

Chapter 2

Humor and Physical Health

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“Over the years, I have encountered a surprising number of instances in which, to all appearances, patients have laughed themselves back to health, or at least have used their sense of humor as a very positive and adaptive response to their illness.”
(Raymond A. Moody, M.D.)

If you randomly select 100 people on the street and ask them if it's important to have a good sense of humor, most will say yes without hesitating. And yet the prevailing attitude toward humor was a negative one until the late 19th century.¹ Until that point, laughter was commonly considered detrimental to physical and spiritual well-being, as well as impolite and sinful by many.

A notable exception to this prevailing view was Henri de Mondeville, a 13th century surgeon, who argued that laughter facilitates recovery from surgery, while negative emotions slow recovery. Also, Immanuel Kant, in his *Critique of Reason*, suggested that laughter improves health by restoring equilibrium to the body.

These views, along with people's own experience, eventually forged the current view that humor makes an important contribution to physical and mental health. The familiar phrase, “Laughter is the best medicine,” reflects this folk wisdom. The health-promoting and healing power of humor was given its biggest boost by Norman Cousins' book, *Anatomy of an Illness*, published in 1979. He came down with a serious illness called ankylosing spondylitis, and was given a 1 in 500 chance of surviving. Cousins was aware of the evidence from psychosomatic research showing that negative emotions were harmful to one's health, so he reasoned that the opposite must also be true. That is, positive emotions should promote health and healing. There was no evidence for this idea at the time, and many even laughed at it.

Cousins' bold move was to check himself out of the hospital (with the consent of his doctors) and into a nearby hotel. A nurse was present full time. He invited friends over and spent a lot of time laughing while watching *Candid Camera* shows, Marx Brothers films and other comedy programs. Cousins beat the odds and recovered.

There is no way of knowing the extent to which laughter contributed to Cousins' recovery, but the widespread attention devoted to his story had a tremendous impact in boosting the public's belief that humor and laughter have the power to heal. His book also stimulated new research on humor and health. This chapter summarizes those research findings.

How Humor Contributes to Physical Health

The mere fact that you feel better after a good laugh is enough for many to conclude that humor must be good for you. But new evidence confirms what our grandparents knew all along. Your sense of humor not only enriches life; it also promotes physical, mental and spiritual health.

Muscle Relaxation

Stress management has become a multi-million dollar business in the United States and is rapidly growing in other countries. The Japanese, for example, are well acquainted with the harmful effects of stress. They have created a new word, *karoshi*, which means “death from overwork.”

Many stress management techniques have been developed, including physical exercise, progressive relaxation, biofeedback, deep breathing, meditation, massage, etc. The goal of these techniques is to produce muscle relaxation and the easing of psychological tensions that goes with it. You don't have to spend tremendous amounts of time, effort and money learning special relaxation techniques. You just have to find more humor in your life--and laugh more! Belly laughter produces relaxation automatically and naturally.²

This relaxation effect is easily noticeable when you have a good laugh. In my keynote addresses, I do a laughter exercise in which I get everyone in the room doing belly laughter for half a minute. Afterwards, I ask them what changes they notice in their bodies. The first comment is usually, “I feel a lot more relaxed.” The next time you have a good long laugh, look for this feeling of relaxation and reduced tension.

Two separate mechanisms cause the relaxation you notice. Muscles not directly participating in the act of laughter tend to relax while you're laughing. That's why little kids fall down during fits of laughter. It's also why you seem to lose your strength when you're laughing (just try carrying a friend--or any other heavy object--across the room when you're laughing hard). When you stop laughing, the muscles that had been contracting relax. This is no different from what happens with any other physical activity. When you stop working muscles, their natural tendency is to relax. In combination, these two mechanisms produce a general pattern of muscle relaxation throughout your body.

“There ain't much fun in medicine, but there's a heck of a lot of medicine in fun.”
(Josh Billings)

One study showed that people using a biofeedback apparatus were able to relax muscles more quickly after watching funny cartoons than after looking at beautiful scenery.³ The importance of this natural relaxation effect may be seen in the fact that relaxation not only helps reduce stress; it also helps alleviate heart disease,⁴ headaches,⁵ chronic anxiety,⁶ and other problems. For patients with rheumatism, neuralgia, or other conditions characterized by a spasm-pain-spasm cycle, the reduced muscle tension that results from laughter disrupts this cycle and reduces the pain experienced.

Reduction of Stress Hormones

When you're under stress, your body undergoes a series of hormonal and other body changes which make up the “fight or flight” response. Even though there's no physical threat to your life, your body reacts as if there were. If you're under stress day after day, this preparation for a vigorous physical response (which never occurs) itself begins to pose a threat--to your health! Anything which reduces the level of stress hormones in the blood on a regular basis helps reduce this health threat.

The limited research on stress-related hormones and humor has shown that laughter reduces at least four neuroendocrine hormones associated with the stress response, including epinephrine, cortisol, dopac, and growth hormone.⁷ This is consistent with research showing that various relaxation procedures reduce stress hormones.⁸

Immune System Enhancement

It has long been recognized that stress weakens the immune system, leaving you more vulnerable to illness.⁹ Only in the mid 1980s, however, did researchers begin to study the impact of humor and laughter on the immune system. The best evidence that humor boosts the immune system comes from studies where immune system measures are taken before and after a particular humorous event--usually a comedy video. But research showing that individuals with a better sense of humor have stronger immune systems is also important, since it shows the importance (for your health) of making the effort to improve your sense of humor.

Immunoglobulin A

The greatest amount of research to date has focused on immunoglobulin A, a part of your immune system which serves to protect you against upper respiratory problems, like colds and the flu. Our saliva contains IgA, and this is often referred to as the body's first line of defense against upper respiratory viral and bacterial infections.

The studies show that watching as little as 30 or 60 minutes of a comedy video is enough to increase both salivary IgA¹⁰ and blood levels of IgA.¹¹ This has been shown for both adults and children.¹²

Other Immunoglobulins

Immunoglobulins M and G have also been shown to be enhanced as a result of humor/laughter.¹³ IgM is the antibody that arrives first as part of the humoral immune response. IgG antibodies are present in the greatest amount in the body, and are responsible for producing long-term immunity. When you are immunized for a particular illness, it is the IgG antibodies that are tested to see if the procedure has worked.

This same study showed that watching a comedy video produced increased levels of a substance called Complement 3, which helps antibodies pierce through defective or infected cells in order to destroy them.

B cells

Several different aspects of the cellular immune system have also been shown to be enhanced by watching a comedy video. B cells are produced in the bone marrow, and are responsible for making the immunoglobulins. If you count the number of these cells in the blood before and after a comedy video, you can demonstrate a significant increase in the number of B cells circulating throughout the body following humor.¹⁴ This is not surprising, of course, since the increased levels of immunoglobulins following humor is now well documented.

Natural Killer Cells

Watching a one-hour humorous video also increases the activity--and number--of natural killer cells, although there is some evidence that this may be true only for individuals whose NK cell activity is lower than average.^{15, 16} Natural killer cells have the role of seeking out and destroying tumor cells in the body, as well as battling the latest cold- and flu-generating viruses and other foreign organisms. These cells destroy tumor cells and viruses by releasing a toxic substance. They are part of the body's first line of defense, and can attack foreign organisms even if they've never seen them before.

