



# Tutorial UpToDate

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*Biblioteca Hospital Universitario de Burgos*

## 1-Qué es.

## 2-Cómo buscar.

- Los resúmenes de Medline.
- Enlazar con Pubmed o con la Biblioteca online.
- Los gráficos y las imágenes relacionadas.
- Movernos por el contenido relacionado.
- Summary and Recommendations.
- Imprimir, o enviar un enlace por correo del contenido.
- Imprimir, exportar a power point o enviar un enlace por correo de los gráficos.
- Educación para el paciente.
- Novedades.
- Actualizaciones que Cambian la Práctica Clínica.
- Calculadoras.
- Interacciones de Fármacos

## 3-UpToDate móvil.

- Registro.
- Funcionamiento
- Mantener acceso

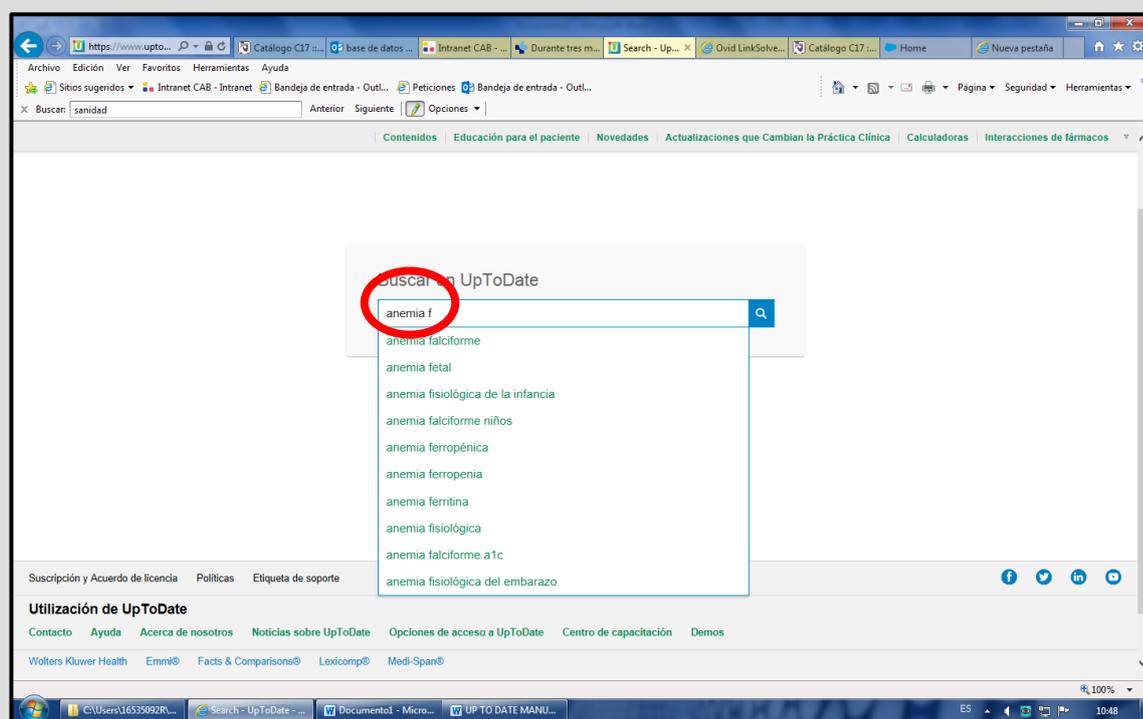
## 1-Qué es.

- UpToDate es una aplicación desarrollada por Wolters Kluwer que proporciona información bibliográfica muy actualizada sobre cualquier tema médico.
- Es una herramienta de apoyo para la toma de decisiones clínicas
- Su contenido se renueva cada cuatro meses.
- Está elaborada por Más de 6.700 autores, editores y revisores médicos.

## 2-Cómo buscar.

Introducimos un término de búsqueda.

Podemos realizar la búsqueda en español, aunque los resultados van a aparecer en inglés.



Se obtiene así una lista de temas por orden de relevancia, en función de los criterios de búsqueda, que podemos priorizar por: adultos, pediatría, pacientes o gráficos.

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anemia fisiológica del embarazo

Resultados de la búsqueda para "anemia fisiológica del embarazo"

Todos los temas | **Adultos** | Pediatría | Pacientes | Gráficos

Maternal adaptations to pregnancy: Hematologic changes  
... postpartum. **Physiologic anemia** – **Physiologic anemia** of pregnancy should resolve by six weeks postpartum since plasma volume has returned to normal by that time. Platelets – For most **pregnant women**, the platelet ...

Dilutional anemia  
Summary and recommendations  
Hematologic changes of pregnancy by trimester (Tables)  
Summary of hematologic changes in pregnancy (Tables)

Anemia in pregnancy  
... Anemia in **pregnancy** is a global health problem. While some degree of **dilutional anemia** is part of normal **pregnancy** physiology, iron deficiency anemia can have serious adverse health consequences for the ...

Physiologic (dilutional)  
Summary and Recommendations

Maternal adaptations to pregnancy: Cardiovascular and hemodynamic changes  
... requirement for oxygen during **pregnancy** . A greater increase in intravascular volume compared with red cell mass results in the dilutional or **physiologic anemia** of **pregnancy**. This becomes most apparent ...

Physiologic anemia  
Summary and recommendations

Haciendo clic en la flecha que aparece al pasar el ratón por encima de cada tema nos aparece a su derecha un esquema de cada uno de ellos.

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anemia fisiológica del embarazo

Resultados de la búsqueda para "anemia fisiológica del embarazo"

Todos los temas | Adultos | Pediatría | Pacientes | Gráficos

Maternal adaptations to pregnancy: Hematologic changes

**Anemia in pregnancy**

Maternal adaptations to pregnancy: Cardiovascular and hemodynamic changes

Normal reference ranges for laboratory values in pregnancy

Clinical manifestations and diagnosis of the thalassemias

Maternal adaptations to pregnancy: Physiologic respiratory changes and dyspnea

Anesthesia for labor and delivery in high-risk heart disease: General considerations

Management and prognosis of the thalassemias

Exercise during pregnancy and the postpartum period

Topic Outline | Mostrar Gráficos (7)

- SUMMARY & RECOMMENDATIONS
- INTRODUCTION
- PREVALENCE AND EPIDEMIOLOGY
- DEFINITION OF ANEMIA
- CAUSES OF ANEMIA
  - Physiologic (dilutional)
  - Iron deficiency
  - Other causes
- SCREENING DURING PREGNANCY
  - Screening for anemia
  - Screening for iron deficiency
- EVALUATION OF ANEMIA
  - Iron deficiency anemia
  - Other anemias
- MANAGEMENT

Si hacemos clic en el mismo tema, se accede al contenido.  
 En primer lugar aparecen los autores y editores, y seguidamente la última fecha de revisión

The screenshot shows the UpToDate interface for the topic 'Anemia in pregnancy'. The left sidebar contains a 'Topic Outline' with categories like 'SUMMARY & RECOMMENDATIONS', 'INTRODUCTION', 'PREVALENCE AND EPIDEMIOLOGY', 'DEFINITION OF ANEMIA', 'CAUSES OF ANEMIA', 'SCREENING DURING PREGNANCY', 'EVALUATION OF ANEMIA', and 'MANAGEMENT'. The main content area is titled 'Anemia in pregnancy' and includes the following information:

- Section Editors:** Lynn L Simpson, MD, Stanley L Schrier, MD
- Deputy Editors:** Jennifer S Tirnauer, MD, Vanessa A Barss, MD, FACOG
- Contributor Disclosures**
- Literature review current through:** Aug 2018. | **This topic last updated:** Sep 10, 2018.

The 'Literature review current through' and 'This topic last updated' text is highlighted with a red box in the original image.

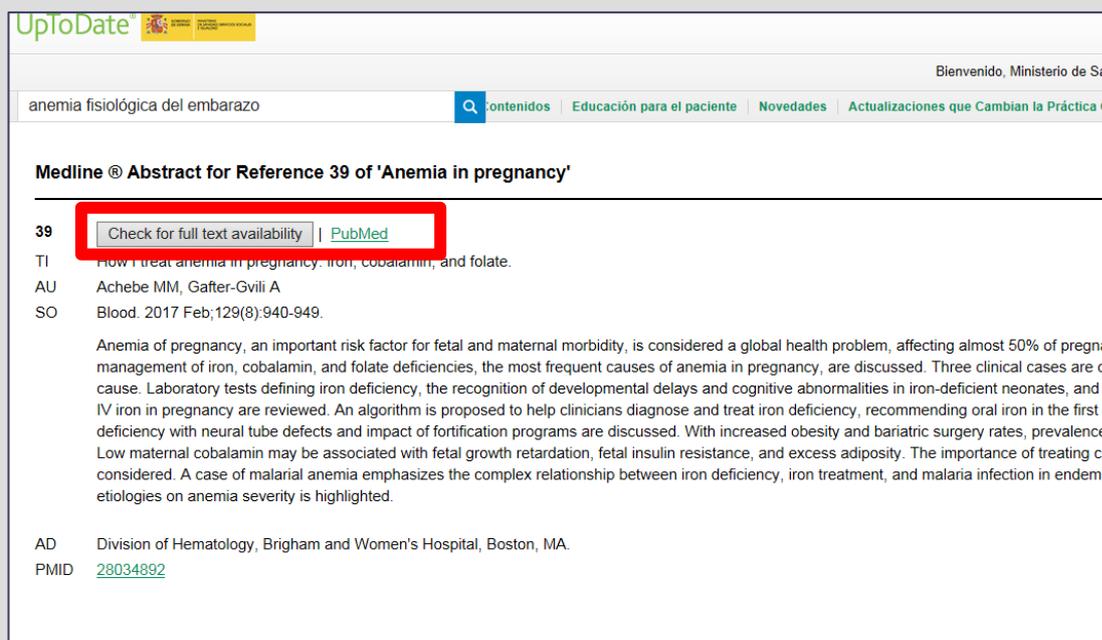
Vamos a ver **los resúmenes de Medline** utilizados (Números entre paréntesis), los cuales, al pinchar en ellos,

The screenshot shows the UpToDate interface for the topic 'Iron deficiency anemia'. The left sidebar contains a 'Topic Outline' with categories like 'SUMMARY & RECOMMENDATIONS', 'INTRODUCTION', 'PREVALENCE AND EPIDEMIOLOGY', 'DEFINITION OF ANEMIA', 'CAUSES OF ANEMIA', 'SCREENING DURING PREGNANCY', 'EVALUATION OF ANEMIA', and 'MANAGEMENT'. The main content area is titled 'Iron deficiency anemia' and includes the following information:

- Iron deficiency anemia** — All women with anemia should have prompt testing for iron deficiency because it is the most common cause of nonphysiologic anemia in pregnancy. Microcytosis may be present, but microcytosis is a late finding of iron deficiency (table 2) and may also be caused by thalassemia. Thus, the absence of microcytosis does not eliminate the possibility of iron deficiency and the presence of microcytosis does not confirm it. (See "Causes and diagnosis of iron deficiency and iron deficiency anemia in adults", section on 'Stages of iron deficiency' and "Microcytosis/Microcytic anemia", section on 'Causes of microcytosis'.)
- When testing for iron deficiency, most women without comorbidities can be tested with a serum ferritin level alone. If low (eg, <30 ng/mL [ $<30$  mcg/L]), this is sufficient to confirm the diagnosis of iron deficiency; levels  $\geq 30$  ng/mL are sufficient to eliminate the possibility of iron deficiency in the majority of cases [39].
- Borderline levels of serum ferritin may be in the range of 30 to 40 ng/mL with chronic illnesses such as diabetes, or up to 100 ng/mL with chronic kidney diseases or active collagen vascular diseases such as systemic lupus erythematosus or rheumatoid arthritis. This occurs because ferritin is an acute phase reactant. These borderline levels should prompt testing of a full set of iron studies including ferritin, serum iron, total iron binding capacity, and calculation of transferrin saturation (TSAT).
- The United States Preventive Services Task Force (USPSTF) noted that serum ferritin may have limited use during pregnancy because its concentration often decreases in late pregnancy as maternal iron stores are used to supply iron to the placental and fetal circulations (figure 1), but using hemoglobin or hematocrit measurement alone to determine iron deficiency status is indirect and imprecise [21]. Other than iron deficiency, no other causes of a low serum ferritin have been identified. Iron studies as well as other tests for iron deficiency and their interpretation are discussed in more detail separately. (See "Causes and diagnosis of iron deficiency and iron deficiency anemia in adults", section on 'Iron studies (list of available tests)').
- Other anemias** — We promptly evaluate for other causes of anemia if there are any features of the anemia that suggest another condition or if testing for iron deficiency is negative (ie, if iron stores are adequate). Examples of features that suggest another cause include:
  - Extreme microcytosis (eg, mean corpuscular volume [MCV]  $< 80$  fL), suggestive of thalassemia

The text 'diagnosis of iron deficiency' and 'cases [39]' are highlighted with red boxes in the original image.

nos van a **enlazar con Pubmed**, o con la **Biblioteca Online**, para ver si tenemos el contenido completo.



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anemia fisiológica del embarazo

Contenidos Educación para el paciente Novedades Actualizaciones que Cambian la Práctica Clínica

**Medline @ Abstract for Reference 39 of 'Anemia in pregnancy'**

39 [Check for full text availability](#) | [PubMed](#)

TI How I treat anemia in pregnancy: iron, cobalamin, and folate.

AU Achebe MM, Gafer-Gvili A

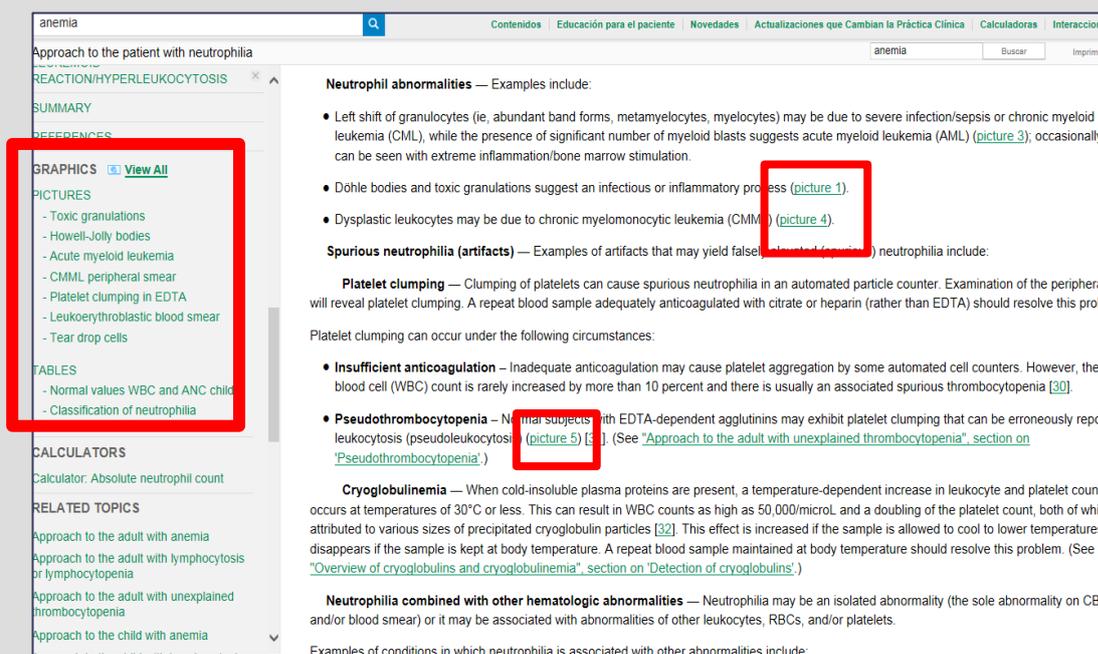
SO Blood. 2017 Feb;129(8):940-949.

Anemia of pregnancy, an important risk factor for fetal and maternal morbidity, is considered a global health problem, affecting almost 50% of pregnancy. Management of iron, cobalamin, and folate deficiencies, the most frequent causes of anemia in pregnancy, are discussed. Three clinical cases are discussed. Laboratory tests defining iron deficiency, the recognition of developmental delays and cognitive abnormalities in iron-deficient neonates, and the use of IV iron in pregnancy are reviewed. An algorithm is proposed to help clinicians diagnose and treat iron deficiency, recommending oral iron in the first trimester. Low maternal cobalamin may be associated with fetal growth retardation, fetal insulin resistance, and excess adiposity. The importance of treating cobalamin deficiency is considered. A case of malarial anemia emphasizes the complex relationship between iron deficiency, iron treatment, and malaria infection in endemic areas. Etiologies on anemia severity is highlighted.

AD Division of Hematology, Brigham and Women's Hospital, Boston, MA.

PMID [28034892](#)

Podemos ver los **gráficos y las imágenes relacionadas** con el tema bien desde el panel de la izquierda, o bien en el mismo texto, señalado entre paréntesis:



anemia

Contenidos Educación para el paciente Novedades Actualizaciones que Cambian la Práctica Clínica Calculadoras Interacciones

Approach to the patient with neutrophilia

REACTION/HYPERLEUKOCYTOSIS

SUMMARY

REFERENCES

**GRAPHICS** [View All](#)

PICTURES

- Toxic granulations
- Howell-Jolly bodies
- Acute myeloid leukemia
- CMML peripheral smear
- Platelet clumping in EDTA
- Leukoerythroblastic blood smear
- Tear drop cells

TABLES

- Normal values WBC and ANC child
- Classification of neutrophilia

CALCULATORS

Calculator: Absolute neutrophil count

RELATED TOPICS

- Approach to the adult with anemia
- Approach to the adult with lymphocytosis or lymphocytopenia
- Approach to the adult with unexplained thrombocytopenia
- Approach to the child with anemia

**Neutrophil abnormalities** — Examples include:

- Left shift of granulocytes (ie, abundant band forms, metamyelocytes, myelocytes) may be due to severe infection/sepsis or chronic myeloid leukemia (CML), while the presence of significant number of myeloid blasts suggests acute myeloid leukemia (AML) ([picture 3](#)); occasionally can be seen with extreme inflammation/bone marrow stimulation.
- Döhle bodies and toxic granulations suggest an infectious or inflammatory process ([picture 1](#)).
- Dysplastic leukocytes may be due to chronic myelomonocytic leukemia (CMML) ([picture 4](#)).

**Spurious neutrophilia (artifacts)** — Examples of artifacts that may yield false ([undetected](#)) neutrophilia include:

**Platelet clumping** — Clumping of platelets can cause spurious neutrophilia in an automated particle counter. Examination of the peripheral smear will reveal platelet clumping. A repeat blood sample adequately anticoagulated with citrate or heparin (rather than EDTA) should resolve this problem.

Platelet clumping can occur under the following circumstances:

- **Insufficient anticoagulation** — Inadequate anticoagulation may cause platelet aggregation by some automated cell counters. However, the blood cell (WBC) count is rarely increased by more than 10 percent and there is usually an associated spurious thrombocytopenia ([30](#)).
- **Pseudothrombocytopenia** — Normal subjects with EDTA-dependent agglutinins may exhibit platelet clumping that can be erroneously reported as leukocytosis (pseudoleukocytosis) ([picture 5](#)) ([31](#)). (See "[Approach to the adult with unexplained thrombocytopenia](#)", section on "[Pseudothrombocytopenia](#)".)

**Cryoglobulinemia** — When cold-insoluble plasma proteins are present, a temperature-dependent increase in leukocyte and platelet counts occurs at temperatures of 30°C or less. This can result in WBC counts as high as 50,000/microL and a doubling of the platelet count, both of which are attributed to various sizes of precipitated cryoglobulin particles ([32](#)). This effect is increased if the sample is allowed to cool to lower temperatures. A repeat blood sample maintained at body temperature should resolve this problem. (See "[Overview of cryoglobulins and cryoglobulinemia](#)", section on "[Detection of cryoglobulins](#)".)

**Neutrophilia combined with other hematologic abnormalities** — Neutrophilia may be an isolated abnormality (the sole abnormality on CBC and/or blood smear) or it may be associated with abnormalities of other leukocytes, RBCs, and/or platelets.

Examples of conditions in which neutrophilia is associated with other abnormalities include:

Podemos **movernos por el contenido relacionado**, de un lugar a otro del documento, pinchando encima del texto subrayado.

been described. The percentage of CD4 + lymphocytes is generally unchanged.

**G-CSF side effects** — G-CSF is generally well-tolerated, although musculoskeletal complaints (especially bone pain) occur in as many as 10 percent of patients. Other side effects include dysuria and local reactions at the administration site. Mild elevations in serum aminotransferases, lactate dehydrogenase, and uric acid have also been described. Tachyphylaxis does not accompany long-term use. (See ["Introduction to recombinant hematopoietic growth factors"](#), section on ["Toxicity of colony-stimulating factors"](#).)

Stimulation of HIV replication or an acceleration of disease progression during therapy has generally not been observed. However, a preliminary report from a study in which G-CSF was given to mobilize stem cells found transient HIV RNA increases in approximately 50 percent of patients [30]. This appears to be a more important issue with GM-CSF. (See ["Possible stimulation of HIV replication"](#) below.)

