Your Clinical Edge: Lexidrug in Action

Transform knowledge into confident prescribing decisions with **Lexidrug**.

Pear Thanwanan W.
Senior Customer Success Specialist, WK - Health

Wolters Kluwer

What we will cover today…

Objectives:

Understand the core features and benefits of Lexidrug.

Discover how Lexidrug enhances medication safety and supports informed clinical decision-making.

Learn practical workflows through a live demo for everyday clinical use.

Engage in Q&A to clarify questions and share best practices.

Agenda:

- ✓ Lexidrug Introduction
- ✓ Mobile Access
- ✓ Key Value Proposition
- ✓ Demo
- ✓ UpToDate Refresher

Q&A

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Clinical Effectiveness

Harmonized Clinical Decision Support Solutions

UpToDate®

Physician-authored clinical decision support resource associated with improved patient outcomes

Referential Solutions

UpToDate® Lexidrug™

Evidence-based and comprehensive referential drug information

Medication Decision Support Solutions

Medi-Span®

The leading automated clinical drug screening solution

Complete End-to-End Clinical Decision Support

Drug Information in UpToDate Suite

Now that you have Lexidrug!
Make it your go-to point-of-care tool for confident, medication-related decisions.

Features	UpToDate	Lexidrug
Content Sets		
Lexi Drugs *(North America drugs only)*	✓	✓
Lexi-Drugs Multinational	-	✓
Pediatric and Neonatal Lexi Drugs	✓	✓
Class Monographs (from Drug Facts & Comparisons)	-	✓
Geriatric Lexi-Drugs	✓	✓
Lexi Drugs International Concise	✓	✓
AHFS Essentials & DI	-	✓
		✓
		✓
		✓
		✓
		✓
Toxicology	-	✓
Patient Education (4 Languages)	✓	✓
Patient Education Multinational (20 Languages)	-	✓
Facts and Comparisons (A to Z, REMS, Off-Label)	-	✓
Formulary Monograph Service	-	✓
Martindale (Optional Add-on)	-	✓
Tools		
Interactions	✓*	✓
Trissel's IV Compatibility	-	✓
Drug Identification	-	✓

Lexidrug Online & Mobile App Registration and Download

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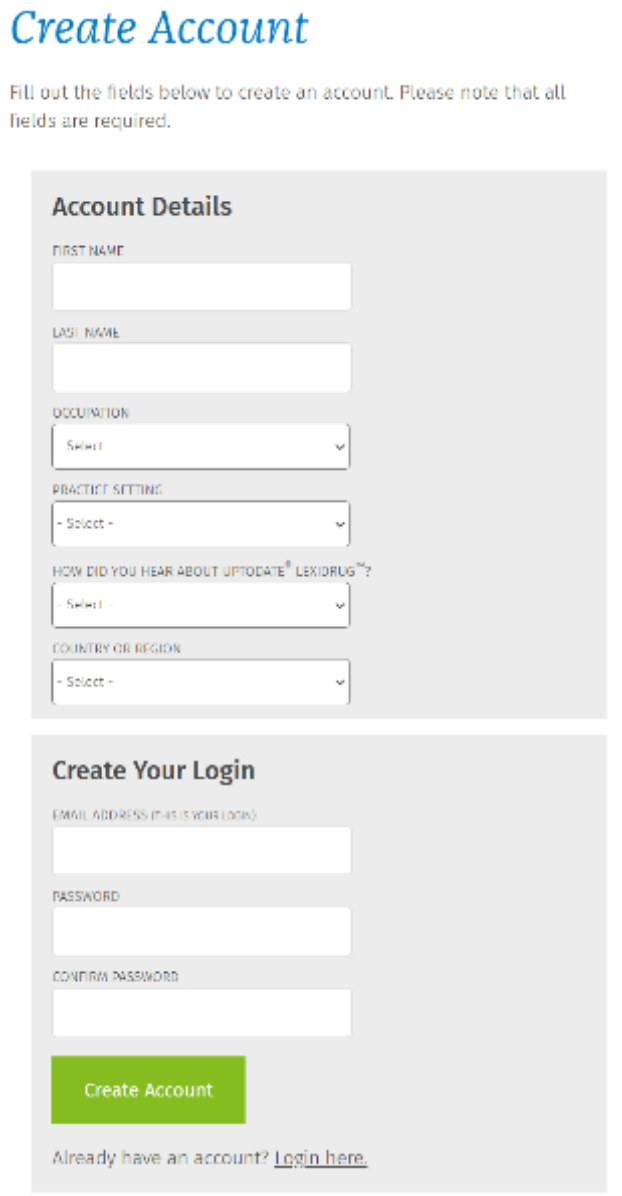
Lexidrug – Mobile registration

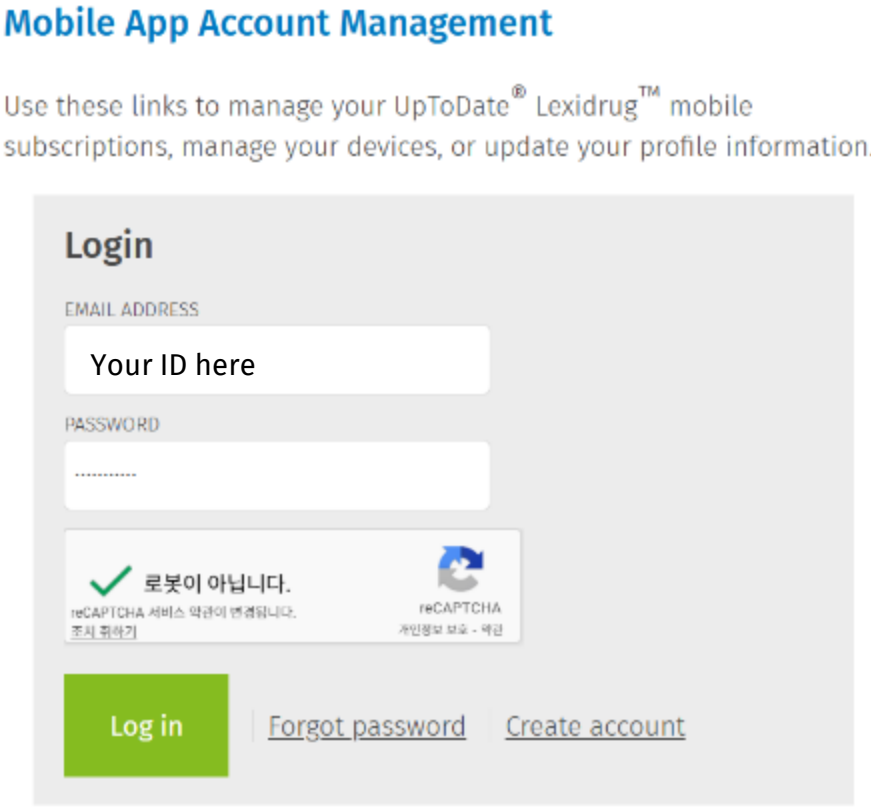
Step 1 - Create UpToDate Lexidrug Mobile Account and Activate Subscription

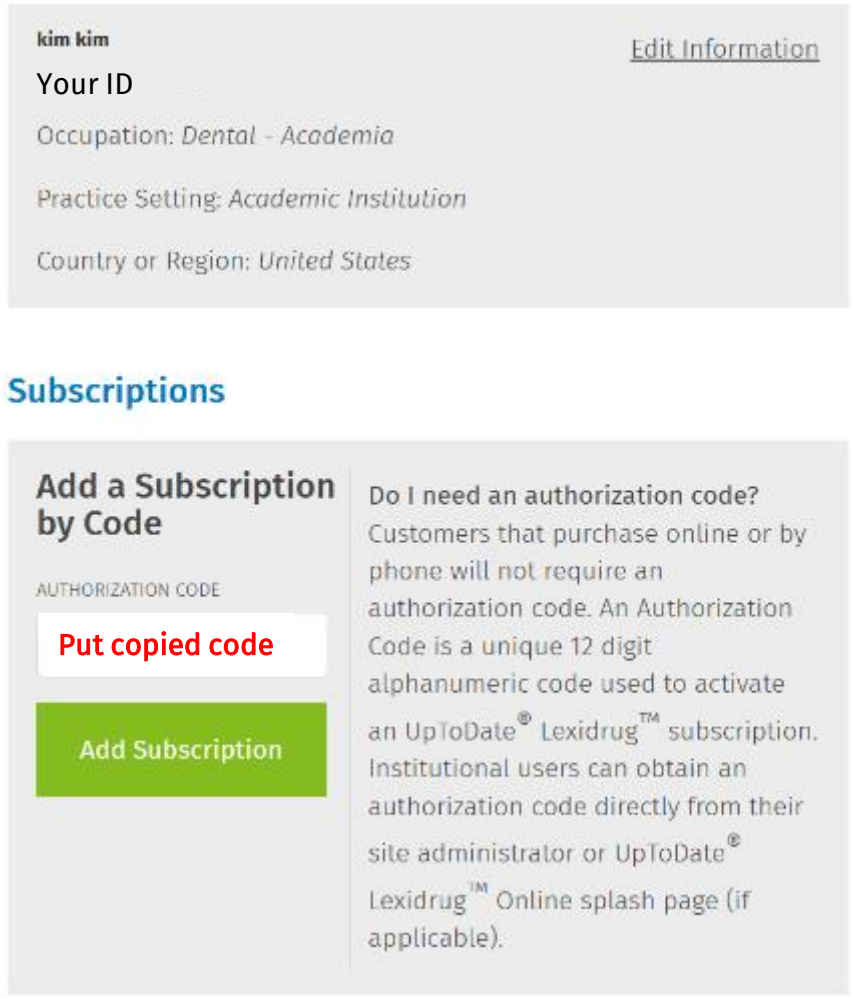
1. Visit https://www.lexi.com/account/create/.
    - Enter your registration information and click **Create Account**.

- Click the link and fill the blanks or scan the below QR code
- *You must register with your organizational e-mail address.*
- *Remember your chosen email address and password used to create this account as you will need these during step 2.*



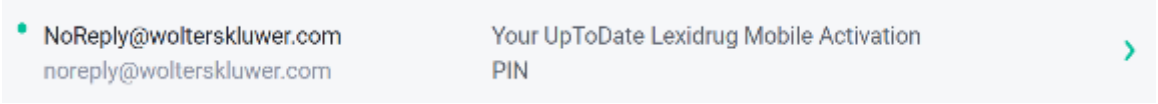
Lexidrug – Mobile registration



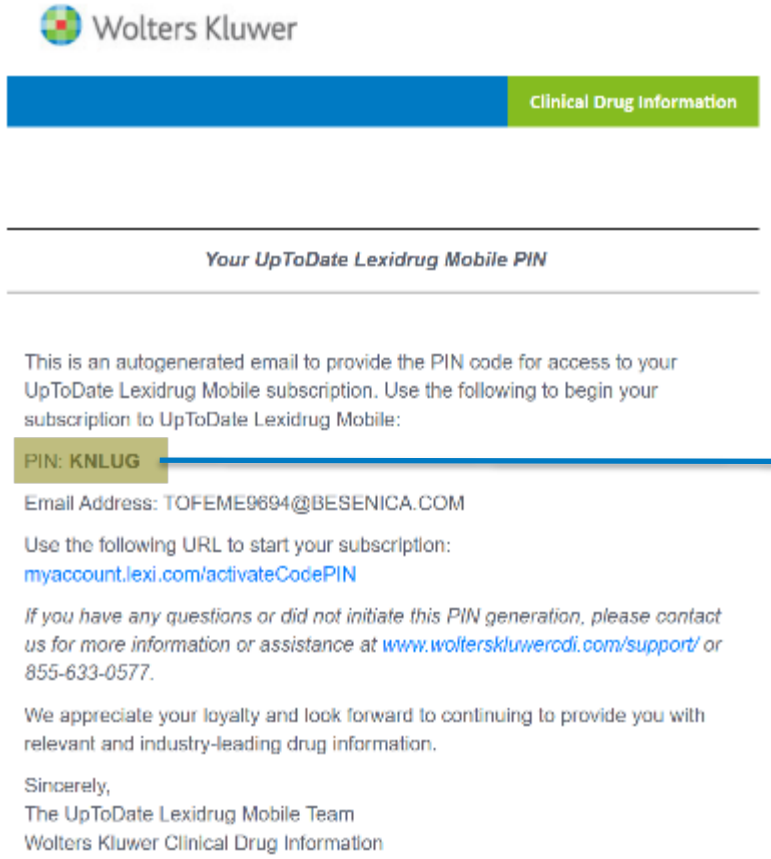


- Sign-in with Created account
- Put copied code into AUTHORIZATION CODE section
- click on the Add Subscription