Among cancer patients, reduced natural killer cell activity is associated with an increased rate of spread of tumors.¹⁷ So the significance of laughter's ability to increase the activity of these cells is clear. The previously-mentioned finding that humor's ability to boost NK cell activity is greatest among those with lower levels of NK cell activity is especially

important for cancer patients. This is one reason oncology units of hospitals have become so interested in humor as a form of therapy.¹⁸

T-Cells

Another promising study has shown that humor may even have a place in the battle against AIDS. T-cells are another kind of immune cell produced by the thymus gland. The AIDS virus attacks “helper T-cells.” Humor and laughter have been shown to increase both the number and level of activation of helper T-cells, and to increase the ratio of helper to suppresser T-cells.¹⁹ This is an exciting finding, and suggests that a good sense of humor may contribute not only to a patient’s ability to cope with the emotional impact of having the disease, but to the body’s ability to battle it as well.

These data are supported by research showing that relaxation techniques increase levels of helper T-cells. For example, medical students’ levels of helper T-cells have been shown to be reduced on the day of exams.²⁰ But when half the students were taught relaxation techniques, their level of helper T-cells increased. And the degree of increase was directly related to the extent to which they practiced the techniques learned. So the increased helper T-cell production found for laughter may have been due to the relaxation produced by laughter. Consistent with these findings, relaxation techniques have been shown to increase antibody production, natural killer cell activity, and the effectiveness of cytotoxic T-cells.²¹

“The art of medicine consists of keeping the patient amused while nature heals the disease.”
(Voltaire)

While we wait for researchers to settle this issue, I fully agree with the advice given by long-term AIDS survivor Michael Callen (who died in 1993): “It simply makes sense to try to mobilize whatever immune-system enhancing effects might flow from marshaling the mind. After all, even if your T-cells don’t increase, how can having a cheerful, frisky, life-affirming attitude possibly hurt? . . . I highly recommend daily doses of laughter.”²²

Gamma Interferon

Humor has also been shown to increase levels of gamma interferon, a complex substance that plays an important role in the maturation of B cells, the growth of cytotoxic T cells, and the activation of NK cells.²³ It also tells different components of the immune system when to become more active, and regulates the level of cooperation between cells of the immune system. Given the specific types of immunoenhancement resulting from humor discussed above, this effect on gamma interferon is to be expected.

Taken as a whole, 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 your sense of humor is not a magic bullet which will cure cancer or other illnesses. Rather, it creates internal conditions which support the body’s basic healing and health-maintaining mechanisms.

My guess is that future research will show that a major component of the power of humor to promote health and healing lies in its capacity to pull us out of the chronic negative mood we’re left in by the constant stress in our lives, and to replace that mood with a more positive, optimistic outlook that lowers stress hormones and leaves the immune system operating on a higher level.

Duration of Humor-Induced Immunoenhancement

Only a few studies have examined the duration of the immunoenhancement effects of humor. This may be an artificial question, since emotional changes are known to cause fluctuations in the immune system, and your emotional state generally depends on whether or not you're dealing with anything stressful at the moment. If something happens to make you angry or anxious soon after watching a comedy video, this counteracts the immune benefits resulting from the video. This is where the strength of your own sense of humor comes in. If you are able to find a light side of the situation, you sustain the immunoenhancing benefits resulting from the humor you've been exposed to.

The limited research along these lines suggests that a strengthened immune system is sustained for 30 minutes for IgA, IgG, number of B cells, activation and number of T cells, activation and number of natural killer cells, and gamma-interferon. The immunoenhancement effect was still present 12 hours later for IgA, IgG, number of B cells, complement 3 and gamma-interferon.²⁴ No attempt has been made to study durations beyond 12 hours.

Sense of Humor and Immunity

Given all the evidence that watching a humorous video strengthens different components of the immune system, it makes sense that individuals who have a better developed sense of humor--meaning that they find more humor in their everyday life, seek out humor more often, laugh more, etc.--should have a stronger immune system, because they get more of the kinds of benefits offered by watching a comedy video by exercising their sense of humor more often. Consistent with this expectation, three studies have shown that individuals with higher scores on a sense of humor test have higher "baseline levels" of IgA.²⁵

If people with a better sense of humor have a stronger immune system than their humor-impaired friends, you might expect that those with a less developed sense of humor would show more immunoenhancement from watching a comedy video. The available research, however, suggests that the opposite is true. Individuals with higher sense of humor scores show the greatest increase in IgA after watching a funny video.²⁶ This suggests that those with a better sense of humor may have appreciated the videos more, or laughed more.

*"The simple truth is that happy people generally don't get sick."
(Bernie Siegel, M.D.)*

Humor's ability to protect you against immunosuppression during stress was evident in a study which compared people with a well-developed sense of humor (they found a lot of humor in their everyday life or frequently used humor to cope with stress) to people with a poor sense of humor. Among those who rarely found humor in their own lives, especially when under stress, greater numbers of everyday hassles and negative life events were associated with greater suppression of their immune system (IgA). Among those with a well-developed sense of humor, on the other hand, everyday hassles and problems did not weaken the immune system.²⁷ Their sense of humor helped keep them from becoming more vulnerable to illness when under stress.

The Role of Mood

Your immune system is very sensitive to your mood, being stronger on your "up" days, and weaker on "down" days. This has been shown for both IgA and natural killer cell activity.²⁸ It appears to be the negative emotion or mood that accompanies stress that is responsible for the reduced level of antibody response when the immune system is asked to fight a virus or other antigen. This has been shown with reduced levels of natural killer cell

activity,²⁹ lymphocyte proliferation,³⁰ serum antibody response to Hepatitis B vaccine,³¹ and salivary IgA response to a novel antigen,³² to name a few.

Part of the health-promoting power of your sense of humor lies in the fact that it helps keep the negative events that occur in your life from disturbing your mood.³³ It helps you keep an upbeat, optimistic outlook, even in the face of stress. Bernie Siegel has long emphasized the importance of a positive, optimistic mood in fighting cancer and sustaining wellness,³⁴ and your sense of humor is one of the best ways you have to maintain this mood on high-stress days.

Which is More Important, Laughter or the Experience of Humor?

A key question with the immune system research concerns the relative importance of laughter versus the mental/emotional experience of humor. Only two studies have addressed this issue. In one, half the participants were encouraged to laugh at the comedy video, while the other half were asked to suppress laughter while watching. Comparable levels of increased salivary IgA were found for the two groups.³⁵ Since laughter did not boost the amount of IgA increase, this suggests that the experience of humor may be more important than how much you laugh. However, another study showed that how funny you find the video is not related to the amount of IgA increase shown.³⁶ The precise way in which one's own sense of humor provides immunoenhancement benefits is clearly complicated, and is not yet well understood.

Pain Reduction

I lived in Paris for three years in the 1980s. I spent a lot of time in a little neighborhood cafe, and almost every time I stopped by for an espresso, there was an old man at his corner table laughing with friends. He rarely went more than 10 minutes without laughing. I was amazed at this and asked him how he managed to stay in such a wonderful mood all the time. To my surprise, he said his laughter didn't always mean he was in a good mood. He laughed for two reasons. One was in order to get into a good mood. He lived alone and didn't like it. He knew that laughter would lift his spirits, so he forced himself to laugh until he really was feeling good.

