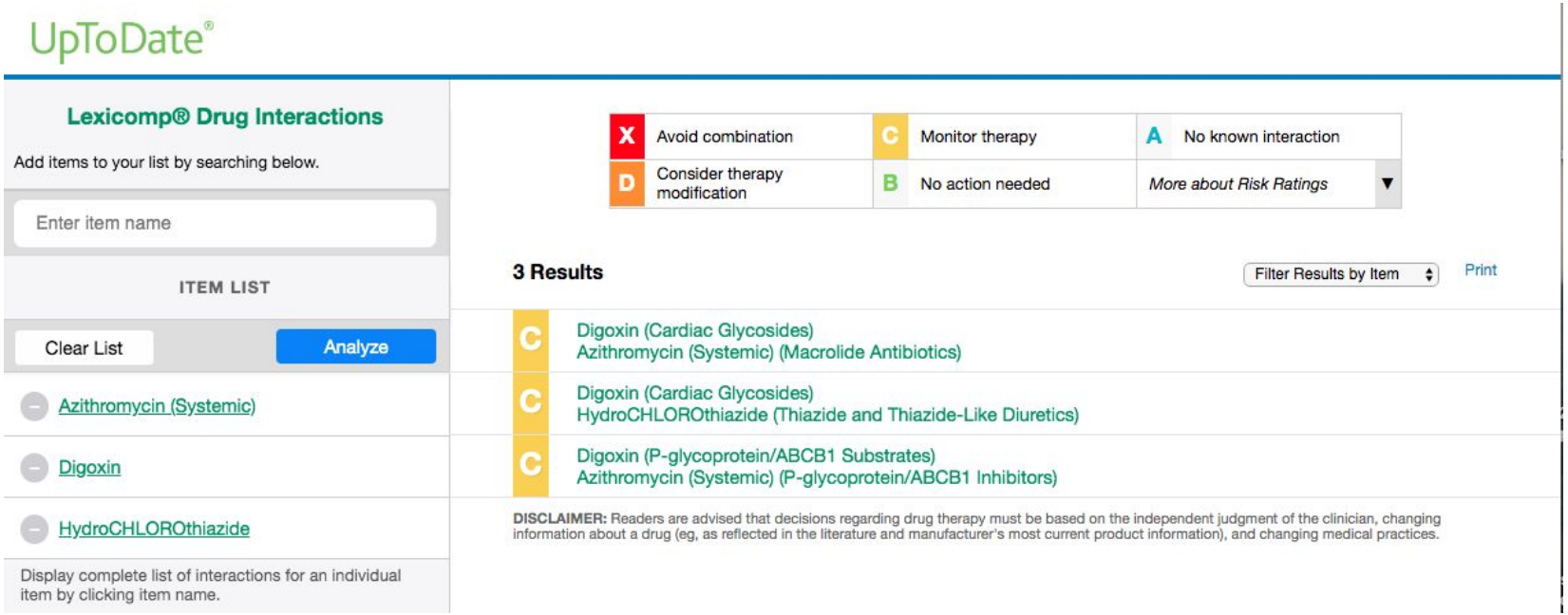
(For additional information see "Norepinephrine (noradrenaline): Patient drug information" and see "Norepinephrine (noradrenaline): Pediatric drug information")

For abbreviations and symbols that may be used in Lexicomp (show table)

Drug Interactions

- To help minimize risk and increase patient safety, UpToDate includes a drug interaction analysis tool.



Drug Interactions

3 Results

C	Digoxin (Cardiac Glycosides) Azithromycin (Systemic) (Macrolide Antibiotics)
C	Digoxin (Cardiac Glycosides) HydroCHLOROthiazide (Thiazide and Thiazide-Like Diuretics)
C	Digoxin (P-glycoprotein/ABCB1 Substrates) Azithromycin (Systemic) (P-glycoprotein/ABCB1 Inhibitors)

DISCLAIMER: Readers are advised that decisions regarding drug therapy must be based information about a drug (eg, as reflected in the literature and manufacturer's most current

Print

Title Cardiac Glycosides / Thiazide and Thiazide-Like Diuretics

Risk Rating C: Monitor therapy

Summary Thiazide and Thiazide-Like Diuretics may enhance the adverse/toxic effect of Cardiac Glycosides. Specifically, cardiac glycoside toxicity may be enhanced by the hypokalemic and hypomagnesemic effect of thiazide diuretics. **Severity** Moderate **Reliability Rating** Fair

Patient Management Monitor for increased cardiac glycoside toxicity (eg, cardiac arrhythmias) if a thiazide diuretic is initiated or the dose is increased. Careful monitoring of serum potassium and magnesium along with administration of electrolyte replacement therapy to correct hypokalemia or hypomagnesemia may reduce the risk of cardiac glycoside toxicity.