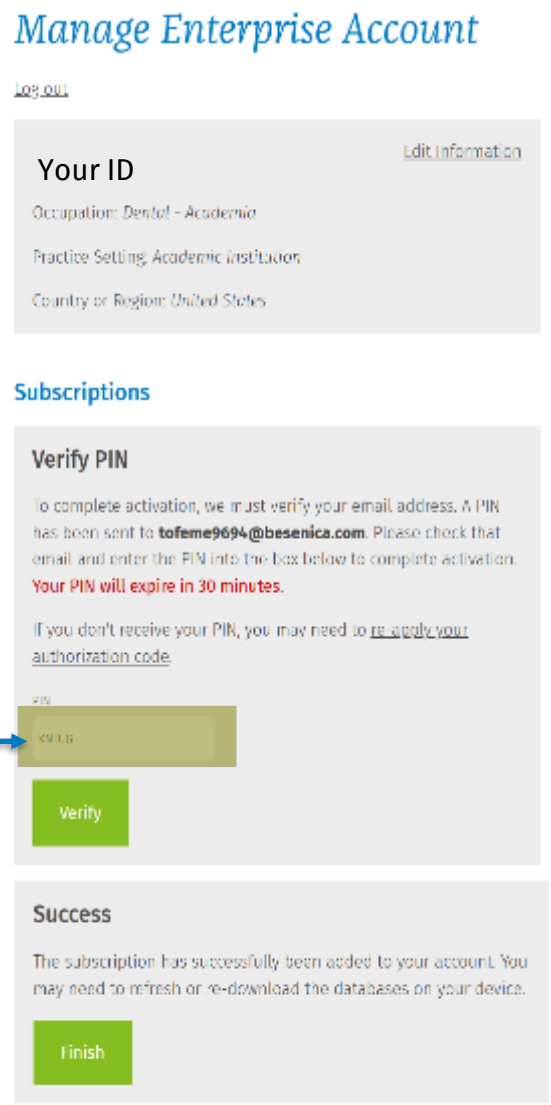
Lexidrug – Mobile registration



- You will get an E-mail from **NoReply@Wolterskluwer.com**



- Copy a **PIN** from the E-mail

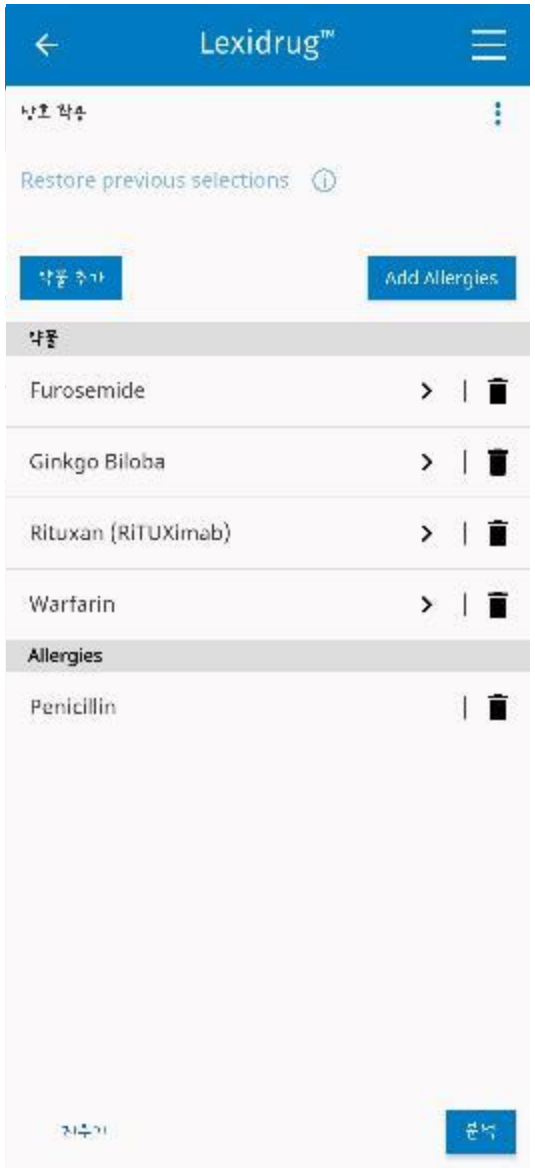


- Paste the code into <PIN> section under Verify PIN
- Click Verify and it's done

Lexidrug – Mobile registration

- You can check that your subscription has been activated at the bottom of the page.
- You may see <Add a Subscription by code>
- You don't need to enter anything there.
- The account is already registered and can be used to log in.

Lexidrug – Mobile registration

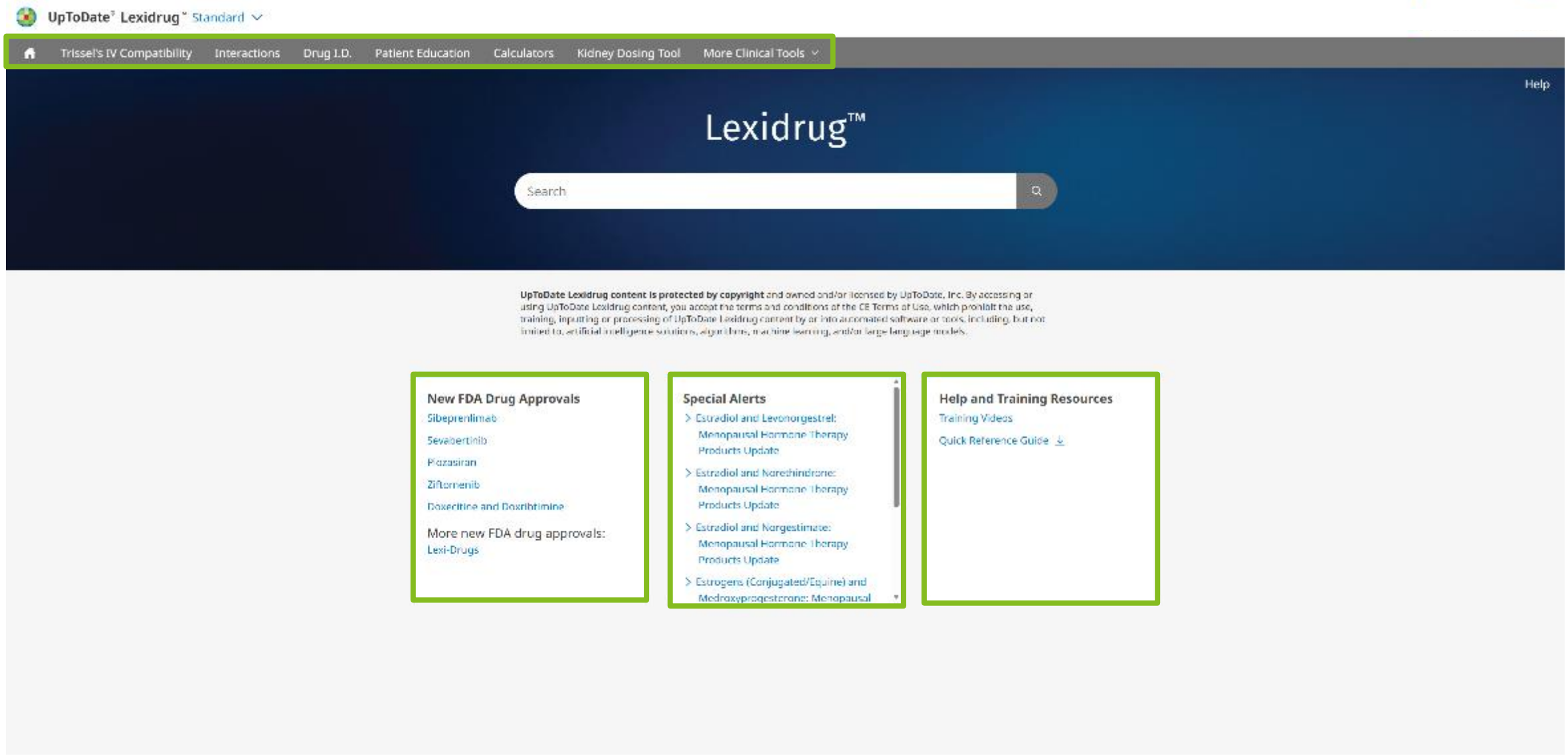


- You can log in to the Lexidrug Mobile app using the ID you just created.
- You can access with up to 2 mobile devices.
- After signing in, download the necessary databases within the app. You will have access to the same full database set as the PC version.
- The content is identical to the PC version, but presented in a mobile-optimized interface.
- No 3months re-verification is required, unlike UpToDate.
- When your institution renews its subscription, you can add the subscription into your account through the account creation page.

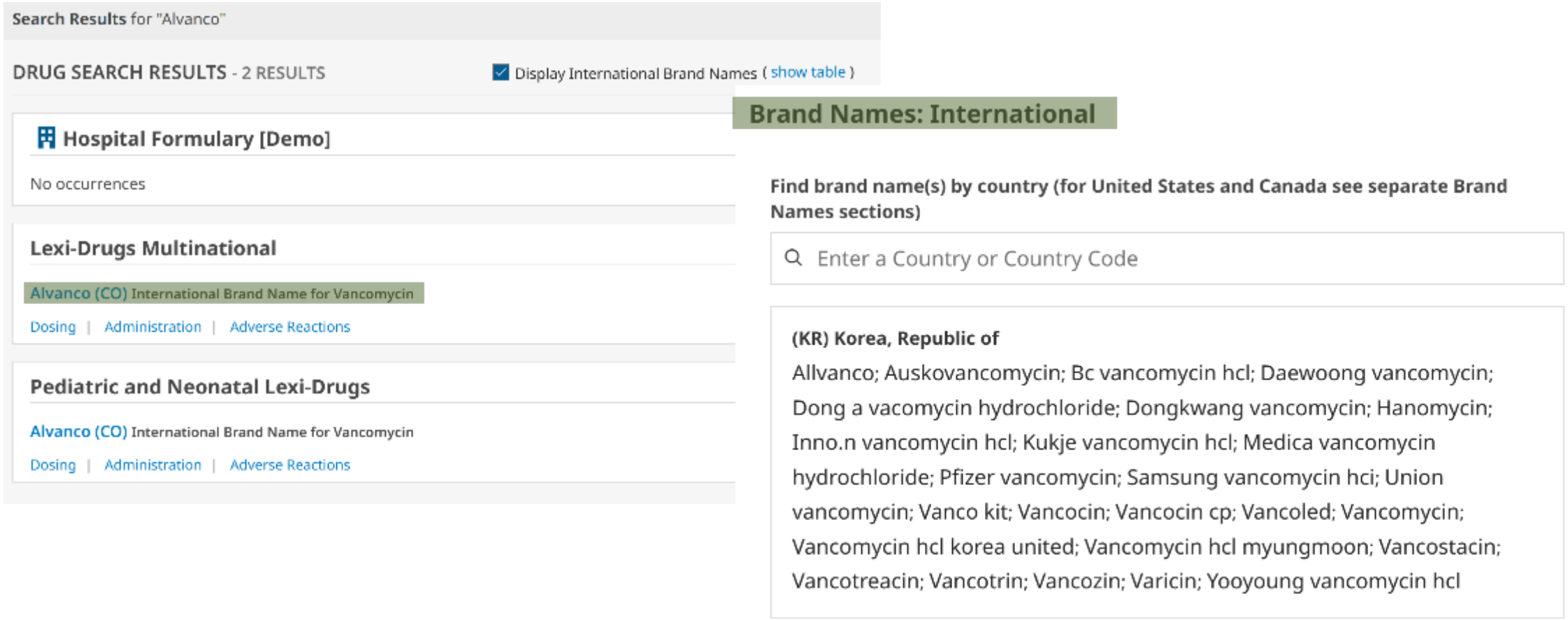
Let’s explore what Lexidrug offers!

Showcasing features and tools.

Introducing Lexidrug



Searching



•Product-name search support
Enables direct drug search by brand name, reducing search time and effort.

•International brand name by country
Displays brand names marketed in a selected country within the drug monograph.

Lexidrug Multinational & Pediatric / Neonatal Lexidrug

Vancomycin (Lexi-Drugs Multinational)

Outline Alphabetical Expand All

- ALERT: US Boxed Warning
- Drug Shortages: US
- Brand Names: International
- International Nonproprietary Names (INN)
- Brazilian Nonproprietary Names (DCB)
- Japanese Accepted Name (JAN)
- Anatomic Therapeutic Chemical (ATC) Classification
- Pharmacologic Category
- Dosages
- Uses
- Administration and Storage Issues
- Medication Safety Issues
- Warnings & Precautions
- Reproduction, Pregnancy, & Lactation
- Adverse Reactions
- Interactions
- Patient & Therapy Management
- Preparations
- Pharmacology & Pharmacokinetics
- Dental Information
- Pearls & Related Information
- Index Terms

Monograph | Images | Adult Patient Education | Pediatric Patient Education | Pediatric and Neonatal Lexi-Drugs

ALERT: US Boxed Warning

Risk of embryo-fetal toxicity due to excipients:

A formulation of vancomycin injection contains the excipients polyethylene glycol (PEG 400) and N-acetyl D-alanine (NADA), which resulted in fetal malformations in a exposures approximately 8 and 32 times, respectively, higher than the exposures at the human equivalent dose. If use of vancomycin is needed during the first c other available formulations of vancomycin.

Drug Shortages: US

One or more forms of this drug may

ASHP: https://www.ashp.org/Dru

Brand Names: International

Find brand name(s) by country (for Un

Enter a Country or Country Co

For country code abbreviations (

International Nonproprietary

Vancomicina [Spanish]; Vancomycin [En

Brazilian Nonproprietary Nam

Vancomicina

Japanese Accepted Name (JAN

バンコマイシン塩酸塩

Anatomic Therapeutic Chemi

- A07AA09
- J01XA01

Vancomycin (Pediatric and Neonatal Lexi-Drugs)

Outline Alphabetical Expand All

- ALERT: US Boxed Warning
- Drug Shortages
- Pronunciation
- Brand Names: US
- Brand Names: Canada
- Therapeutic Category
- Dosages: Neonatal
- Dosing: Neonatal
- Dosages: Pediatric
- Dosages: Adult
- Use
- Preparation for Administration: Pediatric
- Administration: Pediatric
- Preparation for Administration: Adult
- Administration: Adult
- Administration: Injectable Detail
- Vesicant/Extravasation Risk
- Dietary Considerations
- Storage/Stability
- IV Compatibility
- Extemporaneous Preparations

Monograph | Images | Adult Patient Education | Pediatric Patient Education | Lexi-Drugs

Postmenstrual Age	Dose
<29 weeks	15 mg/kg/dose every 24 hours
29 to 35 weeks	15 mg/kg/dose every 12 hours
>35 weeks	15 mg/kg/dose every 8 hours

"Optimized regimen": **Note:** Optimized regimen was associated with more ototoxicity and similar or worse efficacy; however, a pharmacokinetic model showed the optimized regimen is more likely than the standard regimen to achieve the pharmacodynamic target (AUC_{24} ≥400 mg•hour/L) desired for treatment of *S. aureus* infections [Ref].

