



# Evaluating information on the internet

## **University Campus Library – Management of the University Campus at Bohunice**

Created in cooperation with the Service centre for e-learning at MU, <http://is.muni.cz/stech/>.

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# Internet search engines



**Commonly used search engines** offer search results with links to websites, the content of which is of varying quality, because these search engines look de facto across the whole internet. Therefore, it may happen that among the first links to websites or documents there are those of low quality, and also websites whose owners have paid for making their website appear high in the rankings.

**Search engines for expert information**, on the contrary, search only through research articles, expert books, websites of research institutions, etc. Therefore, in this case you can expect to find information of high quality. That is the reason why we recommend using these search engines when you are looking for expert information.

# The URL



The URL itself can already reveal some information about the publisher (owner) of the website and this may indicate what the quality of its content will be. I am referring here to the top-level domain in the URL.

This helps you identify which country the computer network of the website's publisher is located in. However, these national domains (.cz, .sk, .pl etc.) do not guarantee a high quality of information.



You can consider only websites with one of the following top-level domains trustworthy:

- **.gov** – only government institutions in the USA,
- **.edu** – educational institutions in the USA,
- **.ac.uk, ac.in . . .** – educational institutions in the British Commonwealth contain the abbreviation .ac in front of the national domain.

It can be assumed that the aim of publishers of government and educational websites is education, and moreover, only authorised people can publish information on such websites.



In contrast, domains such as **.com**, **.org** or national domains should always be checked for other indications that can reveal the interests of the website's creator and as a result determine the level of expertise of its content (see below).



An overview of top-level domains is available at <http://www.iana.org/domains/root/db/>

# Publisher of a website



An important clue to whether the information is trustworthy is the publisher, or rather the owner of the website. Details about the owner can usually be found in the section called *About us*, *Background* etc., if they are not already shown on the introductory page. If you doubt the quality of the information found, verify from other sources whether the information is correct.

The screenshot shows the WebMD website interface. At the top, there are navigation links: "CHECK YOUR SYMPTOMS", "FIND A DOCTOR", and "FIND LOWEST DRUG PRICES". The WebMD logo is on the left, and a search bar is on the right. Below the navigation is a large advertisement for a Lenovo ThinkPad laptop. The main content area features a sidebar on the left with "LEUKEMIA HOME" and "LEUKEMIA & LYMPHOMA HOME" sections. The main article is titled "What Is the Treatment for Acute Myeloid Leukemia?". Below the title are social media sharing icons (Facebook, Twitter, Pinterest) and a list of "ARTICLES ON ACUTE MYELOID LEUKEMIA" including "What Is Acute Myeloid Leukemia?", "Symptoms and Complications", and "How Is AML Diagnosed?". On the right, there is a "TODAY ON WEBMD" section with four featured articles: "Your CML Treatment Plan", "Your Diet for Multiple Myeloma", "Non-Hodgkin's Lymphoma", and "Multiple Myeloma".

The screenshot shows the "About WebMD" page on the website. The navigation and search bar are identical to the previous screenshot. The sidebar on the left contains "ABOUT US" (with links for "Who We Are", "What We Do For Our Users", and "Awards and Recognition"), "POLICIES" (with links for "Advertising Policy", "Cookie Policy", "Corrections Policy", "Editorial Policy", "Privacy Policy", "Our Sponsors", and "Terms and Conditions of Use"), and "IMPORTANT INFORMATION & FAOS". The main content area is titled "What We Do For Our Users" and contains the following text: "WebMD has created an organization that we believe fulfills the promise of health information on the Internet. We provide credible information, supportive communities, and in-depth reference material about health subjects that matter to you. We are a source for original and timely health information as well as material from well known content providers. The WebMD content staff blends award-winning expertise in journalism, content creation, community services, expert commentary, and medical review to give our users a variety of ways to find what they are looking for. And that, we believe, requires dedicated, full-time staff professionals with state-of-the-art expertise in:" followed by a bullet point: "• Health news for the public". The right sidebar features a "TODAY ON WEBMD" section with four featured articles: "Risky Mistakes Pet Owners Make", "Depressed, Guilty Feelings After Eating?", "Psoriasis Home Remedies", and "Quit Smoking".

In this example, the website reports on leukaemia and its subpage *About WebMD* states that the mission of the portal is to inform the public about various issues related to medicine and the healthcare system. Its primary aim is therefore not to provide expert information.