Cardiac Glycosides Interacting Members Digitoxin, Digoxin

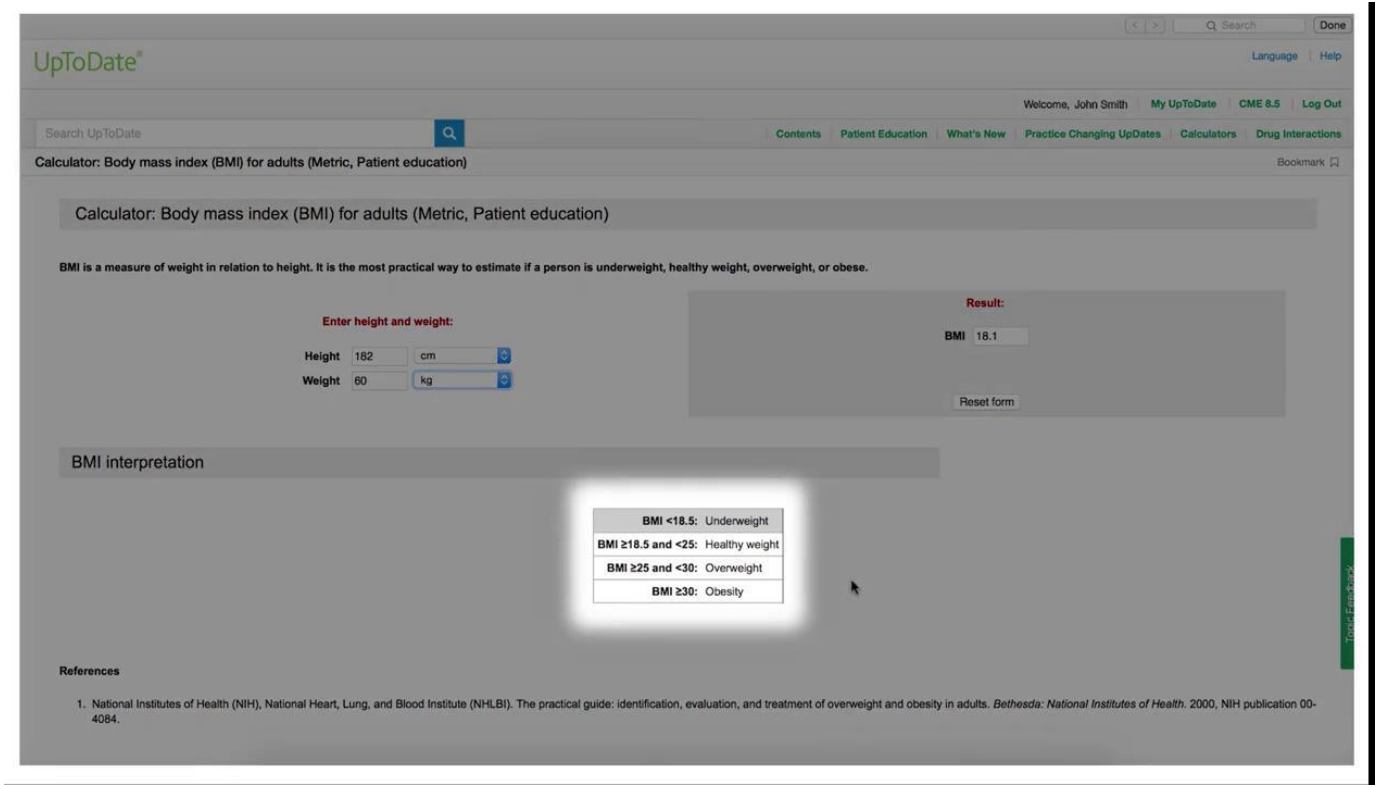
Thiazide and Thiazide-Like Diuretics Interacting Members Bendroflumethiazide, Chlorothiazide, Chlorthalidone, Cyclopenthiazide, HydroCHLOROthiazide, Hydroflumethiazide, Indapamide, Methyclothiazide, MetOLazone, Xipamide

Discussion The risk of cardiac glycoside toxicity increases in the presence hypokalemia and hypomagnesemia, even when serum concentrations are maintained in the therapeutic range.[1] The association of digitalis toxicity and electrolyte disturbances induced by diuretic (loop and thiazide) use has been reported in numerous studies[2,3,4,5,6,7,8] and case reports[9,10] In contrast, some studies report that serum potassium levels do not influence the risk of digitalis toxicity,[11,12,13] possibly because serum potassium concentrations may not correlate with total body potassium stores.