IV:

Postmenstrual Age	Loading Dose	Dose
<29 weeks	25 mg/kg	15 mg/kg/dose every 12 hours
29 to 35 weeks	25 mg/kg	15 mg/kg/dose every 12 hours
>35 weeks	25 mg/kg	15 mg/kg/dose every 8 hours

Kidney function-based dosing [Ref]: **Note:** Serum creatinine fluctuates and may be influenced by maternal concentrations during the first week of life; use caution and frequently reassess renal function in neonates ≤7 days old receiving vancomycin [Ref]. Dosing regimen was designed for a target trough concentration of 5 to 10 mg/L, though this may not be the optimal target based on newer data [Ref].

Preterm and term neonates:

Loading dose: All patients: IV: 20 mg/kg once, followed by maintenance dose.

Maintenance dose: IV:

Detailed drug dosing for vulnerable patients

Lexidrug is only resource to provide this depth of specific dosing recommendations

15% of adults have chronic kidney disease[1]

2% to 10% of hospitalized patients will develop acute kidney injury[1]

87% of most-viewed kidney dosing sections in UpToDate include expanded dosing

*A cross-sectional study evaluated the incidence of adverse drug reactions in 400 patients with cirrhosis who were admitted to the hospital and identified that **30% experienced an ADR and 78% of these were deemed preventable**.*

1. The Ministry of Public Health and the Nephrology Society of Thailand as of **2024-2025**

Dosing

- Dosing (Common adult case)
- Dosing by Route & Formulation
- Dosing by Indications

Dosing: Adult

Dosing: Adult

Dosage guidance:

Safety: Risk of toxicity (eg, acute kidney injury) increases as a function of trough concentration, especially when trough is maintained above 15 to 20 mg/L; recent data suggest risk increases along the vancomycin AUC continuum, especially when daily AUC exceeds 650 to 1,300 mg•h/L ([Ref]).

Dosing: Initial IV dosing in patients without obesity should be based on actual body weight; subsequent dosing should generally be adjusted based on therapeutic monitoring.

Clinical considerations: The oral route is ineffective for treating systemic infections; the IV route is ineffective for treating *C. difficile* infection. Trough monitoring has traditionally been used for therapeutic monitoring; however, for serious methicillin-resistant S. aureus (MRSA) infections (eg, bacteremia, infective endocarditis, meningitis, osteomyelitis, pneumonia, sepsis), AUC monitoring is preferred ([Ref]). For patients with uncomplicated skin and soft tissue infections who are not obese and have normal renal function, therapeutic monitoring is generally not needed ([Ref]).

Usual dosage range:

Oral: 125 to 500 mg 4 times daily.

IV:

Intermittent infusion: 15 to 20 mg/kg/dose (rounded to the nearest 250 mg) every 8 to 12 hours initially; for serious MRSA infections (eg, bacteremia, infective endocarditis, meningitis, osteomyelitis, pneumonia, sepsis), adjust based on therapeutic monitoring to achieve a target AUC/minimum inhibitory concentration (MIC) determined by broth microdilution (MIC_{BMD}) ratio of 400 to 600 (assuming a vancomycin MIC_{BMD} of 1 mg/L). Trough-only monitoring (target trough: 15 to 20 mg/L) is no longer recommended in patients with serious MRSA infections ([Ref]), but may be needed in nonserious MRSA or non-MRSA infections. Early and frequent monitoring for dosage adjustments is recommended, especially when empiric doses exceed 4 g/day ([Ref]).

Loading dose: Seriously ill patients with documented/suspected MRSA infection: A loading dose of 20 to 35 mg/kg (based on actual body weight; maximum: 3 g/dose) may be considered to rapidly achieve target concentrations. After administration of the loading dose, the initiation of the maintenance dose should occur at the next dosing interval (eg, for a prescribed interval of every 8 hours, initiate the maintenance dose 8 hours after the start of the loading dose) ([Ref]).

Continuous infusion: **Note:** May be considered for critically ill patients who are unable to achieve AUC target with intermittent infusion dosing. Loading dose: 15 to 20 mg/kg, followed by a maintenance continuous infusion dose of 30 to 40 mg/kg/day (up to 60 mg/kg/day) to achieve a target steady state concentration of 20 to 25 mg/L ([Ref]).

Bloodstream infection

Bloodstream infection:

Empiric therapy or pathogen-specific therapy for methicillin-resistant S. aureus: **IV:** 15 to 20 mg/kg/dose every 8 to 12 hours initially; adjust based on therapeutic monitoring ([Ref]). A loading dose may be considered in seriously ill patients ([Ref]). Treat uncomplicated *S. aureus* infection for ≥14 days from first negative blood culture, with longer courses warranted for endocarditis or metastatic sites of infection ([Ref]).

Empiric therapy or pathogen-specific therapy for methicillin-resistant coagulase-negative staphylococci: **IV:** 15 to 20 mg/kg/dose every 8 to 12 hours initially; adjust based on therapeutic monitoring. Treat uncomplicated bacteremia for 5 to 7 days from day of first negative blood culture, with longer courses warranted for endocarditis or metastatic sites of infection ([Ref]). For catheter-related bloodstream infections, consider antibiotic lock therapy for catheter salvage, in addition to systemic therapy ([Ref]).

Antibiotic lock technique (catheter-salvage strategy) (off-label use): **Note:** For infections caused by susceptible organisms when the catheter cannot be removed; use in addition to systemic antibiotics. Catheter salvage is **not** recommended for *S. aureus* ([Ref]).

Intracatheter: Prepare lock solution to final concentration of vancomycin 2.5 to 5 mg/mL; may be combined with heparin. Instill into each lumen of the catheter access port using a volume sufficient to fill the catheter (2 to 5 mL) with a dwell time of up to 72 hours, depending on frequency of catheter use. Withdraw lock solution prior to catheter use; replace with fresh vancomycin lock solution after catheter use. Antibiotic lock therapy is given for the same duration as systemic antibiotics ([Ref]).

Intracranial abscess or spinal epidural abscess

Dosing – Complex Cases

- Geriatric Patient dosing
- Obese Patient dosing

Dosing: Older Adult

Oral, IV: Initial: 20 mg/day; increase slowly to desired response.

SUBQ: Refer to adult dosing.

Dosing: Obesity: Adult

The recommendations for dosing in patients with obesity are based upon the best available evidence and clinical expertise. Senior Editorial Team: Jeffrey F. Barletta, PharmD, FCCM; Manjunath P. Pai, PharmD, FCP; Jason A. Roberts, PhD, BPharm (Hons), B App Sc, FSHP, FISAC.

Example of dosing regimen:

Class 1, 2, or 3 obesity (BMI ≥30 kg/m^2):

Loading dose: **Note:** Consider utilizing a loading dose when rapid attainment of target concentrations is necessary (eg, sepsis, documented/suspected methicillin-resistant *S. aureus* infection) ([Ref]).

Initial: **IV:** 20 to 25 mg/kg using **actual body weight**; maximum loading dose: 3 g. After administration of the loading dose, initiate maintenance dose at the next dosing interval ([Ref]). In critically ill patients, may consider loading doses of 20 to 35 mg/kg using **actual body weight**; maximum loading dose: 3 g ([Ref]).

Maintenance dose: **IV:** Use **actual body weight** and the following clearance (CL) equations to calculate a maintenance dose; empiric maintenance doses >4.5 g/day are unlikely to be necessary ([Ref]). **Note:** If vancomycin therapy is continued, individualize vancomycin dose using early Bayesian approach (ie, 2 serum concentrations within first 24 to 48 hours) to achieve target AUC ([Ref]).

1. Calculate estimated vancomycin CL ([Ref]).

Estimate CL (L/hour): 9.656 – [0.078 × age] – [2.009 × SCr] + [0.04 × actual body weight$^{0.75}$] + [1.09 × sex].

Where adult age is in years; SCr is serum creatinine in mg/dL; actual body weight in kg scaled to an exponent of 0.75; and sex is 1 if male and 0 if female.

2. Calculate empiric vancomycin maintenance regimen ([Ref]).

Estimate daily dose (rounded to nearest 250 mg): Estimated CL (L/hour) × 500 mg•hour/L.

Where 500 mg•hour/L is the mid-range AUC target selected for a minimum inhibitory concentration (MIC) of 1 mg/L. When the vancomycin CL is estimated to be ≤3 L/hour, administer the dose every 24 hours or divide the daily dose every 12 hours. If CL is estimated to be >3 L/hour, divide the daily dose and administer every 6 to 12 hours ([Ref]).

Dosing – Complex Cases

- Renal Dosing
- Dosing in Patients Undergoing KRT
- Augmented Renal Clearance dosing
- Hepatic Dosing

Augmented renal clearance (measured urinary CrCl ≥130 mL/minute/1.73 m^2): Augmented renal clearance (ARC) is a condition that occurs in certain critically ill patients without organ dysfunction and with normal serum creatinine concentrations. Young patients (<55 years of age) admitted post-trauma or major surgery are at highest risk for ARC, as well as those with sepsis, burns, or hematologic malignancies. An 8- to 24-hour measured urinary CrCl is necessary to identify these patients (Ref).

Liver impairment prior to treatment initiation

Initial or dose adjustment in patients with preexisting liver cirrhosis:

Oral:

Child-Turcotte-Pugh class A to C: Initial: No dosage adjustment necessary due to low systemic absorption (Ref).

IV:

Child-Turcotte-Pugh class A: Initial: No dosage adjustment necessary (Ref).

Child-Turcotte-Pugh class B and C: Initial: No dosage adjustment necessary (Ref). Use caution as creatinine-based equations may overestimate kidney function in these patients; consider a conservative starting dose. If concurrent kidney dysfunction exists, an empiric reduction in dose or frequency (in addition to kidney impairment dosing adjustments) may be necessary to achieve clinical goals (Ref).

Liver impairment developing in patient *already receiving vancomycin:*

Acute worsening of liver function (eg, requiring hospitalization):

Child-Turcotte-Pugh class A to C: No dosage adjustment necessary; intensify therapeutic drug monitoring to guide dosing (Ref).

“ ICU physicians’ attitudes regarding antibiotic dosing adjustments in patients with ARC. Only 15% of the respondents would modify the dose of beta-lactam antibiotics and vancomycin ”

Dunning, J., & Roberts, J. (2015). Assessment of renal function in dosing antibiotics in septic patients: a survey of current practice within critical care units in England: 22. *Anaesthesia*, *70*, 21.

Clinical Support Information

- Storage / Stability
- Test Interactions
- Nursing Practice Points
- Monitoring Parameters
- Reference Range
- Vesicant/Extravasation risk
- Dietary considerations
- Hazardous Drug Handling Considerations

Vesicant/Extravasation Risk

Vesicant (concentrations >0.4 mg/mL); Irritant (concentrations ≤0.4 mg/mL).

Dietary Considerations

Some products may contain sodium.

Hazardous Drugs Handling Considerations

Hazardous agent (NIOSH 2024 [table 1]).

Use appropriate precautions for receiving, handling, storage, preparation, dispensing, transporting, a
NIOSH and USP 800 recommendations **and** institution-specific policies/procedures for appropriate cc
NIOSH 2024; USP-NF 2020).

A excipients, serial
rations in select
nephrotoxins,

onitoring may be
e once-weekly

ybak 2009]).

daily

Prolonged courses (>3 to 5 days): Draw at least one steady-state trough concentration; repeat as clinically appropriate

Reference Range

IV:

Timing of serum samples:

First-order pharmacokinetic analytic equations or Bayesian software to estimate AUC: Requires collection of 2 serum concentrations, postdistributional peak concentration (C_{max}) drawn 1 to 2 hours after infusion and trough concentration (C_{min}) drawn at the end of the dosing interval. It is preferable that a near steady-state postdistributional peak and trough concentration within the same dosing interval (if possible) are used with the equation-based method. Bayesian-derived AUC monitoring does not require steady-state serum concentrations (ASHP/IDSA/PIDS/SIDP [Rybak 2020]).

Trough monitoring: Draw trough concentration just before the administration of a dose at steady-state conditions. Steady-state conditions generally occur approximately after the third dose; therefore, may begin monitoring vancomycin trough concentrations before the fourth dose (usually within 1 hour of administration). More specific recommendations for timing of serum samples may be found in "Monitoring Parameters" (Alvarez 2016; ASHP/IDSA/SIDP [Rybak 2009]).

Reproduction, pregnancy & Lactation Considerations

- Pregnancy & Reproductive Considerations
- Breastfeeding Considerations
- Briggs' Drugs in Pregnancy & Lactation

Reproductive Considerations

Pregnancy status should be evaluated in patients who may become pregnant prior to using the IV formulation containing the excipients polyethylene glycol (PEG 400) and N-acetyl D-alanine (NADA).

Pregnancy Considerations

Vancomycin crosses the placenta and can be detected in fetal serum, amniotic fluid, and cord blood (Bourget 1991; Reyes 1989). Adverse fetal effects, including sensorineural hearing loss or nephrotoxicity, have not been reported following maternal use during the second or third trimesters of pregnancy.

The pharmacokinetics of vancomycin may be altered during pregnancy and pregnant patients may need a higher dose of vancomycin. Maternal half-life is unchanged, but the volume of distribution and the total plasma clearance may be increased (Bourget 1991). Individualization of therapy through serum concentration monitoring may be warranted.

Vancomycin is recommended for the treatment of *Clostridioides difficile* infections in pregnant patients (ACG [Kelly 2021]).

Breastfeeding Considerations

Vancomycin is present in breast milk following IV administration.

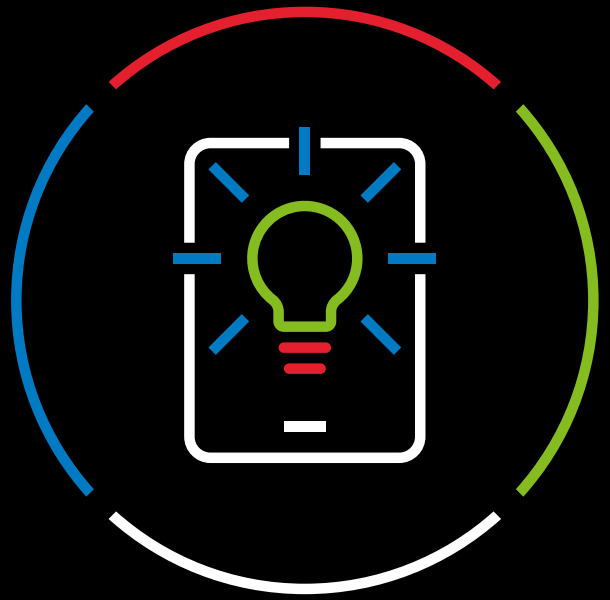
Data related to the presence of vancomycin in breast milk are available from a mother who received vancomycin 1 g IV every 12 hours during pregnancy and for at least 1 week prior to sampling. Vancomycin 12.7 mcg/mL was detected in breast milk 4 hours after a maternal dose (Reyes 1989).

