

## **Lexicomp 臨床藥學資料庫簡介**

Lexicomp 臨床藥學資料庫結合實證醫學，提供醫師、藥師最新的藥學資訊和臨床用藥建議，幫助醫院提升藥物安全, 提高學生學習效率(Enhanced Lexicomp functionalities)。Lexicomp 出版公司出版了超過 30 本的專業臨床醫藥學參考書，包括最受歡迎的 Drug Information Handbook, Pediatric Dosage Handbook 等。Lexicomp 主要資料來源包括: 1. 美國 FDA 藥物資料+ Packaging inserts; 2. 追蹤超過 490 個頂級醫藥學期刊、國際醫學會議記錄; 3. Lexicomp 過去 30 年來累計的電子書資料、美國 AHFS 藥學資料庫、Martindale、Brigg's 等國際知名資料庫。Lexicomp 資料是每日更新。提供行動版本介面方便即時查詢（植入資料到手機，無需網路即可查詢），並可與 UpToDate 資料庫進行整合檢索, 提供 UpToDate 所沒有摘錄的藥品資訊和功能（UpToDate 只包含約 25% Lexicomp 內容）。

### **LEXICOMP 包含下列子資料庫:**

1. Lexi-Drugs
  2. Pediatric & Neonatal Lexi-Drugs
  3. Facts & Comparisons --- full functions/data has deployed in Lexicomp
  4. AHFS Essentials
  5. AHFS Drug Information
  6. Geriatric Lexi-Drugs
  7. Brigg's Pregnancy & Lactation
  8. Lexi-Natural Products (超過 550 個天然產品 monographs)
  9. Lexi-Infectious Diseases
  10. 5-Minute Clinical Consult
  11. Patient Education Diseases and Procedures
  12. Lexi-Lab & Diagnostic Procedures
  13. Lexi-Pharmacogenomics
  14. Lexi-Drugs International
  15. Lexi-Tox (Toxicology)
  16. Comparative Efficacy
  17. Pharmacogenomics
- 等等

資料庫功能介紹:

## What is Lexicomp?

Drug database to obtain point of care advice with high quality, 100% evidence-based drug information

Decide Drug Therapy

Optimize Drug efficacy - reduce errors

Promote communication –consistency Info



## Lexicomp - Key Benefits & Differentiators

- Reducing Costs
- Patient Education & IPE
- Editorial Process
- Largest Provider of Drug Information in the World
- True Point-of-Care
- Customer Confidence
- Reducing Medication Errors
- Multiple Leading Resources in One Application
- The Drug Monograph
- Pharmacogenomics
- Lexicomp Mobile
- Ease-of-Use
- Neonatal-Specific Dosing
- Consistency of Content
- Healthiest Drug Database in the World
- Improving Quality of Patient Care
- Clinical Effectiveness

Lexicomp 跟 UpToDate 最引以為傲的就是我們的 Editorial Process, 嚴謹和龐大的學者醫師 peer review 團隊, 讓我們產出業界權威的藥物內容。

## Editorial Process

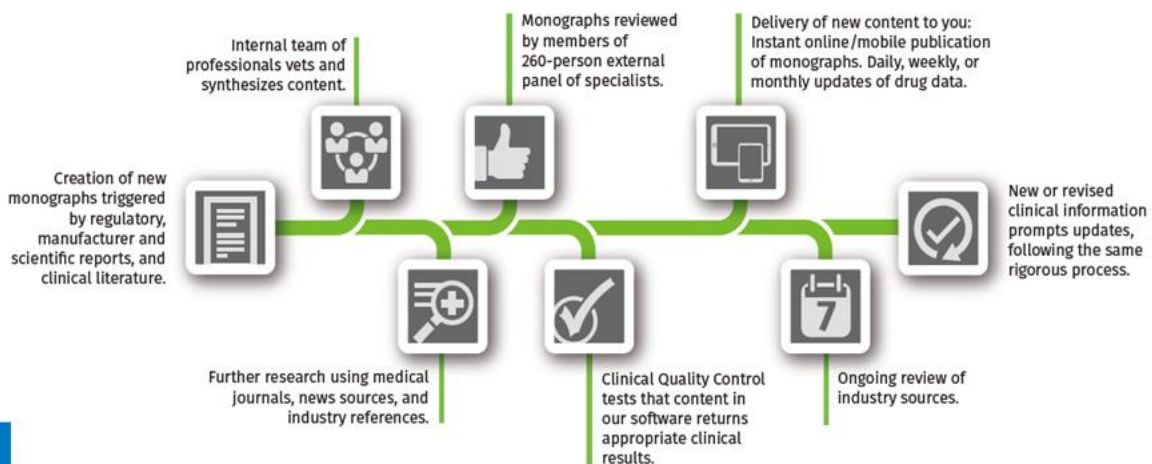
### 1. Internal clinical team - editorial excellence

- Team of pharmacists
- Advanced clinical training (PharmD or PhD)
- 10 years + of extensive clinical experience
- Daily monitoring and updates of manufacturer announcements, publications, regulatory agencies

### 2. External multinational pharmacist review - specialists validate and qualify

### 3. Consistent with UpToDate

### Clinical Drug Information Editorial Process



Lexicomp 一直以來的核心價值是提供醫師、藥師、和護士等臨床工作者在臨床工作上最快找到臨床藥物問題的答案，提供最佳的臨床決策支持，進而減少藥物過失。UpToDate 所提供的所有藥物知識和藥物決策支持功能都是來自 Lexicomp 的授權，但 UpToDate 只有約 25%-30% Lexicomp 的內容。

## Lexicomp vs UpToDate Differentiation (More depth)

**藥物內容深度: From Drug Monograph, many in-depth content are not covered in UpToDate. For example: Cisplatin, If you refer to the drug monograph of CISplatin in Lexicomp (see screenshot below), you can see the whole section of Dosing: Combination Regimens is NOT included in UpToDate**

### Dosing: Combination Regimens

Biliary adenocarcinoma: [Gemcitabine-Cisplatin \(Biliary Cancer\)](#)

Bladder cancer:

[Cisplatin-Docetaxel-Gemcitabine \(Bladder\)](#)

[Cisplatin-Fluorouracil \(Bladder Cancer\)](#)

[Cisplatin-Gemcitabine \(Bladder\)](#)

[CMV \(Bladder\)](#)

[Dose Dense MVAC \(Bladder Cancer\)](#)

[MVAC \(Bladder\)](#)

[PCG \(Bladder\)](#)

Bone sarcoma (osteosarcoma):

[Ifosfamide-Cisplatin-Epirubicin \(Osteosarcoma\)](#)

[MAP \(Osteosarcoma\)](#)

Brain tumors:

[CDDP/VP-16](#)

[COPE](#)

Cervical cancer:

[Bevacizumab-Cisplatin-Paclitaxel \(Cervical\)](#)

[Cisplatin-Fluorouracil \(Cervical Cancer\)](#)

[Cisplatin-Gemcitabine \(Cervical\)](#)

[Cisplatin-Paclitaxel \(Cervical Cancer\)](#)

[Cisplatin-Topotecan \(Cervical Cancer\)](#)

[Cisplatin-Vinorelbine \(Cervical Cancer\)](#)

Endometrial cancer:

[Cisplatin-Doxorubicin \(Endometrial\)](#)

[Cisplatin-Doxorubicin-Paclitaxel \(Endometrial\)](#)

Esophageal cancer:

[Cisplatin-Capecitabine \(Esophageal Cancer\)](#)

[Cisplatin-Fluorouracil \(Esophageal Cancer\)](#)

## Lexicomp for the Pharmacist

Key features for a pharmacist:

- **Drug Comparison Tool**
- **Off-Label Drug Use**
- **Drug Interactions**
- **IV Compatibility** – constant questions surrounding IV medication stability and co-administration
- **AHFS** – detailed drug information used to help make appropriate pharmacotherapy decisions that require more depth of content
- **Patient Education** – easy-to-read, 19 languages, graphics
- **Herbal Drug comparisons**

## Lexicomp for the Nurse

Key features for a nurse:

- **IV Compatibility** – nurse often is first to check IV compatibility before administration
- **Administration and Storage** – key function for nursing is the administration of meds and often looking for quick information on how to give via IV or PO
- **Patient Education** – most education regarding diseases and medications is performed by nursing
- **Ease-of-Use** – most common attribute listed for why nurses love Lexi

Lexicomp 為了保護資料的獨立性，完全不接受任何藥商廣告和資料。

為了因應用戶的習慣，開放所有子資料庫之以供內容搜尋，用戶依照專業需求直接進入該資料庫。例如：小兒科可以直接進入 *Pediatric and Neonatal Lexi-Drugs*；如果想看基因和藥物的關係，則可直接進入 *Pharmacogenomics* 等。70%資料則已經匯入 *Lexi-Drug Multinational*，用戶也可以此當作 *entry point*，內文有其他資料庫鏈，以查詢更深入的資料。這樣的資料編排則可以讓用戶以最少字數找到答案，以節省寶貴時間。

**Lexicomp Formulink: 自行更新臨床藥物資訊，醫師和藥師更容易找獲得完整資料，增進臨床效率**

# Lexicomp Formulink: Customizable Formulary/EMR Integration

*Our content is structured to make answers and information easy to find*

### Comparative Data Tables:

- Quickly access thousands of the highly regarded comparative drug tables
- Build custom tables for up to four drugs

### Customizable Formulary Functions:

- Detailed information about recently released and investigational drugs, including free access to past reviews
- Simplifies research and reporting when evaluating new drugs
- Monograph can be customized to tailor the information to your organization's formulary
- Through simple IT setup, Monograph sections can be individually and automatically uploaded to TMUHs' formulary and other databases.

### Comparative Efficacy:

- Access basic drug comparison information in relevant drug monographs
- Links to more detailed drug comparison content for further research

### Class Monographs:

- Features details about drug properties common to a given pharmacologic category to assist with drug therapy decisions
- Appears in more than 570 monographs in the Lexi-Drugs core drug database

**\*\*\*Note:** 以下是模擬的 Lexicomp 整合入醫院資料庫的圖示(實際整合結果和呈現 - 依照貴院的界面設計/功能為主)

The screenshot displays the Lexicomp Formulink interface for a drug monograph. At the top, there is a search bar with the text "Find in document" and a "Clear" button. Below the search bar, the drug name "Alendronate [RESTRICTED] (Hospital Formulary)" is shown. The main content area is divided into several sections: "Formulary Policies" (with a note about sharing information), "Formulary Restrictions" (listing a 40 mg tablet restricted to endocrinology), "Formulary Dosage Forms" (listing a 10 mg tablet), "Web Links" (with links to hospital guidelines and internet sites), "Brand Names: U.S." (listing Binosto and Fosamax), "Pharmacologic Category" (Bisphosphonate Derivative), and "Dosing - Adult" (with a note about discontinuing use after 3 to 5 years). A left sidebar contains a list of expandable sections, with "Formulary Policies", "Formulary Restrictions", and "Formulary Dosage Forms" highlighted in green. The bottom right corner of the interface shows "Print" and "Help" buttons.

## 各類子資料庫介紹:

### Lexi-Drugs Multinational

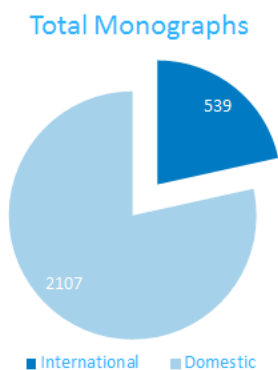
- The core pharmacology database of Lexicomp for customers outside the U.S. and Canada.
- Includes Lexi-Drugs plus any monographs we have for drugs outside of the U.S. and Canada.
- Constantly being updated with new drugs.
- We do not have every drug in every country, but this is what we strive for.
- Even if we do not have every drug in your country, we still provide tremendous value.

Lexicomp®



### Lexi-Drugs Multinational

Lexicomp®



- 539 multinational monographs (as of 30 June 2017).
- Represents the most commonly used drugs for our **Medi-Span** global drug screening customers.
- About 10~20 new monographs added each month.



## AHFS Drug Information (DI)

Lexicomp®

- Licensed content (not maintained by CDI/Lexicomp)
- Written, published and maintained by the American Society of Health System Pharmacists (ASHP)
  - **AHFS Drug Information (DI)**
  - **AHFS Essentials** (point-of-care version of AHFS DI)
- American Hospital Formulary Service (AHFS) was originally known as the **Big Red Book**
- Provides customers with an additional drug information resource right from within Lexicomp (automatically included)



## AHFS Drug Information (DI)

Lexicomp®

- Comprehensive, in-depth reference with **1,400+** monographs
- A recognized Official Compendium by the US Congress, this is the only drug information resource published from a professional scientific association
- Provides information on indications, dosing/administration, warnings/precautions, side effects, drug interactions and pharmacology
- **Not** offered by Micromedex



## Facts & Comparisons Off-Label Content

Hundreds of drug monographs in Lexicomp Online and Lexicomp Mobile Apps feature an off-label uses field providing quick information on **1,200+** off-label uses, along with evidence ratings.

Key research data includes:

- |                          |                                     |
|--------------------------|-------------------------------------|
| ▪ Evidence rating        | ▪ Discussion                        |
| ▪ Therapy Considerations | ▪ Guidelines                        |
| ▪ Rationale              | ▪ Risk/Benefit Considerations       |
| ▪ Population             | ▪ Controlled & Uncontrolled Studies |
| ▪ Dosing Studied         | ▪ Case Reports                      |

## Pediatric & Neonatal Lexi-Drugs

Lexicomp®

- The entire focus of this database is targeted at the pediatric population, with special attention and separation placed on the neonatal patient.
- Each monograph is designed to provide a comprehensive overview of the medication including information on: special alerts, use/dosing, administration, regulatory guidance, safety information, monitoring and available and prepared dosage forms.
- Has been published for **25+** years.
- Comprehensive dosing for **1,000+** medications from infant to age 18.

## Pediatric & Neonatal Lexi-Drugs

Lexicomp®

- The heart of this database lies in the editorial process to create and maintain the content.
- The initial content creation is performed by our internal pediatric/neonatal editorial team that is comprised of **4 pediatric trained clinical pharmacists**.
- This group does the initial literature surveillance and content creation and then leverages the Neonatal Advisory Board, comprised of 10 neonatal practitioners that are actively practicing, to review the neonatal specific content.

## Pediatric & Neonatal Lexi-Drugs

Lexicomp®

- A strength of the database: **310+** monographs that have specific neonatal dosing with up to **45** fields of information, including dosing information for neonates and infants, pregnancy and lactation information, usual concentration, drug interactions, and IV compatibility.
- This is about **100+** more monographs than the primary competition to this database (Micromedex – NeoFax).
- Also provides very detailed dosing information based on a variety of age ranges relevant to this population such as prenatal age, gestational age and post-menstrual age.

## Pediatric & Neonatal Lexi-Drugs

- One of the most important and highly accessed sections of this database is the dosing content.
- The dosing content is separated into two fields.
  - **Dosing: Neonatal** (0 – 28 days of life)
  - **Dosing: Usual** (1 month – 18 years)
- This is an important separation as neonatal clinicians prefer to have dedicated content for this population to avoid any potential dosing errors or confusion that may occur by having the neonatal dosing interspersed with the rest of the pediatric dosing.

## Pediatric & Neonatal Lexi-Drugs

- Another key area of content is related to appropriate use of medications for the pediatric and neonatal populations.
- Unlike Lexi-Drugs, this database does not separate labeled and off-label use into separate fields, but rather presents all appropriate uses of the medication in one place.
- This is because **many** of the uses listed for these populations will be off-label.
- This database leverages all available literature, including smaller studies and case reports to provide as complete a picture of clinical information as possible and **evidenced-based information** on the appropriate use of medications.