The screenshot shows the National Cancer Institute (NCI) website. The header includes the NIH logo and the text 'NATIONAL CANCER INSTITUTE'. A navigation bar contains links for '1-800-4-CANCER', 'Live Chat', 'Publications', and 'Dictionary'. Below this is a main navigation menu with 'ABOUT CANCER', 'CANCER TYPES', 'RESEARCH', 'GRANTS & TRAINING', 'NEWS & EVENTS', and 'ABOUT NCI'. A search bar is located on the right. The main content area is titled 'Adult Acute Myeloid Leukemia Treatment (PDQ®)-Patient Version'. A sidebar on the left lists various leukemia treatments, with 'Adult AML Treatment' highlighted. The main content area includes a link to the 'Health Professional Version' and a section titled 'ON THIS PAGE' with several bullet points: 'General Information About Adult Acute Myeloid Leukemia', 'Stages of Adult Acute Myeloid Leukemia', 'Treatment Option Overview', 'Treatment Options for Adult Acute Myeloid Leukemia', 'To Learn More About Adult Acute Myeloid Leukemia Cancer', and 'About This PDQ Summary'.

The screenshot shows the 'Your Guide to NCI' page on the NCI website. The header is similar to the previous screenshot, but the 'ABOUT NCI' link is highlighted. The main content area is titled 'Your Guide to NCI' and features three columns of links, each with a right-pointing arrow:
 

- The Basics**: Overview & Mission, History of NCI, Contributing to Cancer Research, NCI Organization, Senior Leadership, Advisory Boards & Groups.
- Budget & Legislation**: Budget & Appropriations, Congressional Justification, Annual Plan & Budget Proposal, NCI Budget Fact Book, Legislative Activities, Hearings & Testimonies, Current Congress.
- Annual Plan and Budget**: Annual Plan & Budget Proposal for Fiscal Year 2020, About the Annual Plan and Budget Proposal and Archive.

 At the bottom of the page, there is a teal banner with three sections: 'WHAT WE DO' (with sub-links for genomics and clinical trials), 'MAJOR NCI MILESTONES' (with the year 1937), and 'INFOGRA' (part of an infographic). A 'TOP' button is visible in the bottom right corner.

When we compare this website with the preceding example, this one also deals with leukaemia, but the details in the *About Us* section are more transparent. You can find there information about the financing of the centre, related legislation etc. It follows from both these details and the .gov domain that the National Cancer Institute (NCI) is an institution subject to the US authorities. Therefore, it can be assumed that NCI is subject to various checks regarding whether American legislation is observed and in this respect NCI can be considered to be a trustworthy publisher.



Always ask yourself the following questions: Who is the publisher/owner of the website? What is their aim? If you find that the owner of the website is not a research institution and its target group is the lay public, you cannot reasonably expect to find expert information there. If need be, pay attention to other attributes of the website you found.

- <https://www.webmd.com/cancer/lymphoma/acute-myeloid-leukemia-treat#1>
- <https://blood-cancer.com/treatment/all-leukemia/>
- <https://www.cancer.gov/types/leukemia/patient/adult-aml-treatment-pdq>



# The author



Another indicator of a source's credibility is information about the author, who guarantees the quality of the work with his or her name. In the case of a website you should ask yourself the following questions:

- **Is the name of the author provided?**
- **Is the author an expert in the respective field?**
- **If the author's name is not provided, is a trustworthy institution responsible for the quality of the information?**

High-quality information resources are provided along with the author's name (either an individual or an institution). In academic resources information about the author's home institution is given (university, research centre) together with contact details at their workplace (e.g. the address of the institution instead of gmail.com or seznam.cz).

In the case of governmental websites, news websites, etc., the author is not always specified and therefore you can infer the credibility of the website from its publisher. On the whole, you should always be able to verify whether the text was really written by a qualified person who can easily be contacted should questions arise.

The screenshot shows a webpage from WebMD. On the left, there is a navigation menu with categories like 'Reference', 'Slideshows', and 'Questions & Answers'. Below this, there is a section for 'LYMPHOMA HEALTH CENTER' with a list of related conditions. The main content area is titled 'How Is AML Diagnosed?' and 'What Are Your Treatment Options?'. The text explains that Acute myeloid leukemia (AML) pushes the bone marrow to produce abnormal blood cells. It lists three treatment options: Chemotherapy, Stem cell transplant, Radiation, and Targeted therapy. On the right side, there is a large advertisement for WorldRemit, which promotes sending money to Colombia via Davivienda. The URL at the bottom of the page is <https://www.webmd.com/cancer/lymphoma/acute-myeloid-leukemia-treat>.