The other reason was that he had arthritis and had a lot of aches and pains. One day he and his friends were doubling up with laughter about pranks they had played when they were kids. He noticed that his arthritis pain had disappeared during the laughter and didn't show up again until an hour later. From that day on, he was a laugher. It was his way of managing pain. He took control of his pain in a way that also improved the quality of his life. Recent research has supported his approach to pain management. When elderly residents of a long-term care facility watched funny movies, the level of pain they experienced was reduced.³⁷

A man went to his doctor complaining of painful headaches. After concluding his tests, the doctor said, "There's only one solution, but it's extreme: castration." The patient said he could never resort to that, and he walked out.

As the weeks went on, his headaches got so painful that he couldn't take it any longer. Finally, he went back to the doctor and agreed to the castration. The operation was a big success, and the patient couldn't believe that his headaches were finally gone. He felt like a new man. He was so excited about his new life that he went to a tailor and bought a whole new set of clothes--suits, shirts, socks, even underwear.

In jotting down all the appropriate information, the tailor finally asked, "What size underwear do you wear?"

**“Forty,” replied the man.
“Oh no,” said the tailor. “You’re a 44. If you wear underwear that tight, you’ll get terrible headaches!”**

Norman Cousins drew the attention of the medical community to this phenomenon in his book *Anatomy of an Illness*, as noted above. His spinal disease left him in almost constant pain. But he quickly discovered while watching comedy films that belly laughter eased his pain. In his last book, *Head First: The Biology of Hope*, he noted that 10 minutes of belly laughter (just counting the laughing time) would give him two hours of pain-free sleep.

Dr. James Walsh, an American physician, noted in his 1928 book *Laughter and Health*, that laughter often reduced the level of pain experienced following surgery and appeared to promote wound healing, but medical researchers seem to have been unaware of Walsh’s observation. It was only after the publication of Cousins’ book that researchers began to study laughter’s ability to reduce pain.

Several studies have showed that watching or listening to humorous tapes increases the length of time individuals can endure having their hand in ice water before experiencing discomfort.³⁸ Amazingly, people who found the comedy material funnier were able to leave their hand in longer than those who found it less funny. Individuals who created humor more often themselves also showed reduced sensitivity to pain from the ice water, in comparison to those who created little humor.³⁹ The level of pain experienced during hydrotherapy (a very painful experience) by two young girls with burns was also found to be reduced by watching cartoons during hydrotherapy.⁴⁰

Having a good sense of humor may yield the same pain-reducing benefits provided by watching a comedy video. Using a procedure called transcutaneous end nerve stimulation to induce pain, individuals who watched a humorous video reported less pain than those who watched a nonhumorous video.⁴¹ But, those who watched the non-humorous video who scored high on a measure of sense of humor showed just as much resistance to discomfort and pain as did people who watched the funny video. So a good sense of humor does seem to help in managing pain.

“Humor is the instinct for taking pain playfully.” (Max Eastman)

A Japanese study showed that listening to an hour of traditional comic stories (Rakugo) reduced the level of pain experienced by rheumatoid arthritis patients.⁴² This is an especially important finding, since the symptoms experienced by these patients (as well as patients with multiple sclerosis and numerous other medical conditions) generally worsen in the presence of negative emotional states. Finding something to laugh at when you’re in pain can help reduce the pain at the same time that it substitutes a more positive for a negative mood and lifts your spirits. This may explain why rheumatoid arthritis patients who report more chronic pain also say they look for humor more often in everyday life.⁴³ They’ve learned that humor helps manage their pain.

Finally, a Swedish physician reported that six women suffering from painful muscle disorders got significant relief from pain through a 13-week course in humor therapy.⁴⁴ Throughout this period, they read funny books, listened to or watched funny tapes, and worked at “giving higher priority to humor in their everyday lives.” They also attended lectures on humor research. Those patients who laughed the most in group sessions showed the greatest symptom reduction.

There is also widespread anecdotal evidence that laughter can help manage pain. Norman Cousins once described in a speech how he, Dr. Carl Simonton, and Jose Jimenez (a comedian from the old *Steve Allen Show*) went to talk to a group of patients at a VA Hospital. Jimenez had them falling off their chairs laughing. The doctors later told Cousins that 85% of the patients had been experiencing pain when they entered the room. But the laughter reduced or eliminated the pain for most of them.

In a study of 35 patients in a rehabilitation hospital, 74% agreed with the statement, "Sometimes laughing works as well as a pain pill."⁴⁵ The patients had such conditions as traumatic brain injury, spinal cord injury, arthritis, limb amputations, and a range of other neurological or musculoskeletal disorders. Given the power of humor and laughter to reduce pain, it is not surprising that humor has been applied as a "treatment" in managing pain associated with burns and dental work,⁴⁶ and as a component of general nursing care.⁴⁷

Nurses often tell me they know a patient who tried Cousins' approach and found that it also reduced their pain. But not all who try it experience pain reduction. The reason for this inconsistency remains unclear.

"A clown is like an aspirin, only he works twice as fast." (Groucho Marx)

For those who do experience pain reduction following laughter, why does it occur? One possibility is distraction. Humor draws attention away from the source of discomfort--at least momentarily. The most commonly given explanation, however, is that laughter causes the production of endorphins, one of the body's natural pain killers. This explanation makes good sense, but as of 1998, no one has been able to demonstrate it with data. Investigators who have tried to show the endorphin-humor connection have failed to do so.⁴⁸

Regardless of whether laughter does or does not cause the release of endorphins into the blood stream, its ability to reduce pain is undoubtedly partly due to its reduction of muscle tension. Even brief relaxation procedures have been shown to reduce pain--both in laboratory and clinical settings.⁴⁹ Many pain centers around the country now use meditation and other relaxation techniques to reduce the level of pain medication needed by patients. Laughter is just one additional technique for achieving the same effect.

This muscle relaxation effect has its practical side in hospitals. Some nurses tell patients jokes before giving them shots, because they know it keeps them from tightening up their muscles in anticipation of the shot.

To give you an idea of Cousins' sense of humor, one morning a nurse brought in a specimen bottle (to obtain a urine sample), and left it on his breakfast tray. There was also a bottle of apple juice on the tray, so Cousins poured some of it into the specimen bottle and finished his breakfast. When the nurse returned, she held the bottle up to the light and said, "Hmmm, it looks a little cloudy today." Cousins picked it up and said, "Well then, let's run it through again." And he drank it! Since this story is widely shared, other patients have been known to try the same trick. If you try it, be sure to keep track of which bottle is yours!

On another occasion, Cousins was about to take a bath in a tub filled with an oily substance designed to ease some of his joint problems. He described it as "a cross between stale oatmeal and used crankcase oil." When the nurse left for a moment, leaving the bottle containing the oily stuff near the tub, Cousins poured most of it down the drain. When the nurse returned, he held up the bottle and said, "I'm terribly sorry, but I can't get the rest of this down."

Cardiac Exercise

Have you managed to avoid getting caught up in the jogging, aerobics, and jazzercise crazes of recent years? If you hate to work out, laughter may be the exercise program you've been looking for. It's fun, requires no special training, shoes, or clothes. You don't even have to leave your couch or office to do it. And it takes no extra time from whatever you're already doing.

