



**CONFIDENTIAL & PROPRIETARY**

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10 March 2025

**Clinical Effectiveness**

# Enhancing Clinical Decision Support

Using UpToDate Enterprise Edition and UpToDate Lexidrug

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## Confidentiality Statement

The information contained within this Proposal is confidential and proprietary and may be used solely for the purpose of evaluating the potential license of offerings and/or services provided by the Wolters Kluwer entities (sometimes collectively referred to as “Wolters Kluwer”) identified in this Proposal.

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Any information contained within this Proposal may only be disclosed to directors, officers, employees, and agents of the recipient organization who need to know such information for the purpose of evaluating this Proposal. The information contained within this Proposal shall not be communicated to anyone outside of the recipient organization without the express written permission of Wolters Kluwer.

## Executive Summary

SOTEVirtuaalikirjasto Oy supports the ongoing development of skills and knowledge among health and social care professionals by ensuring equal, safe, and high-quality access to scientific information. You want to provide reliable and innovative services to your customers, ensuring that all owner organizations have equal access to the necessary information.

Our proposal recommends that SOTEVirtuaalikirjasto Oy to:

1. **Upgrade to UpToDate® Enterprise Edition.** SOTEVirtuaalikirjasto Oy users rely on UpToDate to make evidence-based, clinical decisions. **In fact, in calendar year 2024, SOTEVirtuaalikirjasto Oy users accessed UpToDate 149,310 times, resulting in 32,207 decisions changed.**

What distinguishes UpToDate from other CDS solutions is our more than 7,600 expert authors and editors who make recommendations at times based on years of practice. This is important when there is little or no evidence available, but the clinician must still decide how best to treat a patient. In these instances, our authors' world-renowned expert authority and our editorial and peer review process enable clinicians to treat their patients confidently.

With UpToDate Enterprise Edition, Rede D'Or clinicians can access more than:

- 12,800 evidence-based clinical topics across 25 robust clinical specialties that physicians write, review, and edit based on their relevant expertise in the applicable topic. UpToDate topics include all the internal medicine subspecialties (at a level that meets the needs of the subspecialist), Cancer Care, primary care, internal medicine, OB/GYN, pediatrics, and general surgery. You can view the table of contents for each specialty at <https://www.uptodate.com/home/specialties>.
- 850 Disease-specific Society guidelines links topics.
- 550,000 references and citations, which link to Medline Abstracts.
- 9,900 graded recommendations.
- 7,900 drugs and drug interactions information powered by Lexicomp.
- 38,000 searchable graphics.
- 230 medical calculators.
- 1,500 condition-specific and more than 2,530 medication-specific patient education topics.
- 75 interactive pathways (new with Enterprise).
- 120 lab interpretations (new with Enterprise).
- Online Analytics Dashboard (new with Enterprise).
- Single sign-on capabilities (new with Enterprise).
- Guest licenses to our AI Labs, a technical sandbox supporting our testing of AI with UpToDate within a safe environment (new with Enterprise).

UpToDate also includes a mobile app compatible with iOS® or Android™ devices.

2. **Continue to provide UpToDate® Lexidrug.** Lexidrug provides clinicians with online and mobile access to concise, evidence-based, point-of-care drug information. Drug information includes dosing, adverse effects, administration, warnings, interactions, and precautions, as well as clinical practice guidelines, pharmacokinetics, IV compatibility from Trissel's 2 Clinical Pharmaceuticals Database, Briggs' Drugs in Pregnancy & Lactation AHFS, more than 8,000 patient-focused educational leaflets, and many other tools.

These products provide comprehensive, evidence-based clinical decision support and drug information. Using UpToDate Enterprise and Lexidrug, SOTEVirtuaalikirjasto Oy can offer a comprehensive clinical decision support system that enhances the quality of care, improves patient outcomes, and increases operational efficiency. These products provide a seamless experience for clinicians, enabling them to access critical information and make informed decisions quickly and efficiently.

### Benefits

Benefits of using UpToDate Enterprise Edition and Lexidrug together include:

1. **Seamless Integration:** Both solutions work together seamlessly, allowing clinicians to navigate easily between UpToDate's clinical guidance and Lexidrug's drug information within the same workflow. This integration helps improve clinician communication, streamline workflows, and reduce medication errors.
2. **Comprehensive Clinical Decision Support:** UpToDate Enterprise provides evidence-based clinical decision support, while Lexidrug offers detailed drug information, including dosing, adverse effects, administration, warnings, interactions, and precautions. Together, they provide a holistic approach to patient care, ensuring that clinicians have access to the most relevant and up-to-date information.
3. **Enhanced Efficiency and Quality of Care:** By using both solutions, healthcare professionals can quickly access reliable information, which enhances their efficiency and confidence in decision-making. This is particularly beneficial in environments with healthcare workforce shortages, as it helps mitigate the impact of these shortages.
4. **Improved Patient Outcomes:** The combined use of UpToDate and Lexidrug helps standardize care, reduce unwanted variability, and support better patient outcomes. The solutions are developed under the same editorial philosophy, ensuring consistency and reliability in the information provided.
5. **Advanced Analytics and Real-Time Data Insights:** UpToDate Enterprise Edition includes advanced analytics delivered through the Enterprise Portal, providing healthcare management professionals with access to self-service, real-time data insights. This helps decision-makers make data-driven improvements and proactively address care team education needs.
6. **Enhancing Health System Resilience.** UpToDate and Lexidrug provide real-time updates on new drug warnings and clinical guidelines, ensuring that healthcare professionals are always informed about the latest developments. This enhances the health system's resilience to withstand future health threats.
7. **Managing Rising Healthcare Costs.** By offering evidence-based recommendations and standardized care protocols, UpToDate and Lexidrug help reduce unnecessary tests, treatments, and adverse drug events, lowering overall healthcare costs. Furthermore, UpToDate's evidence-based content helps standardize care, reducing variability and associated costs.

When you subscribe to Lexidrug and UpToDate, you provide your staff with the “right tools” to provide exemplary, standardized care. Unlike other solutions, our solutions are seamlessly linked, and clinicians can easily navigate from one resource to another within the same workflow.

### Conclusion

Combining UpToDate Enterprise Edition and Lexidrug enhances clinical decision-making, patient care, and operational efficiency. Integrating these tools boosts clinical effectiveness and improves patient outcomes, while a unified decision support platform ensures confident decision-making by providing a common care guidebook.

We look forward to demonstrating how you can seamlessly deliver UpToDate and Lexidrug content as part of your clinicians' workflow, helping them make the best, evidence-based care decisions, improve outcomes and quality, and reduce variability in care.

## Pricing

Two pricing options are available for SOTEVirtuaalikirjasto Oy which includes UpToDate Enterprise Edition and UpToDate Lexidrug.

### **Option 1**

In Option 1, all areas need to be part of the contract. This price proposal is based on the current headcount in the expiring contract.

	<i>1 Year*</i>	<i>2 Years*</i>	<i>4 Years*</i>
<b>Year 1</b>	\$792 945,00	\$792 945,00	\$792 945, 00
<b>Year 2</b>		\$856 381,00	\$840 522,00
<b>Year 3</b>			\$890 953, 00
<b>Year 4</b>			\$944 410,00

\*Indicative prices and official prices will be stated in the contract

\*Valid until 31 May 2025

Start date subscription 01 June 2025

## Option 2

In Option 2, we apply the new headcount and all areas can choose if they decide to continue with UpToDate and UpToDate Lexidrug. Below are the new headcount numbers by the wellbeing area:

<i>Wellbeing Areas</i>	<i>Total amount of clinicians and residents</i>
Etelä-Karjalan hyvinvointialue	203
Etelä-Pohjanmaan hyvinvointialue	430
Etelä-Savon hyvinvointialue	366
Kainuun hyvinvointialue	202
Kanta Hämeen hyvinvointialue	388
Keski-Pohjanmaan hyvinvointialue	191
Keski-Suomen hyvinvointialue	804
Kymmenlaakson hyvinvointialue	278
Lapin hyvinvointialue	411
Pohjanmaan hyvinvointialue	387
Pohjois-Karjalan hyvinvointialue	393
Päijät-Hämeen hyvinvointialue	445
Satakunnan hyvinvointialue	588
Aland	115
<b>In total</b>	<b>5201</b>

Based on these numbers we provide you with the following contract options:

