

# THE HEALING BENEFITS OF HUMOR AND LAUGHTER

*A cheerful heart is good medicine, but a crushed spirit dries up the bones.*

—Bible, Proverbs 17:22

A patient walks into a clinic, terribly anxious.

Patient: Nurse! Please help me! I am shrinking. I am losing an inch of height every few minutes!

Nurse: Sorry, the team is on their way to an emergency. You're just going to have to be a little patient.

In the 1970s, word spread that Norman Cousins, a journalist, had markedly improved his symptoms of ankylosing spondylitis through the use of humor.[1] He watched Marx Brother's movies regularly and found that they did much to improve his pain. Ultimately, his book, *Anatomy of an Illness*, did a lot to spark interest in the healing benefits of humor and laughter.

This tool focuses on humor and laughter and their effects on health. Keep them in mind as you help Veterans create their Personal Health Plans. Bringing humor into patient care, when appropriate, can help your patients in many ways. It can also make your work more enjoyable and fulfilling.[2]



## MINDFUL AWARENESS MOMENT

Pay attention for a day to how much humor and laughter is in your life.

- How many times do you have a good laugh? Is it enough?
- How often do you make others laugh? How often for your colleagues, and how often for patients? Do you make family members and friends laugh?
- Who makes you laugh?
- Do you ever use "dark humor" to cope with stresses at work? Are you careful to laugh "with" patients and colleagues, rather than "at" them?
- Do you ever recommend more humor as part of a treatment plan?
- Do you think that laughter truly is "the best medicine?"

## HOW HUMOR AND LAUGHTER AFFECT US

*Patient:* Doctor, doctor! My son just swallowed a roll of film!

*Doctor:* Don't worry. He'll be fine. Let's just wait and see what develops.

### PHYSIOLOGICAL CHANGES

Laughter has physiological effects; it changes body chemistry and brain function. For example:[3,4]

- Laughter increases **heart and respiratory rates** as well as **oxygen consumption** over a short period. After these initial changes, a person moves into a state of relaxation. While these effects may not be the equivalent to aerobic exercise, as some claim, that is not to say it is entirely without benefit as a physical activity. 10-15 minutes of laughter per day may burn 10-40 extra calories.
- Laughter **affects heart function**. It increases stroke volume and cardiac output, and it dilates blood vessels.
- After intense laughter, **muscle tone** relaxes.
- Watching humorous videos revs up the **sympathetic nervous system (SNS)**. However, this does not increase blood pressure.
- Laughter lowers levels of the stress hormone, **cortisol**.
- Laughter activates the mesolimbic dopaminergic **reward system in the brain**.
- Laughter increases serum **immunoglobulins A and E**. In most studies, it seems to increase **natural killer cell activity** as well.
- It raises levels of **beta-endorphins** (the feel-good chemicals of the body) and increases **human growth hormone** production.

### EFFECTS ON HEALTH CONDITIONS

Laughter and humor also have the following **effects on specific illnesses**:[3,4]

- There is an inverse association between **coronary heart disease** and propensity to laugh; laughing more means lower heart attack risk. [5]
- A 2018 study found that laughter therapy effectively delays cardiovascular complications of type 2 diabetes.
- Watching a comedy show decreased overall rise in **glucose levels** after eating. [6]
- Higher propensity to laugh correlates with fewer episodes of **arrhythmias and recurrent MIs** during cardiac rehabilitation. [7]
- Laughter increases **pain tolerance**. [8] [9]
- Laughter therapy improves self-esteem and mood in cancer patients, according to a small 2015 trial. [10]
- Watching a funny movie decreased bronchial responsiveness in people with **asthma**. [11]
- Laughter and clowning reduced hyperinflation of the lungs in people with severe chronic obstructive pulmonary disease (**COPD**). [12]

- Hospital clowns reduce **stress and anxiety** levels in hospitalized children and their parents. [13]
- “ElderClowns” reduced **agitation** and increased happiness in nursing home patients. [14]
- Humor therapy (watching a 20-minute humorous movie) led to improvements in **cognitive function**, including learning ability, delayed recall, and visual recognition in study that included 30 older adults. [15]
- Comedy improv training led to subjective improvements in symptoms for people with **Parkinson’s disease**. [16]
- A study of 30 people with schizophrenia found that 10 hours of humor skill training can improve rehabilitative outcomes and sense of humor (including change in negative symptoms). [17]
- Laughter decreased inflammation (as measured by pro-inflammatory cytokine levels) in people with **rheumatoid arthritis**. [18]
- Laughter and humor reduce wheal (skin swelling) reactions to **allergens**. [19]

Laughter also has the potential to significantly affect the quality of our work lives. Humor helps relieve tension, reassures people, and draws them together. It likely strengthens the bonds between patients and members of their care team.[20] It even seems to increase people’s willingness to disclose, so it may help with obtaining good information during patient interviews.[21] A study of laughter therapy’s effects on volunteer community care workers found that it reduced stress, anxiety, and depression.[22]

## WAYS TO ENHANCE LAUGHTER AND HUMOR IN OUR LIVES

*E.R. Doctor:* How are things with that kid who swallowed the roll of quarters?