Insert existing clip art image about here.
(See p. 11 of 2nd edition)

The next time you're having a good belly laugh, put your hand over your heart when you stop laughing. You'll see that your heart is racing, even after 15-20 seconds of laughter. It will remain elevated for 3-5 minutes. This has caused some to refer to laughter as "internal jogging." You can give your heart a good workout several times a day, just by laughing. One physician noted that his patients who say they laugh regularly have lower resting heart rates. While this is no substitute for real exercise, many seniors and bed-ridden patients don't have the option of other forms of physical exercise. For them, laughter is FUNdamental to good cardiac conditioning.

Other Benefits

Blood Pressure

Other physical health benefits may result from humor and laughter, but scientists have been very slow in looking for them. Laughter may turn out, for example, to help lower blood pressure. As your heart beats more rapidly during laughter, it pumps more blood through your system, producing the familiar flushed cheeks. Not surprisingly, blood pressure increases during laughter, with larger increases corresponding to more intense and longer-lasting laughs. If this were a lasting increase, it might point to a harmful effect of laughter. When laughter stops, however, blood pressure appears to drop below the level shown before the laughter started.⁵⁰ This drop below the pre-laughter baseline is short-lived, so it's not clear whether regular laughter helps keep blood pressure within manageable limits.

There is some evidence that the relationship between blood pressure and humor may be different for men and women.⁵¹ Women who score higher on measures of sense of humor have been shown to have lower blood pressure than low sense of humor women, suggesting that a good sense of humor does help protect them against hypertension. A better sense of humor in this study, however, did not reduce the amount of blood pressure elevation among women during stressful situations. Men with higher humor scores did not show the generally lower blood pressure levels showed by women, but a better sense of humor did reduce the extent of their blood pressure increase under stress. More research will be required to sort these differences out, but these findings indicate that humor does offer some protection against the harmful effects of elevated blood pressure for both sexes.

In connection with job-related stress, individuals in higher-level occupations may want to make a special effort to improve their humor skills, since recent research has shown that the amount of stress-related elevation in blood pressure appears to be greater among those with higher-level jobs.⁵² Among African Americans, hypertension was greater among higher-level occupations in general--regardless of the stress of the moment.⁵³

Respiration

Laughter triggers a peculiar respiratory pattern which offers health benefits for certain individuals. In normal relaxed breathing, there is a balance between the amount of air you take in and breathe out. The problem is that when you are not breathing deeply, a considerable amount of residual air remains in the lungs. When you're under stress, breathing becomes even shallower and more rapid, reducing the amount of oxygen taken in and producing a still greater amount of residual air. This breathing also occurs more from the chest, instead of the diaphragm. (Relaxation techniques emphasize the importance of breathing from the diaphragm.) As this residual air stays in the lungs for longer periods of time, its oxygen content drops and the level of water vapor and carbon dioxide increases.⁵⁴ The health risk here arises for individuals prone to respiratory difficulties, since

the increased water vapor creates a more favorable environment for bacterial growth and pulmonary infection.

Frequent belly laughter reduces this risk by emptying your lungs of more of the air that's taken in. When you laugh, you push air out of your lungs until you can't push out any more. Then you take a deep breath and start the same process all over again. Each time you laugh, you get rid of the excess carbon dioxide and water vapor that's building up and replace it with oxygen-rich air.

Hospitalized patients with respiratory problems are often encouraged to breathe deeply and exhale fully, but nurses have difficulty getting them to do so. Most patients enjoy a good laugh, though, so many nurses have learned to tell them a joke from time to time or give them a comedy tape to view.

Emphysema and other respiratory patients often have a build-up of phlegm or mucous in their respiratory tracts. Nurses try to get them to cough to loosen up and expel these substances, but they generally don't enjoy coughing, so the phlegm builds up. When they laugh, however, they inevitably start coughing, producing exactly the effect the nurses want--and the patients have a good time in the process.

Sedimentation Rate

One of the most interesting observations made by Norman Cousins' doctor following Cousins' use of humor and other positive emotions to fight his disease was that laughter reduced his sedimentation rate--an index of the degree of infection or inflammation in the body. Since Cousins' illness involved severe inflammation of the spine, his sedimentation rate was very high. His physician, Dr. William Hitzig, measured his sedimentation rate before and after rounds of hearty belly laughter while watching comedy films. He found that "just a few moments of robust laughter . . . knocked a significant number of units off the sedimentation rate. What to him was most interesting of all was that the reduction held and was cumulative."⁵⁵ Cousins noted that this reduced sedimentation rate was followed by increased mobility and reduced pain. Unfortunately, this is a single case, so there is no way of determining whether laughter really did cause the reduced inflammation. But Dr. Hitzig's observation is of such clear importance to medical research that it's surprising that investigators have not attempted to study it further.

Perceived Health

Another way to determine the relationship between humor and health is to simply ask people about their health. This generally is referred to as "perceived health." Both college students and older adults (55+) who report using humor more often as a coping style perceive themselves to be in better physical health.⁵⁶ A study of 36 executive women showed that those with higher scores on a measure of sense of humor reported fewer symptoms associated with physical health problems.⁵⁷ In the study of patients in a rehabilitation hospital described earlier, 94% of the patients indicated that when they laughed, they felt better.⁵⁸

Psychoneuroimmunology and Humor

The exciting new work being done on humor and health is part of a broader research movement in the health sciences focusing on the impact of the mind on the body. In fact, an entirely new area of medical research has developed in the past decade, with the unwieldy name of "psychoneuroimmunology." Every year, more and more studies demonstrate that your thoughts, moods, emotions, and belief system have a fundamental impact on some of the body's basic health and healing mechanisms.⁵⁹ One expert in the area, Dr. Ron

Anderson, noted in Bill Moyers' book *Healing and the Mind* that "There is no question that your body and mind tied together help you fight infection."

Whether or not you get sick depends on your body's ability to fight off infection and disease. In 1980 (prior to the discovery of the AIDS virus), the departing editor of the *New England Journal of Medicine*, Dr. Franz Ingelfinger, estimated that 85% of all human illnesses are curable by the body's own healing system. We've known for a long time that good nutrition, exercise, adequate sleep, avoidance of harmful drugs, and sanitary personal habits aide the body's ability to do this. We now know that building a positive focus in your life is equally important.

The body's healing system responds favorably to positive attitudes, thoughts, moods, and emotions (e.g., to love, hope, optimism, caring, intimacy, joy, laughter, and humor), and negatively to negative ones (hate, hopelessness, pessimism, indifference, anxiety, depression, loneliness, etc.). So you want to organize your life to maintain as positive a focus as possible.

This doesn't mean you should avoid negative emotions. You need to find ways to express whatever emotions you feel. Candace Pert, former Chief of the Section of Brain Biochemistry of the Clinical Neuroscience Branch at the National Institute of Mental Health, studies health influences at the neurochemical level. She noted recently that "repressing emotions can only be causative of disease."⁶⁰ Failure to find effective ways to express negative emotions causes you to "stew in your own juices" day after day, and this chronic immersion in negativity is what appears to produce harmful influences on health.