**Option 2a. One Year Contract**

<i>Wellbeing Area</i>	<i>Year 1 *</i>
Etelä-Karjalan hyvinvointialue	\$60 250,00
Etelä-Pohjanmaan hyvinvointialue	\$127 624,00
Etelä-Savon hyvinvointialue	\$108 629,00
Kainuun hyvinvointialue	\$59 954,00
Kanta Hämeen hyvinvointialue	\$115 158,00
Keski-Pohjanmaan hyvinvointialue	\$56 689,00
Keski-Suomen hyvinvointialue	\$238 627,00
Kymmenlaakson hyvinvointialue	\$82 510,00
Lapin hyvinvointialue	\$121 985,00
Pohjanmaan hyvinvointialue	\$114 862,00
Pohjois-Karjalan hyvinvointialue	\$116 642,00
Päijät-Hämeen hyvinvointialue	\$132 076,00
Satakunnan hyvinvointialue	\$174 518,00
Aland	\$34 132,00
<b>Total</b>	<b>\$1 543 656,00</b>

\*Indicative prices and official prices will be stated in the contract

\*Valid until 31-May-2025

Start date subscription 01-June-2025



### Option 2b. Two Year contract

<i>Wellbeing Area</i>	<i>Year 1*</i>	<i>Year 2*</i>
Etelä-Karjalan hyvinvointialue	\$60 250,00	\$65 070,00
Etelä-Pohjanmaan hyvinvointialue	\$127 624,00	\$137 833,92
Etelä-Savon hyvinvointialue	\$108 629,00	\$117 319,32
Kainuun hyvinvointialue	\$59 954,00	\$64 750,32
Kanta Hämeen hyvinvointialue	\$115 158,00	\$124 370,64
Keski-Pohjanmaan hyvinvointialue	\$56 689,00	\$61 224,12
Keski-Suomen hyvinvointialue	\$238 627,00	\$257 717,16
Kymmenlaakson hyvinvointialue	\$82 510,00	\$89 110,80
Lapin hyvinvointialue	\$121 985,00	\$131 743,80
Pohjanmaan hyvinvointialue	\$114 862,00	\$124 050,96
Pohjois-Karjalan hyvinvointialue	\$116 642,00	\$125 973,36
Päijät-Hämeen hyvinvointialue	\$132 076,00	\$142 642,08
Satakunnan hyvinvointialue	\$174 518,00	\$188 479,44
Aland	\$34 132,00	\$36 862,56
<b>Total</b>	<b>\$1 543 656,00</b>	<b>\$1 667 148,48</b>

\*Indicative prices and official prices will be stated in the contract

\*Valid until 31-May-2025

Start date subscription 01-June-2025

### Option 2c. Four Year Contract

Wellbeing Area	Year 1*	Year 2*	Year 3	Year 4
Etelä-Karjalan hyvinvointialue	\$60 250,00	\$63 865,00	\$67 696,90	\$71 758,71
Etelä-Pohjanmaan hyvinvointialue	\$127 624,00	\$138 281,44	\$143 398,33	\$152 002,23
Etelä-Savon hyvinvointialue	\$108 629,00	\$115 146,74	\$122 055,54	\$129 378,88
Kainuun hyvinvointialue	\$59 954,00	\$63 551,24	\$67 364,31	\$71 406,17
Kanta Hämeen hyvinvointialue	\$115 158,00	\$122 067,48	\$129 391,53	\$137 155,02
Keski-Pohjanmaan hyvinvointialue	\$56 689,00	\$60 090,34	\$63 695,76	\$67 517,51
Keski-Suomen hyvinvointialue	\$238 627,00	\$252 944,62	\$268 121,30	\$284 208,58
Kymmenlaakson hyvinvointialue	\$82 510,00	\$87 460,60	\$92 780,24	\$98 270,73
Lapin hyvinvointialue	\$121 985,00	\$129 304,10	\$137 062,35	\$145 286,09
Pohjanmaan hyvinvointialue	\$114 862,00	\$121 753,72	\$129 058,94	\$136 802,48
Pohjois-Karjalan hyvinvointialue	\$116 642,00	\$123 640,52	\$131 058,95	\$138 922,49
Päijät-Hämeen hyvinvointialue	\$132 076,00	\$140 000,56	\$148 400,59	\$157, 304,63
Satakunnan hyvinvointialue	\$174 518,00	\$184 989,08	\$196 088,42	\$207 853,73
Aland	\$34 132,00	\$36 179,92	\$38 350,72	\$40 651,76
<b>Total</b>	<b>\$1 543 656,00</b>	<b>\$1 667 148,48</b>	<b>\$1 734 451,88</b>	<b>\$1 838 518,99</b>

\*Indicative prices and official prices will be stated in the contract

\*Valid until 31 May 2025

Start date subscription 01 June 2025

## UpToDate Enterprise

UpToDate's key features include:

- More than 13,000 evidence-based clinical topics across 25 robust clinical specialties
- Intuitive, user-friendly search functionality
- Search in Your Own Language
- UpToDate Format/Ease of Use
- 568,000 references and citations, which link to Medline Abstracts
- 8,000 drugs and drug interactions information powered by UpToDate Lexidrug (formerly Lexicomp)
- 39,000 searchable graphics
- 230 medical calculators
- 2,400 condition-specific and more than 2,540 adult medication-specific patient education topics
- 75 interactive pathways.
- 120 lab interpretations.
- UpToDate Anki Add-On.
- Continuing Medical Education Credits
- MobileComplete™ mobile App
- Single sign-on capabilities
- Guest licenses to AI Labs
- Self-Service Analytics Dashboard

### 1. 13,000 evidence-based clinical topics across 25 robust clinical specialties

A global community of more than 7,600 world-renowned physician authors and editors write, review, and edit based on their relevant expertise in the applicable topic. UpToDate topics include all the internal medicine subspecialties (at a level that meets the needs of the subspecialist), Cancer Care, primary care, internal medicine, OB/GYN, pediatrics, and general surgery.

UpToDate's 25 covered medical specialties include:

- |   |   |
|---|---|
| 1. Allergy and Immunology                   | 14. Nephrology and Hypertension                           |
| 2. Anesthesiology                           | 15. Neurology   |
| 3. Cardiovascular Medicine                  | 16. Obstetrics, Gynecology, and Women's Health            |
| 4. Dermatology                              | 17. Oncology  |
| 5. Emergency Medicine (Adult and Pediatric) | 18. Palliative Care                                       |
| 6. Endocrinology and Diabetes               | 19. Pediatrics  |
| 7. Family Medicine and General Practice     | 20. Primary Care (Adult)                                  |
| 8. Gastroenterology and Hepatology          | 21. Primary Care Sports Medicine (Adolescents and Adults) |
| 9. General Surgery                          | 22. Psychiatry  |
| 10. Geriatrics                              | 23. Pulmonary and Critical Care Medicine                  |

- |                         |                    |
|-------------------------|--------------------|
| 11. Hematology          | 24. Rheumatology   |
| 12. Hospital Medicine   | 25. Sleep Medicine |
| 13. Infectious Diseases |                    |

We also include extensive topic content on specialties such as Ophthalmology, Urology, Vascular Surgery, and others. We define a new specialty when our editorial team feels confident that we can answer most questions a clinician could have within that specialty.

Clinicians can browse UpToDate by medical specialty and drill down into content. All topics are in alphabetical order. You can view specialty topics at <https://www.uptodate.com/contents/table-of-contents>.

## 2. Intuitive, user-friendly search functionality.

Based on data analysis, users can search, locate, and review the information they need in approximately one minute. Users can search for desired content by entering a search phrase consisting of one or more terms, or by selecting a term from the drop-down menu of possible matches that display after the user has typed the first few characters of the target term.

Users can search the content by entering disease, symptom, lab abnormality, procedure, or drug (generic or brand name). UpToDate will also accept medical abbreviations, such as COPD (Chronic Obstructive Pulmonary Disease).

For example, appending keywords (such as “etiology,” “treatment,” “diagnosis,” or “differential diagnosis”) to a search term retrieves clinical content, including sections and any graphics, if applicable (algorithms, tables, etc.) around the disease or condition prioritized by the area of interest (etiology, treatment, etc.).

In addition, UpToDate uses auto-predict text. This helps with search predictions, so clinicians start searching “short,” and the term “shortness of breath” appears as an option for users to choose to help with faster search results. The user’s desired target clinical term starts appearing within the top lines of options as they type the search term.