**Dose** — The typical starting dose of rG-CSF is 1 to 5 mcg/kg per day subcutaneously; the dose can be escalated every three days to a maximum of 10 mcg/kg per day. Response in ANC is generally evident in 48 hours. After the ANC reaches the targeted range of 1000 to 2000/microL, maintenance therapy with 300 mcg three times each week is common; however, the dose required to maintain the target ANC varies markedly among patients from one to seven doses per week.

[Pegfilgrastim](#), a long-acting colony stimulating factor formed by the conjugation of G-CSF with a 20-kD polyethylene glycol moiety, is used for the prophylaxis of chemotherapy-induced neutropenia; its role in the management of HIV-associated neutropenia has not been defined.

**Treatment with GM-CSF** — GM-CSF is not used as often as G-CSF because of theoretical concern that GM-CSF may increase HIV replication. The beneficial impact of recombinant GM-CSF on neutropenia has been well described among patients with HIV. Given its effects on a broad range of cells, increases in neutrophils, monocytes, eosinophils, and, least commonly, lymphocytes are characteristic of therapy. Like G-CSF, GM-CSF has demonstrated efficacy in improving the hematologic tolerance of many therapies, including AZT [31], [ganciclovir](#) [32], and combination chemotherapy regimens for non-Hodgkin lymphoma [33] and Kaposi sarcoma [34].

The starting dose of GM-CSF is generally 250 mcg/day. Dose modifications and maintenance schedules are identical to those for G-CSF (with doses between 5 to 10 mcg/kg per day administered one to seven days a week, titrated to patient response and tolerance).

**Possible stimulation of HIV replication** — The major concern with GM-CSF therapy is the potential for stimulation of HIV replication. This phenomenon was initially demonstrated during in vitro experiments with mononuclear phagocytes exposed to GM-CSF or IL-3 [35]. Later in vitro studies revealed upregulation of CCR5 coreceptor expression and enhanced HIV infectivity in fresh human monocytes exposed to GM-CSF [36].

En **“Summary and Recommendations”** encontramos el resumen de las recomendaciones más importantes que necesitamos conocer para tomar una decisión.

reumatoide artritis

Initial treatment of rheumatoid arthritis in adults

**SUMMARY & RECOMMENDATIONS**

- In all patients with active rheumatoid arthritis (RA), we recommend treatment with a disease-modifying antirheumatic drug (DMARD), rather than use of antiinflammatory agents and/or glucocorticoids alone and delay of DMARD therapy. (Grade 1B) Additional principles for the treatment of RA include achievement and maintenance of tight control of disease activity with the ideal goal of remission; use of antiinflammatory agents, including glucocorticoids, only as adjunctive agents; and participation of a rheumatologist in the evaluation and ongoing care of the patient. (See ["General principles"](#) above and ["General principles of management of rheumatoid arthritis in adults"](#).)
- Patient education and other nonpharmacologic and preventive therapies are needed for all patients with RA. (See ["Nonpharmacologic and preventive therapies"](#) above and ["Nonpharmacologic therapies and preventive measures for patients with rheumatoid arthritis"](#).)
- In patients with active RA we suggest [methotrexate](#) (MTX) as the initial DMARD, rather than another single nonbiologic or biologic DMARD or combination therapy. (Grade 2B) Doses are increased as tolerated and as needed, up to 25 mg/week, to control symptoms and signs of arthritis. Subcutaneous administration may be of benefit in patients with an inadequate response to orally administered MTX at a dose of 15 to 25 mg/week of MTX. (See ["Initial therapy with methotrexate"](#) above.)
- In patients who are unable or unwilling to take MTX, we use an alternative nonbiologic or biologic DMARD therapy. (See ["Alternatives to MTX"](#) above.)
- In patients with active RA, we use antiinflammatory drug therapy with nonsteroidal antiinflammatory drugs (NSAIDs) or glucocorticoids, preferably on a temporary basis, to quickly achieve control of signs and symptoms of disease. We use NSAIDs in all patients without contraindications to their use. In patients with [more severe](#) disease or with moderate disease resistant to a brief course of NSAIDs, we suggest the use of glucocorticoids. (Grade 2B) We then taper and withdraw these medications once DMARDs have taken effect. We use intraarticular injections of [low-dose](#) glucocorticoids to reduce synovitis in particular joints that are more inflamed than others. When clinically indicated, joint fluid should be obtained to exclude infection. (See ["NSAIDs"](#) above and ["Glucocorticoids"](#) above.)

Las recomendaciones pueden estar graduadas según la fortaleza de la evidencia, y de su calidad. Lo vemos si pinchamos encima de la gradación.

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reumatoide artritis  [Educación para el paciente](#) [Novedades](#) [Actualizaciones que Cambian la Práctica Clínica](#) [Calculadoras](#) [Interacciones de fármacos](#)

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### Grade 1B recommendation

**A Grade 1B recommendation is a strong recommendation, and applies to most patients. Clinicians should follow a strong recommendation unless a clear and compelling rationale for an alternative approach is present.**

**Explanation:**

A Grade 1 recommendation is a strong recommendation. It means that we believe that if you follow the recommendation, you will be doing more good than harm for most, if not all of your patients.

Grade B means that the best estimates of the critical benefits and risks come from randomized, controlled trials with important limitations (eg, inconsistent results, methodologic flaws, imprecise results, extrapolation from a different population or setting) or very strong evidence of some other form. Further research (if performed) is likely to have an impact on our confidence in the estimates of benefit and risk, and may change the estimates.

**Recommendation grades**

- Strong recommendation: Benefits clearly outweigh the risks and burdens (or vice versa) for most, if not all, patients
- Weak recommendation: Benefits and risks closely balanced and/or uncertain

**Evidence grades**

- High-quality evidence: Consistent evidence from randomized trials, or overwhelming evidence of some other form
- Moderate-quality evidence: Evidence from randomized trials with important limitations, or very strong evidence of some other form
- Low-quality evidence: Evidence from observational studies, unsystematic clinical observations, or from randomized trials with serious flaws

For a complete description of our grading system, please see the UpToDate editorial policy.

También haciendo clic en los hipervínculos de los fármacos a utilizar,

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Initial treatment of rheumatoid arthritis in adults rheumatoid arthritis | Buscar | Paciente | Imprimir | Cor

Topic Outline

- [SUMMARY & RECOMMENDATIONS](#)
- [INTRODUCTION](#)
- [GENERAL PRINCIPLES](#)
- [NONPHARMACOLOGIC AND PREVENTIVE THERAPIES](#)
- [APPROACH TO DRUG THERAPY](#)
- [DMARD THERAPY](#)
  - [Pretreatment interventions](#)
  - [Initial therapy with methotrexate](#)
    - MTX dosing
    - Side effects, monitoring, and other considerations
    - MTX versus other DMARDs
    - MTX versus initial combination therapy
  - [Alternatives to MTX](#)
- [SYMPTOMATIC TREATMENT WITH ANTIINFLAMMATORY DRUGS](#)
  - [NSAIDs](#)
  - [Glucocorticoids](#)

### SUMMARY AND RECOMMENDATIONS

- In all patients with active rheumatoid arthritis (RA), we recommend treatment with a disease-modifying antirheumatic drug (DMARD), rather than use of antiinflammatory agents and/or glucocorticoids alone and delay of DMARD therapy (**Grade 1B**). Additional principles for the treatment of RA include achievement and maintenance of tight control of disease activity, with the ideal goal of remission; use of antiinflammatory agents, including glucocorticoids, only as adjunctive agents; and participation of a rheumatologist in the evaluation and ongoing care of the patient. (See ['General principles' above](#) and ['General principles of management of rheumatoid arthritis in adults'](#).)
- Patient education and other nonpharmacologic and preventive therapies are needed for all patients with RA. (See ['Nonpharmacologic and preventive therapies' above](#) and ['Nonpharmacologic therapies and preventive measures for patients with rheumatoid arthritis'](#).)
- In patients with active RA we suggest **methotrexate** (MTX) as the initial DMARD, rather than another single nonbiologic or biologic DMARD or combination therapy (**Grade 2B**). Doses are increased as tolerated and as needed, up to 25 mg/week, to control symptoms and signs of arthritis. Subcutaneous administration may be of benefit in patients with an inadequate response to orally administered MTX at a dose of 15 to 25 mg/week of MTX. (See ['Initial therapy with methotrexate' above](#).)
- In patients who are unable or unwilling to take MTX, we use an alternative nonbiologic or biologic DMARD therapy. (See ['Alternatives to MTX' above](#).)
- In patients with active RA, we use antiinflammatory drug therapy with nonsteroidal antiinflammatory drugs (NSAIDs) or glucocorticoids, preferably on a temporary basis, to quickly achieve control of signs and symptoms of disease. We use NSAIDs in all patients without contraindications to their use. In patients with more severe disease or with moderate disease resistant to a brief course of NSAIDs, we suggest the use of glucocorticoids (**Grade 2B**). We then taper and withdraw these medications once DMARDs have taken effect. We use intraarticular injections of long-

vemos la información relacionada con ese fármaco.

The screenshot shows the UpToDate website interface. At the top, there is a search bar with the text 'reumatoide artritis' and a search icon. Below the search bar, there are navigation links: 'Educación para el paciente', 'Novedades', 'Actualizaciones que Cambian la Práctica Clínica', 'Calculadoras', and 'Interacciones de fá'. The main content area is titled 'Methotrexate: Drug information' and includes a 'Lexicomp' logo. The left sidebar contains a 'Topic Outline' with various links such as 'ALERT: US Boxed Warning', 'Brand Names: US', 'Brand Names: Canada', 'Pharmacologic Category', and several 'Dosing' options for different patient populations. The main text area contains the following information:

**Methotrexate: Drug information** Lexicomp®

[Access Lexicomp Online here.](#)  
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(For additional information see "[Methotrexate: Patient drug information](#)" and see "[Methotrexate: Pediatric drug information](#)")

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

**ALERT: US Boxed Warning**

**Intrathecal and high-dose therapy:**

Use only preservative-free methotrexate formulations and diluents for intrathecal and high-dose therapy. Do NOT formulations or diluents containing preservatives for intrathecal and high-dose therapy because they contain benz alcohol.

**Appropriate use:**

Because of the possibility of serious toxic reactions (which can be fatal), methotrexate should be used only in life

Podemos **Imprimir**, o **enviar un enlace por correo del contenido**.

The screenshot shows the UpToDate website interface for the topic 'Hematologic manifestations of HIV infection: Neutropenia'. The search bar contains 'anemia'. The left sidebar shows a 'RECOMMENDATIONS' section with various links. The main content area includes the following information:

**Hematologic manifestations of HIV infection: Neutropenia**

Authors: Timothy J Friet, MD, David T Scadden, MD  
Section Editor: Peter Newburger, MD  
Deputy Editor: Alan G Rosmarin, MD

Contributor Disclosures

All topics are updated as new evidence becomes available and our [peer review process](#) is complete.  
**Literature review current through:** Aug 2018. | **This topic last updated:** Nov 22, 2017.