## Pregnancy & Lactation

- This proprietary in-depth database is written and maintained by the CDI editorial team.
- Provides detailed content on the use of medications in pregnancy and lactation including the risks and effects for both the mother and infant.
- Contains **250+** monographs.
- Customer feedback indicated that while the content is of high quality and well received, there is a concern that the breadth may not be enough to meet their clinical needs (not enough monographs available).

Lexicomp®

## Briggs Drugs in Pregnancy & Lactation

- Licensed content, not maintained by CDI/Lexicomp
- Highly respected, wide industry recognition
- Contains **1000+** monographs
- This database complements the Pregnancy & Lactation (In-Depth) database, increases the breadth and depth of information related to medication safety and appropriate drug use during pregnancy and breast-feeding, including pregnancy and breast-feeding recommendations with links to definitions and in-line reference links to PubMed and information on the effects of medication on the fetus during pregnancy.

Lexicomp®

## Lexi-Tox

- Designed for healthcare professionals working in **emergency** and **first-response** situations, this **point of care** clinical module provides immediate support for the assessment, diagnosis and treatment of exposures, poisonings and overdoses.
- Includes the **Toxicology** and the **Household Products** databases, which combine to provide information on agents of toxicity, chemicals, pharmaceuticals, envenomation, nuclear, biologic, and terrorism agents, as well as non-toxic agents, antidotes, and decontaminants, and information on other environmental toxins such as snake or spider bites.
- Also includes access to **Material Safety Data Sheets (MSDS)**, toxicology-specific calculators, and drug identification.

Lexicomp®

## Natural Products

- This database provides clinicians with valuable information on **400+** commonly used natural products such as herbs, vitamins, nutraceuticals and supplements
- Provides in-line referencing and information on dosage, source, adverse reactions, uses and pharmacology, toxicology, pregnancy/lactation, and other key information
- The natural product content is adapted from *The Review of Natural Products*, (a Facts & Comparisons database)

## Pharmacogenomics

- Pharmacogenomics is an emerging science that looks at how genetic variations impact patient response to drug therapy.
- Bridges science to practice: synthesized content derived from primary clinical and basic science research.
- This database looks at:
  - Genes of Interest
  - Gene Testing Required
  - Gene Testing Recommended
  - Gene Testing May Be Considered



## Pharmacogenomics

**Leading the industry** in developing data and screening functions in this emerging field

*According to a recent study\* published in JMLA and presented at the ASHP Midyear Meeting:*

- Lexicomp allowed researchers to answer more questions than other resources
- Lexicomp better provided pharmacogenomics information than other resources
- Other resources do not offer the same clinical content as Lexicomp
- Lexicomp is better positioned to assist clinicians to optimize patient care than other resources



\*Evaluation of Popular Drug Information Resources on Clinically Useful and Actionable Pharmacogenomics Information J Med Lib Association 104(1) January 2016

資料庫內文介紹:

## Lexicomp – The Drug Monograph

Lexicomp®

*How a clinician thinks!*

- aka Drug Entry.
- Focuses on one drug at a time.
- Designed to help meet the needs of all clinicians:
  - Physician, Pharmacist, and Nurse.
- Presented in a standard format consistent across all databases.
- We give you **concise and comprehensive drug information**, but we give it to you in a way that is **easy to use**.

## Lexicomp - Dosing

Lexicomp®

*How a clinician thinks!*



- **DOSING**
  - All dosing information is grouped together



- **POPULATION**
  - Adult, pediatric or geriatric and common dosing adjustments



- **INDICATION**
  - Specific dosing use or indication



- **ROUTE OF ADMINISTRATION**
  - Specific dosing administration route

# Monograph: Dosing

Lexicomp®  
 Enter drug, disease, NDC/UPC or other key | Search | Limit Search to | Select Interface Language | Recent Documents |  
 Interactions | Drug ID | Calculators | Drug Comparisons | Triselle's IV Compatibility | Patient Education | Formulary Monograph Service | Toxicology | UpToDate® | More Clinical Tools

**Warfarin (Lexi-Drugs Mult** 跟UpToDate一樣, Lexicomp 藥物專題的內容編排方式的目的是最快讓臨床工作者找到需要的答案或用藥建議, 內容分成2個層, 第一層能給您70-80%需要的資訊, 如需要更深一層的資訊, 可以直接點擊鏈接以進入第二層來獲得更多的資訊. Ex) Dosage and Administration in AHFS Essentials for additional information.

Navigation Tree | Expand All | Monograph

- ALERT: US Boxed Warning
- Brand Names
- International Nonproprietary Names (INN)
- Brazilian Nonproprietary Names (DCB)
- Anatomic Therapeutic Chemical (ATC) Classification
- Pharmacologic Category
- Dosages**
  - Dosing: Adult
  - Dosing: Geriatric
  - Dosing: Pediatric
  - Dosing: Renal Impairment
  - Dosing: Hepatic Impairment
- Uses

**Dosing: Adult** Note: Coumadin injection has been discontinued in the US for more than 1 year.

Note: Labeling identifies genetic factors which may increase patient sensitivity to warfarin. Specifically, genetic variations in the proteins CYP2C9 and VKORC1, responsible for warfarin's primary metabolism and pharmacodynamic activity, respectively, have been identified as predisposing factors associated with decreased dose requirement and increased bleeding risk. Genotyping tests are available, and may provide guidance on initiation of anticoagulant therapy. The American College of Chest Physicians recommends against the use of routine pharmacogenomic testing to guide dosing (Guyatt 2012). For management of elevated INRs as a result of warfarin therapy, see Additional Information/Pharmacotherapy Pearls for guidance.

**Thromboembolic complications (prophylaxis/treatment) or myocardial infarction (risk reduction):** 用最精簡的文字呈現臨床醫師藥師所需的Dosage數據和資訊。

IV (administer as a slow bolus injection): 2 to 5 mg/day

Oral: Initial dosing must be individualized. Consider the patient (hepatic function, cardiac function, age, nutritional status, concurrent therapy, risk of bleeding) in addition to prior dose response (if available) and the clinical situation. Start 2 to 5 mg once daily or for healthy individuals, 10 mg once daily for 2 days; lower doses (eg, 5 mg once daily) recommended for patients with confirmed HIT once platelet recovery has occurred (Guyatt 2012). In patients with acute venous thromboembolism, initiation may begin on the first or second day of low molecular weight heparin or unfractionated heparin therapy (Guyatt 2012). Adjust dose according to INR results; usual maintenance dose ranges from 2 to 10 mg daily (individual patients may require loading and maintenance doses outside these general guidelines).

Lower starting doses may be required for patients with hepatic impairment, poor nutrition, CHF, elderly, high risk of bleeding, or patients who are debilitated, or those with reduced function genomic variants of the catabolic enzymes CYP2C9 (\*2 or \*3 alleles) or VKORC1 (-1639 polymorphism); see table. Higher initial doses may be reasonable in selected patients (ie, receiving enzyme-inducing agents and with low risk of bleeding). Overlapping a parenteral anticoagulant and warfarin therapy by at least 5 days is necessary in treatment of DVT/PE even if the INR is therapeutic earlier. Although an elevation in INR (due to factor VII depletion) may be seen early (within the first 24 to 48 hours) in warfarin therapy, it does not represent adequate anticoagulation. Factors II and X must also be depleted which takes considerably longer (ACCP [Guyatt 2012]).

Range<sup>1</sup> of Expected Therapeutic Maintenance Dose Based on CYP2C9<sup>2</sup> and VKORC1<sup>3</sup> Genotypes

# Monograph: Hazardous Drugs Handling

Lexicomp®  
 Enter drug, disease, NDC/UPC or other key | Search | Limit Search to | Select Interface Language | Recent Documents |  
 Interactions | Drug ID | Calculators | Drug Comparisons | Triselle's IV Compatibility | Patient Education | Formulary Monograph Service | Toxicology | UpToDate® | More Clinical Tools

**Warfarin (Lexi-Drugs Multinational)**

Navigation Tree | Expand All | Monograph | Images | Adult Patient Education | Pediatric Patient Education

- Dosages
  - Dosing: Adult
  - Dosing: Geriatric
  - Dosing: Pediatric
  - Dosing: Renal Impairment
  - Dosing: Hepatic Impairment
- Uses
  - Clinical Practice Guidelines
  - Administration and Storage Issues
    - Administration
    - Dietary Considerations
    - Hazardous Drugs Handling
    - Considerations
    - Storage/Stability
    - Preparation for Administration

**Hazardous Drugs Handling Considerations**  
 Hazardous agent (NIOSH 2016 [group 3]).  
 Use appropriate precautions for receiving, handling, administration, and disposal. Gloves (single) should be worn during receiving, unpacking, and placing in storage. NIOSH recommends single gloving for administration of intact tablets or capsules (NIOSH 2016). Assess risk to determine appropriate containment strategy (USP-NF 2017).