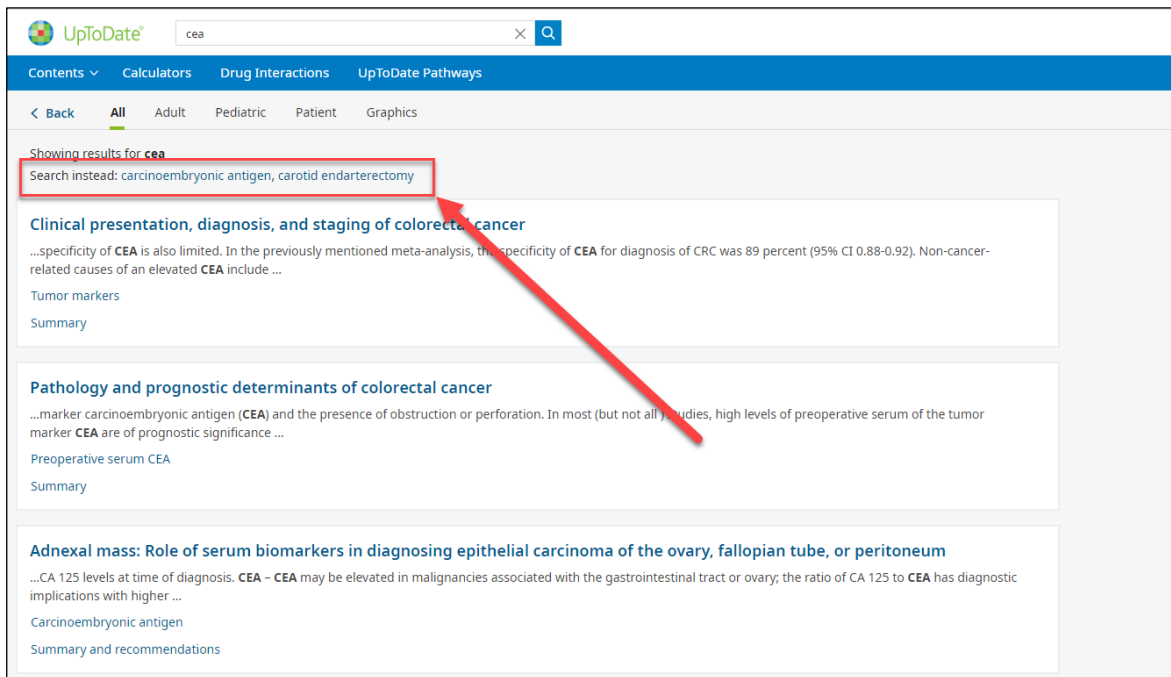
In some cases, UpToDate provides suggestions as alternate or additional possibilities for clinician searches. The following are some common situations in which this may occur:

- There are multiple meanings for an acronym or abbreviation that you specified.
- There is a misspelling or other typographical error in a search term.
- There are broader categories of information related to a search term.

The search suggestions appear near the top of the Search Results page.

For example, suppose a clinician performs a search using “cea” as the search phrase. Two terms are commonly associated with this acronym: “carcinoembryonic antigen” and “carotid endarterectomy.” The Search Results page displays both as search suggestions.

Using UpToDate, users can conduct searches using acronyms.



If “carotid endarterectomy” is the term in which you are interested, you can click on it in the search suggestion area; UpToDate will then re-run the search using "carotid endarterectomy" as the search phrase, thereby eliminating any unwanted search results that might have been returned for “carcinoembryonic antigen.”

### 3. Search in Your Own Language.

The UpToDate search, navigation, and auto-complete versions are available in multiple languages. The UpToDate search interface is interchangeable between 16 languages:

- |                      |             |                        |                         |
|----------------------|-------------|------------------------|-------------------------|
| 1. Bahasa Indonesian | 5. German   | 9. Polish              | 13. Spanish             |
| 2. Dutch             | 6. Italian  | 10. Portuguese         | 14. Traditional Chinese |
| 3. English           | 7. Japanese | 11. Russian            | 15. Turkish             |
| 4. French            | 8. Korean   | 12. Simplified Chinese | 16. Vietnamese          |

### 4. UpToDate Format/Ease of Use.

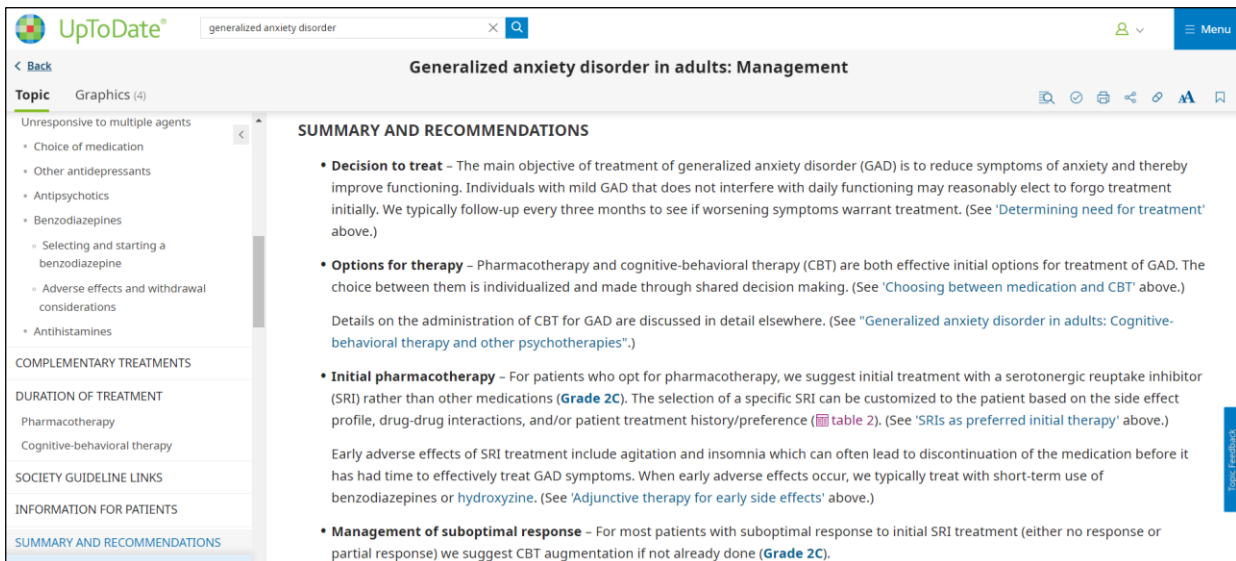
With UpToDate, clinicians can find evidence-based information quickly with targeted links to the sections and graphics most likely to address their clinical questions. UpToDate synthesizes data from over 60 million monthly topic views to analyze search terms and information viewed by clinicians. This analysis enables UpToDate to display relevant sections and graphics for a given search quickly.

We organized UpToDate content in paragraph format, making it easy for clinicians to identify information of interest without scanning large text sections. In addition, at the end of each UpToDate topic, a Summary or Summary and Recommendations section provides a brief overview of the entire topic in bullet format for those who need a quick glance.

As shown in the figure below, “Generalized anxiety disorder in adults: Management,” *Summary and Recommendations* are in bullet format and start with How to make the decision to treat:

- Options for therapy
- Initial Pharmacotherapy
- Management of suboptimal response
- Complimentary treatments
- Duration of therapy
- Specific guidance on drug therapies regarding what to use first and second line includes special populations, comorbidities, and diagnosis.

*UpToDate’s expert authors help summarize the evidence for use by other clinicians.*



**Generalized anxiety disorder in adults: Management**

**SUMMARY AND RECOMMENDATIONS**

- **Decision to treat** – The main objective of treatment of generalized anxiety disorder (GAD) is to reduce symptoms of anxiety and thereby improve functioning. Individuals with mild GAD that does not interfere with daily functioning may reasonably elect to forgo treatment initially. We typically follow-up every three months to see if worsening symptoms warrant treatment. (See ‘Determining need for treatment’ above.)
- **Options for therapy** – Pharmacotherapy and cognitive-behavioral therapy (CBT) are both effective initial options for treatment of GAD. The choice between them is individualized and made through shared decision making. (See ‘Choosing between medication and CBT’ above.) Details on the administration of CBT for GAD are discussed in detail elsewhere. (See ‘Generalized anxiety disorder in adults: Cognitive-behavioral therapy and other psychotherapies’.)
- **Initial pharmacotherapy** – For patients who opt for pharmacotherapy, we suggest initial treatment with a serotonergic reuptake inhibitor (SRI) rather than other medications (**Grade 2C**). The selection of a specific SRI can be customized to the patient based on the side effect profile, drug-drug interactions, and/or patient treatment history/preference (table 2). (See ‘SRIs as preferred initial therapy’ above.) Early adverse effects of SRI treatment include agitation and insomnia which can often lead to discontinuation of the medication before it has had time to effectively treat GAD symptoms. When early adverse effects occur, we typically treat with short-term use of benzodiazepines or hydroxyzine. (See ‘Adjunctive therapy for early side effects’ above.)
- **Management of suboptimal response** – For most patients with suboptimal response to initial SRI treatment (either no response or partial response) we suggest CBT augmentation if not already done (**Grade 2C**).