Surprisingly, negative emotions appear to have an enhancing effect on the immune system in the short run.⁶¹ So short-term negative emotional states do not pose a health threat. The threat comes when you get caught up in negativity as a habitual style. You need techniques that keep you from wallowing in resistance-lowering negativity. The longer negative states persist in your mind/body, the greater the likelihood that they will lead to some negative influence on your health. Love is probably the most powerful tool for overcoming negativity. Humor, in my view, comes a close second.

The mechanisms by which your mind promotes health and healing aren't yet fully understood (see the following section), but your body certainly knows what to do. All you have to do is set up the right conditions for the mechanisms to operate.

While the focus here is on humor, any effective coping skill will help sustain health and well being. One study showed that people who cope less well with life's stresses were three times more likely to contract the flu during a flu epidemic.⁶² This is not surprising, since poor copers have depressed levels of natural killer cell activity, while those judged to be coping well show higher levels of natural killer cell activity.⁶³

It's tempting to think that good coping skills are essential only for the big stressors in life. However, the way you handle minor daily hassles has been shown to be a better predictor of illness than the way you respond to less frequent major stressors.⁶⁴

Emotion: The Key to the Mind's Influence on Health

Candace Pert noted in Bill Moyers' *Healing and the Mind* television series that emotions--registered and stored in the body in the form of chemical messages--are the best candidates for the key to the health connection between mind and body. It is through the emotions you experience in connection with your thoughts and daily attitudes--actually, through the neurochemical changes that accompany these emotions--that your mind acquires the power to influence whether you get sick or remain well.

The key, according to Pert, is found in complex molecules called neuropeptides. "A peptide is made up of amino acids, which are the building blocks of protein. There are twenty-three different amino acids. Peptides are amino acids strung together very much like pearls strung along in a necklace."⁶⁵ Peptides are found throughout the body, including the brain and immune system. The brain contains about 60 different neuropeptides, including

endorphins. These neuropeptides are the means by which all cells in the body communicate with each other. This includes brain-to-brain messages, brain-to-body messages, body-to-body messages, and body-to-brain messages.

Individual cells, including brain cells, immune cells, and other body cells, have receptor sites that receive neuropeptides. The kinds of neuropeptides available to cells are constantly changing, reflecting variations in your emotions throughout the day. The exact combinations of neuropeptides released during different emotional states has not yet been determined.

The kind and number of emotion-linked neuropeptides available at receptor sites of cells influence your probability of staying well or getting sick. "Viruses use these same receptors to enter into a cell, and depending on how much of the . . . natural peptide for that receptor is around, the virus will have an easier or harder time getting into the cell. **So our emotional state will affect whether we'll get sick from the same loading dose of a virus.**"⁶⁶

This kind of conclusion from a researcher at the cutting edge of research on the mind/body connection should give you all the motivation you need to make the effort to improve your sense of humor. More humor and laughter in your life helps assure that these chemical messages are working for you, not against you.

"The chemicals that are running our body and our brain are the same chemicals that are involved in emotion. And that says to me that . . . we'd better pay more attention to emotions with respect to health."
(Candace Pert)

It was noted earlier that preliminary research suggests that humor/laughter stimulates the production of helper T-cells, the cells attacked by the AIDS virus. If humor were to help the body battle AIDS (there is presently no evidence that it does--or does not), it probably wouldn't be as a mere result of the production of more helper T-cells, since there would be every reason to expect these new cells to also be invaded by the virus. Rather, it would probably be due to the neuropeptides produced by the positive emotional state that goes along with humor and laughter.

Along these lines, Pert has noted that "The AIDS virus uses a receptor that is normally used by a neuropeptide. So whether an AIDS virus will be able to enter a cell or not depends on how much of this natural peptide is around, which . . . would be a function of what state of emotional expression the organism is in."⁶⁷

"This I believe to be the chemical function of humor: to change the character of our thought."
(Lin Yutang)

Research on the immune system supports this view. For example, negative emotion has been found to be associated with reduced salivary IgA response to a novel antigen,⁶⁸ lower serum antibody responses to Hepatitis B vaccine,⁶⁹ reduced proliferation of lymphocytes,⁷⁰ and reduced natural killer cell activity.⁷¹ Positive emotional states have similarly been linked to heightened immune response, both for IgA ⁷² and natural killer cell activity.⁷³

The research on the effect of other emotions on health will not be exhaustively reviewed here, but some of the major studies will be presented to show you that there is no longer any doubt that your daily mood or frame of mind makes a significant contribution to your health--especially when it persists day after day, year after year. Anything you can do to sustain a more positive, upbeat frame of mind in dealing with the daily hassles and problems in your life contributes to your physical health at the same time that it helps you cope with stress and be more effective on the job. Your sense of humor is one of the most powerful tools you have to make certain that your daily mood and emotional state support good health.

Negative Health Influences

Survival

On the negative side, researchers have known for a long time that your emotional state influences your odds of survival--at least under certain conditions. Several studies have shown that, among older people, the death rate for both men and women increases sharply following the death of their spouse.⁷⁴ The greater the level of depression experienced, the greater the impact on the surviving spouse's health.

All of us have down days where we feel blue or depressed. The point at which this becomes a risk factor is when it persists. One study showed that among a group of adults given a test for depression, those who died of cancer 17 years later were twice as likely to have had high depression scores (17 years earlier) than those who developed no cancer at all.⁷⁵ Another study showed that patients with AIDS Related Complex who had weaker beliefs that they could do things to influence the course of the disease were less successful in fighting off AIDS.⁷⁶ These studies suggest that, at least in some circumstances, persistent negative emotion can put you at greater risk of death.

Among patients with heart disease, those with a pessimistic outlook about their ability to recover enough to eventually resume their daily routine were more than twice as likely as optimists to have died one year later, even when severity of condition was taken into account.⁷⁷ Another follow-up study of patients recovering from heart attacks showed that those who scored high on tests of sadness and depression were eight times as likely as more optimistic patients to die within the next 18 months.⁷⁸ Risk of death was tripled both among those who tended to hold in their anger and those judged to be very anxious.

The researcher who conducted the latter study sees the importance of helping heart patients reduce their pessimistic outlooks and negative emotions, but concluded that "we don't know how to change negative emotions." By the time you finish reading this book, you will know how to do so--by improving your skills at finding and creating humor, especially in the midst of negative life circumstances.

"We're all in this together--by ourselves." (Lily Tomlin)

Symptoms

It is not surprising that the grief you feel after the death of a loved one can damage your own health. But even the commonplace bad moods and negative attitudes we all suffer can set us up for poorer health--if they occur day after day, month after month. This is difficult to document in research, but the herpes simplex virus (responsible for small ulcers, fever blisters, and cold sores around the mouth) provides a good way to demonstrate it. This virus, carried by about 1/3 of the U.S. population, normally remains latent, but persistent negative emotions can trigger an outbreak.⁷⁹ Pessimistic students, who can be expected to generally have more negative moods than optimistic students, have even been shown to develop more symptoms than optimistic students around exam time.⁸⁰ Pessimistic students also show more symptoms of illness over time than do optimistic students in the general population (i.e., regardless of their herpes simplex status), even when both groups start out equally healthy.⁸¹

In 1991, an article in the *New England Journal of Medicine* finally established that stress makes you more vulnerable to the common cold. However, your mood and coping skills also influence susceptibility to colds and the flu.⁸² One study showed that those with low morale, and who cope less well with stress, are three times more likely to catch the flu during a flu epidemic.⁸³

In the case of more severe illnesses, increased stress levels among coronary heart disease patients have been shown to increase the level of angina pectoris experienced.⁸⁴

Multiple Sclerosis is a good example of a disease known to incur exacerbations or worsening symptoms in the presence of negative emotional states. Anything MS patients can do to sustain a positive frame of mind on a day-to-day basis helps keep these exacerbations from occurring. One man who had difficulty controlling his shaking hand told me, "MS also has its good points; I never have to worry about stirring my coffee anymore."

