



Online drug information resources

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Learning objectives

- Describe the role of internet resources in the provision of drug information.
- List some search engines used to identify scientific websites.
- Discover the weakness of online resources.
- Evaluate online drug information resources based on HON code principles.

Introduction

- At times, even well-designed searches of standard medical literature will not yield sufficient information to make clinical decisions or recommendations.
- In these cases alternative resources may need to be employed. One such method to identify relevant resources might be a **general Internet search for information**

Usefulness of online resources

1-Helpful to serve as a **starting point** for questions about:

- ✓ uncommon diseases or new terms.
- ✓ drugs in development.
- ✓ marketed over-the-counter products.
- ✓ combination of dietary supplements.

2- identifying information or specific product claims provided by the manufacturer.

Example

- if a requester asked about use of a dietary supplement product called **SLIMQUICK® Ultra Fat Burner**
- it would be difficult to search for information, unless the requester was able to provide **a list of ingredients contained in the product.**
- Often requesters may not have that information

Example

- therefore, it may be necessary to search for a **manufacturer's Web site** to identify the specific individual ingredients and then look for information on the individual components.

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Supplement Facts

Serving Size 3 Rapid Release Caplets
Servings Per Container 40

Amount Per Serving		% DV
Vitamin D (as Cholecalciferol)	200.00 IU	50%
Vitamin K (as phytonadione)	40.00 mcg	50%
Vitamin B6 (as Pyridoxine Hydrochloride)	4.00 mg	200%
Folate (as Folic Acid)	200.00 mcg	50%
Vitamin B12 (as Cyanocobalamin)	12.00 mcg	200%
Calcium (as Calcium Carbonate)	150.00 mg	15%

SLIMQUICK ULTRA 6 WAYS™ Complex	650.00 mg	**
Caffeine (anhydrous)		**
Soy Extract (Glycine max) (seed) [40% Isoflavones]		**
Rhodiola Extract (Rhodiola rosea) (root) [3% Rosavins]		**
Chaste Tree Extract (Vitex agnus-castus) (fruit)		**
Brown Seaweed (Undaria pinnatifida) (whole plant) [Contains Fucoxanthin]		**
L-Theanine		**
Green Tea Extract (Camellia sinensis) (leaf)		**
Uva Ursi (Arctostaphylos uva-ursi) (leaf)		**
phosphatidylcholine (from soy)		**
95% Polyphenols		**
75% Catechins		**
45% EGCG		**
Green Tea Phytosome		**
Japanese Knotweed Extract (Polygonum cuspidatum) (aerial stems) [50% Resveratrol]		**
Phytosterols (Glycine max) (seed) [40% Beta-sitosterol]		**

** Daily Value (DV) not established

Usefulness of online resources

- 3- Internet searches may be useful for topics that have **recently been in the news**, where information is changing more rapidly than standard paper resources.

Search engines

- Google Scholar, <http://scholar.google.com>
- Scirus, <http://www.scirus.com>

Scirus

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diabetes

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- ScienceDirect (471,071)
- MEDLINE / PubMed (372,572)
- Pubmed Central (59,143)

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☐ Preferred web (307,354)

- Patent Offices (180,349)
- MD Consult (46,670)
- NDLTD (44,809)

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☐ Other web (5,459,789)

File types

- HTML (6,316,486)
- PDF (944,722)
- Word (27,203)

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- diabetes association
- donate
- estate plan
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- diabetes care

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Cautions

- carefully evaluate the quality of all information provided.
- There are literally millions of Web sites, and there are no true quality assurance measures in place to evaluate the reliability of information available.



General principles in evaluating online resources

- Generally, sites maintained by:
 - ✓ educational institutions.
 - ✓ not-for-profit medical organizations.
 - ✓ division of the U.S. government.

are likely to contain **high-quality** information.

- whereas information maintained by a company selling a promoting a specific product may be more questionable.