Vancomycin exhibits minimal oral absorption; therefore, the amount available to pass into the milk would be limited following oral administration and unlikely to provide clinically relevant exposure to an infant exposed via breast milk.

In general, antibiotics that are present in breast milk may cause non-dose-related modification of bowel flora. Monitor infants for GI disturbances, such as thrush or diarrhea (WHO 2002).

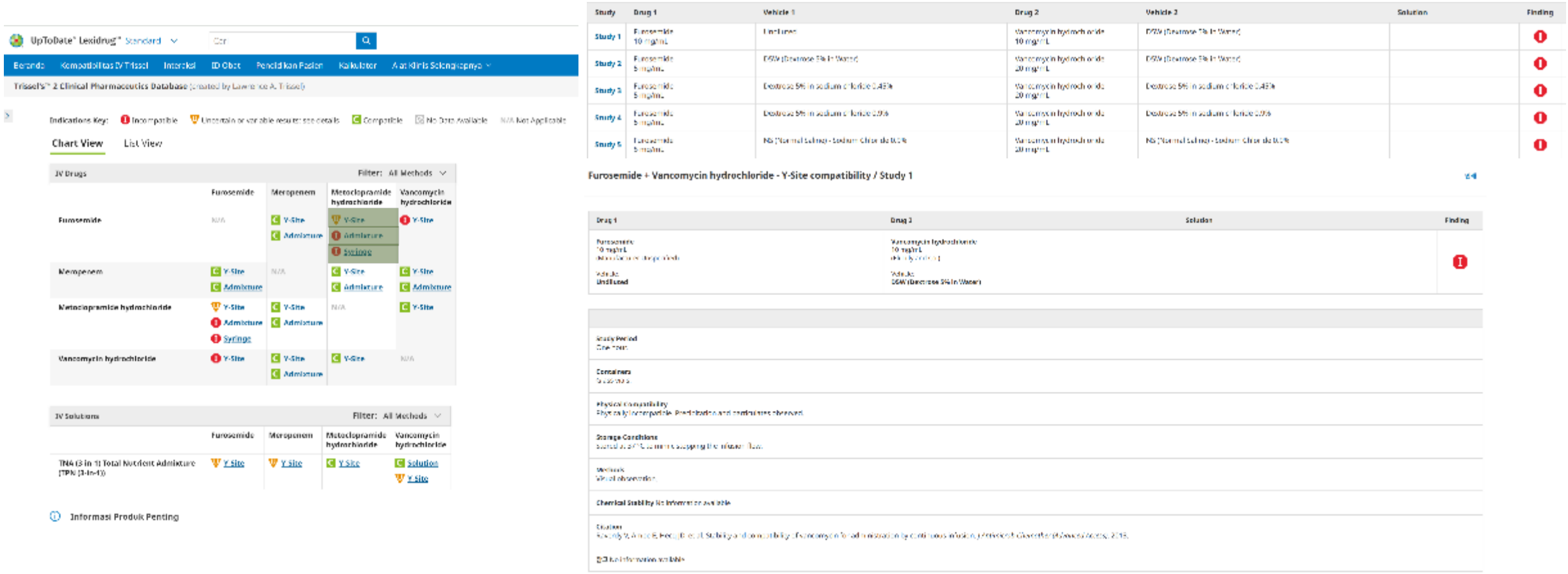
Briggs' Drugs in Pregnancy & Lactation

- Vancomycin



Clinical tools in Lexidrug!

Trissel's IV Compatibility (Y-Site, Admixture, Syringe)



- Analyzes compatibility of IV medications, fluids, and TPN within the same line, providing evidence-based stability data.
- Offers validated study findings on drug–drug and drug–diluent compatibility to support safe administration across diverse clinical settings.

Trissel's IV Compatibility (Trissel's Monograph)

Trissel's™ 2 IV Compatibility (created by Lawrence A. Triss

Selected Items

IV Drug(s)

Enter IV Drug(s) | Add

- ✕ **Piperacillin sodium-tazobactam sodium** — Trissel's Monograph
- ✕ **Potassium chloride** — Trissel's Monograph

Piperacillin sodium-tazobactam sodium - Trissel's monograph

Print

details.(Ref)

Preparation for Administration: Adult

Note: Premixed solutions are also available; see manufacturer's labeling.

Vials:

Single-dose vial: After initial reconstitution, further dilute in D5W or NS to a volume of 50 to 150 mL.

2.25 g vial: Reconstitute 2.25 g vial with 10 mL of diluent (eg, D5W, NS, SWFI), resulting in a final concentration of **piperacillin** 180 mg/**mL** and tazobactam 22.5 mg/mL (total piperacillin/tazobactam concentration: 202.5 mg/mL) (US labeling) or **piperacillin** 172 mg/**mL** and tazobactam 22 mg/mL (total piperacillin/tazobactam concentration: 194 mg/mL) (Canadian labeling).

Piperacillin sodium-tazobactam sodium - Trissel's monograph

Print

n of **piperacillin** 180 mg/**mL** and
cillin 172 mg/**mL** and tazobactam 22

A study by Moon et al. reported that piperacillin-tazobacta
total piperacillin/tazobactam) and **200 mg/mL of piperacil**
in polypropylene syringes (Becton Dickinson) was stable fo
drug in D5W at either temperature. In NS, no tazobactam
7 days refrigerated.(Ref)

Light Effects

A study by Donnelly found little or no loss of either piperac

Piperacillin sodium-tazobactam sodium - Trissel's monograph

Print

Sorption

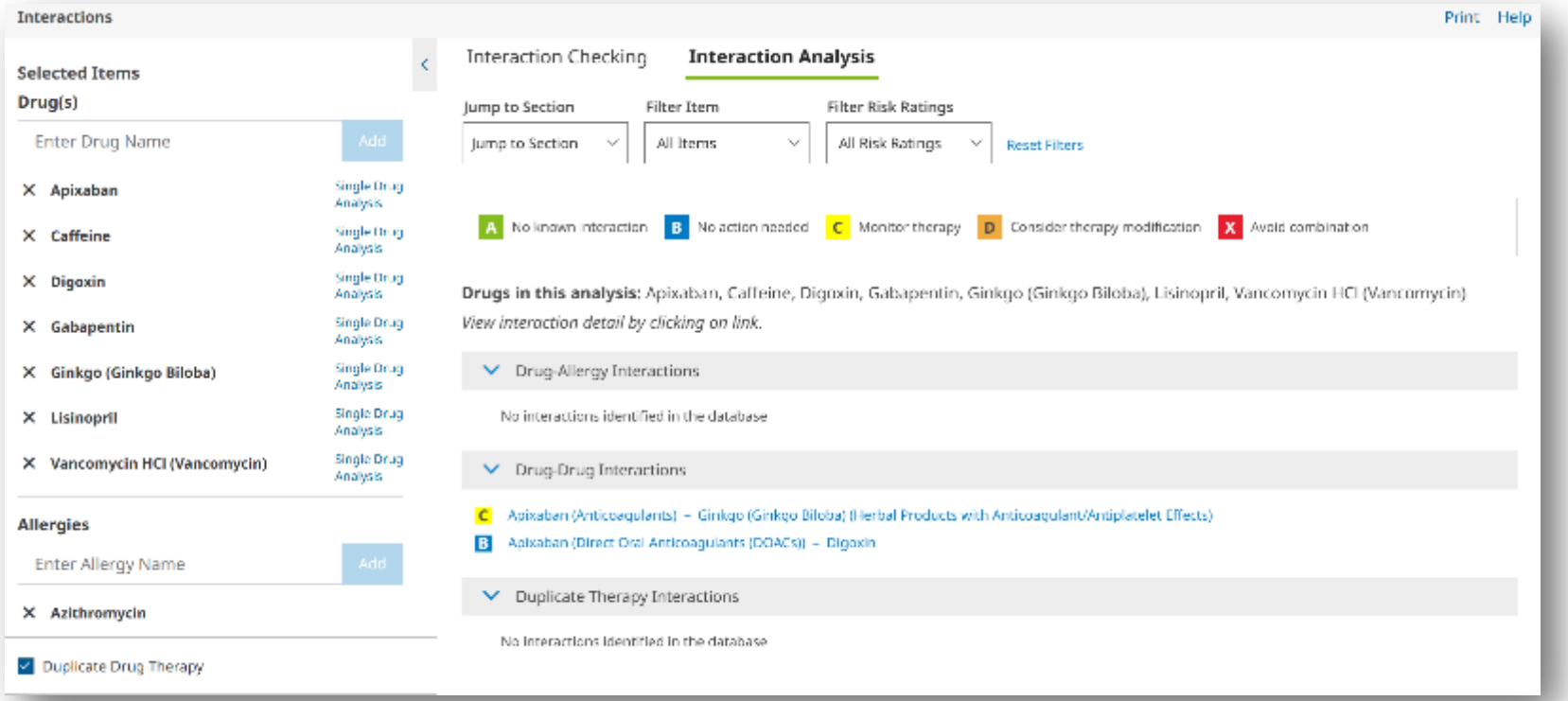
[Also see Piperacillin sodium.]

The manufacturer indicates that piperacillin-tazobactam is unaffected by contact with glass and various plastic materials used in infusion solution bags, administration set tubing, and plastic syringes.

In addition, a study by Xu et al. reported no sorption occurred to a polyurethane central catheter from Arrow International as well as no leaching of the chlorhexidine antimicrobial in it.

A study by Picard et al. reported that piperacillin sodium 40 mg/mL in D5W and in NS did not exhibit substantial sorption to a three layer infusion solution container (Bieffe Medital) composed of polyethylene, polyamide, and polypropylene. HPLC analysis found little or no loss of piperacillin during 2 hours of contact with the bag and also after simulated infusion.

Multimodal Interaction Risk Checker

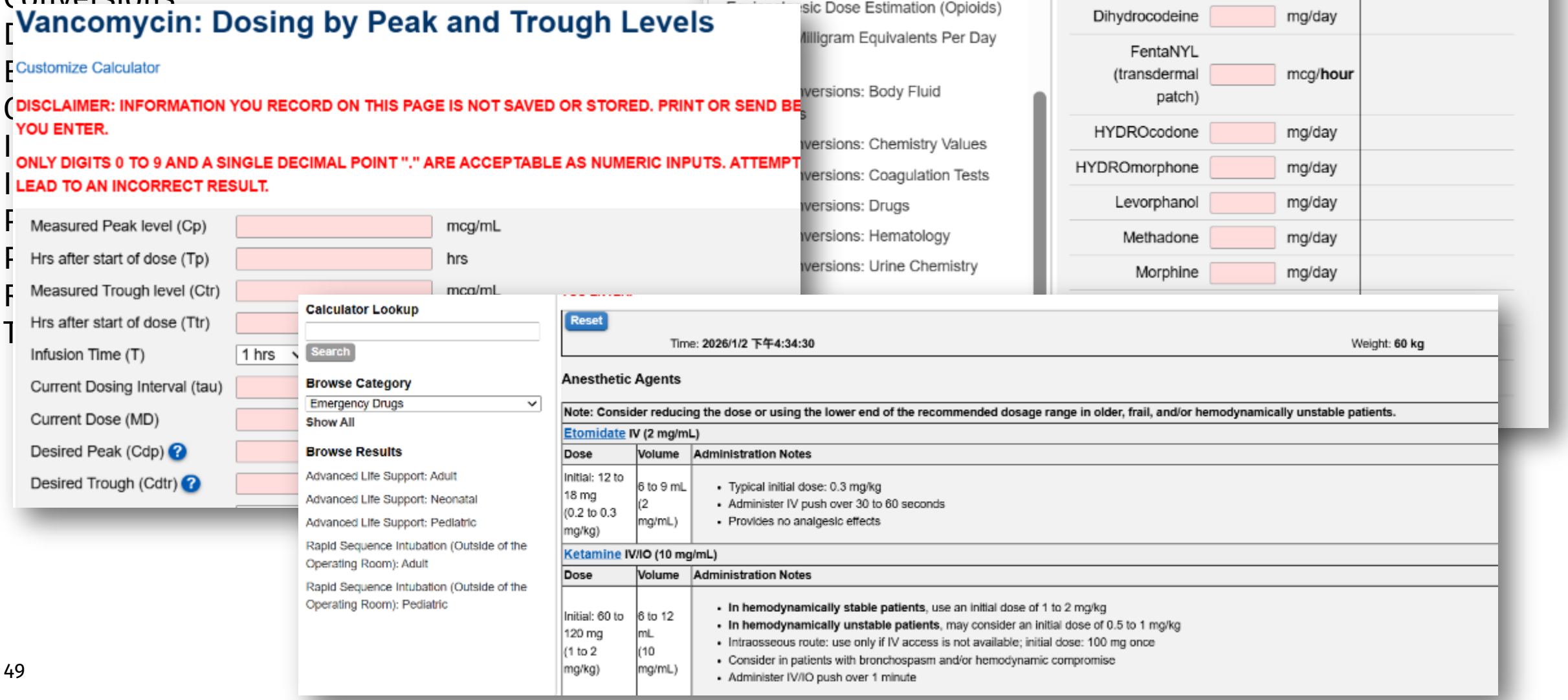


- A comprehensive interaction checker across drugs, dietary components, herbal products, and allergy risks.
- Provides graded interaction severity, patient management guidance, and deeper clinical details with authoritative references.
- Enhances clinicians' decision-making and supports safer patient management.