**Storage/Stability**  
 Injection: Prior to reconstitution, store at 15°C to 30°C (59°F to 86°F). Following reconstitution with 2.7 mL of sterile water (yields 2 mg/mL solution), stable for 4 hours at 15°C to 30°C (59°F to 86°F). Single-use vial. Protect from light.  
 Tablet: Store at 15°C to 30°C (59°F to 86°F). Protect from light.

**Preparation for Administration** Reconstitute with 2.7 mL of sterile water for injection (yields 2 mg/mL solution).

**Compatibility** See Triselle's IV Compatibility Database  
[Open Triselle's IV Compatibility](#)

**Medication Safety Issues**

- Sound-alike/look-alike issues:
- High alert medication:
- National Patient Safety Goals:

**Medication Guide and/or Vaccine Information Statement (VIS)** An FDA-approved patient medication guide, which is available with the product information and at [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2017/009218s017b1.pdf;page=31](https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/009218s017b1.pdf;page=31) (Coumadin), must be dispensed with this medication.

## Monograph: Pregnancy Considerations

**Warfarin (Lexi-Drugs Multinational)**

**Pregnancy Considerations** Warfarin crosses the placenta, concentrations in the fetal plasma are similar to maternal values. Teratogenic effects have been reported following first trimester exposure and may include coumarin embryopathy (nasal hypoplasia and/or stippled epiphyseas, limb hypoplasia may also be present). Adverse CNS events to the fetus have also been observed following exposure during any trimester and may include CNS abnormalities (including ventral midline dysplasia, dorsal midline dysplasia). Spontaneous abortion, fetal hemorrhage, and fetal death may also occur. Use is contraindicated during pregnancy (or in women of reproductive potential) except in women with mechanical heart valves who are at high risk for thromboembolism; use is also contraindicated in women with threatened abortion, eclampsia, or preeclampsia. Frequent pregnancy tests are recommended for women who are planning to become pregnant and adjusted-dose heparin or low molecular weight heparin (LMWH) should be substituted as soon as pregnancy is confirmed or adjusted-dose heparin or LMWH should be used instead of warfarin prior to conception.

In pregnant women with high-risk mechanical heart valves, the benefits of warfarin therapy should be discussed with the risks of available treatments (ACCP [Bates, 2012], AHA/ACC [Nishimura, 2014]), when possible avoid warfarin use during the first trimester (ACCP [Bates, 2012]) and close to delivery (ACCP [Bates, 2012], AHA/ACC [Nishimura, 2014]). Use of warfarin during the first trimester may be considered if the therapeutic INR can be achieved with a dose ≤5 mg/day (AHA/ACC [Nishimura, 2014]). Adjusted-dose LMWH or adjusted-dose heparin may be used throughout pregnancy or until week 13 of gestation when therapy can be changed to warfarin. LMWH or heparin should be resumed close to delivery. In women who are at a very high risk for thromboembolism (older generation mechanical prosthesis in mitral position or history of thromboembolism), warfarin can be used throughout pregnancy and replaced with LMWH or heparin near term; the use of low-dose aspirin is also recommended (ACCP [Bates, 2012], AHA/ACC [Nishimura, 2014]). Women who require long-term anticoagulation with warfarin and who are considering pregnancy, LMWH substitution should be done prior to conception when possible. If anti-Xa monitoring cannot be done, do not use LMWH therapy in pregnant patients with a mechanical prosthetic valve (AHA/ACC [Nishimura, 2014]). When choosing therapy, fetal outcomes (ie, pregnancy loss, malformations), maternal outcomes (ie, VTE, hemorrhage), burden of therapy, and maternal preference should be considered (ACCP [Bates, 2012]).

**Breast-Feeding Considerations** Breast-feeding women may be treated with warfarin. Based on available data, warfarin does not pass into breast milk. Women who are breast-feeding should be carefully monitored to avoid excessive anticoagulation. According to the American College of Chest Physicians (ACCP), warfarin may be used in lactating women who wish to breast-feed their infants (Bates, 2012). Monitor nursing infants for bruising or bleeding (per manufacturer).

**Briggs' Drugs in Pregnancy & Lactation**

## Monograph: Nursing Considerations

**Warfarin (Lexi-Drugs Multinational)**

months of age. Healthy prematures, however, do not develop spontaneous hemorrhage or thrombotic complications because of a balance between procoagulants and inhibitors.

**Advanced Practitioners Physical Assessment/Monitoring** Assess for signs and symptoms of bleeding. Obtain prothrombin time, hematocrit, and INR. Consider genotyping of CYP2C9 and VKORC1 prior to initiation of therapy, if available.

**Nursing Physical Assessment/Monitoring** Check ordered labs and report abnormalities. Monitor for and instruct patient to report signs and symptoms of bleeding. Educate patient on importance of a consistent diet and following up with lab work.

**Product Availability (US)** Coumadin injection has been discontinued in the US for more than 1 year.

**Dosage Forms** Expient information presented when available (limited, particularly for generics); consult specific product labeling. [DSC] = Discontinued product

Solution Reconstituted, Intravenous, as sodium:

- Coumadin: 5 mg (1 ea [DSC])

Tablet, Oral, as sodium:

- Coumadin: 1 mg [scored]
- Coumadin: 2 mg [scored; contains fd&c blue #2 aluminum lake, fd&c red #40 aluminum lake]
- Coumadin: 2.5 mg [scored; contains fd&c blue #1 aluminum lake, fd&c yellow #10 aluminum lake]
- Coumadin: 3 mg [scored; contains fd&c blue #2 aluminum lake, fd&c red #40 aluminum lake, fd&c yellow #6 aluminum lake]
- Coumadin: 4 mg [scored; contains fd&c blue #1 aluminum lake]



# Monograph: Patient Education (in Chinese)

Lexicomp® Contact Us Corporate User Guide Logout

Enter drug, disease, NDC/UPC or other key | Search Limit Search to

Select Interface Language Recent Documents

Interactions Drug I.D. Calculators Drug Comparisons Trisise's IV Compatibility Patient Education Formulary Monograph Service Toxicology UpToDate® More Clinical Tools

## Noradrenaline [Norepinephrine] (Lexi-Drugs Multinational)

Navigation Tree Find in document [Enter text to find... clear] Jump to Section Switch Language Print Help

Expand All

此藥有哪些作用?  
我服用此藥「前」需告知醫生什麼?  
使用此藥必須注意哪些事項?  
立即告知醫務人員的原因  
此藥物的其他副作用為何?  
最佳的用藥方法為何?  
如果我忘記(錯過)一次用藥,該怎麼辦?  
我應該如何儲存此藥?  
一般聲明

**Noradrenaline [Norepinephrine] (Patient Education Multinational - Adult Medication) (Chinese)**  
You must carefully read the "Consumer Information Use and Disclaimer" below in order to understand and correctly use this information

**此藥有哪些作用?**

- 此藥用於治療低血壓。

**我服用此藥「前」需告知醫生什麼?**

- 若您對去甲腎上腺素或該藥物的其他任何成分過敏。
- 若您對此類藥物、任何藥物、食物或其他物質過敏。告訴醫生的過敏情況與症狀,例如出疹、蕁麻疹、發癢、呼吸短促、喉嚨、咳嗽、臉部、嘴唇、舌頭或喉嚨腫脹,或其他過敏現象。