**INTRODUCTION** — Shortly after the first description of the acquired immunodeficiency syndrome (AIDS), cytopenias of all major blood cell lines were increasingly recognized in patients with human immunodeficiency virus (HIV) infection. As an example, in one early series of patients with AIDS, anemia was noted in approximately 70 percent, lymphopenia in 70 percent, neutropenia in 50 percent, and thrombocytopenia in 40 percent [1].

The incidence of the various cytopenias correlates directly with the degree of immunosuppression. As an example, the incidence of neutropenia varies from 5 to 10 percent in the early, asymptomatic stages of infection to as high as 50 to 70 percent of patients with advanced disease. The degree of neutropenia may be overestimated from the total white blood cell count due to the associated lymphopenia (as evidenced by the low CD4 cell count).

However, isolated abnormalities, including neutropenia, may be encountered as the initial presentation of HIV infection. As a result, HIV infection should be considered in the assessment of patients presenting with any type of cytopenia. In fact, in one large series of more than 370,000 Danish patients, baseline neutropenia was identified in approximately 1 percent of all patients; during four years of follow-up, the presence of neutropenia had a stronger association with the incident diagnosis of HIV than any other viral infection [2].

This topic review will discuss the causes, clinical impact, and treatment of neutropenia in patients with HIV infection. HIV-associated anemia, thrombocytopenia, coagulation defects, and lymphopenia are discussed separately. (See "[Hematologic manifestations of HIV infection: Anemia](#)" and "[Hematologic manifestations of HIV infection: Thrombocytopenia and coagulation abnormalities](#)" and "[Techniques and interpretation of measurement of the CD4 cell count in HIV-infected patients](#)".)

In the top right corner of the page, there is a red box highlighting the 'Interacciones de fármacos' link and the 'Imprimir' (Print) and 'Compartir' (Share) buttons.

Imprimir, exportar a power point o enviar un enlace por correo de los gráficos.

Language | Ayuda

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Exportar a power point | Imprimir | Compartir

### Mean corpuscular volume in children

Hemoglobin (g/dL)	Hematocrit (%)		MCV (fL)			
	Lower limit*	50 <sup>th</sup> percentile	Lower limit*	50 <sup>th</sup> percentile	Lower limit*	Upper limit*
11	11	37	32	80	71	89
11	11	36	31	77	63	88
11	11	37	33	82	74	89
11	11	36	32	80	64	89
11.7	11.7	38	34	84	77	91
11	11	37	33	83	67	91
12	12	40	35	85	78	91
11.2	11.2	38	34	84	72	92
12.3	12.3	40	36	87	80	94
12.6	12.6	42	36	87	80	94
10.6	10.6	38	33	86	71	95

También tenemos acceso a **Educación para el paciente**, donde podemos elegir ver “lo básico”, o lo “más allá de lo básico”

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### Patient Education

UpToDate offers two levels of content for patients:

- **The Basics** are short interviews. They are written in accordance with plain language principles and answer the four or five most important questions a person might have about a medical problem.
- **Beyond the Basics** are longer, more detailed reviews. They are best for readers who want detailed information and are comfortable with some medical terminology.

This site complies with the HONcode standard for trustworthy health information: [verify here](#).

To browse the available patient education topics in UpToDate, click on a category below.

<a href="#">Allergies and asthma</a>	<a href="#">Ear, nose, and throat</a>	<a href="#">Lung disease</a>
<a href="#">Arthritis</a>	<a href="#">Eyes and vision</a>	<a href="#">Men's health issues</a>
<a href="#">Autoimmune disease</a>	<a href="#">Gastrointestinal system</a>	<a href="#">Mental health</a>
<a href="#">Blood disorders</a>	<a href="#">General health</a>	<a href="#">Pregnancy and childbirth</a>
<a href="#">Bones, joints, and muscles</a>	<a href="#">Heart and blood vessel disease</a>	<a href="#">Senior health</a>
<a href="#">Brain and nerves</a>	<a href="#">HIV and AIDS</a>	<a href="#">Skin, hair, and nails</a>
<a href="#">Cancer</a>	<a href="#">Hormones</a>	<a href="#">Sleep</a>
<a href="#">Children's health</a>	<a href="#">Infections and vaccines</a>	<a href="#">Surgery</a>
<a href="#">Diabetes</a>	<a href="#">Kidneys and urinary system</a>	<a href="#">Travel health</a>
<a href="#">Diet and weight</a>	<a href="#">Liver disease</a>	<a href="#">Women's health issues</a>

“Lo básico” podemos verlo también en castellano. Lo “Más allá de lo básico” solo en inglés.

The screenshot shows the UpToDate website interface. At the top, there is a search bar with the text "Buscar en UpToDate" and a magnifying glass icon. To the right of the search bar are navigation links: "Contenidos", "Educación para el paciente", and "Novedades". Below the search bar, the page title is "Allergies and asthma". There are two tabs: "The Basics" (selected) and "Beyond the Basics". A paragraph explains: "The Basics" are short (1 to 3 page) articles written in plain language. They answer the 4 or 5 most important questions a person might have about a medical problem. These articles are available in Spanish and English. Below this, there are sections for "Allergies" and "Anaphylaxis". Each section lists several patient education articles with titles in Spanish and a "View in English" button. For example, under "Allergies", there are articles for Aspergillosis broncopulmonar alérgica, Vacunas antialérgicas, Prueba de alergia en la piel, Alergia a medicinas, Alergias estacionales en adultos, and Alergias estacionales en niños. Under "Anaphylaxis", there are articles for Anafilaxia, Angioedema, and Autoinyectores de epinefrina. At the bottom, there is a section for "Angioedema" with one article: Angioedema.

En “Novedades” encontramos las novedades y actualizaciones que el equipo editorial considera más importantes dentro de cada especialidad.

The screenshot shows the UpToDate website interface. At the top, there is a search bar with the text "Buscar en UpToDate" and a magnifying glass icon. To the right of the search bar are navigation links: "Contenidos", "Educación para el paciente", "Novedades" (highlighted with a red box), and "Actualizaciones que Cambian la Práctica Clínica". Below the search bar, the page title is "What's New". A paragraph explains: "Our editors select a small number of the most important updates and share them with you via What's New." Below this, there is a section titled "Find Out What's New In:" followed by a grid of medical specialties. The specialties listed are: Practice Changing UpDates, Allergy and immunology, Anesthesiology, Cardiovascular medicine, Dermatology, Drug therapy, Emergency medicine, Endocrinology and diabetes mellitus, Family medicine, Gastroenterology and hepatology, General surgery, Geriatrics, Hematology, Hospital medicine, Infectious diseases, Nephrology and hypertension, Neurology, Obstetrics and gynecology, Oncology, Palliative care, Pediatrics, Primary care, Psychiatry, Pulmonary and critical care medicine, Rheumatology, Sleep medicine, and Sports medicine (primary care).

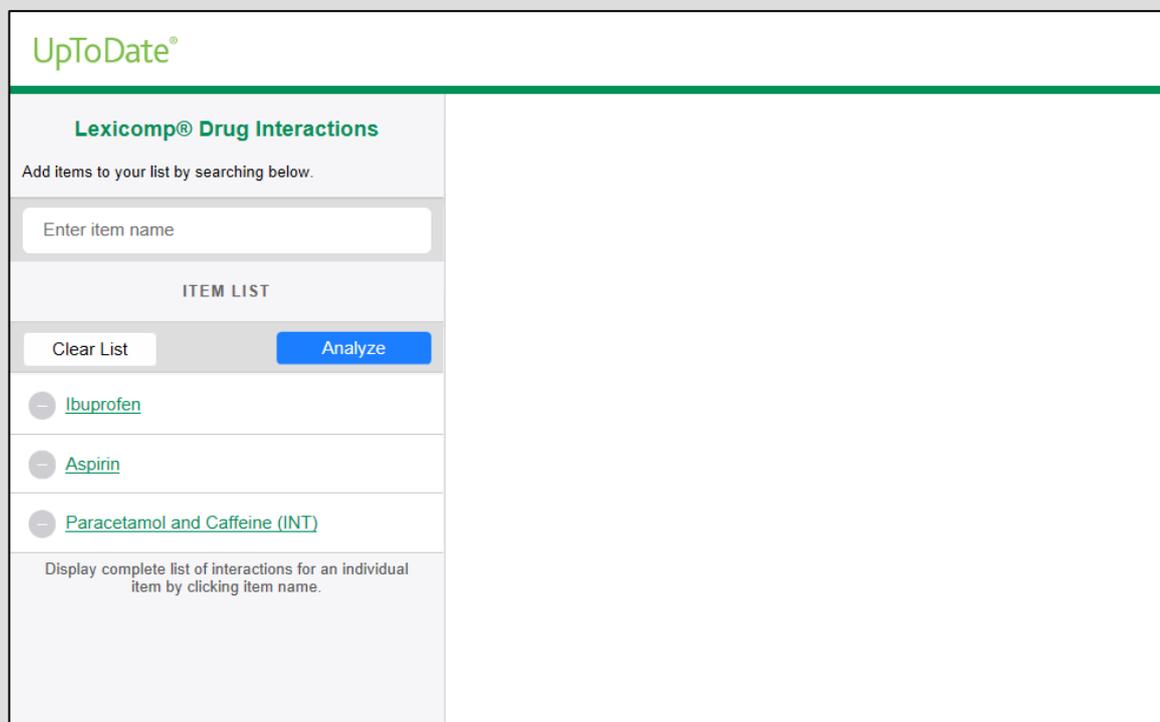
Las “**Actualizaciones que Cambian la Práctica Clínica**” son cambios que el equipo editorial considera tan importantes que pueden tener un impacto inmediato y cambiar la práctica clínica. Estos cambios los vemos en el índice de la izquierda en orden cronológico.

The screenshot shows the UpToDate interface. At the top right, the link "Actualizaciones que Cambian la Práctica Clínica" is highlighted with a red box. Below the navigation bar, the "Practice Changing Updates" section is active. On the left, a sidebar lists various medical specialties with their respective update dates. The main content area displays a detailed update for "Dabigatran for patients with myocardial injury after non-cardiac surgery" (August 2018), including authors, contributor disclosures, and a literature review current through August 2018.