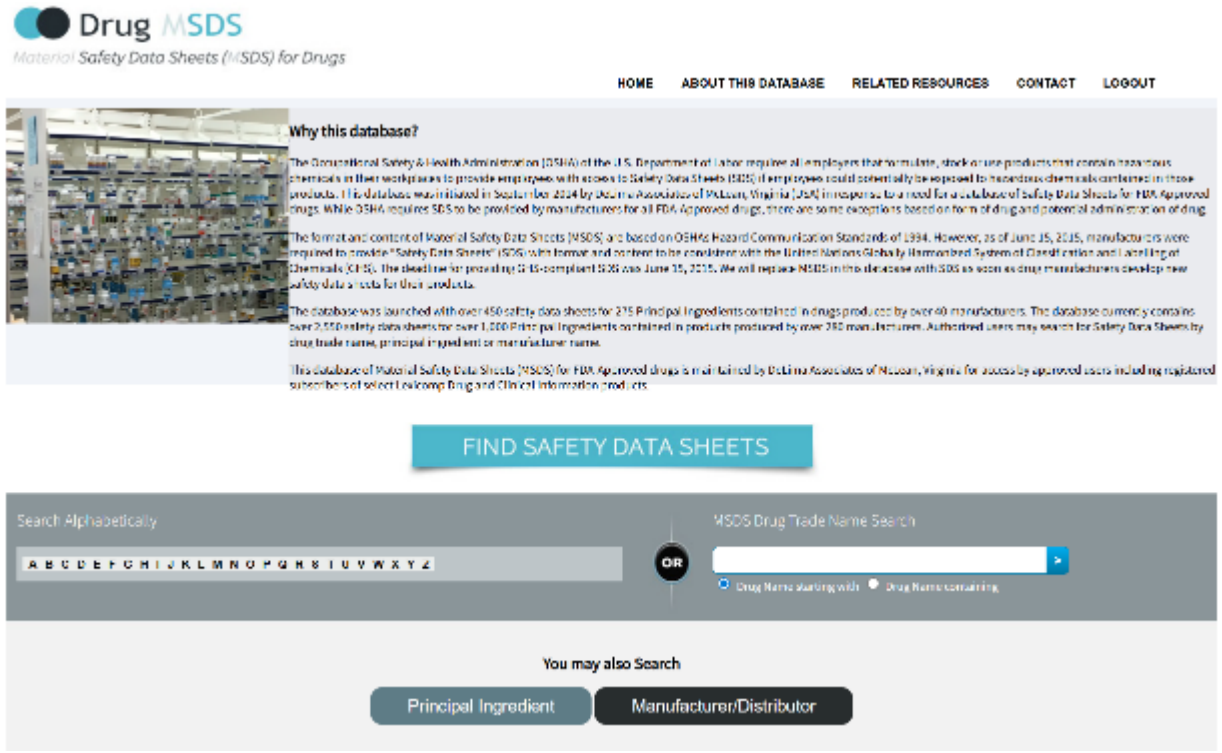
Calculators

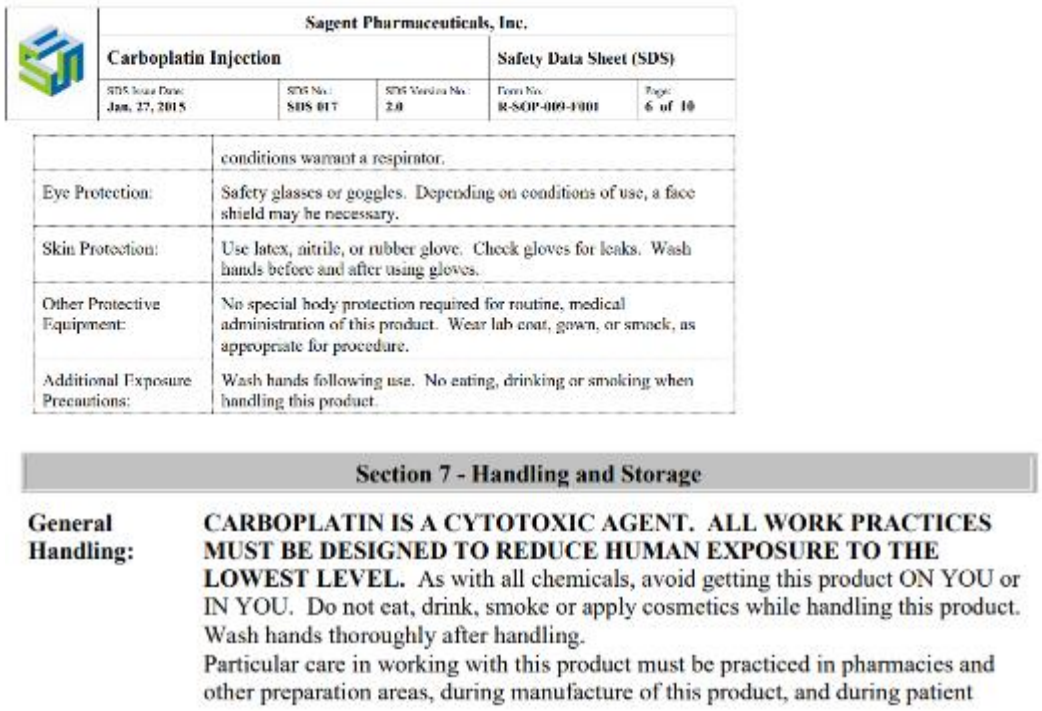
Adult

Conversions



Drug MSDS





Sagent Pharmaceuticals, Inc.

Carboplatin Injection			Safety Data Sheet (SDS)	
SDS Issue Date: Jan. 27, 2015	SDS No.: SDS 017	SDS Version No.: 2.0	Form No.: R-SOP-009-F001	Page: 6 of 10

	conditions warrant a respirator.
Eye Protection:	Safety glasses or goggles. Depending on conditions of use, a face shield may be necessary.
Skin Protection:	Use latex, nitrile, or rubber glove. Check gloves for leaks. Wash hands before and after using gloves.
Other Protective Equipment:	No special body protection required for routine, medical administration of this product. Wear lab coat, gown, or smock, as appropriate for procedure.
Additional Exposure Precautions:	Wash hands following use. No eating, drinking or smoking when handling this product.

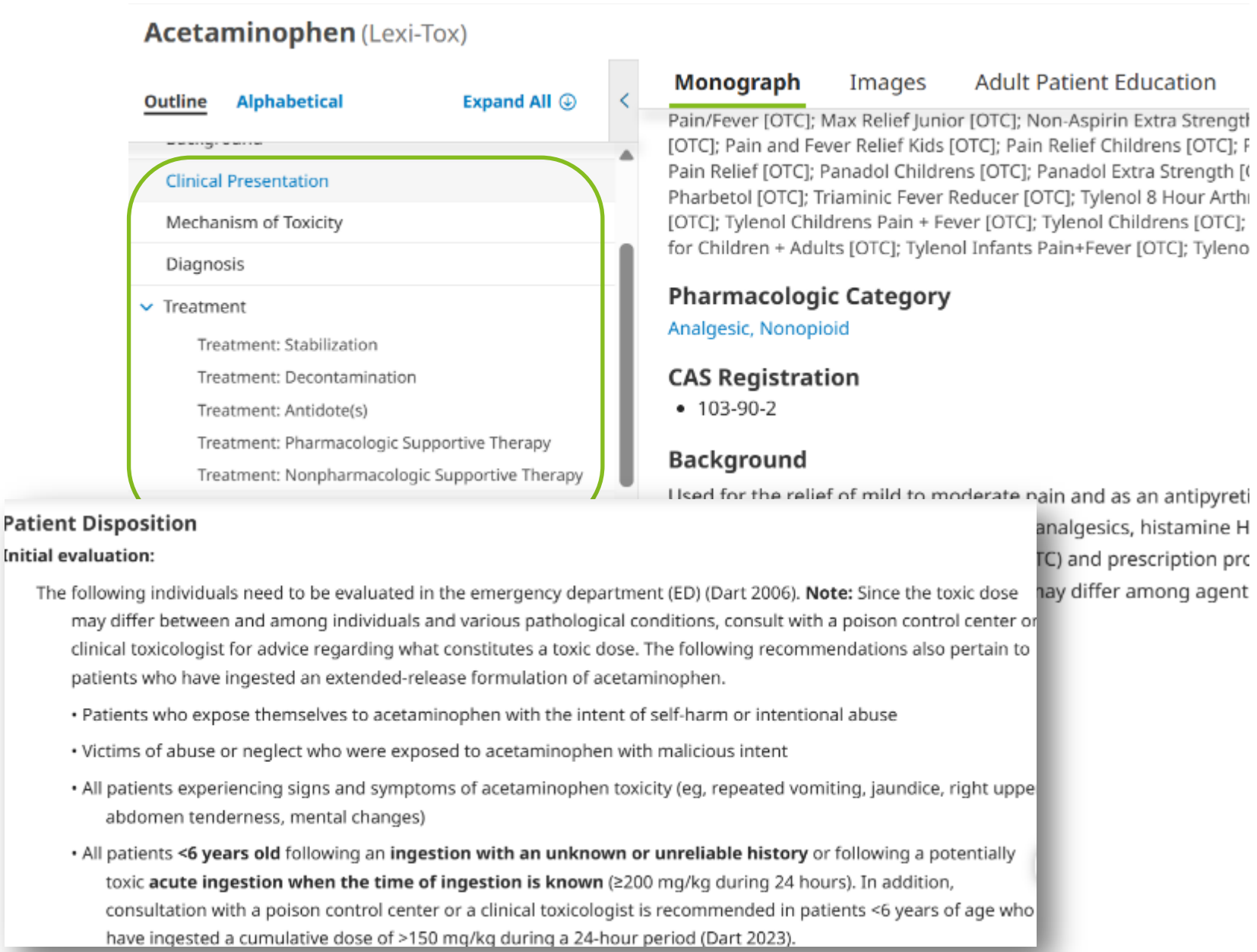
Section 7 - Handling and Storage

General Handling: **CARBOPLATIN IS A CYTOTOXIC AGENT. ALL WORK PRACTICES MUST BE DESIGNED TO REDUCE HUMAN EXPOSURE TO THE LOWEST LEVEL.** As with all chemicals, avoid getting this product ON YOU or IN YOU. Do not eat, drink, smoke or apply cosmetics while handling this product. Wash hands thoroughly after handling.
Particular care in working with this product must be practiced in pharmacies and other preparation areas, during manufacture of this product, and during patient

- Provided to offer OSHA-compliant Safety Data Sheets for FDA-approved drugs.
- Delivers standardized 16-section SDS documents covering chemical hazards, safe handling, first aid, PPE, and storage requirements.
- Supports institutional safety and regulatory compliance when drugs are reconstituted, crushed, or compounded.
- Helps pharmacy and clinical staff quickly access essential hazard information as part of routine medication preparation workflows.

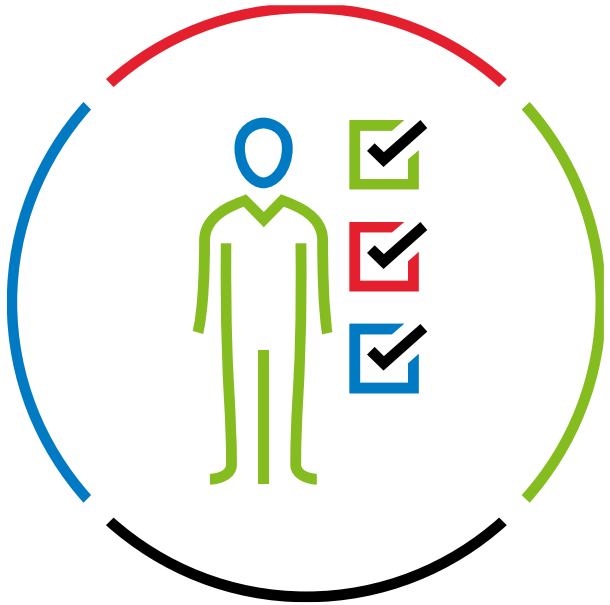
Lexi – Tox

- Comprehensive toxicology guidance for drug/chemical intoxication
- Structured info: mechanism, metabolism, onset, severity, treatment
- Ex) Benzodiazepine overdose example: flumazenil precautions + mixed-intoxication management
- Population & Route-Specific Insights
- Immediate decision support for ED, ICU, and pharmacy teams



Clinical scenario

Managing the Complex Septic Patient



Managing the Complex Septic Patient

Patient Profile: An 82-year-old male admitted with Sepsis

Clinical Complications: Chronic Kidney Disease (CKD), Obesity, and Polypharmacy.

Situation:

- The physician orders Vancomycin to treat the infection.
- The patient is already on multiple home medications (Polypharmacy)
- The nurse needs to prepare and administer the IV infusion.

The Challenge: Standard FDA labels are often too generic for a geriatric patient who is both obese and renally impaired.

Medications prior to admission:

- Enalapril 5 mg once daily
- Atorvastatin 20 mg once daily
- Vitamin B Complex once daily

=UpToDate account=

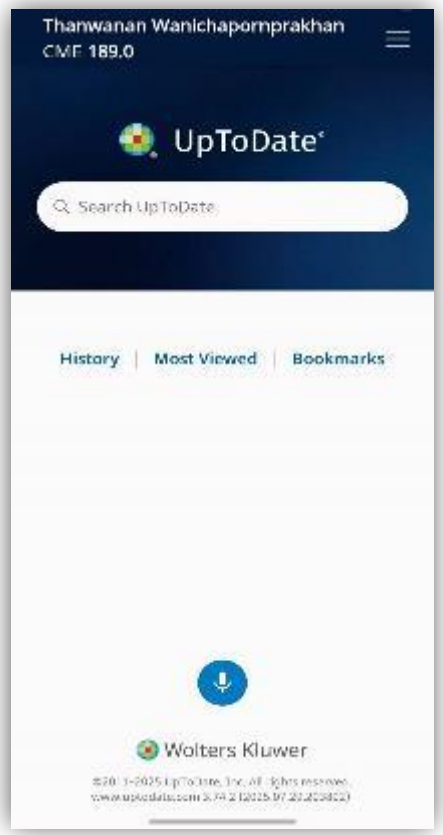
How to register?