UpToDate’s process for arriving at recommendations involves addressing a structured clinical question. That structure includes defining the patient population of interest, the alternative management strategies, and the outcomes of importance to patients (PICO format: Population, Intervention, Comparators, Outcomes). We use the GRADE system for screening and management recommendations to clearly communicate the strength of the recommendation and the quality of the evidence.

UpToDate recommendations address situations where different decisions might be appropriate for patients depending on safety, efficacy, quality of evidence, and patient values and preferences.

Furthermore, UpToDate recognizes that recommendations will not apply to every patient and counts on clinicians to evaluate the discussion of evidence, clinical rationale, and recommendations while considering the individual circumstances of their patient. We feel that providing recommendations based on a sophisticated understanding of the clinical issues, the best evidence, and a consideration of patient values and preferences allows clinicians to engage in shared decision-making with their patients.

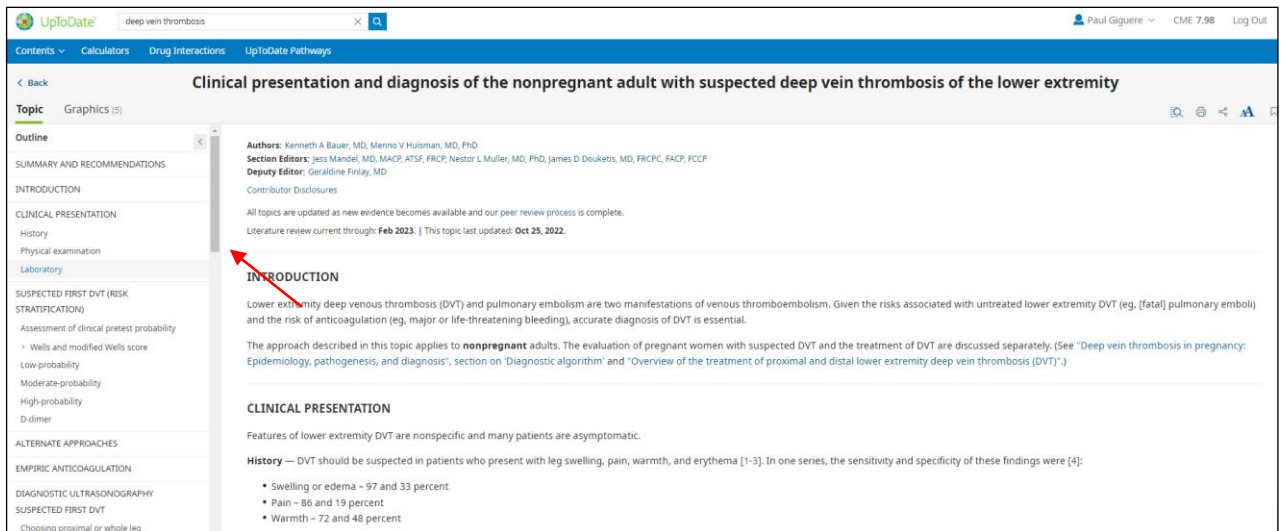
### Topic Outline

Clinicians can use the Topic Outline on the left side of the screen to scroll to any relevant areas related to their search, including:

- Calculators
- Clinical Assessment
- Clinical Features
- Definitions
- Diagnostic Approach
- Differential Diagnosis
- Epidemiology
- Etiology
- Evaluation and Diagnosis
- Graphics
- History
- Information for Patients
- Introduction
- Laboratory tests
- Pathophysiology
- Prognosis
- References
- Related topics
- Society Guideline Links
- Summary and Recommendations
- Treatment

Please note that this is not an exhaustive list of all sections covered in all topics.

*Clinicians can scroll using Topic Outline.*



## 5. 568,000 references and citations, which link to Medline Abstracts.

UpToDate topics include citations noted in the text, and references are listed in full at the end of each topic.

Within the Medline Abstracts, UpToDate also provides links out to PubMed for additional research and access to the full-text articles when the reference is available without a secondary subscription service/open source.

UpToDate clinicians can easily access full text of journal articles using a link resolver. Options include:

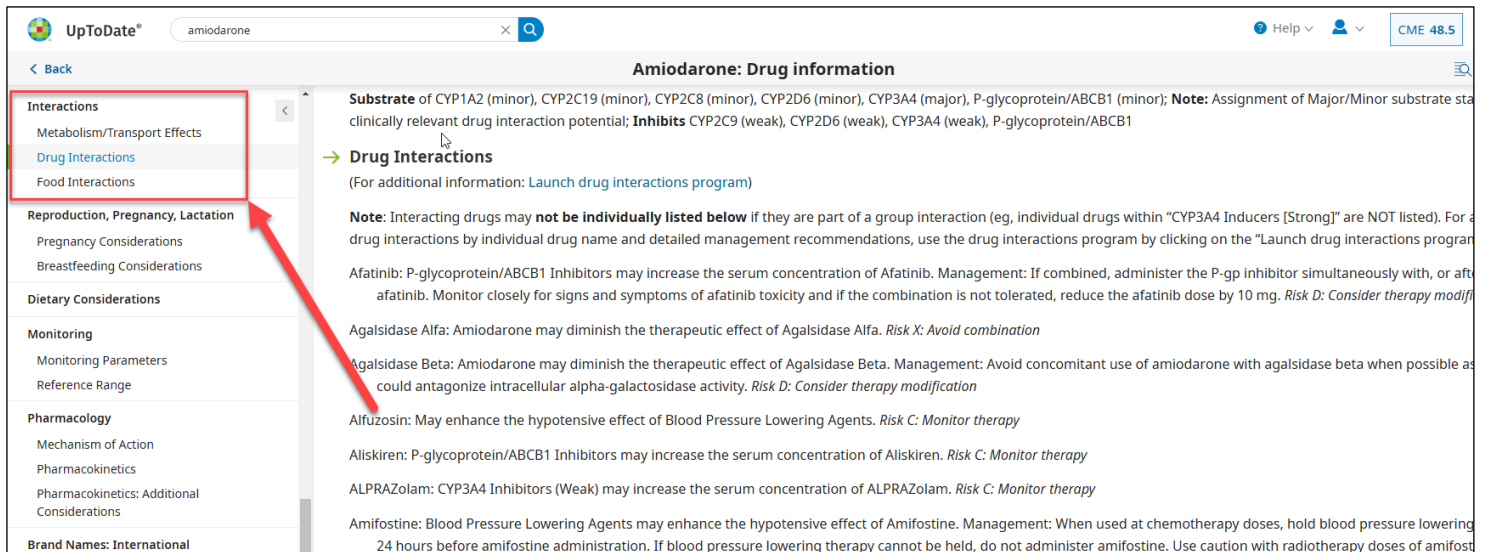
1. **PubMed LinkOut.** You can customize its full-text linking options within UpToDate by leveraging our support of PubMed LinkOut. Once activated, clinicians can view and link out to the full text of the journals your institution currently subscribes to. You also have the option to customize the text of the LinkOut button.

2. **Ovid Full Text Links.** If you subscribe to both UpToDate and Ovid, an Ovid Full Text link will appear on UpToDate abstract pages whenever the full text of an article is available through your hospital's Ovid subscription.
3. **Other Link Resolvers.** If you use a link resolver other than Ovid, you may also access full text. Some of the journal subscription services with links to UpToDate include ExLibris (SFX), TDNet, EBSCO (LinkSource), and Serials Solution (Article Linker).

## 6. 8,000 drugs and drug interactions information powered by UpToDate Lexidrug.

With UpToDate, Tennessee Department of Health clinicians can continue to access a select, fully integrated drug and drug interaction database containing more than 8,000 in-depth drug monographs. Drug monographs include US Box Warnings, adverse reactions, contraindications/warnings, and interactions (i.e., drug-drug, herb-drug, herb-herb, food-drug, drug-alcohol, and tobacco-drug interactions). UpToDate contains drug allergy content in topics and the specific drug's monograph.

*UpToDate includes drug interaction information.*



The screenshot shows the UpToDate website interface. On the left, a sidebar menu is visible with the 'Interactions' section highlighted. Within 'Interactions', 'Drug Interactions' is selected. The main content area displays the 'Amiodarone: Drug information' page. The 'Drug Interactions' section is prominently featured, showing a list of drug interactions with their respective risks and management recommendations. A red arrow points from the 'Drug Interactions' link in the sidebar to the 'Drug Interactions' section in the main content area.