La opción “**Calculadoras**”, está disponible por lista alfabética, por especialidad, o también tenemos una caja de búsqueda:

The screenshot shows the UpToDate interface with the "Calculadoras" link highlighted in red. Below the navigation bar, the "Calculadoras" section is active. At the top, there are three options: "View By Specialty", "List Alphabetically", and a "Search Calculators" input field. The main content area displays a list of calculators under the heading "ALLERGY AND IMMUNOLOGY CALCULATORS". The list includes "Clinical Criteria", "Temperature unit conversions", "Weight unit conversions", "Medical Equations", "Absolute eosinophil count", "Conventional (gravimetric, imperial, US) unit to SI unit conversions: Chemistry and endocrine tests", "Conventional (gravimetric, imperial, US) unit to SI unit conversions: Immunology lab values", "SI unit to conventional (gravimetric, imperial, US) unit conversions: Chemistry and endocrine tests", and "SI unit to conventional (gravimetric, imperial, US) unit conversions: Immunology lab values". Below this, the heading "ANESTHESIOLOGY CALCULATORS" is visible, followed by "Clinical Criteria".

En “**Interacciones de Fármacos**” Podemos introducir una lista ilimitada de fármacos para analizar las posibles interacciones entre ellos, o de productos naturales, como té verde, ajo, etc. (Los nombres deben estar en inglés)



**UpToDate®**

**Lexicomp® Drug Interactions**

Add items to your list by searching below.

Enter item name

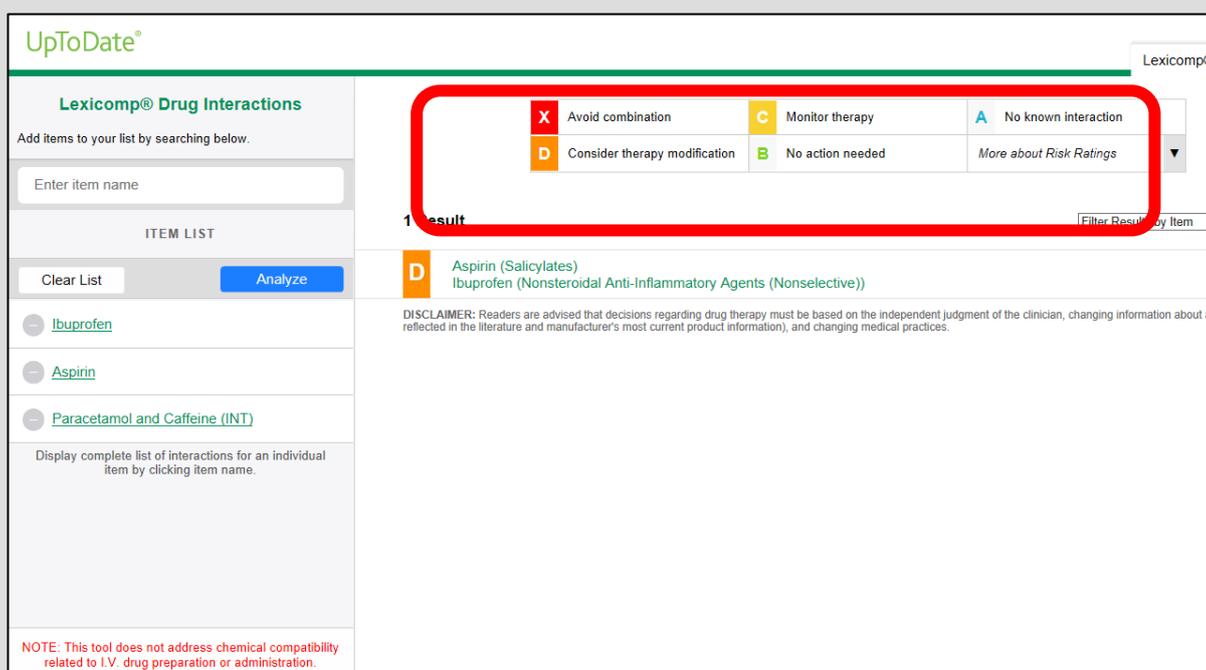
ITEM LIST

Clear List Analyze

- Ibuprofen
- Aspirin
- Paracetamol and Caffeine (INT)

Display complete list of interactions for an individual item by clicking item name.

Nos va a mostrar el resultado de las interacciones entre ellos, según una gradación de la A la X.



**UpToDate®**

**Lexicomp® Drug Interactions**

Add items to your list by searching below.

Enter item name

ITEM LIST

Clear List Analyze

- Ibuprofen
- Aspirin
- Paracetamol and Caffeine (INT)

Display complete list of interactions for an individual item by clicking item name.

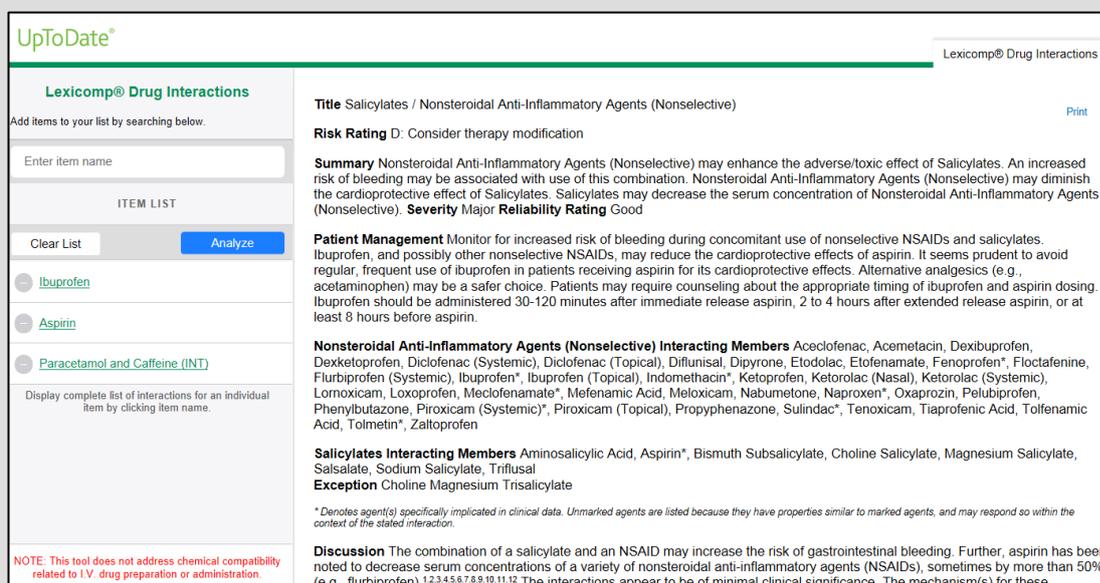
**1 result**

**D** Aspirin (Salicylates)  
Ibuprofen (Nonsteroidal Anti-Inflammatory Agents (Nonselective))

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

NOTE: This tool does not address chemical compatibility related to I.V. drug preparation or administration.

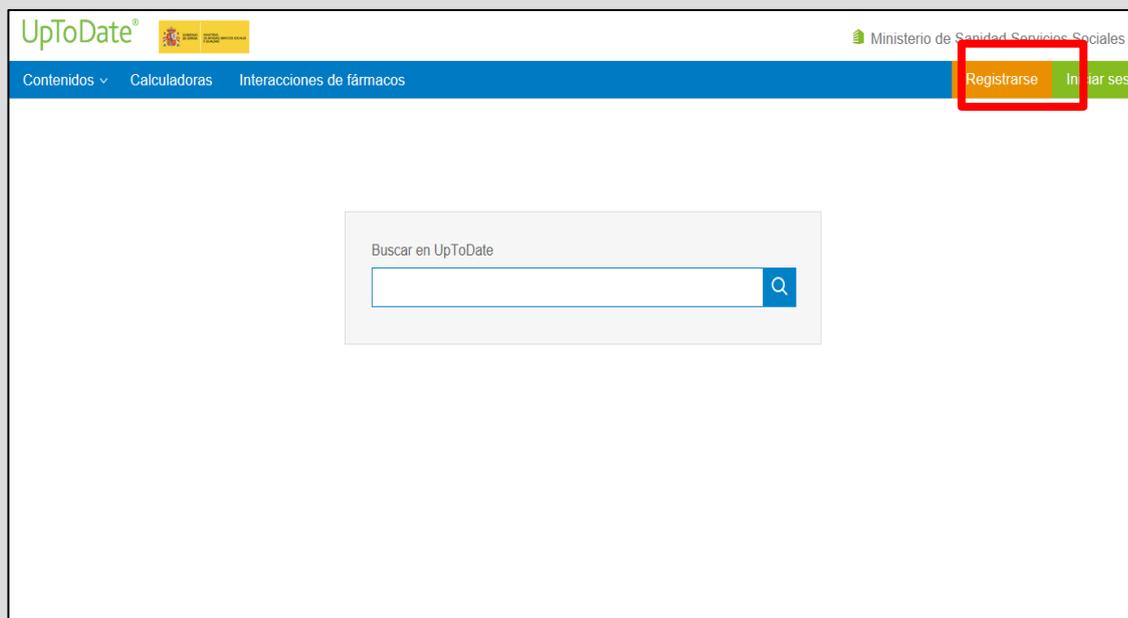
Si queremos tener más información sobre alguna de éstas interacciones hacemos clic sobre ella, y veremos una explicación de esa interacción, y que podemos hacer para tratar a ese paciente (reducir la dosis, o sustituir uno de los fármacos).



The screenshot shows the UpToDate interface for a drug interaction. The title is "Salicylates / Nonsteroidal Anti-Inflammatory Agents (Nonselective)". The risk rating is "D: Consider therapy modification". The summary states that NSAIDs may enhance the adverse/toxic effect of salicylates and vice versa. The patient management section advises monitoring for bleeding risk and suggests alternative analgesics like acetaminophen. It lists numerous interacting members for both NSAIDs and salicylates. A note at the bottom states: "NOTE: This tool does not address chemical compatibility related to I.V. drug preparation or administration."