In summarizing the entire field of research in this area, Blair Justice concluded in his book, *Who Gets Sick*, that while there are many exceptions, the general rule is that "Those who get sick the most seem to view the world and their lives as unmanageable."⁸⁵ What better reason could there be to learn to manage the stress in your own life more effectively? Your sense of humor makes life more manageable at the same time that it adds more joy and fun.

People who are chronically prone to depression, anger, or anxiety over the course of their lives have a greater risk of disease.⁸⁶ There is a growing conviction among many researchers that this increased susceptibility to disease is at least partly a result of the suppressive effects of negative emotions upon the immune system, although the disease that appears depends on specific vulnerabilities, health-related habits, and family history.

Generally speaking, you're most likely to become ill in response to stress if your immune system is already compromised. For example, since the immune system becomes weaker as you get older, senior citizens are more vulnerable to stress-related illness. Clearly, any tools which these individuals can acquire to help manage negative emotions should also help protect them against disease.

Finally, there is now ample evidence that mental factors influence the mechanisms which mediate pain. Many patients say that their pain is worsened when they feel depressed or when things seem hopeless. It is reduced, on the other hand, when they're distracted or doing something enjoyable. One researcher concluded that "thoughts and emotions can directly influence physiological responses--including muscle tension, blood flow, and levels of brain chemicals--that play important roles in the production of pain . . . Psychological factors can also indirectly influence pain by affecting the way you cope with it."⁸⁷ New techniques for managing pain are designed to help reduce the occurrence of stress-increasing thoughts, emotions, and behaviors, because this serves to reduce the pain experienced. One of these techniques--the most enjoyable one--is humor and laughter.

Positive Health Influences

Survival

On the positive side, one important study showed that among a group of individuals 65 and older, those who were optimistic about their health, in spite of lab tests that showed them to be in poor health, had lower death rates over the next six years than those who were pessimistic about their health, in spite of health records which documented that they were in good health.⁸⁸ Optimism, in this case, became a self-fulfilling prophecy, leading individuals in relatively poor health to fare better than their healthier, but pessimistic peers.

The most dramatic evidence of the impact of a positive attitude on health comes from studies of survival rates of cancer patients. For example, among patients with metastatic (spreading) cancers, those who expressed greater hope at the time of their diagnosis survived longer.⁸⁹ In another study, over 400 reports of spontaneous remission of cancer were reviewed and analyzed. The patients themselves attributed their cure to a broad range of causes, but only one factor was common to all cases--a shift toward greater hope and a more positive attitude.⁹⁰

One clinician traced unexpected tumor shrinkage to favorable changes in the psychosocial situation of the patient. Examples of such changes include "a sudden fortunate marriage; the experience of having one's entire order of clergy engage in an

intercessory prayer; sudden, lasting reconciliation with a long-hated mother; unexpected and enthusiastic praise and encouragement from an expert in one's field; and the fortunate death of a decompensated alcoholic and addicted husband who stood in the way of a satisfying career."⁹¹

Norman Cousins described the preliminary findings of a national survey of oncologists, completed during his stay at the UCLA Medical School. Of the 649 who offered their opinions on the importance of various psychosocial factors in fighting cancer, "More than 90% of the physicians said they attached the highest value to the attitudes of hope and optimism."⁹²

All of these findings are consistent with the findings of a recent study showing that method actors asked to generate the emotion of joy within themselves showed an increase in the number of natural killer cells circulating in the blood stream within 20 minutes.⁹³ Once they got themselves out of this positive state, their levels of natural killer cells quickly dropped again.

There have always been doctors who have emphasized the importance of a "will to live" in fighting serious diseases. Most recently, this banner has been carried nobly by Dr. Bernie Siegel, who emphasizes the importance of hope, determinism, optimism, and a "fighting spirit" among patients who are battling cancer. Research now supports this view, so it is important that doctors, nurses, and family members associated with people who are ill make an effort to support the development and maintenance of a positive outlook in the patient.

Evidence of the importance of a fighting spirit was obtained in another study of cancer survivors.⁹⁴ Cancer patients with a fighting spirit were most likely to be long-term survivors, and have no relapses. Short-term survivors were more likely to show a "stoic, stiff upper lip attitude," and to continue their lives either as if nothing were different, or with a sense of helplessness or hopelessness.

"If I'd known I was going to live this long, I'd have taken better care of myself."

AIDS patients with a more optimistic outlook have also been shown to survive longer,⁹⁵ as have men suffering heart attacks.⁹⁶ In describing preliminary findings from a study of AIDS survivors completed at the UCLA Medical School, Cousins reported that "the refusal to accept the verdict of grim inevitability" is one of the traits that characterizes AIDS patients who live long past the time predicted for them.⁹⁷ All of these findings clearly support the idea that positive beliefs, attitudes, and emotions contribute to your survival. And your sense of humor helps maintain this positive focus on a day-to-day basis.

Symptoms

A generally positive and optimistic attitude also reduces the severity and frequency of occurrence of symptoms. For example, college students with a more optimistic outlook on life were found to be in better physical health (as determined by their physicians) than their more pessimistic peers two decades later.⁹⁸ More optimistic students also had fewer sick days (e.g., due to colds and flu) in the month after optimism levels were determined and fewer visits to the doctor during the following year (even when initial health status and level of depression were controlled for).⁹⁹

Attitudinal and emotional factors have even been linked to wound healing. For example, more optimistic patients showed the most rapid healing following an operation for a detached retina.¹⁰⁰ Consistent with this finding, one investigator concluded, following a thorough review of research in psychoneuroimmunology, that positive emotions facilitate the healing of wounds.¹⁰¹ He felt that they did this by disrupting the production of

neurotransmitters, hormones, and other substances which interfere with certain steps of the healing process.

Evidence is also emerging to show that hope, like optimism, contributes to improvement of symptoms. For example, among spinal injury patients with comparable injuries, those who expressed greater hope for improvement became more mobile and coped better emotionally than those who saw their situation as hopeless.¹⁰²

In a study of men with HIV infection, meetings were arranged twice a week to practice relaxation methods and talk about coping with the problems confronting them. Early results showed that these procedures delayed the onset of more serious AIDS symptoms, strengthened the immune system, and boosted the men's emotional resilience.¹⁰³

Apart from love, there is no better tool for maintaining a positive, optimistic frame of mind in the midst of serious illness than your sense of humor. That is one reason why many hospitals now make an effort to build humor into the health care setting (see discussion below). The problem, of course, is that it is impossible to have access to your sense of humor when you are ill if you haven't cultivated it when you're healthy and in good spirits. If you begin building your humor coping skills now, you'll have them when you really need them.

Do People with a Good Sense of Humor Get Sick Less Often?