Our drug content goes beyond the manufacturer's medication guides. Like our UpToDate clinical content, we integrate clinical studies from the primary literature and consensus clinical practice guidelines into our drug information and align it with our clinical content.



*Our expert authors recommend drug dosages or therapeutic regimens in the absence of practice guidelines, algorithms, and published evidence. For example, "Bipolar Disorder in Postpartum Women Treatment."*

In our clinical experience, postpartum patients with mania or hypomania often do not respond to or tolerate [haloperidol](#). (Response is defined as stabilizing the patient's safety and substantial improvement in the number, intensity, and frequency of symptoms.) For these resistant patients, we suggest in order of preference [risperidone](#) or [olanzapine](#), based upon their efficacy and acceptability in randomized trials that did not focus upon postpartum patients [51]. The efficacy of risperidone and olanzapine is superior to [carbamazepine](#) and [valproate](#). In addition, risperidone and olanzapine are generally not contraindicated during lactation [9,47,53]. To switch drugs, haloperidol is tapered and discontinued over one week while at the same time risperidone is started and titrated up. We generally taper haloperidol by the same amount for each dose decrease. As an example, haloperidol 8 mg per day is decreased by 2 mg per day, every day. The efficacy, administration, pharmacology, and side effects of risperidone and olanzapine ([table 6](#)) are discussed separately, as is their use in breastfeeding patients. (See "Bipolar mania and hypomania in adults: Choosing pharmacotherapy" and "Second-generation antipsychotic medications: Pharmacology, administration, and side effects" and "Safety of infant exposure to antidepressants and benzodiazepines through breastfeeding".)

The drug content includes dosing for:

- General populations (e.g., adult, pediatric, neonatal, and older).
- Special clinical situations (e.g., special considerations in patients with renal impairment, hepatic impairment, or obesity).

Unlike other solutions with multiple editorial teams, UpToDate's editorial team develops all content using the same rigorous editorial process, ensuring consistency. Our editorial team has been joined by leading global experts, including:

#### Renal Dosing

- Bruce Mueller, PharmD, FCCP, FASN, FNKF
- Jason A. Roberts, Ph.D., BPharm (Hons), B App Sc, FSHP, FISAC
- Michael Heung, MD, MS

All three are well-known published authors and provide recommendations based on the evidence from the primary literature and the clinical experience of these experts.

Our renal dosing addresses all levels of renal insufficiency, augmented renal clearance, and different dialysis modalities, such as intermittent hemodialysis, peritoneal dialysis, CRRT, and PIRRT. No other drug reference solution can match these extensive renal dosing recommendations.

#### Hepatic Dosing

- Matt Harris, PharmD, MHS, BCPS, FAST
- Jeong Park, PharmD, MS, BCPS, FCCP, FAST
- Arun Jesudian, MD
- Sasan Sakiani, MD

All four are well-known published authors and provide recommendations based on evidence from the primary literature and their clinical expertise.

Our hepatic dosing addresses all levels of liver insufficiency, specifically initiation for mild, moderate, and severe disease (Child-Turcotte-Pugh A, B, C). It also provides dosage adjustment for worsening function when a patient presents in the outpatient setting and what to do if the patient is hospitalized. These recommendations aid the clinician with key pharmacokinetic changes that they must consider in concert with their other comorbidities to make the safest and most effective dosage adjustment for their most complex patients.

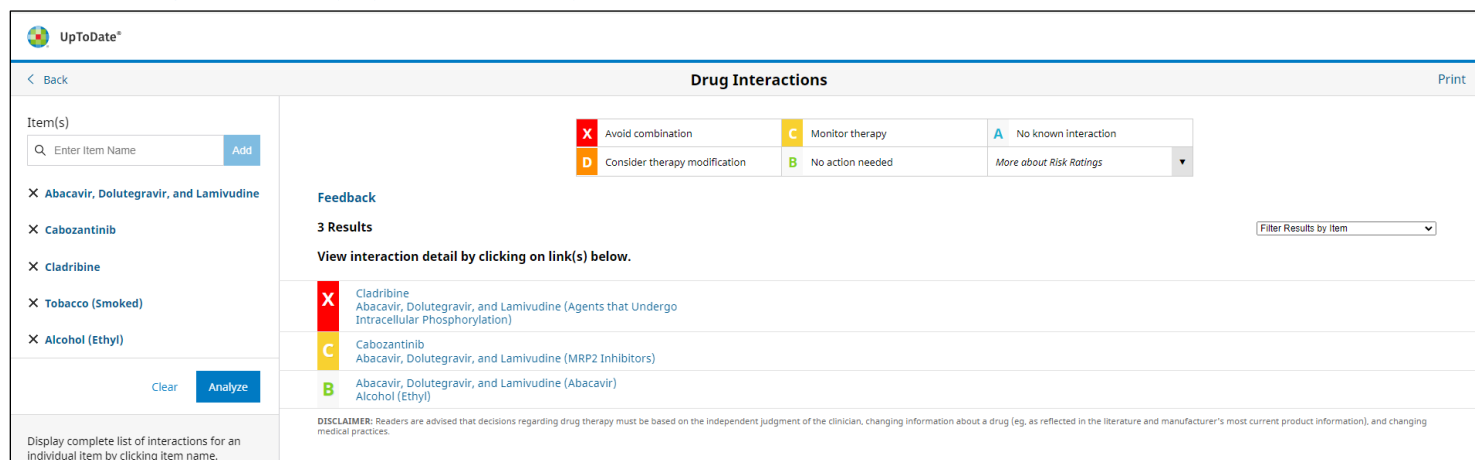
### Drug Interaction Tool

UpToDate includes an interactive drug interaction tool. Users can check for drug-drug, herb-drug, herb-herb, food-drug, drug-alcohol, and tobacco-drug interactions. Users can enter up to 50 items in the interaction tool.

This extensive drug interaction analysis tool assists clinicians with making safer medication decisions at the point of care. This tool allows clinicians to:

- Enter a patient's entire regimen and known drug allergies
- Identify potential interactions
- Enter in food terms for drug-food interactions
- Enter in tobacco term for drug-tobacco interactions
- Enter alcohol for drug-alcohol interactions
- Obtain appropriate patient management recommendations

*The UpToDate Drug Interactions tool employs distinct severity and clinical action ratings to provide a more granular view of a patient's risk/benefit assessment.*



UpToDate®

Drug Interactions

Item(s)

Q Enter Item Name Add

X Abacavir, Dolutegravir, and Lamivudine

X Cabozantinib

X Cladribine

X Tobacco (Smoked)

X Alcohol (Ethyl)

Clear Analyze

Feedback

3 Results

View interaction detail by clicking on link(s) below.

X Cladribine, Abacavir, Dolutegravir, and Lamivudine (Agents that Undergo Intracellular Phosphorylation)

C Cabozantinib, Abacavir, Dolutegravir, and Lamivudine (MRP2 Inhibitors)

B Abacavir, Dolutegravir, and Lamivudine (Abacavir) Alcohol (Ethyl)

DISCLAIMER: Readers are advised that decisions regarding drug therapy must be based on the independent judgment of the clinician, changing information about a drug (eg, as reflected in the literature and manufacturer's most current product information), and changing medical practices.

The analysis results include drug interaction titles and risk ratings summarizing any recommended clinical action steps (from A: No Known Interaction to X: Avoid). Clicking on each interaction title displays a detailed, evidence-based interaction monograph.

Lexi-Interact strengths include:

- Extensive content covering drug interactions of Canadian, U.S., and many international drugs, more than 150 top herbal and other natural products, foods, alcohol, tobacco, and cannabis.
- Comprehensive coverage of metabolic, transporter-mediated, and pharmacodynamic drug interaction mechanisms.