If we continue with the preceding example of the WebMD website, we learn that the author's name is found neither at the beginning nor at the end of the contribution. Merely at the end is the reader informed that the contribution was reviewed, or rather checked, by a medical expert. This of course speaks in favour of the article, but on the other hand, the authorship should be clear. In this respect, the requirement of transparency is fulfilled only partially.

NIH NATIONAL CANCER INSTITUTE

Español

1-800-4-CANCER Live Chat Publications Dictionary

ABOUT CANCER **CANCER TYPES** RESEARCH GRANTS & TRAINING NEWS & EVENTS ABOUT NCI search

Home > Cancer Types > Leukemia > Patient

AA Print Email Facebook Twitter Pinterest

**LEUKEMIA**

Patient

- Adult ALL Treatment
- Adult AML Treatment**
- CLL Treatment
- CML Treatment
- Hairy Cell Leukemia Treatment
- Childhood ALL Treatment

## Adult Acute Myeloid Leukemia Treatment (PDQ®)–Patient Version

Go to Health Professional Version

**ON THIS PAGE**

- General Information About Adult Acute Myeloid Leukemia
- Stages of Adult Acute Myeloid Leukemia
- Treatment Option Overview
- Treatment Options for Adult Acute Myeloid Leukemia
- To Learn More About Adult Acute Myeloid Leukemia Cancer
- About This PDQ Summary

NIH NATIONAL CANCER INSTITUTE

Español

1-800-4-CANCER Live Chat Publications Dictionary

ABOUT CANCER **CANCER TYPES** RESEARCH GRANTS & TRAINING NEWS & EVENTS ABOUT NCI search

Home > Cancer Types > Leukemia > Health Professional

AA Print Email Facebook Twitter Pinterest

**LEUKEMIA**

Patient +

**Health Professional**

- Adult ALL Treatment
- Adult AML Treatment**
- CLL Treatment
- CML Treatment
- Hairy Cell Leukemia Treatment

## Adult Acute Myeloid Leukemia Treatment (PDQ®)–Health Professional Version

Go to Patient Version

**ON THIS PAGE**

- General Information About Adult Acute Myeloid Leukemia (AML)
- Classification of Adult AML
- Stage Information for Adult AML
- Treatment Option Overview for AML
- Untreated Adult AML
- Adult AML in Remission

In the case of the contribution on the website of the National Cancer Institute (NCI), the author is not given, which is of course problematic. Similarly to the other example, even here transparency is partly fulfilled because as we stated earlier, the domain .gov means the website of an institution under the supervision of the US authorities. Such websites commonly do not provide the name of the author because the text is considered to be the collective work of the employees. Moreover, in both texts it is obvious that the authors of the texts were aware of the need to prepare their contributions in two versions, i.e. one for the lay public and the other one for specialists. That means that everybody has access to full information.

# Characteristics of expert information on the internet



In the case of websites with expert information, it is vital that their authors follow basic rules of publication and citation ethics. Therefore, determine carefully whether the text complies with the following requirements:

## The text is written in an academic style



Determine whether the text is really written in an academic style and if the phrasing used therein is common for texts intended for experts and not for the lay public.

The screenshot shows a WebMD article page. At the top, there are social media icons for Facebook, Twitter, and Pinterest, followed by the article title "What Is the Treatment for Acute Myeloid L...". To the right of the title is a blue "SUBSCRIBE" button and a search bar. Below the title, there is a bulleted list of symptoms: "Fatigue", "Bleeding or bruising", and "Increased risk of infection". A section titled "Clinical Trials" follows, with a paragraph explaining that if AML treatments don't work, patients have another option: a clinical trial. Another paragraph defines clinical trials as studies where researchers test new treatments. At the bottom of the article, it says "WebMD Medical Reference | Reviewed by Laura J. Martin, MD on November 29, 2017" and "© 2017 WebMD, LLC. All rights reserved." There is also a "NEXT IN ACUTE MYELOID LEUKEMIA" section.