此藥可能會與其他藥物或健康問題交互影響。

告知您的醫師與藥劑師有關您的所有用藥(處方藥或非處方藥、天然滋補品、維他命劑)與健康問題。務必確認在您的用藥與健康問題下服用此藥是安全的。諮詢您的醫師前,請勿開始服藥、停藥或改變用藥劑量。

**使用此藥必須注意哪些事項?**

- 告知所有醫療照護提供者您正在服用此藥,這包括您的醫師、護理師、藥劑師和牙醫師。
- 請經常檢查您的血壓。請向您的醫師諮詢。
- 若您對亞硫酸鹽過敏,請諮詢醫師。
- 若您已懷孕或計畫懷孕,請告知醫師。您將必須討論在懷孕期間服用此藥對您帶來的益處與風險。
- 若您正以母乳哺育幼兒,請告知醫師。您將必須討論對嬰兒造成的風險。

用問答的方式,列出6-7個病人最常問的問題/或須知,並用簡單的文字回答

# Monograph: Patient Education (in Chinese)

Lexicomp® Contact Us Corporate User Guide Logout

Enter drug, disease, NDC/UPC or other key | Search Limit Search to

Select Interface Language Recent Documents

Interactions Drug I.D. Calculators Drug Comparisons Trisise's IV Compatibility Patient Education Formulary Monograph Service Toxicology UpToDate® More Clinical Tools

## Noradrenaline [Norepinephrine] (Lexi-Drugs Multinational)

Navigation Tree Find in document [Enter text to find... clear] Jump to Section Switch Language Print Help

Expand All

What is this drug used for?  
What do I need to tell my doctor BEFORE I take this drug?  
What are some things I need to know or do while I take this drug?  
What are some side effects that I need to call my doctor about right away?  
What are some other side effects of this drug?  
How is this drug best taken?  
What do I do if I miss a dose?  
How do I store and/or throw out this drug?  
General drug facts  
Last Reviewed Date

**Noradrenaline [Norepinephrine] (Patient Education Multinational - Adult Medication)**  
You must carefully read the "Consumer Information Use and Disclaimer" below in order to understand and correctly use this information

**What is this drug used for?**

- It is used to treat low blood pressure.

**What do I need to tell my doctor BEFORE I take this drug?**

- If you have an allergy to norepinephrine or any other part of this drug.
- If you are allergic to any drugs like this one, any other drugs, foods, or other substances. Tell your doctor about the allergy and what signs you had, like rash; hives; cough, swelling of face, lips, tongue, or throat, or any other signs.

This drug may interact with other drugs or health problems.

Tell your doctor and pharmacist about all of your drugs (prescription or OTC, natural products, vitamins) and health problems. You must check to make sure that it is safe to take this drug with all of your other drugs and health problems. Do not start, stop, or change the dose of any drug without checking with your doctor.

**What are some things I need to know or do while I take this drug?**

- Tell all of your health care providers that you take this drug. This includes your doctors, nurses, pharmacists, and dentists.
- Have your blood pressure checked often. Talk with your doctor.
- If you have a sulfite allergy, talk with your doctor.
- Tell your doctor if you are pregnant or plan on getting pregnant. You will need to talk about the benefits and risks of using this drug while you are pregnant.

其他功能模組介紹:

Drug Interactions

The screenshot shows the Lexicomp Interactions interface. On the left, under 'Selected Items', the 'Duplicate Drug Therapy' checkbox is checked and highlighted with a blue arrow. In the center, the 'Search Drugs' and 'Search Allergies' sections are visible, with blue arrows pointing to their respective search input fields. A red arrow points from the 'Search Drugs' field to a red text annotation that reads: '可搜尋藥物vs食物，藥物vs藥物，藥物vs草藥等的交互作用 Lexicomp有收錄超過550種草藥的 monograph'. Below the search fields, there is a section for 'Important Product Information' with a disclaimer about I.V. drug compatibility.

Drug Interactions

This screenshot shows the Lexicomp Interactions page with search results. In the 'Selected Items' section, several drugs are listed: Dabigatran Etexilate, Ginkgo, Tylenol (OTC), and Warfarin. Under the 'Allergies' section, a dropdown menu is open, showing search results for 'acet', including Acetaminophen, Acetazolamide, Acetic Acid, Acetohexamide, and Acetylhydroxamic Acid. A blue arrow points to the 'Acetaminophen' result. The 'Search Allergies' section also shows a search input field with a blue arrow pointing to it. The 'Important Product Information' section is partially visible at the bottom.

## Drug Interactions

Lexicomp®  
 Enter drug, disease, NDC/UPC or other key  Search Limit Search to   
 CONTACT US LABORATOR USER LOGIN LOGOUT  
 Select Interface Language Recent Documents  
 Interactions Drug ID Calculators Drug Comparisons Trisect's IV Compatibility Patient Education Formulary Monograph Service Toxicology UpToDate® More Clinical Tools

### Interactions

Selected Items Search Interaction Analysis  
 Jump to Section -- Filter Item -- -- Filter Risk Ratings -- Reset Filters Print Help

**Drugs**  
 X Dabigatran Etxelate  
 X Ginger  
 X Tylenol 8 HR [OTC] [DSC]  
 X Warfarin

**Allergies**  
 X Acetaminophen  
 Duplicate Drug Therapy

**Lexicomp Interaction Analysis**  
 A = No known interaction C = Monitor therapy X = Avoid combination  
 B = No action needed D = Consider therapy modification

View interaction detail by clicking on link.  
**Drugs in this analysis:** Dabigatran Etxelate, Ginger, Tylenol 8 HR [OTC] [DSC], Warfarin

- Drug-Allergy Interactions**
  - X Tylenol 8 HR [OTC] [DSC] (Acetaminophen) - Acetaminophen
- Drug-Drug Interactions**
  - D Dabigatran Etxelate (Anticoagulants) - Ginger (Herbs (Anticoagulant/Antiplatelet Properties))
  - D Ginger (Herbs (Anticoagulant/Antiplatelet Properties)) - Warfarin (Anticoagulants)
  - D Dabigatran Etxelate (Anticoagulants) - Warfarin (Vitamin K Antagonists) *Depends on Laboratory/D*
  - C Tylenol 8 HR [OTC] [DSC] (Acetaminophen) - Warfarin (Vitamin K Antagonists) *Depends on Dose*
- Duplicate Therapy Interactions**
  - Dabigatran Etxelate - Warfarin

**Summary:** Herbs (Anticoagulant/Antiplatelet Properties) may enhance the adverse/toxic effect of Anticoagulants. Bleeding may occur. **Severity Major Reliability Rating Fair**

**Risk Rating:** X: Consider therapy modification.

**Patient Management:** The concurrent use of herbs possessing anti-coagulant/antiplatelet properties with other herbs or drugs possessing similar properties should be avoided. If used concurrently, increased vigilance in monitoring for adverse effects (eg, bleeding, bruising, abnormal mental status due to CNS effects) must be employed. For patients scheduled for surgical, dental, or other invasive procedures, anti-coagulant/antiplatelet herbs should be discontinued 2 weeks prior to the scheduled procedure.

**Anticoagulants Interacting Members:** Acenocoumarol, Antithrombin, Apixaban, Argatroban, Bemparin, Biotin, Bivalirudin, Dabigatran Etxelate, Dalteparin, Danaparoid, Desirudin, Edoxan, Enoxaparin, Fondaparinux, Heparin, Nadroparin, Phenindolone, Protin C Concentrate (Human), Rivaroxaban, Siltuximab, Tinzaparin, Warfarin

**Herbs (Anticoagulant/Antiplatelet Properties) Interacting Members:** Achillea, Anise, Aniseed, Blackberry, Blackthorn, Bromelain, Cat's Claw, Celery, Chamomile, Cloves, Coriander, Dong Quai, Evening Primrose, Fenugreek, Feverfew, Garlic, Ginger, Ginkgo Biloba, Ginseng (American), Ginseng (Chinese), Ginseng (Siberian), Grape Seed, Green Tea, Guggul, Horse Chestnut, Horse Radish, Licorice, Phlox, Ash, Red Clover, Reishi, Saffron (S-allylmercaptocysteine), Sassafras, Turmeric, White Willow

**Discussion:** Many fern products possess the ability to cause bleeding (inhibit coagulation or primary hemostasis) by one of several mechanisms (e.g., herb contains a coumarin-like constituent or one that is able to inhibit the production/function of platelets).<sup>1,2,3,4</sup> The concurrent use of such herbs with other herbs or drugs possessing a similar pharmacologic potential may increase the risk of bleeding. Caution is advised.