- Rigorous, independent, and evidence-based interaction-related groups (e.g., Cytochrome P-450 inhibitors/inducers, QT-prolonging agents) are summarized in Lexi-Drugs tables.
- Incorporation and prominent display of important patient and drug therapy variables that may affect the appropriate clinical action in response to an interaction (“dependencies”).
- Evidence-based drug interaction monographs that include:
  - Interaction mechanism (why the interaction is occurring)
  - Severity rating
  - Evidence rating
  - Risk rating
  - Management recommendations (what to do if the patient is experiencing the interaction)
  - Summary discussion
  - Co Dependencies

What makes our Drug Interaction content/process unique:

- The UpToDate Drug Interactions team includes nine PharmDs with advanced clinical training and experience in clinical pharmacology, pharmacokinetics, drug interactions, clinical research, and literature surveillance. The team continues to publish in peer-reviewed journals and contribute scholarly works to drug interactions, allergy, and pharmacogenomics.
- The editorial process by which drug interaction content is synthesized involves reviewing not only FDA-approved prescribing information but also integrating clinical studies information from the primary literature, consensus clinical practice guidelines, and non-U.S. labeling as appropriate. Content is updated via surveillance of source literature for practice-relevant changes.
- The UpToDate Drug Interactions tool is well-regarded throughout the clinical industry. It has been cited (as Lexi-Comp or Lexi-Interact) nearly 100 times in scientific journals as an industry standard for drug interactions.
- The UpToDate Drug Interactions tool employs distinct severity and clinical action ratings to provide a more granular view of a patient’s risk/benefit assessment. The severity conveys a qualitative measure of risk to patient safety or clinical outcomes if the interaction were to occur, while the risk rating (A<B<C<D<X) considers the holistic view of severity in conjunction with the urgency to which clinician intervention is required to mitigate the interaction.
- Rather than listing multiple duplicate alerts/interactions, we intentionally present content/results to prevent clinician alert fatigue/burden.

## 7. 39,000 Searchable Graphics.

UpToDate includes more than 39,000 graphics, including tables, graphs, histograms, charts, and diagrams (including flow diagrams) to help users view and interpret complex information. Clinicians can export graphics to PowerPoint.

### Graphical Answers

Unlike other solutions, UpToDate includes Graphical Answers. Clinicians can use Graphical Answers to find quick, accurate, relevant information for distinguishing between common conditions frequently encountered in primary care settings. Each visually engaging panel, illustrated in color, offers a succinct side-by-side assessment of common conditions that share similarities but should be approached differently based on the evidence.

You can also use Graphical Answers in UpToDate to communicate effectively with patients, providers, and others.

## 8. 230 Medical Calculators.

With UpToDate, your clinicians have access to more than 230 medical calculators. These calculators allow clinicians to enter values in commonly used formulas to obtain numerical data, such as urinary protein excretion estimation or LDL results based on the Friedewald equation for low-density lipoprotein. UpToDate's calculators enable users to interactively enter values/units and receive appropriate and accurate results.

Other calculators allow you to estimate the severity of a condition (e.g., community-acquired pneumonia), based on the presence or absence of significant risk factors.

Interactive calculators help you estimate the patient's values, condition severity, and risk factors. Calculators include clinical criteria, unit conversions, and medical equations.

You can view these calculators at <https://www.uptodate.com/home/medical-calculators>.

## 9. 2,400 condition-specific and more than 2,550 Adult medication-specific patient education topics.

Unlike other solutions, we develop our patient education content using the same editorial process as our UpToDate clinical content. **We are the only vendor that aligns clinical, drug, and patient education information with what clinicians tell patients at the point of care.**

With UpToDate, your clinicians have access to two types of patient education content:

### 1. More than 2,400 UpToDate patient education handouts.

- **The Basics.** More than 1,900 topics are one to three pages long, written in plain language, with graphics and illustrations. Designed to answer a patient's (or caregiver's) main questions about a disease, condition, or procedure. The patient handouts are available in English, Spanish, Arabic, and Chinese (simplified).

In addition, the top 400 most-used leaflets are available in:

○ Chinese (Traditional)	○ Italian	○ Punjabi
○ Creole	○ Japanese	○ Russian
○ French	○ Korean	○ Tagalong
○ German	○ Polish	○ Turkish
○ Greek	○ Portuguese	○ Vietnamese

Some Basic topics also include short-form videos, which are no more than five minutes in length. More than 120 videos across 100 UpToDate Patient Education The Basics topics exist.

- **Beyond the Basics.** UpToDate also includes approximately 500 "Beyond the Basics" patient education topics. These topics cover medical conditions at a higher reading level and in more detail. Written in English, these topics help facilitate clinician-patient communication, encapsulate the same information in the materials provided for clinicians, and include helpful graphics. The Beyond the Basics topics are intended for readers who want detailed information and are comfortable with some medical terminology.

Clinicians can review the patient education content with patients in the exam room, print it out as handouts, or email it. Our editorial team regularly reviews and updates all patient education content.

You can browse UpToDate patient education topics at <https://www.uptodate.com/contents/table-of-contents/patient-education>.

2. **More than 2,550 adult patient medication educational handouts (provided by Lexidrug).** In addition, your clinicians can access more than 2,550 adult patient medication educational leaflets in English through the drug module powered by Lexidrug.

#### 10. 75 Interactive Pathways.

These pathways guide clinicians through triaging, diagnosing, testing, and treating common medical conditions that cause high care variability. These interactive guides help clinicians make appropriate decisions regarding specific clinical questions and provide shared decision-making tools for the entire care team. Providers, nurses, pharmacists, social workers, and other medical professionals can use UpToDate's pathways.

Pathways are customizable to meet your organizational needs. You can adapt the interactive pathways to meet your institution's local practice guidelines by adding supporting text, embedding links, modifying medications, etc.

#### 11. 120 Lab Interpretations.

Lab Interpretations quickly help clinicians interpret abnormal lab results and choose their patients' next steps, helping avoid unnecessary tests and treatment.

#### 12. MobileComplete™.

This mobile app enables registered users to download the full content of UpToDate to their iOS® or Android™ device over a Wi-Fi connection. With this local version, clinicians can search the complete UpToDate database from anywhere, even without an internet connection. The app automatically updates when reconnected to Wi-Fi.

The app is compatible with iPhones® or iPads® running the latest two versions of iOS, and Android devices running the latest two versions of Android OS. Devices need a minimum of 1.1 GB of local storage for both topics and graphics or 400 MB of local storage for topics only.

The UpToDate MobileComplete mobile app is available for download from the Apple Store, Google Play, and Amazon Appstore for Android.

#### 13. Continuing Medical Education Credits.

Medical Practitioners can use the time they spend researching clinical questions with UpToDate to fulfill continuing professional development (CPD) requirements, including clinical questions researched on a mobile device, at no extra cost, with no additional testing.

To earn CPD credits, users must create an UpToDate personal account with a unique username and password. This allows UpToDate to recognize them as an individual user so that the system can track individual participation and UpToDate can award credits for that verified participation.

#### 14. Single Sign-On Capabilities.

UpToDate supports authentication and Single Sign-on through Microsoft Azure, OpenAthens, OpenID Connect, and SAML.

## 16. Guest licenses to AI Labs.

Wolters Kluwer is also experimenting with artificial intelligence in a sandbox environment. While not a commercially available solution, the environment (known as AI Labs) provides a technical sandbox supporting our testing of AI with UpToDate within a safe environment. We are inviting UpToDate users into the sandbox to provide feedback to the system and support product validation activities. The technical sandbox is neither intended nor warranted for patient care, with appropriate notifications made to users as they enter and use the sandbox.

## 17. Self-Service Analytics Dashboard.

UpToDate Enterprise Edition provides access to a self-service analytics dashboard. On-demand utilization data supports the ability to identify knowledge gaps, understand disease patterns in real time, build internal training to improve clinical care, understand the impact on clinical decision-making, and track progress against internal initiatives.

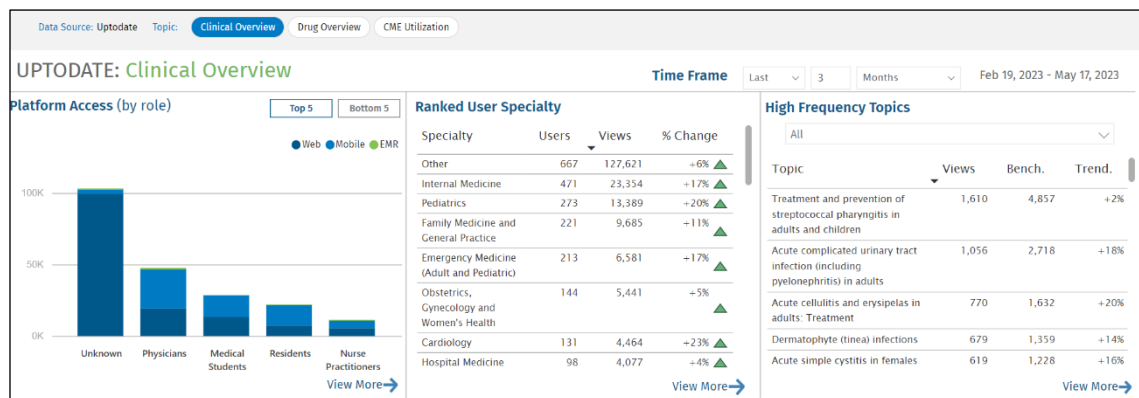
View and manage information displayed in the dashboard across three important aspects of product utilization:

1. Clinical Overview
2. Drug Overview

The clinical and Drug Overview data points include:

- a. Include Platform access by role (Physicians, Nurses, Nurse practitioners, etc.)
  - b. Ranked User Specialty
  - c. High-Frequency Topics (actual client views, benchmarks, and Trends)
  - d. Top Topic Specialty by Usage (%client views as well as %benchmark)
  - e. Trending Usage
3. CME Overview
    - a. CME credits redeemed, accrued, and user activity
    - b. CME Credits accrued and redeemed broken down by user role and specialty
    - c. CME survey responses, which include users' responses when they redeem the credits (application to practice & search goal)

*UpToDate Enterprise Edition enables you to self-discover possible opportunities to address trends, understand the impact on clinical decision-making, and track progress against internal initiatives.*



## UpToDate Lexidrug

The UpToDate® Lexidrug™referential solution provides clinicians with 24/7 online and mobile access to concise, evidence-based, point-of-care drug information. The drug information includes dosing, adverse effects, administration, warnings, interactions, and precautions, as well clinical practice guidelines, pharmacokinetics, IV compatibility from Trissel's 2 Clinical Pharmaceutics Database, Briggs' Drugs in Pregnancy & Lactation, AHFS, more than 8,500 patient-focused educational leaflets, and many other tools.

### Lexidrug Clinical Content Sets

Lexidrug pharmacology content sets include:

Content Set	General Descriptions
<b>Lexi-Drugs Multinational</b>	<p>Lexi-Drugs Multinational includes more than 3,230 monographs with up to 86 fields of information covering prescription and over-the-counter drugs.</p> <p>Lexi-Drugs Multinational provides clinicians with in-depth information on:</p> <ul style="list-style-type: none"> <li>• International drugs not licensed in North America (e.g., Europe, Japan, Korea, etc.)</li> <li>• Trade names from over 150 countries, including New Zealand and Australia</li> <li>• Dosing (including in special populations)</li> <li>• Adverse reactions</li> <li>• Medication safety issues</li> <li>• Pharmacodynamics/kinetics</li> <li>• Administration, storage, and stability considerations</li> <li>• Chemotherapy regimens</li> <li>• US Federal Drug Administration (FDA) special alerts</li> </ul> <p>Lexi-Drugs Multinational covers every patient population and the following clinical specialties: Pharmacy, nursing, internal medicine, cardiology, oncology, psychiatry, anesthesiology, and dentistry.</p>
<b>Pediatric and Neonatal Drug Monographs</b>	<p>This database includes more than 1,530 drugs, with monographs that cover up to 60 fields of information. This content is for pediatricians, other clinicians working with pediatric patients, or any situation requiring pediatric dosing information. It contains detailed dosing recommendations for neonates through age 18. The neonatal content may apply to hospitalized or ambulatory patients where appropriate. Additional features include other dosing sections for patients with certain end-organ dysfunction (e.g., kidney), pediatric specific adverse reactions, administration considerations and warnings and precautions. An enteral formula chart is available to facilitate comparisons of multiple formulas at once.</p>
<b>AHFS Essentials (Adult and Pediatric)</b>	<p>Derived from the more extensive and detailed AHFS Drug Information, the AHFS DI Essentials reference provides a deeper level of actionable drug information and includes off-label uses.</p>



<i>Content Set</i>	<i>General Descriptions</i>
<b>AHFS DI (Adult and Pediatric)</b>	A recognized Official Compendium by the U.S. Congress, this is the only drug information resource published by a professional scientific association.
<b>International (Concise) drug monographs</b>	This content provides a general overview of the use and pharmacologic classification of drugs used commonly internationally, including basic information on dosing and dosage forms. The content includes monographs for more than 200 drugs that are available outside of North America.
<b>Natural product content</b>	The Natural product content includes more than 490 monographs that provide valuable clinical information for commonly used natural products. Each natural product monograph includes a Clinical Overview section and additional in-depth fields that discuss each natural product's use, dosing, adverse reactions, and interactions. Natural products include herbals, vitamins, and supplements.
<b>Detailed Off-Label content</b>	Lexidrug provides detailed information on more than 1,200 off-label uses, with therapy statements and evidence ratings. For more in-depth information, the content set also offers nearly 220 monographs providing key research data with references available to the primary literature.
<b>REMS program details</b>	Lexidrug includes summarized content of a manufacturer's Risk Evaluation and Mitigation Strategy (REMS), which the FDA has deemed necessary to help ensure that a drug's or biological product's benefits outweigh its risks. It includes a brief overview of the REMS program and the requirements for pharmacies, prescribers, dispensing, medication guides, quantity limits, documentation, and monitoring.
<b>Briggs Drugs in Pregnancy and Lactation</b>	Briggs' Drugs in Pregnancy and Lactation provides information on effects of more than 1,370 medications on the fetus during pregnancy and on the breastfeeding infant. It also includes pregnancy and breastfeeding recommendations with links to Briggs' definitions and inline reference links to PubMed.
<b>Toxicology</b>	Lexidrug provides a comprehensive toxicology resource designed for point-of-care use in assessing, diagnosing, and treating poisonings and drug exposures. It contains information on agents of toxicity (including chemicals, pharmaceuticals, envenomations, nuclear, biologic, and terrorism agents), as well as: Nontoxic agents, Antidotes and decontaminants, Household products, and Toxicology-specific calculations. Material Safety Data Sheets are also available.
<b>Comparative Efficacy</b>	Comparative Efficacy provides detailed evidence summaries of randomized controlled trials provided by the Formulary Monograph Service that describe how drugs compare with placebo or comparator drugs regarding efficacy. The content includes information regarding study design, patient population, interventions, study source funding, primary and secondary endpoint analysis, general commentary analysis of the study, and identified limitations.



Content Set	General Descriptions
<b>Pharmacogenomics</b>	Unlike other solutions, we offer comprehensive pharmacogenomics content. This makes it easy to access relevant pharmacogenomic drug information by drug. Integrated into the drug monographs, the Pharmacogenomics content presents information concerning key genetic variations that may influence drug disposition and sensitivity. This content set provides a foundation for all clinicians who need to integrate rapidly expanding genomic knowledge into drug therapy management. This solution is an excellent introduction to pharmacogenetic principles and a concise reference to key polymorphisms that influence drug response.
<b>Formulary Monographs</b>	Lexidrug reviews five drugs each month and provides detailed and summary formulary monographs and DUE forms (Not all drugs have a DUE form) for each drug. The reviewed are often recently FDA-approved or game-changing drugs in the final stages of the FDA approval process. These monographs expedite efforts to gather drug information in preparation for the Pharmacy & Therapeutics committee review. Lexidrug maintains the reviews for 5 years and then updates each using Lexi-Drugs content.
<b>Other specialized disease content</b>	<p>When the clinician needs to make the deep dive for specialized content, Lexidrug provides detailed information in areas of infectious disease and allergy and idiosyncratic reactions. Our fully referenced allergy content is based on the integration of peer-reviewed clinical literature and case reports, and offers unique insight into allergic mechanisms, concepts, cross-reactivity, and categorizations. In addition, this content discusses idiosyncratic reactions, which may be confused with allergy, either due to clinical presentation or patient-reported events.</p> <p>Our evidence-based infectious disease assists in diagnosing and treating common infectious diseases, combining disease syndromes, organisms, diagnostic tests, and antimicrobial therapy into one easy-to-use reference.</p> <p>For the older adult, our dosing and considerations, as well as the ADRs section, and Medication Safety provide valuable insights and expertise into caring for geriatric patients with therapeutic agents. We include guidance on which drugs are not as safe as others based on clinical practice experience, synthesis of literature in this patient population and knowledge of risk versus benefits.</p>

## Tools

Our base Lexidrug solution tools include:

- **Trissel's IV Compatibility module.** This IV Compatibility module is updated daily and provides clinicians quick access to the Trissel's™ 2 Clinical Pharmaceutics Database. Lawrence A. Trissel developed the database to help clinicians reduce risk and support safer IV compatibility decisions at the point of care. Trissel's includes appropriate IV compounding, solution compatibility, appropriate concentrations, storage conditions, stability, and reconstitution/admixing instructions. References are included.