The screenshot shows a page from the National Cancer Institute (NCI) website. The navigation bar at the top includes "ABOUT CANCER", "CANCER TYPES", "RESEARCH", "GRANTS & TRAINING", "NEWS & EVENTS", and "ABOUT NCI", along with a search bar. The main content area has a heading "Clinical Trial Information" and a paragraph explaining that a clinical trial is a study to answer a scientific question. It mentions that trials are based on past studies and aim to find new and better ways to help cancer patients. Below this, there is a section titled "Permission to Use This Summary" which states that PDQ is a registered trademark and its content can be used freely as text, but it cannot be identified as an NCI PDQ cancer information summary unless the whole summary is shown and it is updated regularly. A "TOP" button with an upward arrow is visible in the bottom right corner.

If we compare the text from WebMD with the text from the NCI website, you can see that although both texts are intended for the lay public, the text from WebMD inclines towards spoken language, for example, it addresses the reader. The NCI text on the other hand is strictly factual like academic texts.

## The author bases his or her thoughts and conclusions on concrete, verifiable data and cites information resources properly



In an academic text it is vital to document the sources of information that you have taken from elsewhere. We usually do so by means of citations, which refer to bibliographic references containing basic information about the respective information resource, so that others can find these sources and verify the information. You can also formulate sentences in the text in such a way that it is clear what source the details were taken from. Academic texts also include a bibliography. Authors cite properly within the text, i.e. they place quotations within quotation marks and use a different font face, such as italics, for paraphrases. Paraphrases, i.e. an original thought summarized in your own words, must also be supplied with a link (citation) to the bibliographic reference in the bibliography. You should also note what type of resources are used (scientific journals, monographs, popular science literature), because the quality of the literature used can indicate the quality of the text. If the author refers to related websites (“related links”, “additional links”, etc.), always verify what type of resource it is.

The screenshot shows a webpage with a navigation bar at the top containing social media icons (Facebook, Twitter, Pinterest), the title "What Is the Treatment for Acute Myeloid L...", a "SUBSCRIBE" button, and a search bar. Below the navigation bar, there is a large advertisement for WorldRemit with the text "Send money to Colombia via DAVIVIENDA" and a "Try us now" button. To the left of the advertisement, there is a "Try us now" button. The main content area contains a list of bullet points: "Chemotherapy. You may get several cycles of high-dose chemotherapy once a month.", "Allogenic (from a donor) stem cell transplant", and "Autologous (from yourself) stem cell transplant". Below the list, there is a section titled "Chemotherapy" with a sub-heading "Chemotherapy" and a paragraph: "Chemotherapy uses strong drugs to kill cancer cells all over your body. You get these drugs by mouth, through an IV, or via an injection under your skin." followed by another paragraph: "If the cancer has spread, you'll get chemotherapy into the fluid around your brain and spinal cord. Doctors call this intrathecal chemotherapy." and a section titled "Side effects:" with a paragraph: "Chemotherapy works by killing quickly dividing cells in your body. Cancer cells divide quickly, but so do other cells – like those in your immune system, the lining of your mouth and intestines, and your hair follicles. When chemotherapy damages these healthy cells, you can have side effects like these:". On the right side, there is a section titled "TOOLS & RESOURCES" with a list of links: "What are the symptoms of chronic lymphocytic leukemia (CLL)?", "How Do Doctors Diagnose Acute Myeloid Leukemia (AML)?", "What is Acute Myeloid Leukemia? What Causes It?", and "What Are the Symptoms of Acute Myeloid Leukemia?".

The screenshot shows the same webpage as above, but with the "Sources" section expanded. The "Sources" section is titled "Sources" and contains a list of references: "American Cancer Society: 'Chemotherapy for Acute Myeloid Leukemia,' 'Other Drugs for Acute Myeloid Leukemia,' 'Radiation Therapy for Acute Myeloid Leukemia,' 'Stem Cell Transplant for Myeloid Leukemia,' 'Typical Treatment of Most Types of Acute Myeloid Leukemia (Except Acute Promyelocytic M3).'", "American Society of Clinical Oncology: 'Leukemia - Acute Myeloid - AML - Treatment Options,'" "National Cancer Institute: 'Adult Acute Myeloid Leukemia Treatment (PDQ) - Patient Version,'" "UpToDate: 'Patient education: Acute myeloid leukemia (AML) treatment in adults (Beyond the Basics).'", and "© 2017 WebMD, LLC. All rights reserved." Below the "Sources" section, there is a section titled "NEXT IN ACUTE MYELOID LEUKEMIA" with a button that says "Living With Acute Myeloid Leukemia" and a right-pointing arrow.