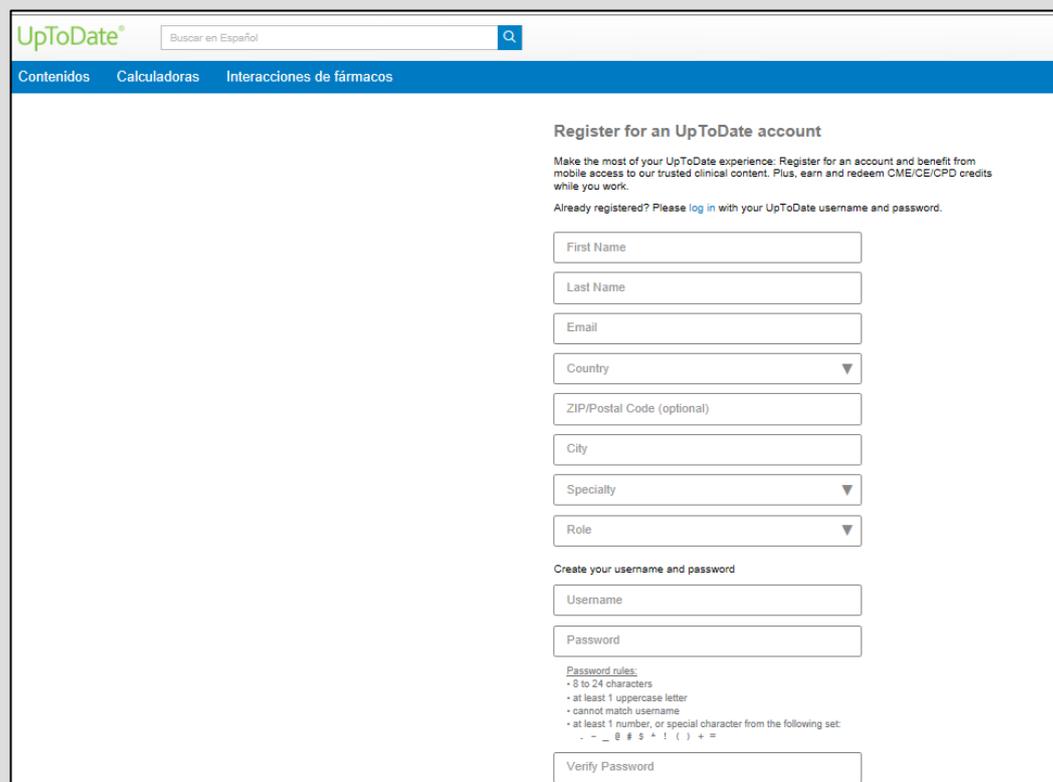
### 3-UptoDate móvil.

Si queremos utilizar la aplicación desde fuera de la red de SACYL con cualquier PC, Tablet o Smartphone, solo tenemos que registrarnos. Para ello accederemos a [www.uptodate.com](http://www.uptodate.com) desde cualquier ordenador conectado a la red de nuestra Institución, o a través de la Biblioteca Online. (Solo el registro es obligatorio hacerlo dentro de la red)



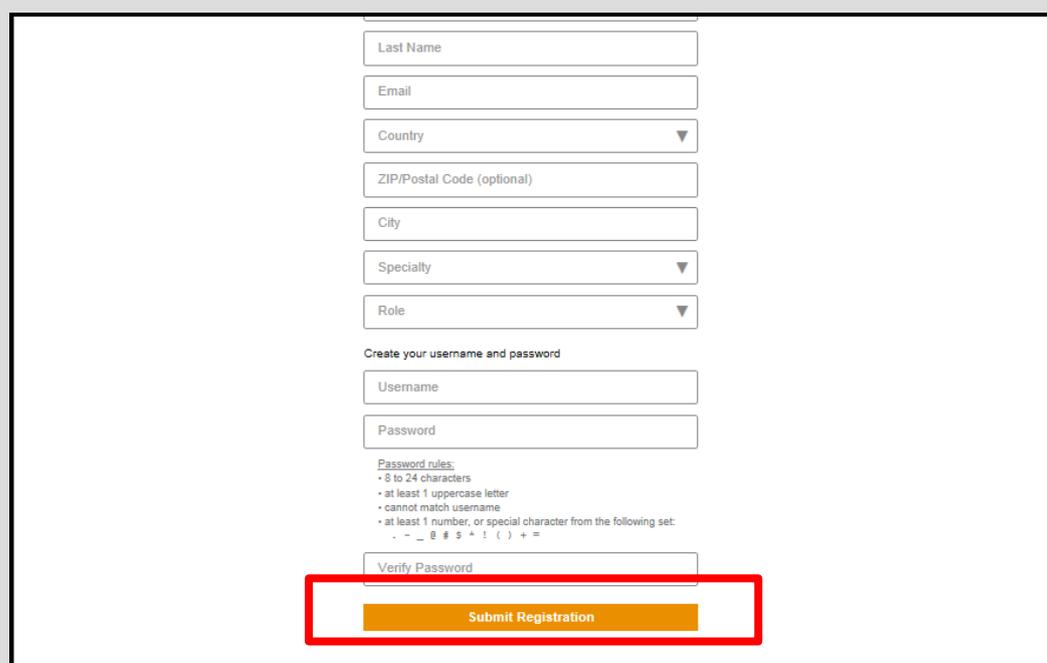
The screenshot shows the mobile version of the UpToDate website. At the top, there are navigation links: "Contenidos", "Calculadoras", and "Interacciones de fármacos". On the right side, there are two buttons: "Registrarse" (highlighted with a red box) and "Iniciar sesión". In the center of the page, there is a search bar with the placeholder text "Buscar en UpToDate" and a magnifying glass icon.

Y rellenaremos los campos exigidos, eligiendo el usuario y la contraseña que queramos.



The screenshot shows the UpToDate registration page. At the top, there is a search bar with the text "Buscar en Español" and a magnifying glass icon. Below the search bar is a blue navigation bar with the text "Contenidos", "Calculadoras", and "Interacciones de fármacos". The main content area is titled "Register for an UpToDate account". It includes a paragraph about the benefits of registration and a link for already registered users. The registration form consists of several input fields: "First Name", "Last Name", "Email", "Country" (a dropdown menu), "ZIP/Postal Code (optional)", "City", "Specialty" (a dropdown menu), and "Role" (a dropdown menu). Below these fields is a section titled "Create your username and password" with "Username" and "Password" input fields. A "Verify Password" field is located at the bottom of the form. To the right of the "Password" field, there are "Password rules" listed: 8 to 24 characters, at least 1 uppercase letter, cannot match username, and at least 1 number or special character from a set of characters: . - \_ @ # \$ % ^ & \* ! ( ) + =.

Haremos clic en “Submit Registration”:



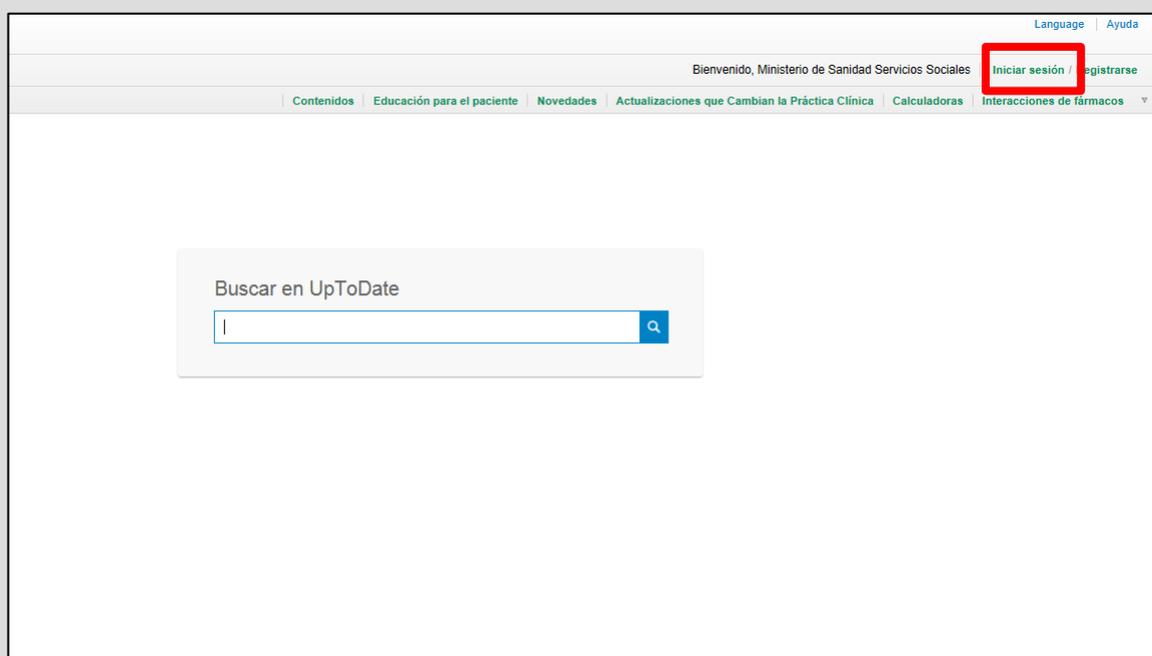
This image is a close-up of the registration form from the previous screenshot. The "Submit Registration" button at the bottom is highlighted with a red rectangular box. The form fields visible include "Last Name", "Email", "Country" (dropdown), "ZIP/Postal Code (optional)", "City", "Specialty" (dropdown), "Role" (dropdown), "Username", "Password", and "Verify Password". The "Password rules" are also visible, identical to the previous screenshot.

Y seguidamente recibiremos un correo de confirmación con las instrucciones para descargar la aplicación móvil.