UpToDate can be accessed in 2 convenient ways:

1.UpToDate Online (Web Browser) – Registration is required. Connect through your hospital's internet network to access directly.

- ✓ You can use the Mobile app (Accessing UpToDate remotely)
- ✓ Collect CME

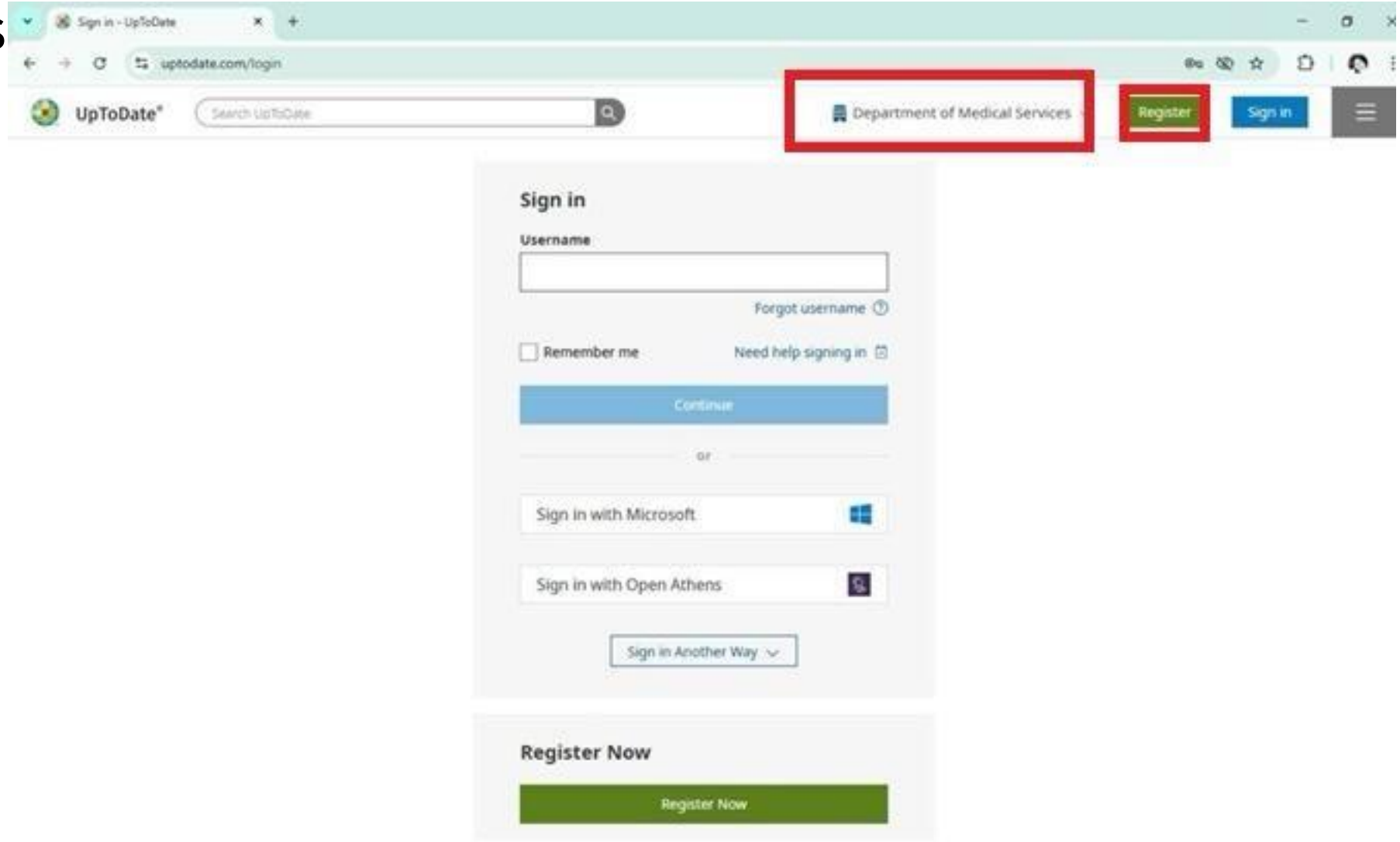
www.uptodate.com -->connect through your hospital's internet network



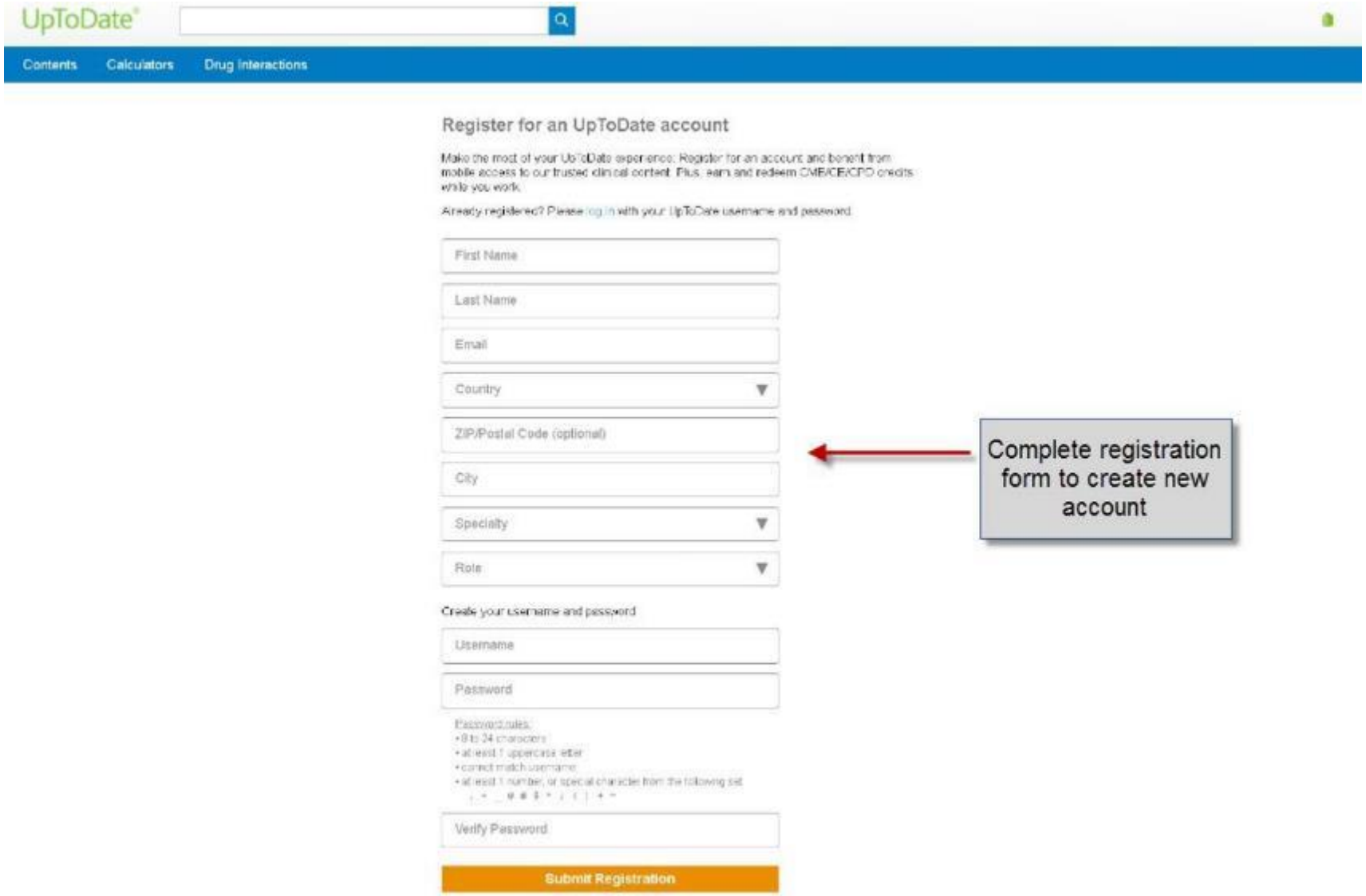
2.UpToDate Mobile App – General internet access is sufficient.

not necessary to use the hospital's internet for the mobile app at all.

Easy registration process

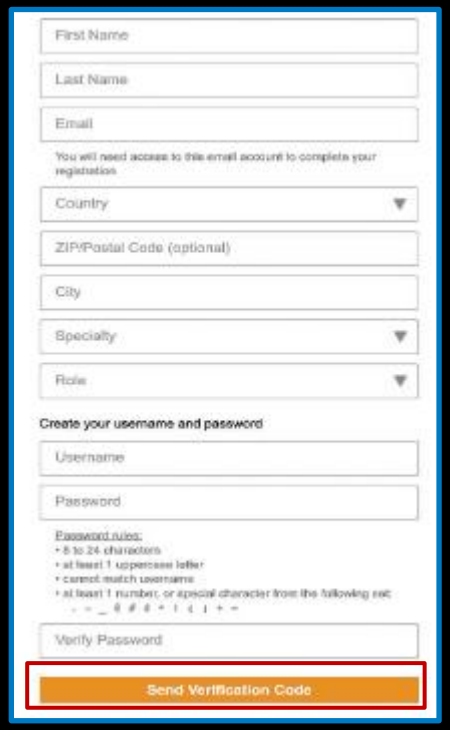


Easy registration process



Registration Form

Fill in the form and click on Send Verification Code.

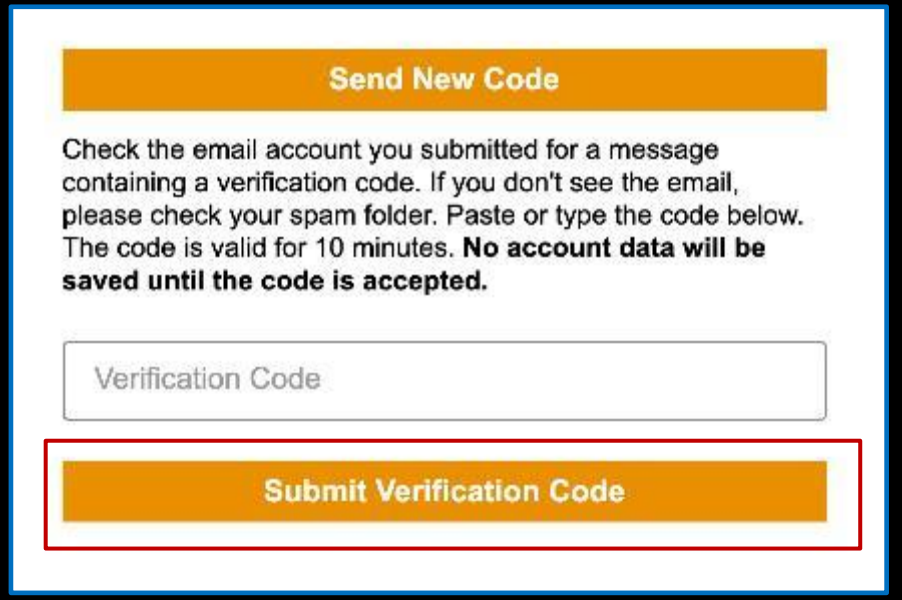


Email Check

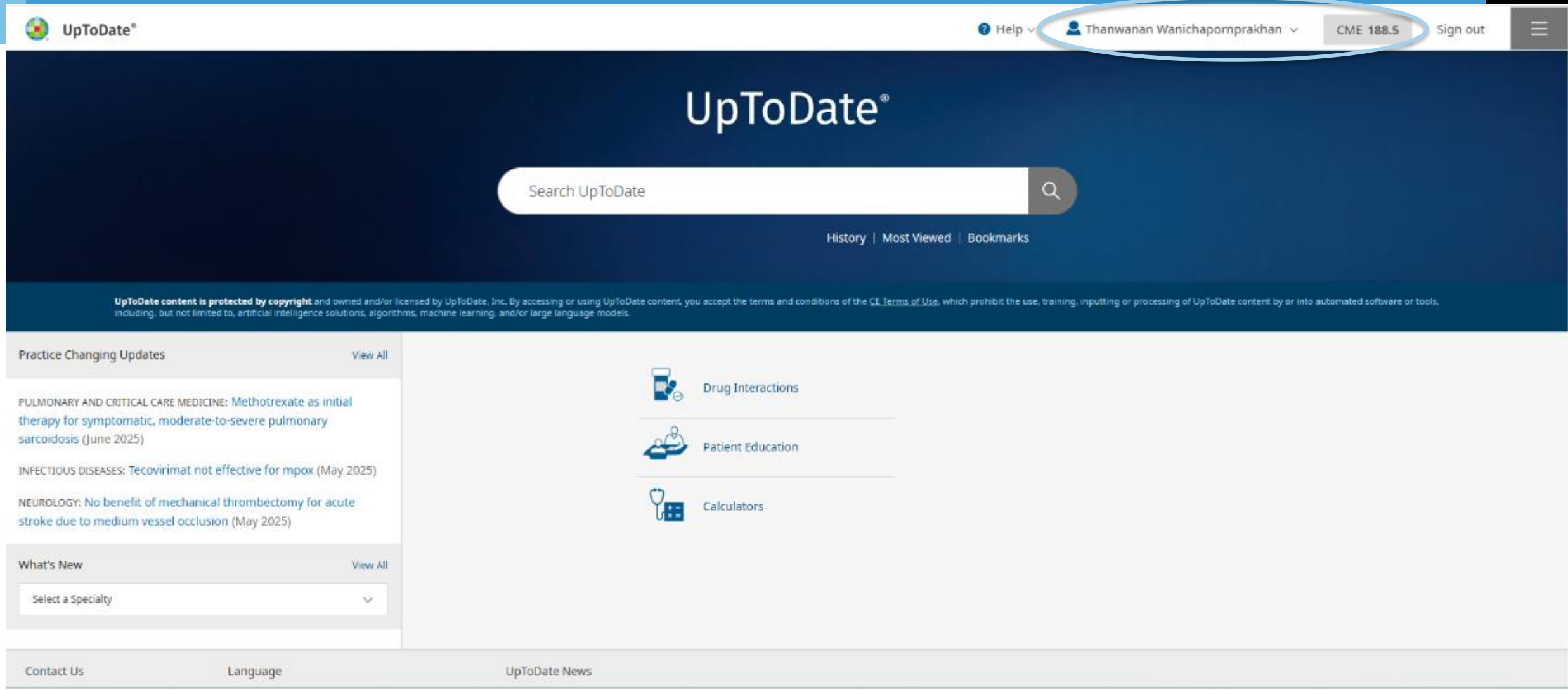
Check your email for the Verification Code. Email is sent from noreply@uptodate.com

Input Form

Enter the Code (again from the input form), Submit and go next.