The text of the contribution on WebMD does not contain links to resources. Moreover, the section Sources at the end does not include the usual bibliographic references according to which the resources can be identified unambiguously, rather it features only the names of professional institutions and some other names where is not clear whether these are books, journal articles or handbooks. One cannot simply and unambiguously identify information sources.

This screenshot shows the top portion of the National Cancer Institute website. The navigation bar includes links for '1-800-4-CANCER', 'Live Chat', 'Publications', and 'Dictionary'. The main menu has 'ABOUT CANCER', 'CANCER TYPES', 'RESEARCH', 'GRANTS & TRAINING', 'NEWS & EVENTS', and 'ABOUT NCI'. A search bar is located on the right. The main content area contains text about contacting the site for help, an update date of October 19, 2018, and a notice regarding the reuse of NCI information. A 'TOP' button is visible in the bottom right corner.

This screenshot shows a page on the National Cancer Institute website detailing clinical trials. The navigation bar and menu are identical to the previous screenshot. The main content area discusses arsenic trioxide treatment for APL patients, mentions second remissions with ATO, and includes a section for 'Current Clinical Trials' with a link to an advanced search. A 'References' section lists three publications with links to PubMed abstracts. A 'TOP' button is visible in the bottom right corner.

The patients' version of the contribution on NCI website also contains neither citations in the text nor bibliographic references to show the sources which the authors of the text have drawn on. On the other hand, this version provides a direct link to the version for professionals where both citations in the text and a bibliography are included. In addition, the bibliography contains direct links to the records of cited publications in the database MEDLINE PubMed. In this respect, it is understandable that the patients' version does not contain links to the resources when everyone has the possibility to verify everything in the professional version.

# Is it up to date?



The date when a piece of information was published or updated tells us whether the document can contribute in terms of representing the latest findings. Because information on the internet becomes outdated quickly, a date on websites is indispensable. In addition, this detail helps us find out how the author/publisher cares for whether the published information is up to date. Therefore, you should always look at how current the information displayed is (this is usually introduced by phrases such as “last updated...”, “posted...”, “published...”, etc., and can be found in the header/footer of the website, see the example).

The screenshot shows the WebMD website interface. At the top, there are navigation links for 'CHECK YOUR SYMPTOMS', 'FIND A DOCTOR', and 'FIND LOWEST DRUG PRICES'. The main navigation bar includes 'HEALTH A-Z', 'DRUGS & SUPPLEMENTS', 'LIVING HEALTHY', 'FAMILY & PREGNANCY', and 'NEWS & EXPERTS'. A search bar is located on the right. Below the navigation is a large advertisement for a Lenovo ThinkPad laptop. The main content area features a sidebar on the left with 'LEUKEMIA HOME' and 'LEUKEMIA & LYMPHOMA HOME' sections. The central article is titled 'What Is the Treatment for Acute Myeloid Leukemia?' and includes social media sharing icons. To the right, there is a 'TODAY ON WEBMD' section with several article thumbnails. The article content is partially visible, showing the beginning of the text.

This is a close-up view of the article content. It shows the beginning of the text: 'treatments. They often are a way for you to try a new medicine that isn't available to everyone. Your doctor can tell you if one of these trials might be a good fit for you, how to sign up, and what to consider first.' Below the text, there is a 'SOURCES' section listing several references from the American Cancer Society, American Society of Clinical Oncology, and National Cancer Institute. At the bottom, there is a 'NEXT IN ACUTE MYELOID LEUKEMIA' section with a button that says 'Living With Acute Myeloid Leukemia' and a right-pointing arrow.

The contribution on WebMD does not contain any information about when the text was published, rather it shows only the date of the review at the end. The age of the contribution cannot be determined and therefore it can only be guessed.

ABOUT CANCER **CANCER TYPES** RESEARCH GRANTS & TRAINING NEWS & EVENTS ABOUT NCI search

insurance reimbursement. More information on insurance coverage is available on Cancer.gov on the [Managing Cancer Care](#) page.


### Contact Us


More information about contacting us or receiving help with the Cancer.gov website can be found on our [Contact Us for Help](#) page. Questions can also be submitted to Cancer.gov through the website's [E-mail Us](#).