We have seen that humor and laughter positively influence our body in ways that should sustain health, but little research has been done on whether a better sense of humor actually helps keep you from getting sick. However, since people with a better sense of humor have higher IgA levels, and those with higher levels of salivary IgA are less likely to get colds ¹⁰⁴ or be infected with Streptococcus,¹⁰⁵ humor should reduce the frequency of colds.

The only study to directly examine this question found that the impact of one's sense of humor upon colds depends on the kind of sense of humor you have.¹⁰⁶ It was only individuals whose sense of humor took the form of seeking out and appreciating humor who had fewer and less severe colds/flu than their low humor counterparts. Surprisingly, those whose sense of humor took the form of initiating humor more often did not have fewer or less severe colds/flu. The researchers argued that being a person who likes to tell jokes or otherwise initiate humor takes them into more frequent contact with other people, which serves to expose them to infectious agents more often, robbing them of the advantage that a more active sense of humor otherwise offers. Obviously, more research is required to clear up this confusing picture.

The importance of active use of one's sense of humor in producing humor's health benefits was confirmed in another study in an unusual way. It found that among a group of mothers with newborn infants, those who actively used humor to cope with the stress in their lives had fewer upper respiratory infections--and their infants also had fewer infections.¹⁰⁷ This seemed to be because these mothers had higher levels of immunoglobulin A in their breast milk. Consistent with this finding, another study showed that mothers with low levels of IgA at the time of birth had babies who showed more illnesses in the first six weeks postpartum.¹⁰⁸ So breast-feeding mothers now have all the more reason to build plenty of laughter in their life every day.

Among adults, if we look at bodily symptoms alone, independent of any diagnosed illness, there is some evidence that individuals who have more negative reactions to humor (finding a lot of different types of humor aversive or objectionable) report more bodily symptoms and complaints.¹⁰⁹ Students complaining of cardiovascular symptoms and gastroenterological symptoms also have been shown to have this more negative reaction to humor.¹¹⁰

Coronary heart disease (CHD) has long been linked to the so-called Type A personality. One pair of researchers observed over 25 years ago that only type B individuals use humor as a coping tool in dealing with stress and hostile feelings.¹¹¹ Hostile humor has also been found to be the main kind of humor enjoyed by Type A patients, while Type B patients enjoy non-hostile as well as hostile humor.¹¹² This is consistent with the findings showing a close relationship between hostility and heart disease. While laughter at hostile humor must provide some of the benefits described above for CHD-prone individuals, those benefits are clearly not enough to offset the bodily effects caused by hostility to begin with. Developing non-hostile aspects of one's sense of humor to counteract this effect is essential for Type A individuals.

The Humor-in-Hospitals Movement

Chances are that you have never been in a hospital with a "humor program." The very idea of humor in hospitals may even strike you as an oxymoron (like "giant shrimp," "smart bombs," "military intelligence," etc.). If ever there were two things that don't go together, it's humor and hospitals. After all, hospitals are places for the very sick.

The last decade, however, has witnessed a (slowly building) revolution in health care, as more and more hospitals become convinced of the therapeutic power of humor. The humor-in-hospitals movement has also gained support because of the trend toward depersonalization in hospitals in recent years, as focus has shifted away from the person and toward application of the latest technology. Patients now want a more personalized relationship with caregivers, and humor helps establish it.

Patients generally arrive at hospitals in a state of stress and anxiety, are placed in a strange environment, submitted to degrading and embarrassing procedures by people they don't know, have their independence and sense of control removed, and don't always get the kind of explanations that they would like. Humor provides a means of establishing a more personal relationship with hospital staff, easing tensions and anxiety, and helping patients cope. The nurse who maintains a high level of competence, but also has a "light touch," has an extra means of saying, "I care."

Many nurses and hospital administrators are concerned that patients will perceive them as unprofessional, and as unconcerned about their health problems if they show a sense of humor while interacting with patients. There is evidence, however, that patients welcome the opportunity for humor and laughter during their hospital stay. The figures in brackets indicate the percentage of patients in one study who agreed with the following statements: 1) "Nurses should laugh more often with patients" [80%], 2) "Nurses should try to get their patients to laugh" [83%], 3) "Laughing helps me get through difficult times" [83%]. The following statements generated strong disagreement by the same patients: 1) "Nurses who laugh with patients are unprofessional" [94%], 2) "Nurses who laugh are insensitive to patients who are suffering" [91%], 3) "Laughter does not belong in a rehabilitation hospital" [89%].¹¹³

Types of Hospital Humor Programs

The best known approach to bringing humor and laughter to hospital settings is the use of clowns. Many hospitals now have volunteer clowns who visit patients in their rooms in order to boost their spirits and distract them from their anxieties and concerns. The Big Apple Circus Clown Care Unit was initiated in 1986, and has spawned many comparable clown units across the U.S. and around the world (e.g., the Fondation Theodora in France).

The power of clowns is evident in the following example provided by a clown from the Big Apple Circus. An 11-year-old boy had been doused with gasoline and set on fire by an older boy.

"He was conscious, but in terrible pain with major burns over more than half of his body. I went right into emergency with him. When the surgeons began cutting away dead flesh, I began telling funny stories and promising circus tickets and making scarves appear and disappear--anything to keep his mind off the agony. Pretty soon he was rolling his eyes in amazement and finally I got him laughing behind his medical mask. It was incredible. He was staring death in the face--and he was having fun!"¹¹⁴

Another common approach to building a lighter touch into hospitals is to create a "humor cart." This is a cart which can be wheeled into patients' rooms, and which contains funny audio and video tapes, books of cartoons, games, funny props, etc. Several hundred hospitals around the country now have humor carts. Volunteers from the community often take responsibility for these programs.

A few hospitals have entire rooms devoted to fun and humor for ambulatory patients. These rooms are given such names as "The Lively Room," "The Living Room," or simply "The Humor Room." Sunnyview Rehabilitation Hospital, in Schenectady, New York even has a full-time humor coordinator, whose job is to be sure humor is made available to all of those patients who want it.

One of the first humor rooms was established at St. Joseph's Hospital in Houston. Representatives of this program have expressed their belief that the program leads to shorter hospital stays for many patients. The head nurse observed that some patients are able to reduce their pain and nausea medications following a visit to the humor room.

I know of one hospital which has a humor program built into its pediatrics department. The hospital recently was short of beds for adults, so a 70-year-old cancer patient was forced to stay in pediatrics for nearly a week. While he came in depressed, he had such a good time during his stay that when he was later re-admitted to the hospital, he specifically asked for a room in pediatrics.

One of the most effective means of making the therapeutic benefits of humor available to patients is through the daily interaction with hospital staff. Nurses and other staff members can have a powerful impact on patients' mood by bringing an occasional laugh to patients as they do their jobs. The Humor Skills Training Program provided in this book will help nurses find their own style of bringing humor to the bedside.

For a detailed discussion of guidelines for appropriate and inappropriate uses of humor in hospital settings, see a recent article in RN Magazine.¹¹⁵

SMILE: A New Approach to Personalizing Humor Intervention Programs

If humor does have the power to reduce patient tension and anxiety, help cope with the life circumstances that result from a serious illness, and even promote healing, these benefits should be maximized when the humor made available to patients is the kind of humor they especially enjoy. For example, evidence presented in the next section shows that the amount of reduction of pain medication requested following watching comedy films was greater when patients were able to choose the films watched (presumably, they chose films that were funnier to them). A software package has recently been developed in order to help hospitals and other organizations provide a personalized humor prescription to patients.