*Nurse:* No change yet.

There are many ways to draw laughter and humor into a Personal Health Plan. Here are some suggestions:[20]

**Simply mentioning that laughter, humor and fun are important** in life can be helpful. If you say it as a clinician, patients are likely to pay attention.

Remember it is NOT just about recommending it, but intentionally **bringing it into your daily practice and your life in general**. As appropriate, share your humor with your patients and your colleagues. It will enhance their Whole Health, and it will enhance yours too. Learn a new joke every so often. (We take no responsibility for whether or not the jokes featured in this clinical tool are successful!)

Some hospitals have created **clown care units** (CCUs). Clowns go on rounds to help bring humor and laughter to inpatients. In the New York City area, Big Apple Circus offers CCU programs in seven hospitals.

Check out The **Gesundheit Institute** and their activities. Created by Patch Adams, MD, this organization is focused on bringing humor and laughter into health care. For more information, visit <http://patchadams.org/>.

Some health care facilities offer **Laugh Mobiles**; carts with items to facilitate humorous encounters are wheeled onto different services by humor volunteers. The Duke Humor Project has done this, for example, for cancer patients at Duke University Medical Center.

Encourage your patients to try **laughter yoga**. You can easily take just a minute or two to offer it during a patient visit. A quick Google search using “Laughter Yoga” will provide a number of groups offering courses. Research on laughter yoga is in its early stages, but it has been found to be at least as effective as group exercise for improving depression and life satisfaction in elderly women,[23] and it enhanced health in a group of nursing students.[24] It increased heart rate variability (which correlates with better overall health) in a small group of people waiting for organ transplants.[25] Parkinson’s patients also had improvements in symptoms after laughter yoga.[26] A 2018 review of 6 Laughter Yoga studies concluded it has potential benefit for mental health issues, but more research is needed.[27]

### TRY IT OUT: LAUGHTER YOGA

Many laughter yoga practitioners contend that *you do not have to feel the urge to laugh in order to derive the benefits of laughter*. In fact, many laughter yoga activities have participants begin by pretending to laugh in various ways. Typically, real laughter comes somewhere during the experience.

One simple Laughter Yoga exercise is to laugh to a beat. Try it now:

- Say the words “Mississippi Tennessee.”
- Now laugh with the same cadence you used to say those words: “Ha Ha Ho Ho Hee Hee Hee.”
- Repeat this ten times. What do you notice? Many people find that the exercises strike them as funny enough to actually induce laughter...

Want to get a better sense of this? Watch and listen to more [Laughter Yoga examples](#).

To learn more about Laughter Yoga, refer to the following:

- [Laughter Yoga International](#)
  - This site has a lot of useful introductory information on laughter yoga.
- [Laughter Yoga Wikihow](#)
  - Note that the instructions featured on the site mention some Buddhist ideas, but laughter yoga is not itself linked to a specific spiritual or religious practice.
- YouTube videos
  - [Laughter Yoga on Discovery Channel](#)
  - [People Laughing at Other People's Laughs](#)

- For other ideas on incorporating humor into health care, check out the [Association for Applied and Therapeutic Humor](#).

An elderly man goes in to his clinic for a checkup. After examining him and reviewing his labs, his clinician tells him, “Everything is fine, especially for your age.”

“For my age?” asks the patient. “I am only 70. Do you think I can make it to 80?”

“Well,” said the clinician, “do you drink or smoke?”

“No,” said the man.

“Do you eat fatty meat or sweets?”

“No,” the patient replied. “I am very cautious about my diet.”

“Do you engage in any high-risk behaviors like skiing or sky-diving?”

“Of course not! I always play it safe.”

The clinician thought a moment. “Well, then why in the world would you want to live to be 80?”



### **MINDFUL AWARENESS MOMENT**

### **HAVING A GOOD LAUGH RIGHT NOW**

Take five minutes and search online for something humorous. It might be an excerpt from a television show, a medical humor website, a risqué limerick, or even a knock-knock joke you can share with your kids. Just find something that gives you a good belly laugh.

As you laugh, note what happens in your body.

- Did laughing change your emotional state?
- How about your physical state?
- And what about your mental state?

## AUTHOR(S)

“The Healing Benefits of Humor and Laughter” was written by [J. Adam Rindfleisch](#), MPhil, MD. (2014, updated 2018).