**Updated:** October 19, 2018

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*If you would like to reproduce some or all of this content, see [Reuse of NCI Information](#) for guidance about copyright and permissions. In the case of permitted digital reproduction, please credit the National Cancer Institute as the source and link to the original NCI product using the original product's title; e.g., "Adult Acute Myeloid Leukemia Treatment (PDQ®)-Patient Version was originally published by the National Cancer Institute."*

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Español

1-800-4-CANCER Live Chat Publications Dictionary

ABOUT CANCER **CANCER TYPES** RESEARCH GRANTS & TRAINING NEWS & EVENTS ABOUT NCI search

coverage is available on Cancer.gov on the [Managing Cancer Care](#) page.


### Contact Us


More information about contacting us or receiving help with the Cancer.gov website can be found on our [Contact Us for Help](#) page. Questions can also be submitted to Cancer.gov through the website's [Email Us](#).

**Updated:** February 8, 2019

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On the other hand both the patients' and professionals' version of the contribution on the NCI website includes the date of the last update of the text and therefore the reader has a clear idea of how old the information is.



# Which internet search engine should I use?



You can already improve the quality of information you will work with simply by choosing the right search engine. Common search engines (Google, Seznam.cz, Yahoo, etc.) offer in the search results links to websites with content of varying quality. The number of results may be so high that finding quality information can be difficult. Google Scholar (<http://scholar.google.com/>) on the other hand searches through research articles, academic books and websites of research institutions. This gives you a higher certainty of finding websites with high-quality information.

process.

As serious as we are about credibility, we also know that at times, health information can and should be engaging, exciting, and entertaining.

We pride ourselves in knowing our audience's needs and delivering the most appropriate experience. We know that there is a difference between using a health site for health "performance" issues (e.g., flat abs) vs. health research needs (e.g., "What is type 2 diabetes?") vs. community support (e.g., "Does anyone else feel like me?") vs. e-commerce. Our mission is to fulfill all these needs in the most appropriate ways possible.

We are committed to improving our site. We will continue to publish even more content, communities, and services to help make your life better, to help you find your way when faced with healthcare decisions, and to help you feel better about your health and that of your family.

Last updated on April 29, 2014

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# Why not Wikipedia?



It is no secret that Wikipedia is a favourite information resource among students, and students often ask themselves why their teachers forbid using such a source. The answer is simple: untrustworthiness.

Here we will list some very essential reasons why Wikipedia cannot be used as a trustworthy source of information.

## Information does not have to be objective

That is because anyone who knows how to edit articles in Wikipedia at least a bit, may contribute to this encyclopaedia. Therefore, there is a real risk that the information published there will be skewed. As an exemplary case we may consider the 2010 oil spill in the Gulf of Mexico by the infamous oil company British Petroleum (BP). In 2013, it was found that this company had modified almost 44% of information about themselves on Wikipedia, including information connected with the oil spill.

In 2013, Dr. DiStaso from Pennsylvania State University published the results of his study of approximately 1,500 respondents from marketing and advertising companies. 74% of them stated that their company or their clients wrote articles about them on Wikipedia.

## Numerous factual mistakes

Dr. DiStaso also discovered during his research that the respondents found in 59–60% of cases one or more factual mistakes in the Wikipedia article about their companies or their clients.

## Not all information can be verified

Especially Wikipedia versions other than the English-language one lack links to sources for the information mentioned therein and thus readers do not have any possibility to verify the correctness of that information.

## Information is not updated

Another fundamental problem of Wikipedia is that information published there may not be up to date. Nevertheless, for example the English version of Wikipedia backs its information up with sources much more thoroughly when compared to other language versions. With regard to the amount of information stored on Wikipedia and the information boom, it is impossible to keep everything up to date.

For example, this passage on Wikipedia about cancer lists smoking as one of its causes, this piece of information is supported by research articles published more than ten years ago. Over this time the statistical data on deaths may have changed due to newer methods of cancer treatment, more effective anti-smoking campaigns, or even due to tobacco industry efforts to reduce the harmful effects of cigarettes.

https://en.wikipedia.org/wiki/Cancer

### Chemicals

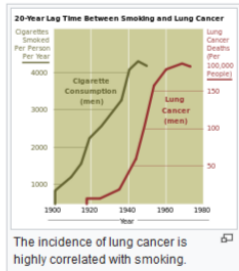
*Further information: Alcohol and cancer and Smoking and cancer*

Exposure to particular substances have been linked to specific types of cancer. These substances are called **carcinogens**.