Most Popular Domain Extensions

Domain Extensions	Example	Meaning
.com	www.microsoft.com	Standing for the word "commercial"
.edu	www.kfshrc.edu.sa	The "domain is intended for educational institutions"
.gov	www.cdc.gov www.fda.gov www.sfda.gov.sa www.moh.gov.sa	The name is derived from <i>government</i> , indicating its <i>restricted use by government entities</i> .
.org	www.ashp.org www.bnf.org	represents the word "organization," and is primarily used by non-profits groups

In foreign countries, addresses tend to end in a two-letter code that indicates the country (e.g., .fr = France).

Assessing the quality of online information

- Health on the Net (HON code, <http://www.hon.ch>).
- The HON Foundation is a Non-Governmental Organization, internationally known for its pioneering work in the field of health information ethics, notably for the establishment of its **code of ethical conduct, the HON code**.

HON code

- the oldest and the most used ethical and trustworthy code for medical and health related information available on Internet.
- A certified site receives a check-up visit periodically, beginning one year after the initial certification.

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**Different
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Health Information You Can TRUST

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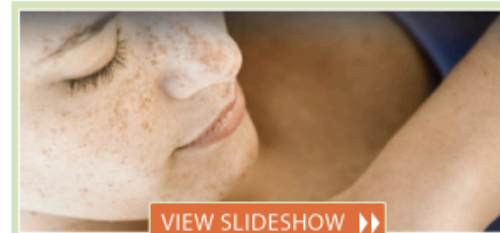
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- [Anemia](#) (American Academy of Family Physicians)
- [Anemia](#) (Mayo Foundation for Medical Education and Research)
- [What Is Anemia: Reporting Symptoms and Finding a Cause](#) (National Anemia Action Council)

Latest News

- [Anemia May More Than Triple Your Risk of Dying After a Stroke](#) (02/02/2012, American Heart Association)

Diagnosis/Symptoms

- [Blood Smear](#) (American Association for Clinical Chemistry)
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Treatment

- [Are Iron Injections Right for You?](#) (National Anemia Action Council)
- [Blood and Marrow Stem Cell Transplant](#) [NIH](#) (National Heart, Lung, and Blood Institute)
- [Blood Transfusion](#) [NIH](#) (National Heart, Lung, and Blood Institute)
- [Drug Safety Communication: Erythropoiesis-Stimulating Agents \(ESAs\)](#) (Food and Drug Administration)
- [ESA Drugs Treat Anemia By Stimulating Red Blood Cell Production](#) (National Anemia Action Council)
- [How Is Anemia Treated?](#) (National Heart, Lung, and Blood Institute)
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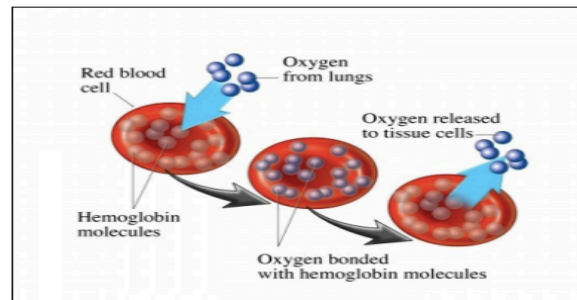
Overview

What is anemia?

Anemia is a condition that affects your red blood cells. Your red blood cells carry oxygen from your lungs to the rest of your body. Hemoglobin is the protein in red blood cells that allows them to carry oxygen. Your body needs iron in order to make hemoglobin.

People who have anemia don't have enough hemoglobin. The most common cause of anemia is when your body doesn't make enough hemoglobin because it doesn't have enough iron. This is called iron deficiency anemia.

Another common type of anemia is when your body doesn't have enough red blood cells, but the red blood cells you do have are normal in size. This is called normocytic (say: "normo-sit-tic") anemia.



Bibliography

[Prevention of Iron Deficiency in Infants and Toddlers](http://www.aafp.org/afp/20021001/1217.html) by LA Kazal, JR. (*American Family Physician* October 01, 2002, <http://www.aafp.org/afp/20021001/1217.html>)

[Normocytic Anemia](http://www.aafp.org/afp/20001115/2255.html) by JR Brill, DJ Baumgardner (*American Family Physician* November 15, 2000, <http://www.aafp.org/afp/20001115/2255.html>)

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