

Use Your Amuse System to Boost Your Immune System Humor Your Tumor

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"The art of medicine consists of keeping the patient amused while nature heals the disease." Voltaire

A managed care consultant dies and goes to Heaven. Frankly, he can't believe his good fortune in being there, given the life he has led. But St. Peter checks the records and says, "There's no mistake, you're supposed to be here. See, it says right here that you are scheduled for Heaven...and you're authorized for three days."

Physicians and researchers have long known that stress weakens the immune system, leaving you more vulnerable to illness. Only in the mid-1980s, however, did researchers begin to study the positive impact of humor and laughter on the immune system. Your sense of humor provides a powerful antidote to immunosuppressive effects of stress in two ways: through 1) indirect effects resulting from humor's ability to help you cope on the tough days (minimizing or eliminating the negative impact of stress on the immune system), and 2) direct positive effects upon the immune system, and. In this article, we'll focus only on the direct immunoenhancement effects of humor.

By early 2006, more than 30 studies had examined the impact of humor and laughter on the immune system. While some of these studies failed to show a positive effect, most have shown that that humor does strengthen several different components of the immune system. This research has looked at both humoral (immunoglobulins) and cellular immunity. In the case of the former, the great majority of the studies have focused on immunoglobulin A (IgA). IgA resides in the mucosal areas of the body and helps protect you against upper respiratory infections like colds and flu. Most of these studies have shown significant increases in concentrations of IgA in response to comedy programs designed to produce a lot of laughter.

In my seminars in both corporate and healthcare settings, I have often had people come up to me afterwards and share an experience that is consistent with these immune system findings. They note that they often get sick when dealing with a marital problem or unusually high job stress (most jobs usually have some degree of stress these days), or after getting some form of really bad news. When they are emotionally distressed, their immune system simply doesn't do as good a job at fighting of the source of illness. When all is going well, they don't get sick as often.

While the impact of humor on IgA has received the greatest amount of attention among researchers (it is cheaper to do, since salivary IgA can be tested; this avoids the need to do expensive immunoassays on blood), several studies have now documented that humor increases both the number of and activity of Natural Killer (NK) cells. This finding is especially important for cancer patients, since NK cells seek out and destroy tumor (cancer) cells (they also destroy virally infected cells, even with no prior exposure). This finding is one reason why oncology units of hospitals across the country are now so interested in the “therapeutic benefits” of humor. While humor and laughter are clearly not a “magic bullet” capable of curing cancer, they do create a set of conditions within the body which help mobilize the body’s own built-in healing resources. Just as negative emotion (especially when chronic) can interfere with the body’s immune response, positive emotion—especially a powerful source such as humor and laughter—facilitates the response.

It is important to note that this finding has been obtained for children, as well as adults. In one study, for example, elementary school who scored higher on a measure of the extent to which they used humor to cope had higher levels of (salivary) IgA and a lower frequency of different kinds of infections.¹ As the level of cancer-related stress increased for these children, the high-coping-humor kids were significantly less likely than the low-coping-humor kids to come down with infections. This reduced infection finding is especially important to note, since it suggests that the immunoenhancement effect of humor is strong enough to help sustain other aspects of health and wellness as these children and their doctors battle the cancer.

There’s no evidence that humor and laughter add years to your life, but they certainly add life to your years.

There are few sources of stress in life greater than the words, "You have cancer." The first Sunday (or week) of June is generally celebrated across the country as National Cancer Survivors Day. I am always somewhere in the country doing a program on this day for cancer patients and their families. And there are always several people who come up to me afterwards and say, “You know, you’re absolutely right; if it weren’t for my sense of humor, I would not have survived the treatments, let alone the disease. Finding things to laugh at was what got me through my ordeal, one day at a time.” So you get a double bonus from humor; your body is assisted in battling the disease at the same time that you’re helped through the emotional struggle to cope.

At one Survivors Day Celebration, a woman came up to me after my program and said that she had been battling brain cancer for quite a number of years. Her doctors were dumbfounded that she was still alive, given the nature of the cancer she had. She told me she was convinced that it was because she always made it a point to find things to laugh at every day—no matter how she felt that day. While her story has to be considered an anecdote, and not research evidence, I have come across enough examples like hers to convince me that—at least in some cases—using humor to sustain a strong upbeat, positive frame of mind that is full of hope and optimism is enough to extend survival where a negative, hopeless, pessimistic outlook would have doomed the patient to death.

Other articles at this website, especially those focusing on the broader field of psychoneuroimmunology, make a convincing case for this notion.

Other components of the immune system have also been studied in connection with humor and laughter, but they have used small samples and have not been replicated sufficiently to consider them as established benefits of humor (although their consistency with more frequently-studied components of the immune system suggest that they may well one day become well-established findings). These findings indicate that humor and laughter produce increased levels of IgM and IgG, additional parts of your humoral immune system. IgM antibodies are the first to arrive at a location within the body as a part of the humoral immune response. After IgM does its initial work, IgG takes over. It is IgG antibodies that are produced in the greatest amount in the body, and that are responsible for long-term immunity. When you are immunized, for example, it is the IgG antibodies that are tested to see if the procedure was successful. Laughter has also been shown to increase levels of Complement 3, a part of your immune system that helps antibodies pierce through defective or infected cells in order to destroy them.

With respect to cellular immunity, watching a one-hour comedy video has been found to produce 1) increased number of B cells (this is not surprising, given the increased levels of IgA, IgG, and IgM, since B cells are responsible for making all the immunoglobulins), 2) increased number of, and activation of, T cells, 3) increased number of Helper T cells (the cells attacked by the AIDS virus), 4) increased ratio of Helper/Suppressor T cells, and 5) increased levels of Gamma Interferon. Gamma Interferon plays an important role in the activation of NK cells. It also contributes to the growth of cytotoxic T cells and the maturation of B cells. It is best thought of as a kind of orchestra leader that regulates the level of cooperation between cells in the immune system, and tells different components of the immune system when to turn on and off.

Taken as a whole, then, it's clear that there is something about humor and laughter that causes the immune system to "turn on" metabolically and do more effectively what it is designed to do—promote health and wellness in the face of internal or external threats. But while these data are exciting, they do not mean that laughter will cure you from cancer, or any other disease. Humor and laughter are not replacements for the treatment you or your loved one are undergoing. But there's now every reason to believe that patients make an important contribution to their own treatment by managing their frame of mind or emotional state. Building more laughter into your life helps assure that you'll have all your body's own natural healing resources fully available to you. Your body will be working for you—not against you.

Remember to take you illness seriously, but take yourself lightly in dealing with it on a day-to-day basis. So lighten up! Jest for the health of it.

[Adapted from McGhee, P. E. (1999). *Health, Healing and the Amuse System: Humor as Survival Training*. Dubuque, IA: Kendall/Hunt.]

References

1. Dowling, J. S. (2001). Sense of humor, childhood cancer stressors and outcomes of psychosocial adjustment, Immune function and infection. *Dissertation Abstracts International: Section B: The Sciences & Engineering*, Vol. 61 (70B), Feb., 2001, p. 3505.