*This Whole Health tool was made possible through a collaborative effort between the University of Wisconsin Integrative Health Program, VA Office of Patient Centered Care and Cultural Transformation, and Pacific Institute for Research and Evaluation.*

## REFERENCES

1. Cousins N. Anatomy of an illness (as perceived by the patient). *N Engl J Med.* 1976;295(26):1458-1463.
2. Oczkowski S. Virtuous laughter: we should teach medical learners the art of humor. *Crit Care.* 2015;19:222.
3. Bennett MP, Lengacher C. Humor and laughter may influence health IV. Humor and immune function. *Evid Based Complement Alternat Med.* 2009;6(2):159-164.
4. Mora-Ripoll R. The therapeutic value of laughter in medicine. *Altern Ther Health Med.* 2010;16(6):56-64.
5. Clark A, Seidler A, Miller M. Inverse association between sense of humor and coronary heart disease. *Int J Cardiol.* 2001;80(1):87-88.
6. Hayashi K, Hayashi T, Iwanaga S, et al. Laughter lowered the increase in postprandial blood glucose. *Diabetes care.* 2003;26(5):1651-1652.
7. Tan S, Tan L, Berk L, Lukman S, Lukman L. Mirthful laughter, an effective adjunct in cardiac rehabilitation. *Can J Cardiol.* 1997;13(supple B)(190).
8. Nevo O, Keinan G, Teshimovsky-Arditi M. Humor and pain tolerance. *HUMOR.* 1993;6(1):71-88.
9. Cogan R, Cogan D, Waltz W, McCue M. Effects of laughter and relaxation on discomfort thresholds. *J Behav Med.* 1987;10(2):139-144.
10. Kim SH, Kook JR, Kwon M, Son MH, Ahn SD, Kim YH. The effects of laughter therapy on mood state and self-esteem in cancer patients undergoing radiation therapy: a randomized controlled trial. *J Altern Complement Med.* 2015;21(4):217-222.
11. Kimata H. Effect of viewing a humorous vs. nonhumorous film on bronchial responsiveness in patients with bronchial asthma. *Physiol behav.* 2004;81(4):681-684.
12. Brutsche MH, Grossman P, Muller RE, et al. Impact of laughter on air trapping in severe chronic obstructive lung disease. *Int J Chron Obstruct Pulmon Dis.* 2008;3(1):185-192.
13. Sridharan K, Sivaramakrishnan G. Therapeutic clowns in pediatrics: a systematic review and meta-analysis of randomized controlled trials. *Eur J Pediatr.* 2016;175(10):1353-1360.
14. Low LF, Goodenough B, Fletcher J, et al. The effects of humor therapy on nursing home residents measured using observational methods: the SMILE cluster randomized trial. *J Am Med Dir Assoc.* 2014;15(8):564-569.
15. Bains GS, Berk LS, Lohman E, et al. Humors effect on short-term memory in healthy and diabetic older adults. *Altern Ther Health Med.* 2015;21(3):16-25.

16. Bega D, Palmentera P, Wagner A, et al. Laughter is the best medicine: The Second City((R)) improvisation as an intervention for Parkinson's disease. *Parkinsonism Relat Disord*. 2017;34:62-65.
17. Cai C, Yu L, Rong L, Zhong H. Effectiveness of humor intervention for patients with schizophrenia: a randomized controlled trial. *J Psychiatr Res*. 2014;59:174-178.
18. Matsuzaki T, Nakajima A, Ishigami S, Tanno M, Yoshino S. Mirthful laughter differentially affects serum pro- and anti-inflammatory cytokine levels depending on the level of disease activity in patients with rheumatoid arthritis. *Rheumatology (Oxford)*. 2006;45(2):182-186.
19. Kimata H. Effect of humor on allergen-induced wheal reactions. *JAMA*. 2001;285(6):738.
20. Adams P, Fry W, Glickstein L, Goodheart A. Humor. In: Micozzi MS, ed. *Fundamentals of Complementary and Integrative Medicine*. St. Louis, Mo.: Saunders Elsevier; 2006.
21. Gray AW, Parkinson B, Dunbar RI. Laughter's influence on the intimacy of self-disclosure. *Hum Nat*. 2015;26(1):28-43.
22. Hatzipapas I, Visser MJ, Janse van Rensburg E. Laughter therapy as an intervention to promote psychological well-being of volunteer community care workers working with HIV-affected families. *SAHARA J*. 2017;14(1):202-212.
23. Shahidi M, Mojtahed A, Modabbernia A, et al. Laughter yoga versus group exercise program in elderly depressed women: a randomized controlled trial. *Int J Geriatr Psychiatry*. 2011;26(3):322-327.
24. Yazdani M, Esmaeilzadeh M, Pahlavanzadeh S, Khaledi F. The effect of laughter yoga on general health among nursing students. *Iran J Nurs Midwifery Res*. 2014;19(1):36-40.
25. Dolgoff-Kaspar R, Baldwin A, Johnson MS, Edling N, Sethi GK. Effect of laughter yoga on mood and heart rate variability in patients awaiting organ transplantation: a pilot study. *Altern Ther Health Med*. 2012;18(5):61-66.
26. DeCaro DS, Constantine Brown JL. Laughter yoga, adults living with Parkinsons disease, and caregivers: A pilot study. *Explore (NY)*. 2016;12(3):196-199.
27. Bressington D, Yu C, Wong W, Ng TC, Chien WT. The effects of group-based Laughter Yoga interventions on mental health in adults: A systematic review. *J Psychiatr Ment Health Nurs*. 2018.