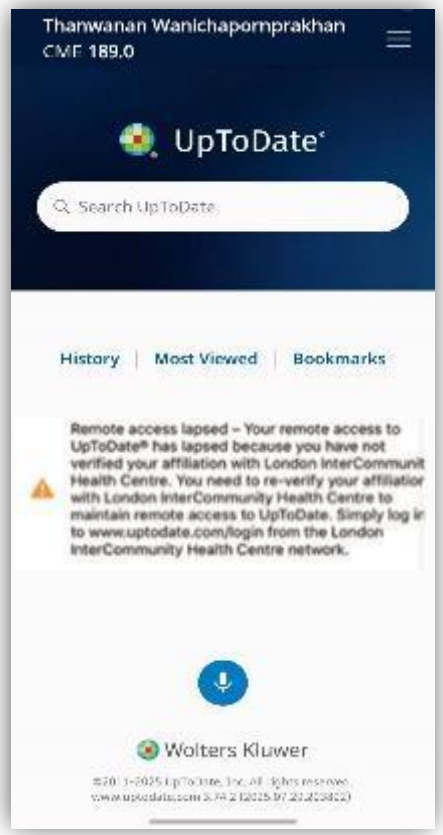


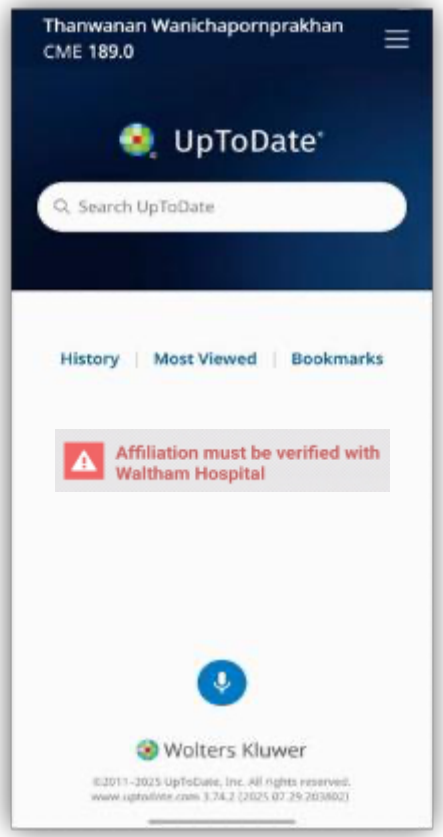
Finished Re-verify

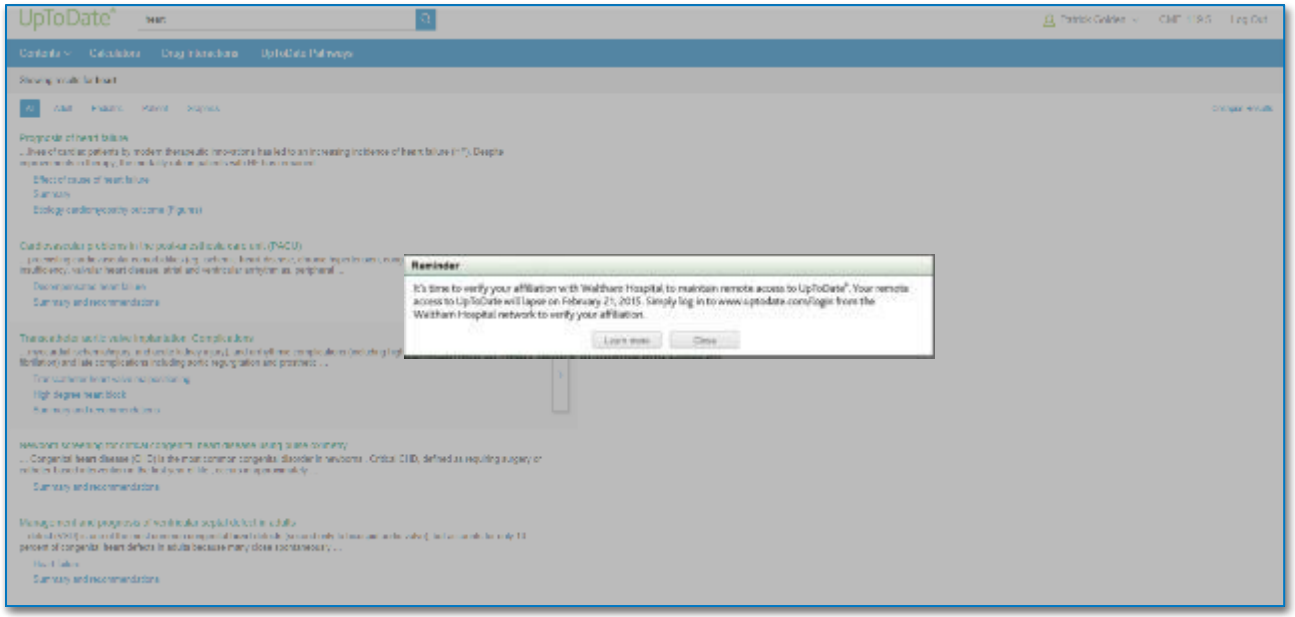


90 Day Re-Verification

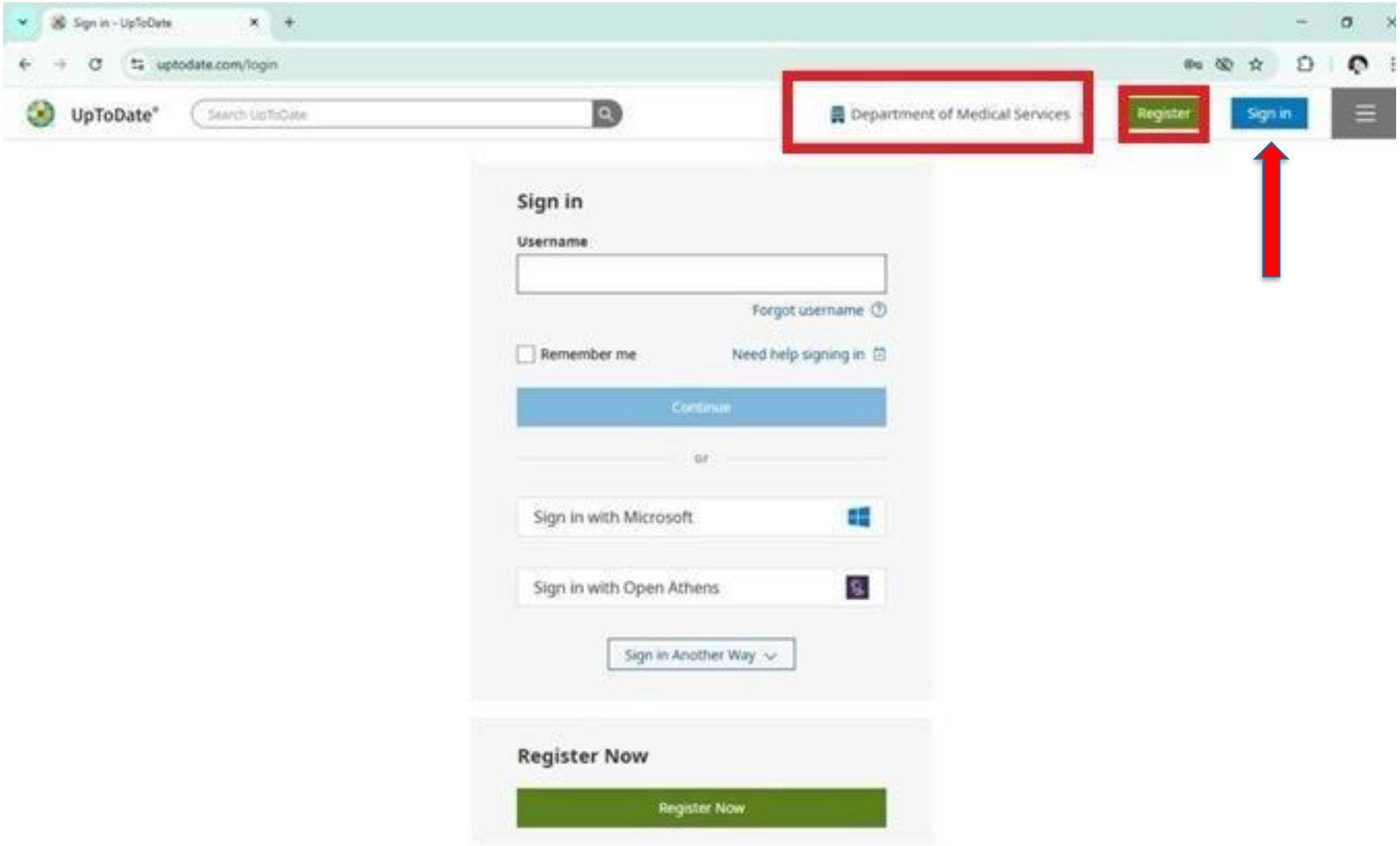
In-application & email messaging reminds clinicians to verify their affiliation with the organization to maintain remote access rights.