**Footnotes:**  
 1. Nauseef SA. Antithrombotic Effects of Naturally Derived Products on Coagulation and Platelet Function. *Stem Cells Int* 2010; 4(3):229-40. [PubMed: 20011242]  
 2. Henggen ML, Thompson JA, Young AJ, et al. Anticoagulant Activity of Several Dietary Supplements. *Blood* 2002; 100(10):3333-3337. [PubMed: 12202002]  
 3. Spornsbach AL, Andrews L. An Examination of the Bleeding Complications Associated with Herbal Supplements, Antiplatelet and Anticoagulant Medications. *J Clin Hypertens* 2007; 19(3):67. [PubMed: 17556623]  
 4. Stewart P, Poon M, Clarke R, et al. Potential Effects of Herb-Drug Interactions: A Systematic Review of the Natural and Synthetic Research. *J Pharmacol Ther* 2009; 330(3):339-350. [PubMed: 19384662]

Analyze Clear

點擊獲取此交互作用的full monograph

## Drug Interactions

### Interactions

圖一  
 點擊單獨藥物，  
 可進入所有會  
 此藥物產生交  
 互作用的藥物/  
 草藥/食物  
 monograph.  
 如下圖二

Selected Items Search Interaction Analysis Interaction Monograph  
 Jump to Section -- Filter Item -- -- Filter Risk Ratings -- Reset Filters

**Drugs**  
 X Dabigatran Etxelate  
 X Ginger  
 X Tylenol 8 HR [OTC] [DSC]  
 X Warfarin

**Allergies**  
 None  
 Duplicate Drug Therapy

**Lexicomp Interaction Analysis**  
 A = No known interaction C = Monitor therapy X = Avoid combination  
 B = No action needed D = Consider therapy modification

View interaction detail by clicking on link.  
**Drugs in this analysis:** Dabigatran Etxelate, Ginger, Tylenol 8 HR [OTC] [DSC], Warfarin

- Drug-Drug Interactions**
  - D Dabigatran Etxelate (Anticoagulants) - Ginger (Herbs (Anticoagulant/Antiplatelet Properties))
  - D Ginger (Herbs (Anticoagulant/Antiplatelet Properties)) - Warfarin (Anticoagulants)
  - D Dabigatran Etxelate (Anticoagulants) - Warfarin (Vitamin K Antagonists) *Depends on Laboratory/Diagnostic Result*
  - C Tylenol 8 HR [OTC] [DSC] (Acetaminophen) - Warfarin (Vitamin K Antagonists) *Depends on Dose*
- Duplicate Therapy Interactions**
  - Dabigatran Etxelate - Warfarin

圖二

Search Interaction Analysis Interaction Monograph Warfarin  
 Categories -- Filter Risk Ratings --

**Interacting Drug Categories**  
 A = No known interaction C = Monitor therapy X = Avoid combination  
 B = No action needed D = Consider therapy modification

- X Hemin
- X Mifepristone *Depends on Indication*
- X Onasemnogene *Depends on Laboratory/Diagnostic Result*
- X Oxalotamide
- X Streptokinase
- X Tamoxifen *Depends on International Labeling*
- X Urokinase *Depends on Indication and Dose*
- X Vorapaxar
- D Abiraterone
- D Amiodarone
- D Androgens
- D Anthracycline
- D Anthracycline Agents
- D Barbiturates
- D Capecitabine

**Lexicomp Interaction Analysis**  
 Title: Anticoagulants / Vorapaxar  
 Risk Rating: X: Avoid combination  
 Summary: Vorapaxar may enhance the adverse/toxic effect of Anticoagulants. More specifically, this combination is expected to increase the risk of bleeding. **Severity Major Reliability Rating Fair**  
 Patient Management: Avoid the use of vorapaxar in combination with anticoagulants.  
 Anticoagulants Interacting Members: Acenocoumarol, Antithrombin, Apixaban, Argatroban, Bemparin, Biotin, Bivalirudin, Dabigatran Etxelate, Dalteparin, Danaparoid, Desirudin, Edoxan, Concentrate (Human), Rivaroxaban, Tinzaparin, Warfarin  
 Discussion: Vorapaxar US prescribing information states that its use in combination with anticoagulants should be avoided.<sup>1</sup> Use of anticoagulants is one of several factors expected to increase the risk of bleeding. Other factors include older age, low body weight, reduced renal function, reduced hepatic function, a history of bleeding disorders, and use of other antiplatelet agents.<sup>1</sup>

點擊可再進入Warfarin跟Vorapaxar的交互作用monograph

點擊進入其中一組藥物交互作用 monograph: (如果看到 interaction 后面有紅字，則建議閱讀)

## Drug Interactions

Lexicomp也有收錄3種藥物同時用藥會產生的交互作用，如下：

nteractions

Selected Items

Drugs  
 Lisinopril  
 Valsartan

Allergies  
 None

Duplicate Drug Therapy

Search Interaction Analysis

Jump to Section -- Filter Item -- Filter Risk Ratings -- Reset Filters Print Help

### Lexicomp Interaction Analysis

A = No known interaction  
 B = No action needed  
 C = Monitor therapy  
 D = Consider therapy modification  
 X = Avoid combination

View interaction detail by clicking on link

Drugs in this analysis: Lisinopril, Valsartan

**Drug-Drug Interactions**  
 Lisinopril (Angiotensin-Converting Enzyme Inhibitors) - Valsartan (Angiotensin II Receptor Blockers) *Depends on Additional drug/group*

**Duplicate Therapy Interactions**  
 Lisinopril - Valsartan

Created on May 14, 2018 5:15:20 PM PDT

點擊進入3種藥物同時用藥的交互作用詳細說明，請參閱下一張投影片！

更新日期: 當有新的臨床藥學發現，Lexicomp會及時更新

## Drug Interactions

Search Interaction Analysis Interaction Monograph

Print Help

**Title** Angiotensin-Converting Enzyme Inhibitors / Angiotensin II Receptor Blockers

**Dependencies:**

- Additional drug/group** Routine combined use of an angiotensin converting enzyme inhibitor, angiotensin II blocker, and aldosterone antagonist is not recommended for patients with heart failure with reduced ejection fraction.

**Risk Rating** D. Consider therapy modification

**Summary** Angiotensin II Receptor Blockers may enhance the adverse/toxic effect of Angiotensin-Converting Enzyme Inhibitors. Angiotensin II Receptor Blockers may increase the serum concentration of Angiotensin-Converting Enzyme Inhibitors. **Severity** Moderate **Reliability Rating** Fair

**Patient Management** US labeling states that concurrent use of telmisartan and ramipril is specifically not recommended and Canadian labeling states that irbesartan and eprosartan are contraindicated for use with ACE Inhibitors in patients with diabetic nephropathy. It is not clear if any other combination of an ACE inhibitor and an ARB would be any safer. If such a combination must be used, monitor patients extra closely for a greater-than-expected response to the combination, including monitoring of blood pressure, renal function, and potassium concentrations.

