

Medical News: How to Know If It's Accurate

This section has been reviewed and approved by the [Cancer.Net Editorial Board \[1\]](#), June / 2014



Listen to the [Cancer.Net Podcast: How to Know When Medical News is Accurate \[2\]](#), adapted from this content.



Watch the [Cancer.Net Video: How to Know if Medical News is Accurate, with Jennifer Obel, MD \[3\]](#), adapted from this content.

Key Messages:

- When reading news about cancer prevention and screening, risk factors, and new treatments, it is important to learn how to evaluate the reliability and importance of new research.
- Some questions to ask include finding out where the study was done, how it fits into information already known about the topic, how far along the research is, and the measure that's being reported.
- The best way to learn whether a cancer news story is relevant to you is to talk with your doctor.

Medical news changes often; one week, a new "breakthrough" is discovered, only to be disputed the next week. As a result, it is difficult to know what news to believe and whether practices or specific personal habits should be changed.

Finding answers to the following questions may help you better evaluate medical news.

Where was the news article reported?

Established news outlets such as national and large regional newspapers and network television stations usually have science and medical reporters on staff. In general, these reporters are often experienced in analyzing medical information and strive to cover the news as accurately as possible, putting the information in context with previous research. Press releases from hospitals, universities, or cancer centers, may report research from their institutions. Although this research may be high quality, sometimes the results are overstated. Blogs and smaller news outlets often pick up stories after they have been run nationally. Although many of these outlets provide quality reporting, some of them may cut important information to save space or time. Additionally, many blogs may not have dedicated science and medical reporters on staff.

Typically, websites sponsored by the government and non-profit organizations provide the most accurate information about medical research. Click on the "About Us" tab or link on the website's home page to find out who is sponsoring the website.

If the news article is based on a research study, where was the study originally published?

The most prestigious medical journals—including the *Journal of Clinical Oncology*, the *Journal of the American Medical Association*, the *Journal of the National Cancer Institute*, *The Lancet*, the *New England Journal of Medicine*, and *Science*—use a rigorous, peer-review process that requires articles submitted for publication to be reviewed by experts in the same field. Those experts evaluate the studies for accuracy, importance, and the ability to reproduce the results. However, just because the medical article was published in a leading journal doesn't mean you should assume the research changes standard medical practices.

Does the news story represent an entire area of research, or is it just reporting on one study?

Typically, news articles explaining only one study cannot adequately describe the risks or benefits of a new treatment or finding, nor do they examine the long-term effects of the research. Most doctors don't recommend changing your health habits based on one study. Talk with your doctor or a member of your health care team if you have questions about a particular study.

How does this new information fit within the larger body of research on the topic?

Health care professionals usually do not change their standard of care based on one study. Although scientific papers are written at each step of the research process, it generally takes years of research, with many different studies performed at different institutions, before there is enough evidence to adopt a new therapy or change current practice.

What phase was the research?

It is important to learn what kind of research was done to understand if it can be immediately useful to patients. If the research was done with tissue cultures or animals, there is no reason to apply the findings to your daily life just yet. Tissue cultures and animals are used as models to better understand how a treatment may work, but they aren't reliable substitutes for how a treatment works in people.

A research study involving people is called a clinical trial [4]. There are distinct phases of clinical trials.

- The goal of a phase I clinical trial is to prove that a new drug or treatment, which has proven to be safe for use in animals, may also be given safely to humans.
- A phase II clinical trial is designed to provide more detailed information about the safety of the treatment, in addition to evaluating whether the new treatment has a defined effect on a specific cancer, such as tumor shrinkage.
- The goal of a phase III clinical trial is to take a new treatment that has shown promising results when used to treat a small number of patients with a particular disease and compare it with the current standard of care for that specific disease. The strongest of these types of studies provide data on survival or quality of life.

Information from a phase III clinical trial may change current health care practice, but results from phase I and phase II clinical trials are usually too early to make changes to current practices. Learn more about the phases of clinical trials [5].

What type of health result does the news article report?

The rate of overall survival is the result of most interest in research studies. However, it can take a long time to learn that result, so researchers may use a substitute measurement, such as tumor response and disease-free survival. Tumor response is whether the treatment shrinks the tumor. Disease-free survival is the length of time after treatment that a person lives without signs of the disease. When these substitute measurements are used, it is important to remember that positive findings may not translate into an actual improvement in overall survival.

In addition, a study may report on the statistical significance of a new treatment, although it may not be meaningful for the routine care of patients. For example, a benefit of a new treatment may be statistically significant if it improves five-year survival from 50% to 51% in a large clinical trial. However, this statistical difference may not be a medically important difference, especially if the new treatment causes severe side effects.

What type of risk information does the news article report?

Risk describes the chance that a person will develop cancer or have the cancer come back after treatment, called a recurrence. Most research studies highlight relative risk rates in their statistics, although absolute rates provide a clearer picture of the actual health risk. Relative risk specifies the level of risk in a group of people with a particular risk factor, compared with those who do not have that risk factor. Absolute risk is the chance, usually measured as a percentage, that a person will develop a disease during a specific length of time. Learn more about risk and risk factors [6] for cancer.

Other Tips

In addition to these questions, consider these warning signs that a news article may be overplaying a medical study.

The news story uses the word "breakthrough." The process of scientific exploration usually happens in small steps, not giant leaps. Breakthroughs in medicine are rare.

The study promises a ?magic bullet? or ?miracle cure.? Unfortunately, instant treatments that prevent or cure a disease are few and far between. The invention of penicillin to treat bacterial infections and the creation of the polio vaccine are exceptions. However, it is unlikely that a complex disease such as cancer, which is actually many different diseases, will be cured with a single treatment.

The article is one-sided. A news article should be balanced and present the benefits and risks of the topic. A new cancer treatment rarely helps all patients, and there are nearly always side effects or down sides.

The best way to learn whether a cancer news story is relevant to you is to talk with your doctor or another member of your health care team. He or she can help you understand how the new study relates to your situation.

More Information

Introduction to Cancer Research [7]

Evaluating Cancer Information on the Internet [8]

Understanding Cancer Research Studies [9]

Links:

- [1] <http://www.cancer.net/about-us>
- [2] http://www.cancer.net/sites/cancer.net/files/Medical_News.mp3
- [3] <http://www.cancer.net/node/27276>
- [4] <http://www.cancer.net/node/24863>
- [5] <http://www.cancer.net/node/24880>
- [6] <http://www.cancer.net/node/25007>
- [7] <http://www.cancer.net/node/30667>
- [8] <http://www.cancer.net/node/24514>
- [9] <http://www.cancer.net/node/24718>