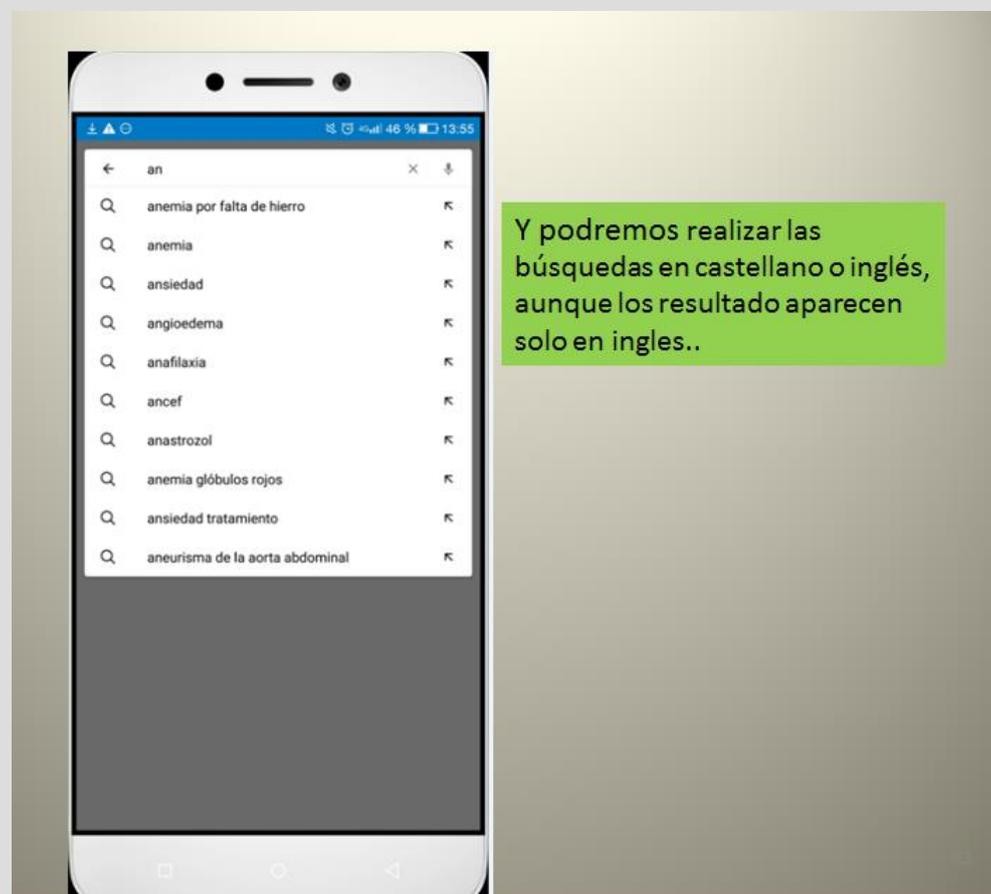
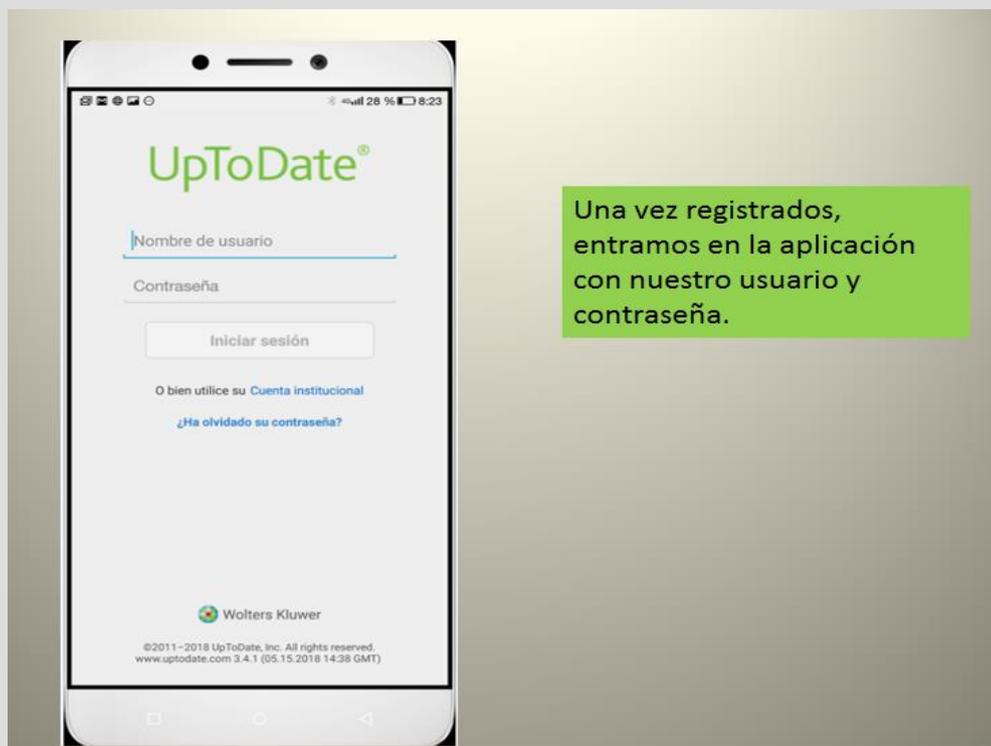
Una vez registrados podemos instalar la aplicación móvil hasta en dos dispositivos. Hay que ir a la tienda de aplicaciones y descargar la aplicación gratuita, y una vez instalada, iniciar sesión con el usuario y contraseña con los que nos hemos registrado.

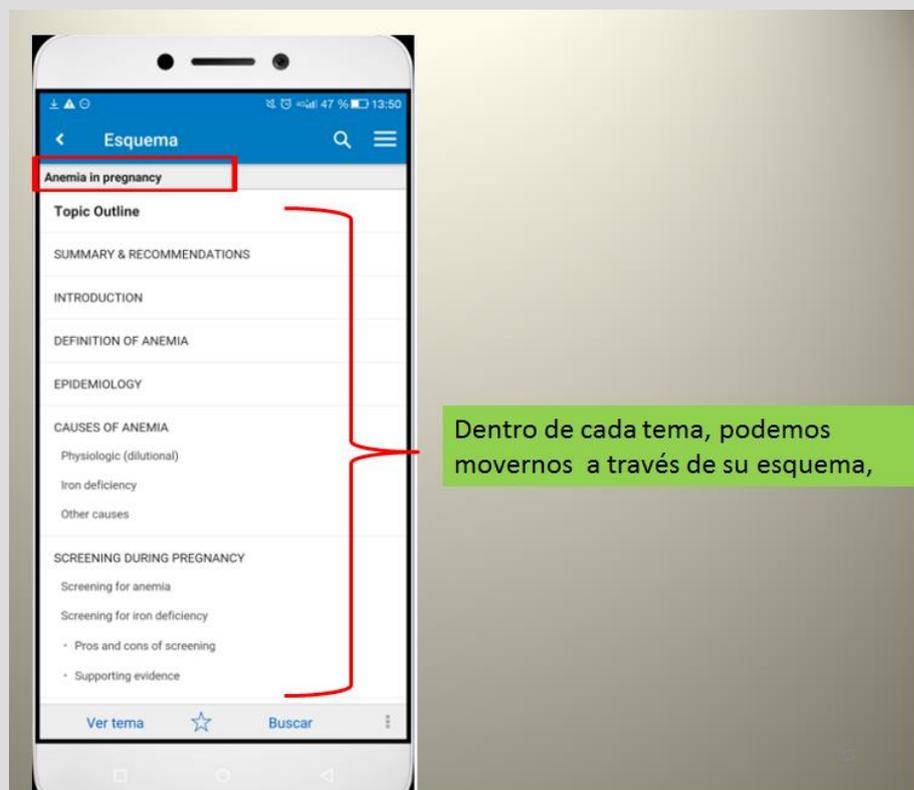
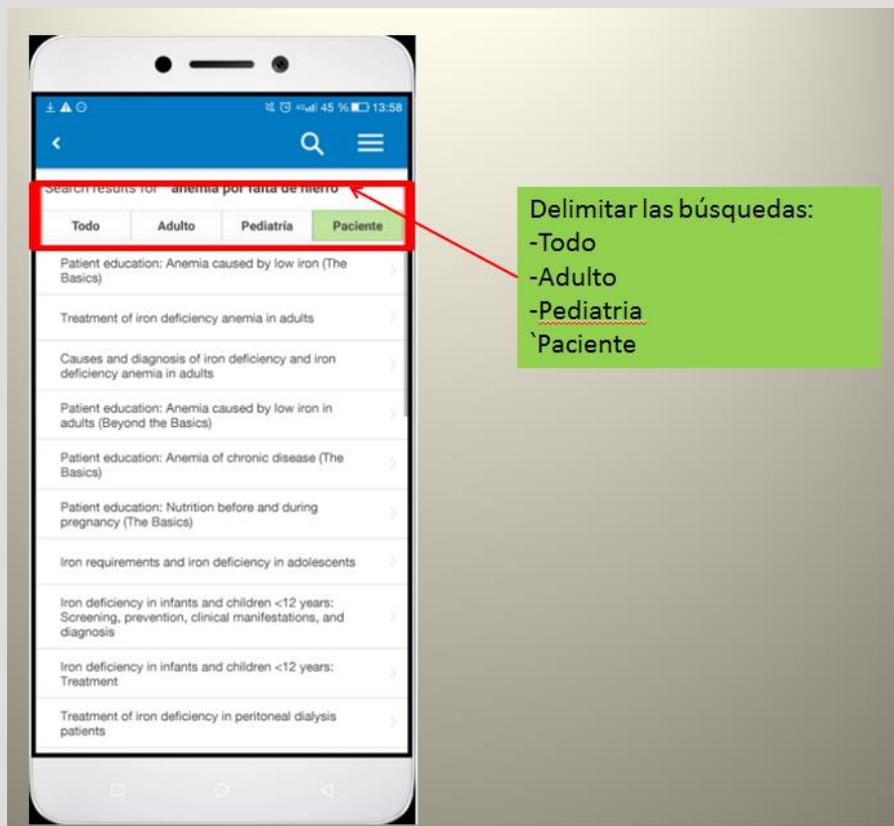


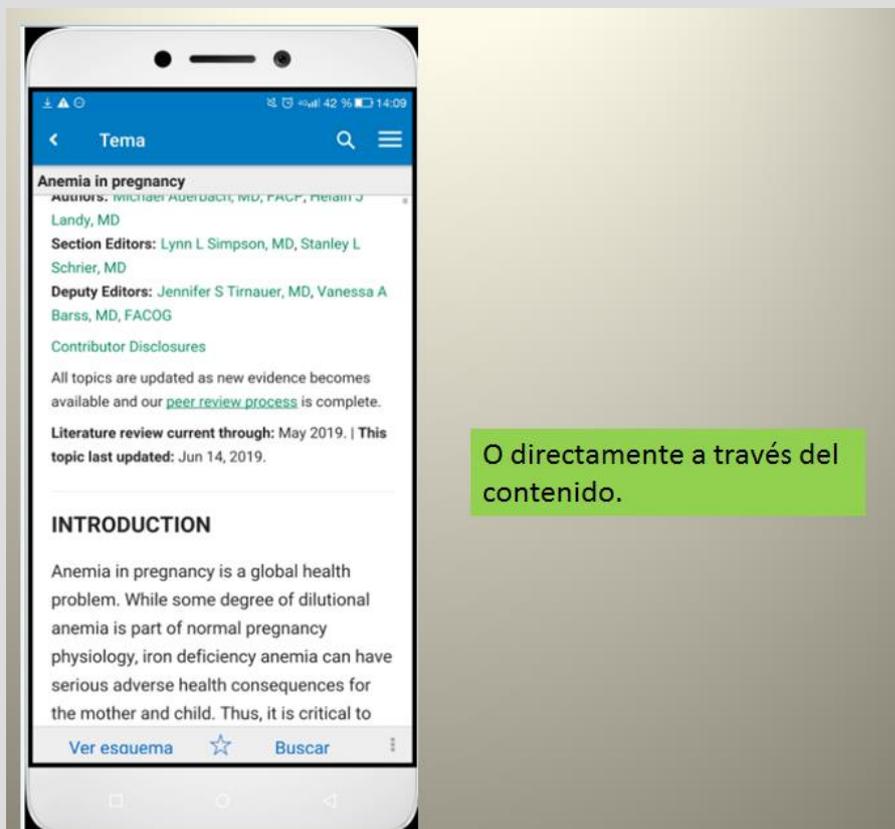
También podemos acceder a UpToDate desde cualquier lugar sin descargarnos la aplicación móvil, a través de la web [www.uptodate.com](http://www.uptodate.com) iniciando sesión con el usuario y contraseña referidos.