**Angiotensin-Converting Enzyme Inhibitors Interacting Members** Alacepril, Benazepril, Captopril, Cilazapril, Enalapril, Enalaprilat, Fosinopril, Imidapril, Lisinopril, Moexipril, Perindopril, Quinapril, Ramipril, Trandolapril, Zofenopril

**Angiotensin II Receptor Blockers Interacting Members** Azilsartan, Candesartan, Eprosartan, Fimasartan, Irbesartan, Losartan, Olmesartan, Telmisartan, Valsartan

**Discussion** The risk of developing hyperkalemia or acute kidney injury were both significantly increased among subjects randomized to combined therapy with losartan (100 mg/day) and lisinopril (10 mg to 40 mg daily) as compared to subjects randomized to losartan monotherapy in a clinical trial of 1448 subjects with type 2 diabetes and nephropathy.<sup>1</sup> Hyperkalemia was present at a frequency of 6.3 events per 100 person-years with combination therapy versus 2.6 events per 100 person-years with losartan monotherapy, and acute kidney injury was present at a frequency of 12.2 events per 100 person-years versus 6.7 events per 100 person-years with losartan monotherapy.

Subject randomly assigned to the combination of ramipril and telmisartan (n=8502) as part of the large ONTARGET clinical trial were more likely to discontinue study drug, experienced more signs/symptoms of hypotension, experienced hyperkalemia, or had a worsening of renal function impairment as compared to subjects assigned to either ramipril or telmisartan alone (n=8576 and n=8542, respectively).<sup>2</sup> Additionally, as described in the telmisartan prescribing information, the average ramipril AUC and maximum serum concentration (Cmax) were increased 2.1-fold and 2.3-fold, respectively, when ramipril (10 mg daily) and telmisartan (80 mg daily) were administered concurrently in healthy volunteers.<sup>3</sup> Concentrations of the active metabolite ramiprilat were similarly increased with concurrent telmisartan (by an average of 1.5- and 2.4-fold for AUC and Cmax). Telmisartan AUC and Cmax were slightly decreased (by 16% and 31%) with the combination.

## IV Compatibility

Lexicomp®

- Indicates the chemical stability or compatibility of two or more drugs (**outside the body**) when administered together .
- This may be the # 1 reason a hospital needs a drug information resource in addition to having UpToDate.
- There are basically three (3) types:
  - **Admixture Compatibility:** Two drugs in a solution.
  - **Syringe Compatibility:** Two drugs in a syringe.
  - **Y-Site Compatibility:** A single drug that is administered simultaneously at a Y-site connection with another drug in a solution.

## Trissels 2 Clinical Pharmaceuticals

Lexicomp®

- Considered the industry standard for IV Compatibility information.
- Lexicomp previously had a second option for IV compatibility, *Kings Guide to Parenteral Admixtures*, but this relationship has ended.
- Our customers preferred Trissels.
- Provides detailed compatibilities for: Admixture, Y-Site & Syringe as well as details regarding stability, reconstitution, and other properties for individual drugs.
- **76,500+** interacting pairs.

## Trissel's IV Compatibility

Trissel's™ 2 Clinical Pharmaceutics Database (created by Lawrence A. Trissel)

**Selected Items**

Click on the drug name to view compatibility results for a single drug or for a drug properties monograph.

**Drugs**

- Cefazolin [Cefazolin sodium]
- Ciprofloxacin
- Warfarin sodium

**Solutions**

- Lactated Ringers Intravenous [LR (Lactated Ringer's)]

**Analyze** **Clear**

Search   Compatibility Chart   Details

### Compatibility Chart

Click on the drug/drug and/or drug/solution result to access supporting information from compatibility studies

**Legend:**

- C Indicates compatibility for this method
- U Uncertain or variable for this method
- I Indicates incompatibility for this method
- X No data for administration methods chosen

	Cefazolin sodium	Ciprofloxacin	Warfarin sodium
<b>Drugs</b>			
Cefazolin sodium			<span style="color: green;">C</span> Y-Site
Ciprofloxacin	<span style="color: gray;">X</span>		<span style="color: red;">I</span> Y-Site
Warfarin sodium	<span style="color: green;">C</span> Y-Site	<span style="color: red;">I</span> Y-Site	
<b>Solutions</b>			
LR (Lactated Ringer's)	<span style="color: green;">C</span> Solution <span style="color: green;">C</span> Y-Site	<span style="color: green;">C</span> Solution <span style="color: green;">C</span> Y-Site	<span style="color: orange;">U</span> Solution

Click to see more details

**Details**

You searched on the following parameters:

Administration Method: Y-Site

Drugs: Ciprofloxacin, Warfarin sodium

Vehicles: none

Solutions: none

Results: 2 incompatible study result(s). Click on a study to view details.

Study	Drug 1	Vehicle 1	Drug 2	Vehicle 2	Solution	Finding
Study 1	Ciprofloxacin 2 mg/mL	D5W (Dextrose 5% in Water)	Warfarin sodium 2 mg/mL	Reconstituted solution undiluted		<span style="color: red;">I</span> Incompatible
Study 2	Ciprofloxacin 2 mg/mL	D5W (Dextrose 5% in Water)	Warfarin sodium 2 mg/mL	Reconstituted solution undiluted		<span style="color: red;">I</span> Incompatible

**Trissel's IV Compatibility** You can analyze as many drugs as you like. See example below. Search for 6 drugs mixed in 2 solutions or even more !!!

Trissel's™ 2 Clinical Pharmaceutics Database (created by Lawrence A. Trissel)

**Selected Items**

Click on the drug name to view compatibility results for a single drug or for a drug properties monograph.

**Drugs**

- Amoxicillin sodium
- Cefazolin [Cefazolin sodium]
- Ciprofloxacin
- Digoxin
- Dopamine hydrochloride
- Gadobenate dimeglumine
- Warfarin sodium

**Solutions**

- Lactated Ringers Intravenous [LR (Lactated Ringer's)]
- Sodium Chloride [NS (Normal Saline) - Sodium Chloride 0.9%]

**Analyze** **Clear**

Search   Compatibility Chart   Details

All methods ▾

Click on the drug/drug and/or drug/solution result to access supporting information from compatibility studies

**Legend:**

- C Indicates compatibility for this method
- U Uncertain or variable for this method
- I Indicates incompatibility for this method
- X No data for administration methods chosen

	Amoxicillin sodium	Cefazolin sodium	Ciprofloxacin	Digoxin	Dopamine hydrochloride	Gadobenate dimeglumine	Warfarin sodium
<b>Drugs</b>							
Amoxicillin sodium		<span style="color: gray;">X</span>	<span style="color: red;">I</span> Admixture	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>
Cefazolin sodium	<span style="color: gray;">X</span>		<span style="color: gray;">X</span>	<span style="color: green;">C</span> Y-Site	<span style="color: red;">I</span> Y-Site	<span style="color: gray;">X</span>	<span style="color: green;">C</span> Y-Site
Ciprofloxacin	<span style="color: red;">I</span> Admixture	<span style="color: gray;">X</span>		<span style="color: green;">C</span> Y-Site	<span style="color: green;">C</span> Admixture	<span style="color: gray;">X</span>	<span style="color: red;">I</span> Y-Site
Digoxin	<span style="color: gray;">X</span>	<span style="color: green;">C</span> Y-Site	<span style="color: green;">C</span> Y-Site		<span style="color: green;">C</span> Y-Site	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>
Dopamine hydrochloride	<span style="color: gray;">X</span>	<span style="color: red;">I</span> Y-Site	<span style="color: green;">C</span> Y-Site <span style="color: green;">C</span> Admixture	<span style="color: green;">C</span> Y-Site		<span style="color: gray;">X</span>	<span style="color: green;">C</span> Y-Site
Gadobenate dimeglumine	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>	<span style="color: gray;">X</span>		<span style="color: gray;">X</span>