**Tobacco smoke**, for example, causes 90% of lung cancer.<sup>[34]</sup> It also causes cancer in the **larynx**, head, neck, stomach, bladder, kidney, **esophagus** and **pancreas**.<sup>[35]</sup> Tobacco smoke contains over fifty known carcinogens, including **nitrosamines** and **polycyclic aromatic hydrocarbons**.<sup>[36]</sup>

Tobacco is responsible for about one in five cancer deaths worldwide<sup>[36]</sup> and about one in three in the developed world.<sup>[37]</sup> Lung cancer death rates in the United States have mirrored smoking patterns, with increases in smoking followed by dramatic increases in lung cancer death rates and, more recently, decreases in smoking rates since the 1950s followed by decreases in lung cancer death rates in men since 1990.<sup>[38][39]</sup>

In Western Europe, 10% of cancers in males and 3% of cancers in females are attributed to alcohol exposure, especially liver and digestive tract cancers.<sup>[40]</sup> Cancer from work-related substance exposures may cause between 2 and 20% of cases,<sup>[41]</sup> causing at least 200,000 deaths.<sup>[42]</sup> Cancers such as lung cancer and **mesothelioma** can come from inhaling tobacco smoke or **asbestos** fibers, or **leukemia** from exposure to **benzene**.<sup>[42]</sup>



https://en.wikipedia.org/wiki/Cancer

33. ↑ Iolar J, Neglia JP (June 2003). "Transplacental and other routes of cancer transmission between individuals". *Journal of Pediatric Hematology/Oncology*. **25** (6): 430–4. doi:10.1097/00043426-200306000-00002. PMID 12794519. [↗](#)

34. ↑ Blesalski HK, Bueno de Mesquita B, Chesson A, Chytil F, Grimble R, Hermus RJ, Köhrle J, Lotan R, Norpoth K, Pastorino U, Thurnham D (1998). "European Consensus Statement on Lung Cancer: risk factors and prevention. Lung Cancer Panel". *Ca*. **48** (3): 167–76, discussion 164–66. doi:10.3322/canjclin.48.3.167. PMID 9594919. [↗](#)

35. ↑ Kuper H, Boffetta P, Adami HO (September 2002). "Tobacco use and cancer causation: association by tumour type". *Journal of Internal Medicine*. **252** (3): 206–24. doi:10.1046/j.1365-2796.2002.01022.x. PMID 12270001. [↗](#)

36. ↑ <sup>a</sup> <sup>b</sup> Kuper H, Adami HO, Boffetta P (June 2002). "Tobacco use, cancer causation and public health impact". *Journal of Internal Medicine*. **251** (6): 455–66. doi:10.1046/j.1365-2796.2002.00993.x. PMID 12028500. [↗](#)

37. ↑ Sasco AJ, Secretan MB, Straif K (August 2004). "Tobacco smoking and cancer: a brief review of recent epidemiological

Task Force. 2004. Archived from the original on 15 May 2016. [↗](#)

138. ↑ "Screening for Ovarian Cancer". *U.S. Preventive Services Task Force*. 2004. Archived from the original on 23 October 2010. [↗](#)

139. ↑ "Screening for Pancreatic Cancer". *U.S. Preventive Services Task Force*. 2004. Archived from the original on 21 November 2010. [↗](#)

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141. ↑ "Screening for Breast Cancer". *U.S. Preventive Services Task Force*. 2009. Archived from the original on 2 January 2013. [↗](#)

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As follows from the above-mentioned facts, Wikipedia can justly be criticized as a suitable source of expert information. Wikipedia is, without doubt, a very useful tool for obtaining a basic orientation in a specific field, but readers should always adopt a critical approach and assess the relevancy of information from this encyclopaedia in the context of other information sources.

# Bottom line



Anyone can publish information on the internet and therefore you should always assess the quality of a website. When assessing a website, note especially the following:

- Can you identify the author/publisher of the website safely and determine whether they are experts in their field?
- Is the website up-to-date or is it regularly brought up to date?
- In the event that you are searching for expert information, is the text written in a professional style and are the basic rules of citation complied with?

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