Insert clown image about here

We will discuss the best way for you to transfer the image into your system.

One option is to lift it from my web site at www.LaughterRemedy.com.

(Look under Products.)

The system is called SMILE, which stands for “Subjective Multidimensional Interactive Laughter Evaluation.”¹¹⁶ Patients complete a brief survey which touches on their recent emotional state, stress levels, support system, judgment of how well they’re coping, attitudes toward humor, and more. The survey also obtains information on their favorite print cartoons, comedians, sit coms, etc. The computer provides a written summary of the information provided by the patient, including a specific recommendation of the kinds of humor and humorists preferred. This allows hospital personnel (usually volunteers) to provide comedy videos, cartoon books and other forms of humor which precisely match each patient’s unique sense of humor.

One of the questions in SMILE asks whether the patient would welcome a more humorous style of interaction from nurses and other staff. If they say yes, a clown sticker (the image shown above) is placed on their chart (or on the door to the patient’s room), so that staff can tell at a glance that it’s ok to laugh and share humor with this patient.

Impact on Patient Outcomes

The main purpose behind the addition of therapeutic humor programs to hospitals is to provide a positive counter-weight to the negative circumstances that have brought patients to the hospital. But in the current climate of rising healthcare costs, it’s also important to consider whether humor has any effect on recovery rate or other measures of improvement of one’s condition. Since more work has been done on other mind-body approaches than upon humor, they will be discussed first.

Other Mind-Body Approaches

In one analysis of 191 different studies (involving 8600 patients), a wide range of mind/body interventions before and after surgery (e.g., guided imagery, hypnosis, relaxation procedures, biofeedback and giving information) were found to be effective in improving surgery outcomes. “These interventions have been shown to work for virtually every imaginable kind of surgery--from back surgery to coronary-bypass operations to cancer resections.”¹¹⁷

Since most health management systems are concerned about length of hospital stays, it is important to note that one analysis of 13 different studies showed that “psychosocial interventions reduced hospitalization by an average of 2.4 days . . .”¹¹⁸ A different analysis of 102 studies showed that 79% of them revealed a shorter length of hospital stay because of the mind-body procedure used.¹¹⁹

The most effective of the various procedures used over the past two decades involve what have been called “psychoeducational interventions.” These involve providing patients health-related information about their condition and surgical procedure, as well as some kind of skill or exercise that helps them reduce pain or cope better.

In one analysis of 102 different studies, such interventions were found to have a significant positive impact on recovery rate, pain reduction, psychological well-being and satisfaction with care. This was found for abdominal, thoracic, orthopedic, gynecologic, cancer, and eye-ear-nose-throat patients.¹²⁰ An especially strong effect was found for the ability of these mind-body procedures to reduce medical complications and reduce the number of days after discharge before resuming normal activities. In a 1998 review of all the research in this area, Henry Dreher concluded that in addition to providing preparatory information about the upcoming surgery, the provision of coping and rehabilitation skills plays a key role in the gains shown.¹²¹ Relaxation techniques alone showed only mixed success, in spite of the fact that they are one of the most popular approaches used in many healthcare settings.

Hospital Humor Programs

In spite of the large number of hospitals around the world which have adopted clown visits or other types of therapeutic humor programs for patients, there has been little attempt to document their impact on such measures as speed of recovery, postoperative pain or wound healing. Hospitals have simply adopted humor programs because they can see from their own experience that these programs work in helping patients cope. If it saved the hospital money, that would simply be icing on the cake.

As indicated earlier, Dr. James Walsh noted 70 years ago that laughter appeared to promote wound healing. Recent research in psychoneuroimmunology has confirmed this finding for positive emotion in general. One researcher has suggested that it may not be so much what positive emotion does that is the key, but what it prevents.¹²² He feels that the effect may be due to the disruption of production of neurotransmitters, hormones and other substances (associated with stress and negative emotion) which interfere with the healing process.

Humor's power to speed up wound healing may be due to its capacity to lower blood levels of cortisol (see section on stress hormones), which can suppress natural killer cell and lymphocyte activity and suppress the production of antibodies. This possibility is supported by a study in which surgical patients were given training in guided imagery and relaxation. It showed that these patients had more rapid wound healing than a control group, and also had lower post-surgical levels of cortisol.¹²³

Several studies (discussed above) have documented humor's ability to reduce pain in many patients. In one study, patients were shown either comedy or serious movies (one in the morning and one in the afternoon) on two consecutive days following orthopedic surgery. In comparison with the serious movie, those who watched the comedies requested 61% less "minor" pain medication (aspirin and mild tranquilizers) over the next two days.¹²⁴

Surprisingly, among those who watched the comedy films, the amount of major pain medication requested depended on whether patients were able to choose the funny movie they watched. Those who were able to choose movies that were funny to them requested less major pain medication than those who were presented a movie to watch without choosing. According to the researchers, "This unanticipated result is probably due to the fact that humor preferences are idiosyncratic, and few things are as irritating as being exposed to material that fails in its attempt to be funny. From an applied standpoint, our results suggest that care should be taken to determine a patients' humor preferences before humor is introduced into a hospital setting." The SMILE software described above is ideally suited to do this.

Among a group of elderly residents who suffered chronic pain in a long-term care facility, watching a 20-minute comedy program 3 days a week for 6 weeks significantly reduced the amount of pain medication requested during this period.¹²⁵ This reduction was, not surprisingly, accompanied by a more positive mood.

The research on blood pressure suggests that humor will help many patients keep blood pressure down as they prepare for stressful medical procedures. It may even help reduce inflammation levels (see section on Sedimentation Rate).

Nurses have tremendous power to boost the spirits of their patients. And this, in turn, helps patients mobilize their own natural healing resources. If you are a nurse, you can use humor to help your patients cope. The catch is, of course, that you must first improve your own humor skills. Many nurses around the country are already transferring the benefits of the 8-Step Program to their patients. One nurse told me that her favorite line is, "I was going to tell you a joke, but I can see you're in stitches already."

Patients say that humor and shared laughter help raise their spirits, and take their minds off their illness and problems. In some cases, patients regularly exposed to hospital humor also leave the hospital earlier than they would normally be expected to. I know of a cancer center in Florida where the patients have such a good time while undergoing treatments that they often go back for visits long after their disease is in remission.

One physician observed that patients with spinal cord injuries who were able to laugh about their circumstances were much better at absorbing and dealing with the humiliation and frustration they often felt. They also had fewer complications than patients who were unable to find a light side of their condition. This doctor is convinced that humor and laughter play an important role in their recovery.

“Have you ever been treated by a doctor for this condition?”

“No, they always make me pay.”

Sign in a doctor’s office: “Amnesia patients must pay in advance.”

Many hospital staff are convinced that while humor helps both staff and patients relieve some of the tension that builds up, it also adds a more human touch to the hospital experience. The important point for you to consider is that if health care experts all over the country now see enough therapeutic value in humor to build it into hospital settings, it's certainly worthwhile to improve your sense of humor so that you can get this therapeutic effect into your own life every day. It will help you remain healthy, and support your recovery when you do get sick.

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