## Linking from UpToDate to Lexicomp

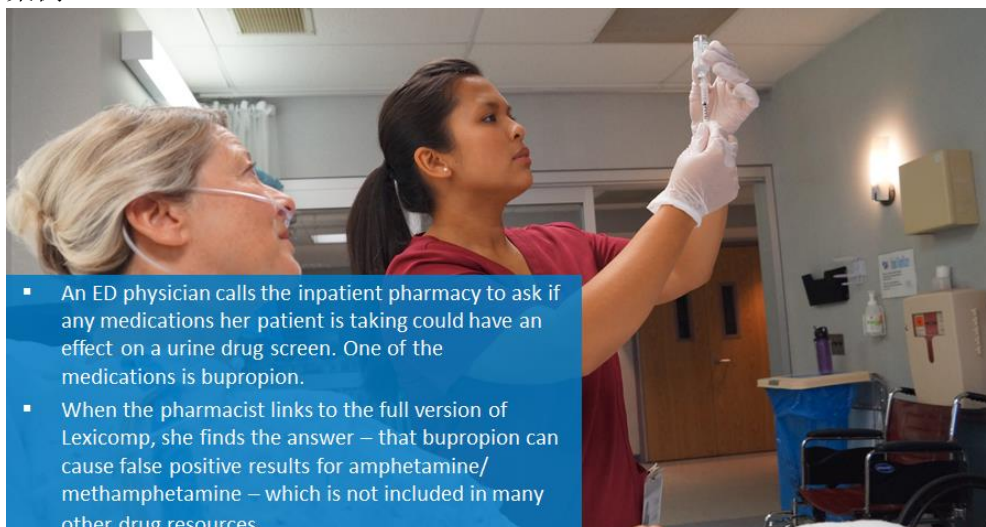
UpToDate + [Lexicomp](#) users can efficiently access the full resources of Lexicomp from within UpToDate topics and vice-versa

- Link directly from disease topics to drug information (and vice versa) without exiting workflow or opening a new browser window
- Link to the complete depth and breadth of Lexicomp, beyond the core drug information databases, for more detailed medication knowledge, decision support modules and calculators, and information integrated from your hospital's formulary
- Consistent and complementary information on diseases, conditions, medications, adverse reactions, treatment options and more across both platforms

## Value of [Lexicomp](#) + UpToDate

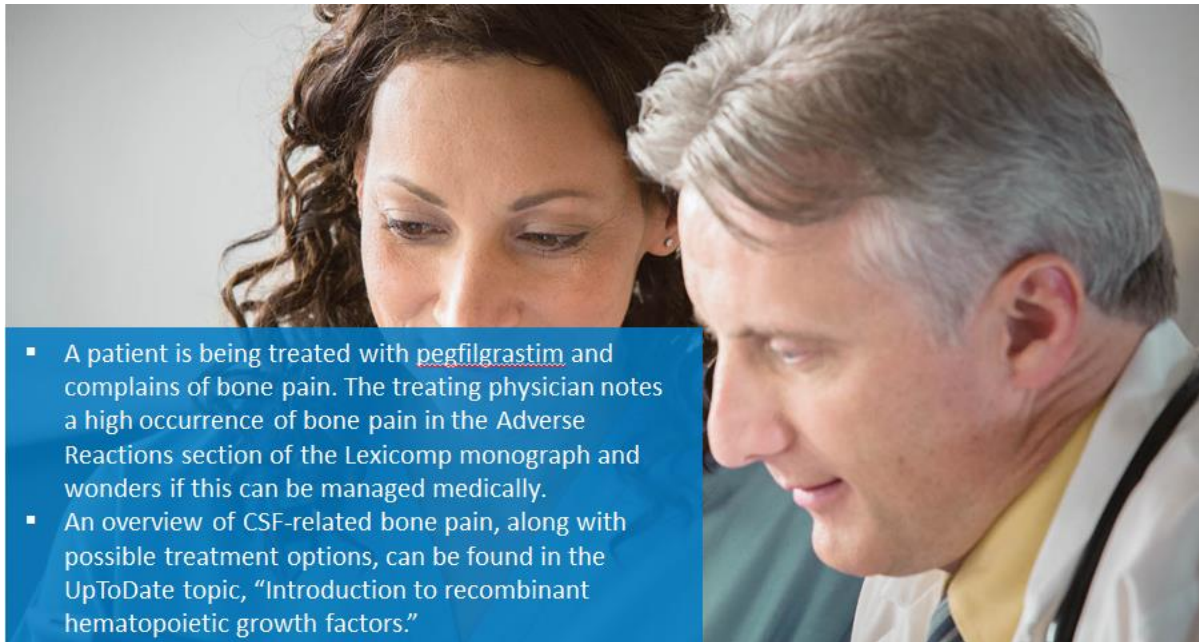
- Full version of [Lexicomp](#) provides more in-depth drug information, only a small portion of available content is found in UpToDate
- Most hospitals still require a full “drug information” resource to supplement the drug information available in UpToDate
- UpToDate Lexicomp drug content is focused mostly on physician’s needs
- Pharmacists and nurses require additional tools and resources, and features of full version of [Lexicomp](#) provide this
- [Lexicomp](#) provides consistency and breadth together with UpToDate

### 案例 1



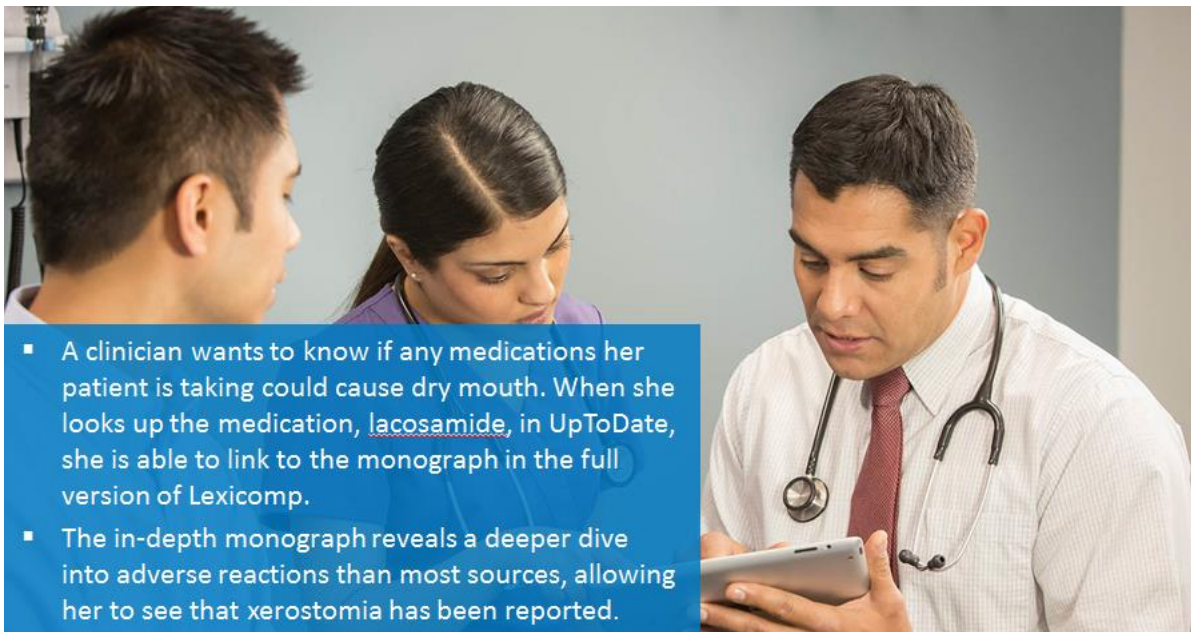
- An ED physician calls the inpatient pharmacy to ask if any medications her patient is taking could have an effect on a urine drug screen. One of the medications is bupropion.
- When the pharmacist links to the full version of Lexicomp, she finds the answer – that bupropion can cause false positive results for amphetamine/ methamphetamine – which is not included in many other drug resources.

## 案例 2



- A patient is being treated with [pegfilgrastim](#) and complains of bone pain. The treating physician notes a high occurrence of bone pain in the Adverse Reactions section of the Lexicomp monograph and wonders if this can be managed medically.
- An overview of CSF-related bone pain, along with possible treatment options, can be found in the UpToDate topic, "Introduction to recombinant hematopoietic growth factors."

## 案例 3



- A clinician wants to know if any medications her patient is taking could cause dry mouth. When she looks up the medication, [lacosamide](#), in UpToDate, she is able to link to the monograph in the full version of Lexicomp.
- The in-depth monograph reveals a deeper dive into adverse reactions than most sources, allowing her to see that xerostomia has been reported.