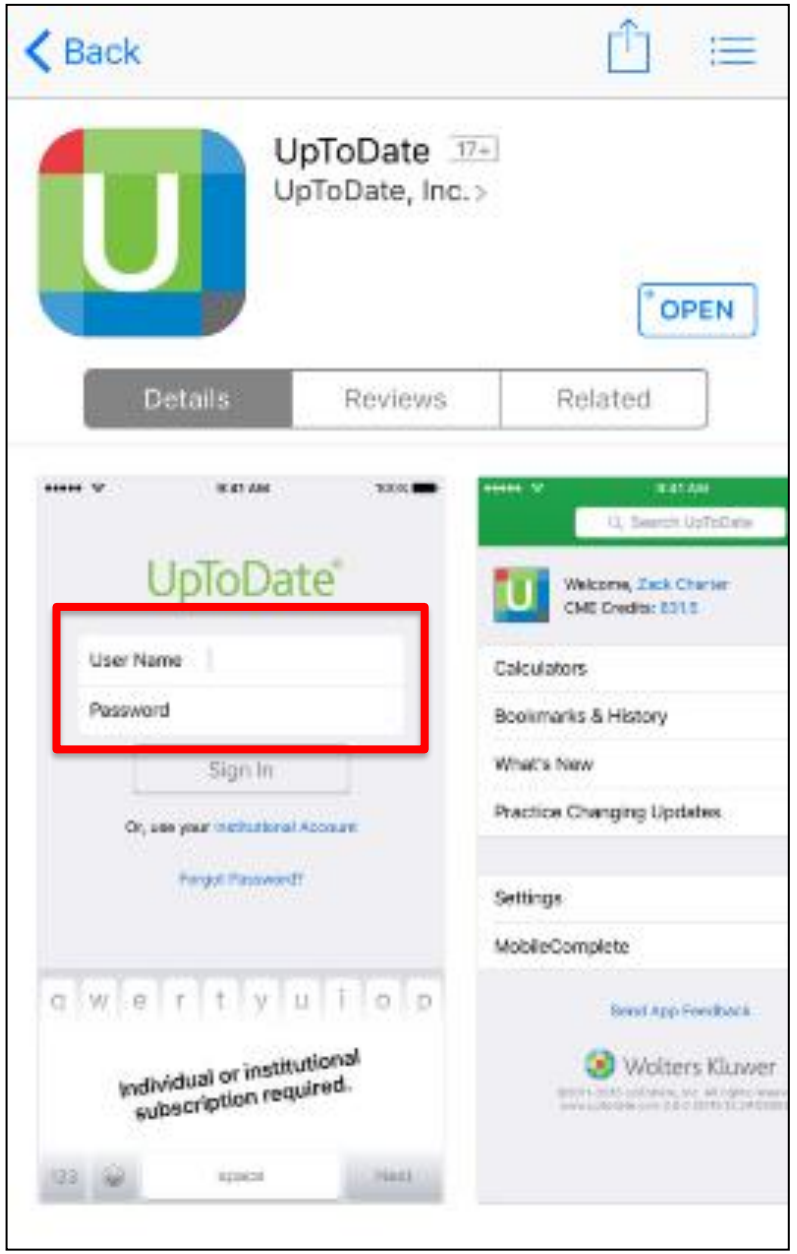


Reverify=Log in within the institution=extend remote access 90days



Download the Mobile App

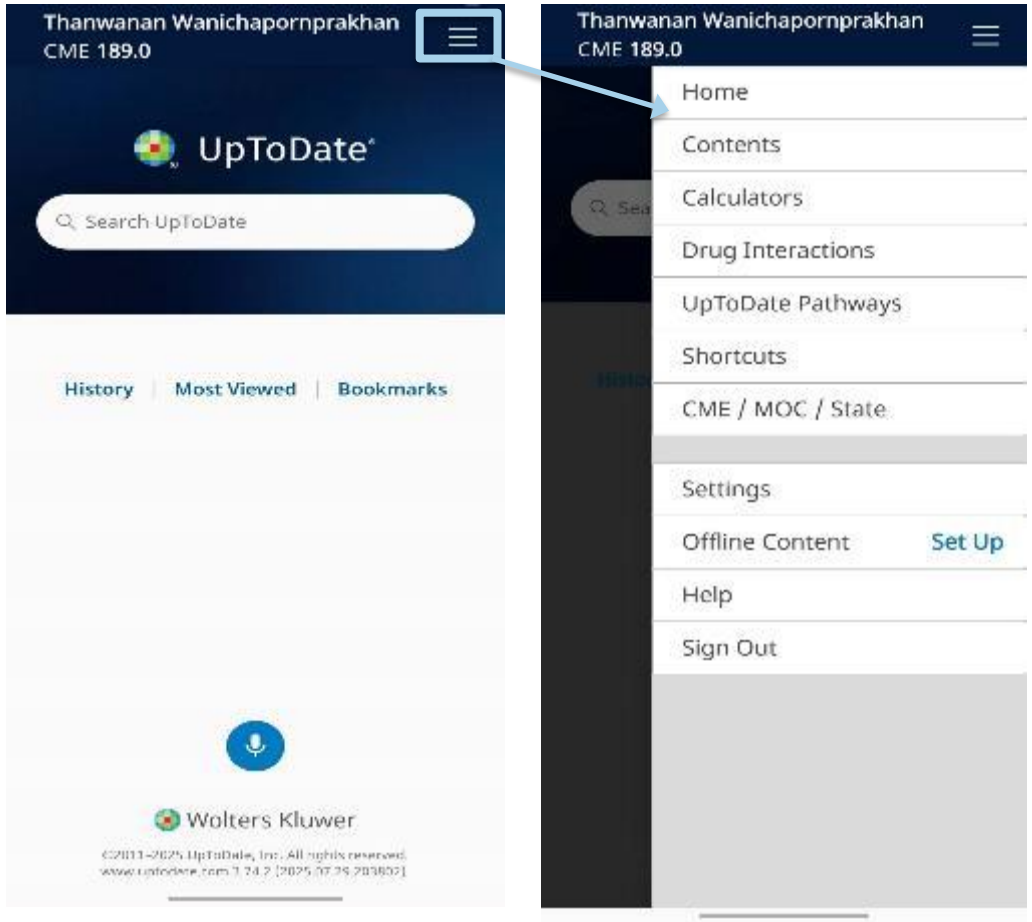
- Go to your **App Store/ Play Store**
- Search: UpToDate
- Click on the UpToDate icon
- Download App
- Enter your UN/PW the first time you access the App



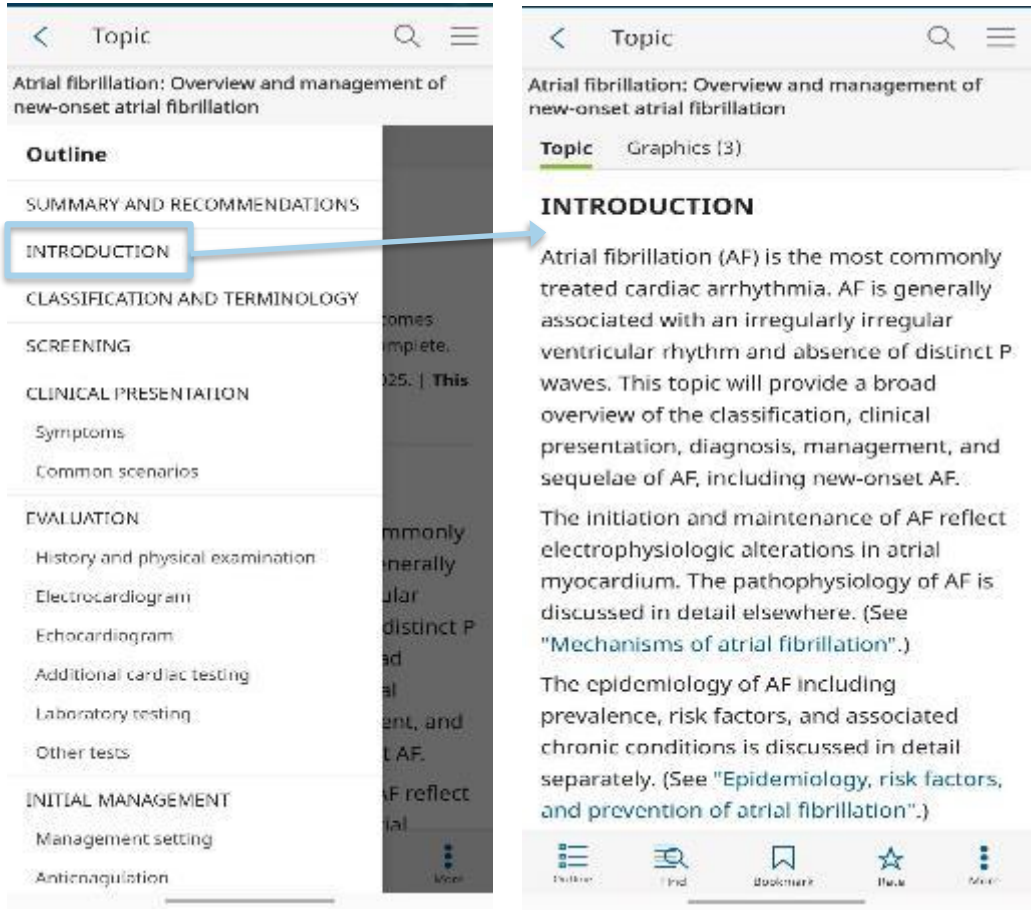
Consistent user experience across all devices

Mobile version provides same look at feel as desktop version

Home screen view



Topic view



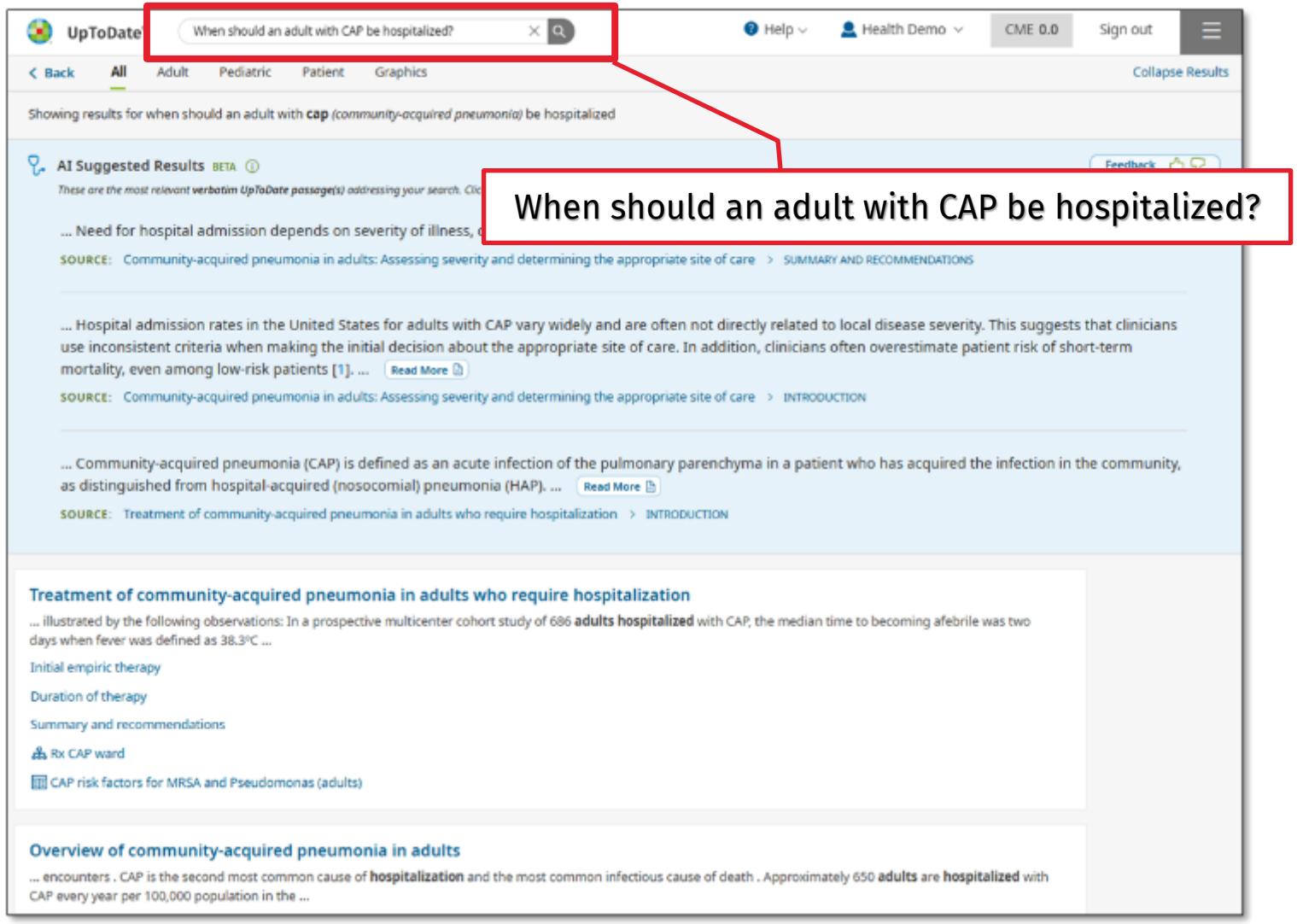
The New Feature!

-AI Enhanced Search
-Key Point Panel

Introducing AI-Enhanced Search: Search efficiency without hallucination risks.

Accelerates speed-to-guidance for point-of-care clinical questions.

- understands natural language questions and directs users to unaltered clinical guidance, sourced directly and exclusively from UpToDate content.
- Accelerates speed-to-answer while eliminating the risk of hallucinations associated with generative AI solutions



More examples for AI-enhanced search:

1. When should an adult with CAP be hospitalized?

2. What are the indications for the new RSV vaccine?

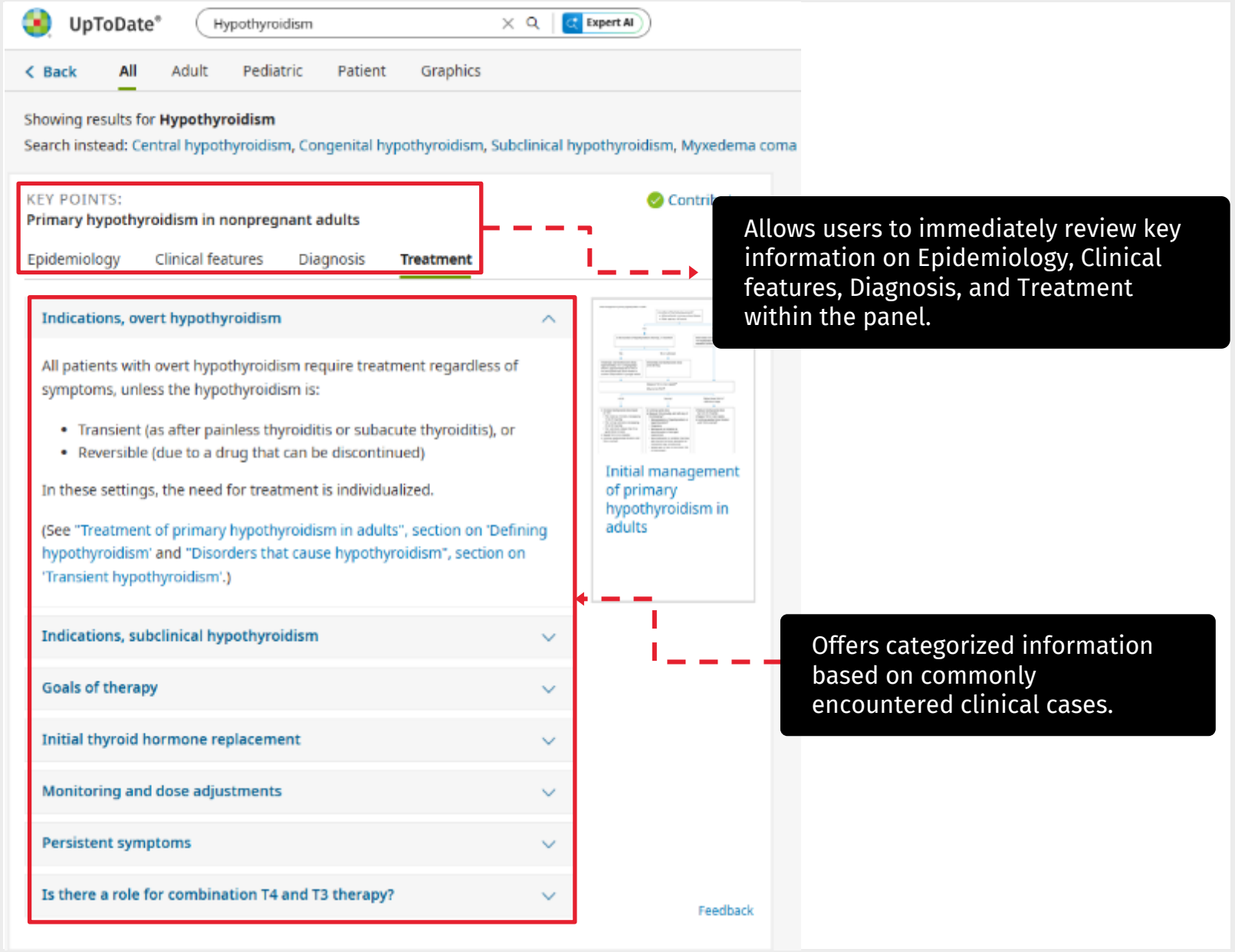
3. When should single versus combination therapy be given for the initial treatment of hypertension?

4. How long does a typical migraine last?

Key point Panel

Immediately actionable clinical information

- Provides concise, at-a-glance key information for the most frequently searched topics in UpToDate.
- Extracts and summarizes essential content from topics related to the search term, enabling quick and convenient review.
- Provides direct links beneath the summary for users who require deeper exploration of the full topic.



Scan to obtain digital certificate & training slides

We’re clinicians too!

If you need insights on product integration or medication safety strategies, we’re just a message away.

Thanwanan Wanichapornprakhan

(Senior Customer Success Specialist, TH-IND-VN)

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Mobile/Line/WhatsApp: +66966935144

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