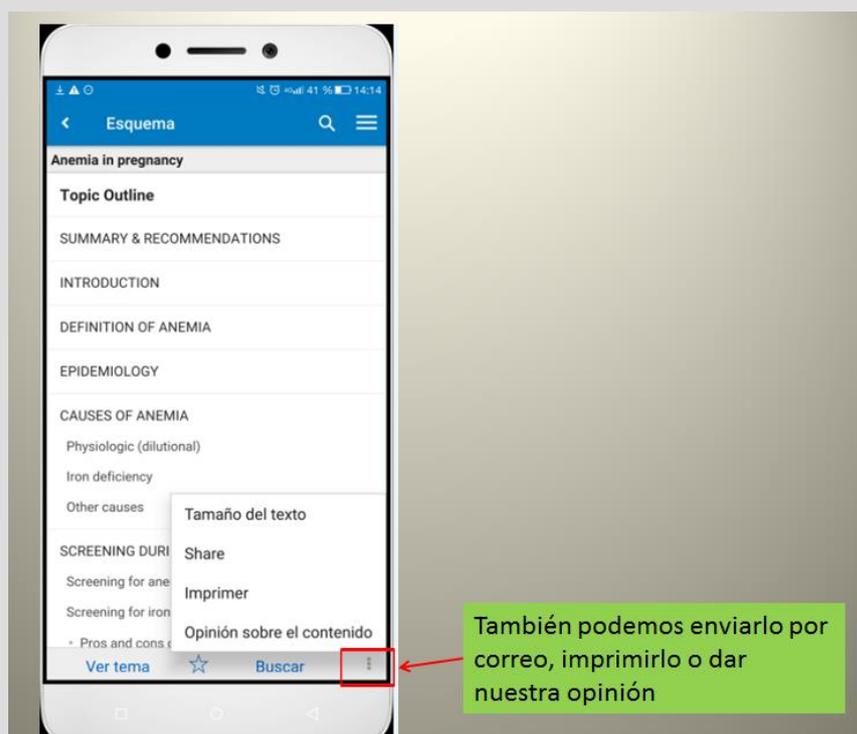
Para mantener este acceso, debemos verificar la suscripción cada 90 días, accediendo a la página [www.uptodate.com](http://www.uptodate.com) con nuestro usuario y contraseña a través de la red del SACYL.



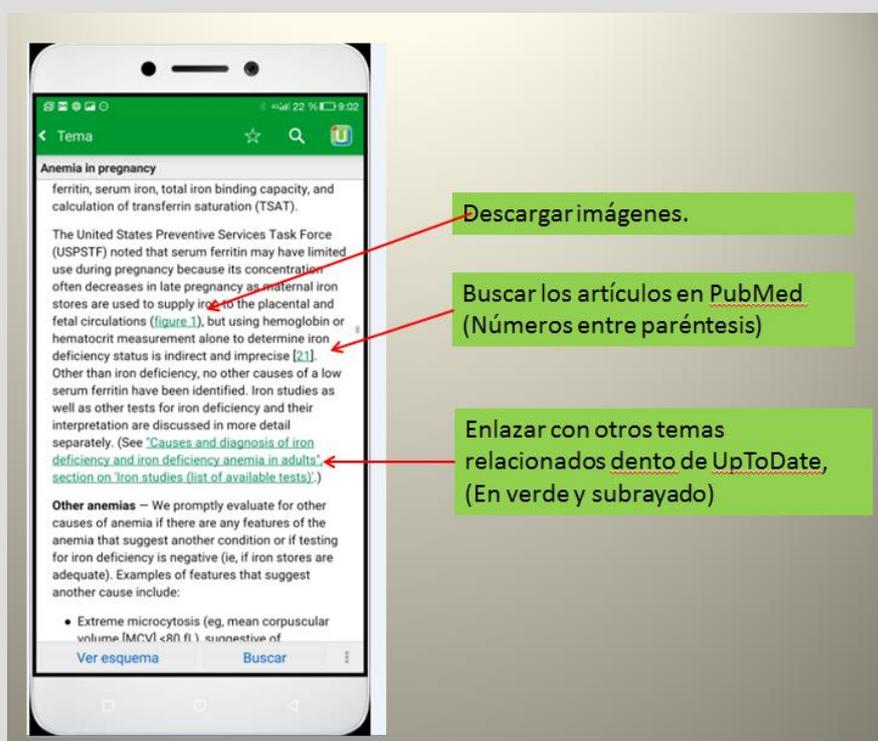
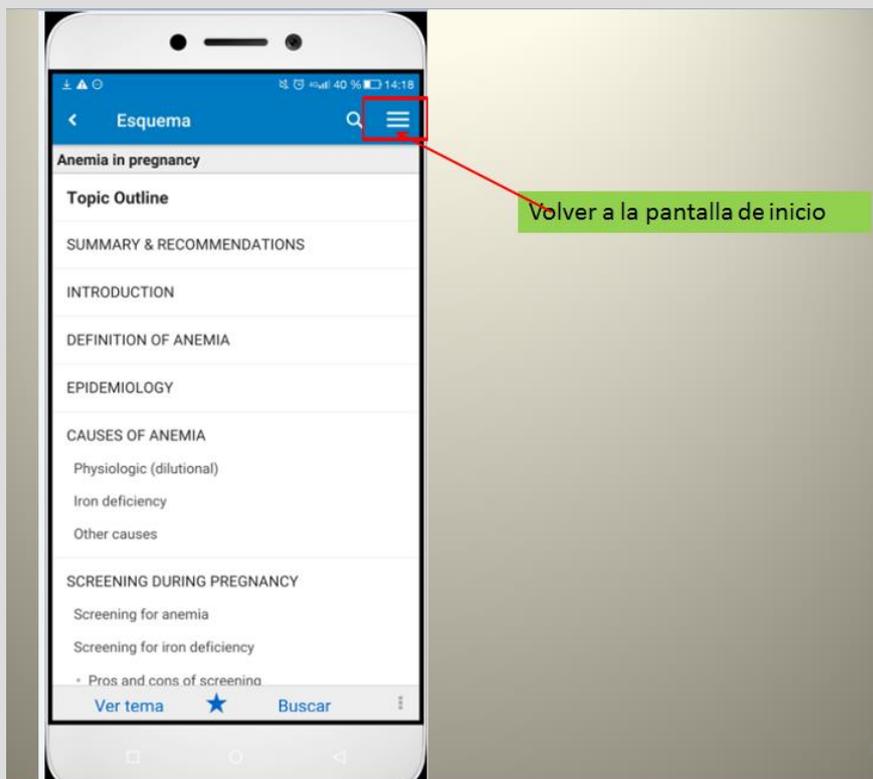


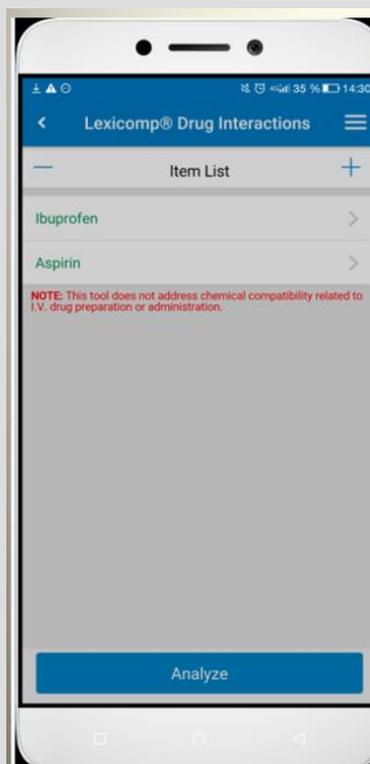


O directamente a través del contenido.

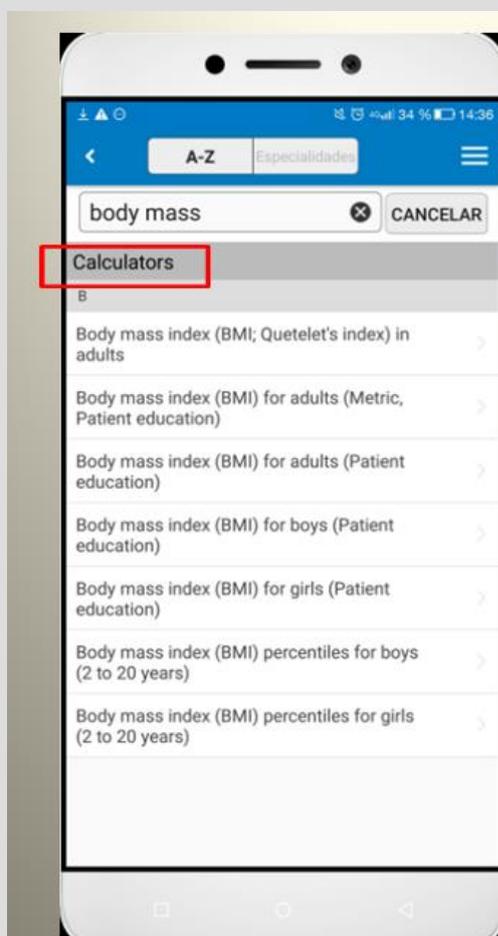


También podemos enviarlo por correo, imprimirlo o dar nuestra opinión

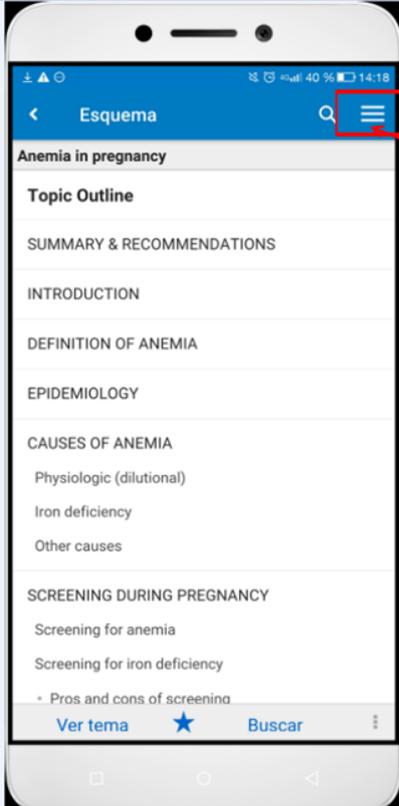




También dentro del mismo apartado tenemos Drug Interactions



Y las Calculadoras



Para cerrar sesión, vamos otra vez aquí.

**Importante:** Si no queremos perder este acceso a UpToDate desde cualquier sitio tenemos que verificar la suscripción cada 3 meses, entrando en [www.uptodate.com](http://www.uptodate.com) con nuestro usuario y contraseña a través de la Biblioteca Online.

**Fin**