Trissel's offers:

- Drug and IV solution search capabilities
- In-depth content on the properties of more than 850 drugs and solutions

- More than 77,900 compatibility results supported by more than 8,000 unique references

Data from Trissel's 2 Clinical Pharmaceuticals Database includes more than 77,900 compatibility/stability results for more than 650 unique drugs and 135 solutions. We augment the data as new manufacturer information or published studies become available. We provide results for Y-site, syringe, solution, admixture, total parenteral nutrition (TPN), and TNA in a grid for an at-a-glance review of compatibility based on unlimited inputs. Based on clinician feedback, clinicians prefer the chart format showing the compatibility results.

Users can drill down into each result for information about compatibility and stability based on the concentration, vehicle, temperature, duration, and more. An additional advantage is the inclusion of more than 850 drug properties monographs describing key drug, solution, administration, and stability information, such as:

- Formulation
- Reconstitution
- Filtration
- pH
- Stability
- Storage
- Light effects
- Freezing
- Sorption
- Osmolality
- Sodium content

Lexidrug also includes unpublished data unique to Trissel's database (Data Trissel validated in his lab but never published in the literature).

- Drug Interactions.** This comprehensive tool enables screening for drug-drug, drug-allergy, drug-food, drug-alcohol, drug-tobacco, and drug-herbal interactions. The tool assigns a Risk rating to each interaction to differentiate between interactions that require immediate action or intervention from those that are safe to monitor.

Clicking on each interaction title displays a detailed, evidence-based interaction monograph. The evidence-based drug interaction monographs include:

- Dependencies (variables that may affect the appropriate clinical action in response to an interaction)
- Mechanism of effect (why the interaction is occurring)
- Severity rating
- Evidence rating
- Risk rating
- Other drugs associated with the interaction
- Summary discussion
- Complete citation footnotes with direct links to PubMed

- Drug Identification.** With Lexidrug, Rede D'Or clinicians can access a Drug Identification tool containing more than 25,000 unique images and nearly 68,000 unique imprints. Powered by Medi-Span®, the tool helps

clinicians quickly identify unknown or unlabeled medications based on certain parameters (such as imprint, dosage form, shape, color, drug name, NDC or UPC, or manufacturer).

The Drug ID module covers more than 150,000 NDCs. Identification by NDC code can be helpful to quickly verify the patient's home medications when the NDC is displayed on the prescription label.

Other solutions only allow identification by description or imprint, not by entering the drug name. Lexidrug supplies package images, such as ophthalmic medication, inhalers, topicals, vials, tablets, and capsules. Other solutions only provide images for tablets and capsules.

- **Medical Calculators.** Using the Lexidrug medical calculator tool, clinicians can make drug calculations and assessments for treating specific patient conditions. This module features more than 200 medical formulas, clinical criteria sets, and decision tree analysis tools, including calculators from MedCalc 3000 and exclusive calculators unique to Lexidrug offerings.

Accessible directly from the Lexidrug toolbar as well as fully integrated within the Lexidrug drug monographs, calculators address:

- Patient-specific adult, neonatal, and pediatric advanced life support drug administration guidelines
- Drug dosing
- Rapid sequence intubation guidelines
- Dosing conversions
- Drug infusion rates
- Organ function calculations
- TPN osmolarity determination
- APGAR scoring
- Child-Pugh Classification
- Kidney filtration
- Other issues for both adults and children
- **Drug Comparisons.** This feature allows users to build a customized table comparing up to four drugs on a variety of data points in two different views:  
Using the Drug Comparison tool, your clinician can compare a variety of data points of up to four drugs side by side in two different views:

1. **Monograph View.** Monograph View allows users to compare four drug monographs side-by-side. This feature enables users to build a customized table comparing up to four drugs. Data elements to compare include:

- |                             |                                  |
|-----------------------------|----------------------------------|
| • Absorption                | • Monitoring Parameters          |
| • Administration            | • Patient Education              |
| • Adverse Reactions         | • Pharmacologic Category         |
| • ALERT: U.S. Boxed Warning | • Pharmacology                   |
| • Brand Names: U.S.         | • Pregnancy Considerations       |
| • Contraindications         | • Preparation for Administration |
| • Dietary Considerations    | • Pronunciation                  |

- Distribution
- Dosage Forms
- Dosing: Adult
- Dosing: Geriatric
- Dosing: Pediatric
- Drug Interactions
- Excretion
- Extemporaneously Prepared
- Half-Life Elimination
- Level of Evidence Definitions
- Metabolism
- Protein Binding
- Special Populations Note
- Special Populations: Elderly
- Special Populations: Renal Function Impairment
- Storage
- Test Interactions
- Time to Peak
- Use: Labeled Indications
- Use: Off-Label
- Use: Unsupported
- Warnings/Precautions

2. **Data View.** Data View allows the comparison of up to four drugs using Medi-Span data. This data includes:

- Adverse Effects
- Indications
- Drug-Pregnancy
- Drug-Lactation
- Contraindications
- Precautions
- Drug-Drug Interactions
- Drug-Food Interactions
- Drug-Alcohol Interactions

Other solutions only allow the comparison of two drugs side by side in one view and only with summary drug information.

### Patient Education

With Lexidrug, your clinicians can access more than 8,000 patient education leaflet topics that help provide patients with:

- Easy-to-read information about their medications, natural products, medical conditions, treatments, and overall health. Our goal is to provide easy-to-read materials in the simplest format possible that provides accurate, reliable information for the patient or caregiver. A Health Literacy Expert or other staff member will use the Health Literacy Advisor program to calculate readability on each English handout with a goal score of Flesch-Kincaid Grade Level of 5-6 or lower using this program.
- Action-oriented content that helps patients follow their after-care instructions and learn to make healthy changes.

Lexidrug also provides Adult Patient Counseling Point patient education leaflets. These abbreviated patient education leaflets provide the name of the drug, a black box warning if there is one, what the drug is used for, and side effects. These are easily digestible by the patient and provide the important points about any given drug.

The simple question-and-answer format of most handouts supports the "Teach Back" methodology, which prompts educators to assess the patient's understanding of the content and identify key points the patient should be able to articulate back to them.

We can provide sample patient education on request.

*Lexidrug Patient Education content provides patients with easy-to-understand, action-oriented information about their medications and medical conditions.*

**Patient education: How to give an anticoagulant shot**  
**(The Basics)**

Written by the doctors and editors at UpToDate

Please read the [Disclaimer](#) at the end of this page.

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**What are anticoagulants?**

Anticoagulants are prescription medicines used to prevent or treat blood clots. They are also known as "anti-clotting medicines." People sometimes call them "blood thinners," although they do not actually thin the blood.


Medicines to prevent or treat blood clots come in different forms. Some come in pills. Others are given as a shot or through a thin tube that goes into a vein, called an "IV."

These instructions are for how to give an anticoagulant **shot**. Examples of anticoagulants that come as a shot include:

- "Unfractionated" heparin
- "Low molecular weight" heparin such as **enoxaparin** (brand name: Lovenox)
- **Fondaparinux** (brand name: Arixtra)

Your doctor or nurse will tell you when and how often to give yourself the shot. Try to do it at the same time (or times) each day. They will also talk to you about what problems to watch for and when to call for advice.

**How to give an anticoagulant shot**



Wash your hands, and clean the skin where you plan to give the shot.

Pinch 1 to 2 inches (2.5 to 5 cm) of skin.

Push needle into the skin at a 90° angle.

Lexidrug patient medication education leaflets are available in up to 20 languages:

*Unlike other solutions, Lexidrug provides patient education in up to 20 Languages.*

• Arabic	• English	• Japanese	• Russian
• Bengali (Adult Medications only)	• French	• Korean	• Spanish
• Chinese	• German	• Polish	• Tagalog
• Chinese (Simplified)	• Greek	• Portuguese	• Turkish
• Creole	• Italian	• Punjabi	• Vietnamese

Clinicians can customize the handouts with the patient's name and patient-specific comments.

*UpToDate Patient Education provides a variety of patient education categories.*

<i>Education Leaflet Type</i>	<i>Number of Leaflets</i>	<i>Available Languages</i>
<b>Adult Medication Patient Education</b>	2,550+	All 20 Languages
<b>Pediatric Medication Patient Education</b>	1,580+	19 Languages
<b>Natural Products Patient Education</b>	120+	English and Spanish
<b>Disease, Procedure, Discharge Instructions, and Healthy Living Patient Education</b>	3,820+	English and Spanish  1,600+ available in English, Spanish, Arabic, and Chinese (Simplified)  400+ available in up to 20 languages
<b>Emergency Department Patient Education</b>	250+	English and Spanish
<b>Adult Patient Counseling Points</b>	2,550+	English