Prescribing information for digoxin recommends careful monitoring of serum potassium and magnesium levels in patients receiving digoxin along with diuretics.[1] Administering electrolyte replacement to correct hypokalemia and hypomagnesemia is recommended.

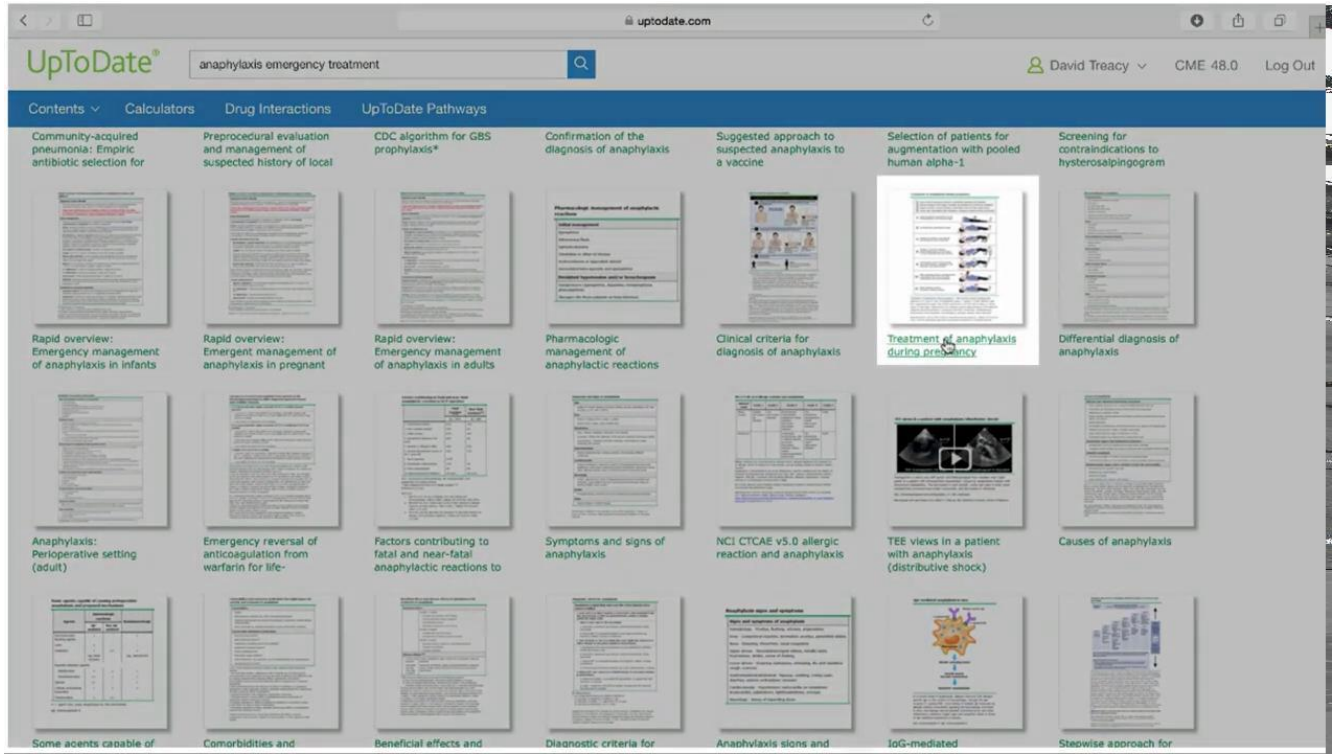
UpToDate Clinical Calculators

- You can also access more than 200 medical calculators right in the clinical workflow



UpToDate Graphics and Algorithms

- As well as more than 36,000 pictures, figures, tables, graphs, algorithms, and videos



Questions?

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