Chapter 3  The Disease-Prone Personality

The Disease-Prone Personality

Genetics. Just as much evidence indicates that genetics could determine personality, scientists have learned over the past few years that numerous personality traits, even social attitudes and political beliefs, are at least half determined by genetics. According to Duke University's Redford Williams, the traits applicable to Type A personality "have all been found to show strong, clear-cut genetic influences."

Researchers who have attempted to determine the role of genetics in personality formation have generally used twins as study subjects. One such study involved more than 100 pairs of twins living in the Philadelphia area. After studying a number of traits as well as a variety of physical characteristics, it was concluded that some of the physical characteristics, the Type A behavior pattern, and some of the traits that accompany the Type A personality were determined by genetics.

What exactly is inherited? Part of the answer seems to be related to the same neurochemical inheritance that characterizes depression and anxiety (deficient serotonin neurotransmitter function in the brain). The more toxic Type A characteristics are more common in families with inherited vulnerability to these anxiety and depression disorders, and treatment with medication (or exercise) that corrects the serotonin neurotransmitter deficiency reduces Type A behavior.

Characteristics of the Coronary-Prone Personality

Type A is not so much a specific personality style as it is a set of behaviors. Those behaviors are related to exaggerated neuroendocrine responses that then produce the characteristic behaviors (such as time urgency, hostility, and anger).

Friedman, who originated the concept, says that there are five basic characteristics of the Type A personality. One is free-floating hostility, part of the toxic core that will be discussed in greater detail later. The other four characteristics are insecurity of status, hyperaggressiveness, sense of time urgency, and the drive to self-destruction.

Behaviors That Are Probably Harmless

Type A's never slow down; they eat, walk, and talk quickly. Type A's are extremely time conscious; they hate to be late, and they hate to be kept waiting. Standing in line is extremely annoying to a Type A personality. In research, Type A personalities have expressed the notion that success comes...
from doing things quickly. They feel guilty when they are relaxing. In fact, they can't even relax when they are supposed to relax. Even on vacation, they feel a pressing need to be in motion, to be doing something they believe to be useful, instead of just “lying around.”

Typical Type A personalities almost always try two or three things simultaneously. A Type A executive, for example, eats a sandwich at his desk while talking on the phone to a colleague and filling out a monthly sales report. Another Type A washes dishes while she watches a television program and talks on the phone to a friend.

Type A personalities are extremely competitive and tend to “keep score” of even insignificant and trivial situations. Almost everyone is competitive when it comes to professional sports or a highly sought-after promotion, but a Type A personality acts that way even in a game of checkers with a child. Extreme Type A's compete when there's nothing to compete for and no one to compete against. They simply have to be the fastest, the smartest, the brightest, and the best.

A key characteristic of Type A behavior pattern is aggression and an aggressive style of speech. Other Type A characteristics include an insatiable drive for success, high ambition, impatience, insecurity, and a constant drive to control others and the environment. Type A personalities tend to set unrealistic goals, and they tend to use other people to achieve their goals. Many are selfish, easily bored, compulsive, and unobservant. Many Type A personalities live dangerously, and with time and fatigue, they may develop a tendency toward self-destructive behavior.

Insecurity of Status
Occasionally, people who exhibit Type A behavior are truly caught in a position that demands superhuman efforts much more frequently, however, their careers or family demands are no different than those of others. According to Friedman, Type A's struggle ceaselessly and senselessly to accomplish more and to involve themselves in more, not because demands are being placed on them but because they are placing the demands on themselves. Friedman theorizes that the typical Type A struggles because of a hidden lack of self-esteem and a need to prove him or herself.

Friedman, who has studied a number of famed Type A personalities, found that most of them—including the presidents of huge corporations, bank executives, distinguished military officials, presidents of universities, film stars, and even presidents of the United States—had hidden insecurities. To make up for those insecurities, to soothe their fears about themselves, they dived in with both feet, working furiously to immerse themselves in important and prestigious activities.
Hyperaggressiveness

Ordinary aggression denotes a desire to compete and win, a wish to achieve. Hyperaggression—excessive aggression—is different: It is marked by a ruthless, driving desire to prevail and to dominate at all costs, totally disregarding the feelings or fundamental rights of others. In some cases, it even involves an attempt to destroy the self-esteem of others, an emotional drive that aims to strip others of their security.

Type A's at risk play games not for the enjoyment or the leisure, but to win. They are not merely satisfied with winning, either; they must prove all other players to be worthless and stupid. Someone once said that an aggresive Type A personality couldn't even play a game of Scrabble with a group of children without soundly defeating all of them.

Sense of Time Urgency

The sense of time urgency manifest in Type A personalities comes from the desire to accomplish too much in too short a time. The Type A is forever setting unrealistic deadlines, vowing to accomplish too much or an unrealistic number of things, and constantly volunteering to take on even more tasks in the face of near-total exhaustion. The Type A personality copes with the incredible pressure of hurry sickness by speeding up all activities and trying to think of or do more than one thing at a time.

Type A personalities walk faster, talk faster, drive faster, eat faster, read faster, and move faster than their more easygoing counterparts. They will do almost anything to avoid waiting in a line, even a short line at a restaurant, a bank, or a ticket counter. They become hostile and irritated if they have to wait for five minutes at the dentist's office; they bristle with anger if a business associate does not arrive for their lunch appointment at precisely the prearranged time.

When they can no longer speed up, Type A personalities often cram their waking hours with accelerated thoughts, plans, and activities. Still not convinced that they are making the most of their time, they try to think about or do two or more things at a time. Such "polyphasic" activity, involving mental time-sharing (the flitting back and forth between subjects), has been shown to induce distress.

The Drive to Self-Destruction

Many Type A's, even the good-natured, optimistic ones, seem to harbor an unconscious drive to self-destruction. Friedman uses the example of a powerful head of an international corporation who failed to file income tax returns year after year, was finally caught, pleaded no contest, and was forced to resign from his position. His excuse was that he had no time to fill
out the forms. Those who worked with him, however, suspected that the stress and strain of the position caused the executive to do something that would give him a release. Another example is President Richard Nixon. Henry Kissinger, who served in Nixon's cabinet and became one of his closest advisors, commented, "It was hard to avoid the impression that Nixon, who thrived on crisis, also craved disasters."

Friedman began to interview heart attack victims during recovery and convalescence. He was startled to learn that more than half had expected the heart attack before it ever occurred—and that they had, in fact, yearned for it. For some, it was the chance to finally be released from the cycle of stress and pressure; for others, it was a chance to at last lay quietly in a hospital bed and concentrate on only one thing: getting better.

The "Toxic Core" of Type A Behavior
The hurry-sickness attributes of a Type A personality are probably the best known, but they are also the least detrimental to health. The second-generation studies found some behavior elements far more dangerous than others. The set of traits that creates major health risks for the Type A personality—called the "toxic core"—consists instead of hostility, anger, cynicism, suspicionsness, and excessive self-involvement.

Free-Floating Hostility. Free-floating hostility is a permanent, deep-seated anger that hovers quietly until some trivial incident causes it to rupture to the surface in a burst of hostility: it is the tendency to experience anger, irritability, and resentment in response to even common events and to react with antagonism and disagreeableness. Detailed research shows that there may actually be two separate components to free-floating hostility:65

- Expressive hostility, characterized by frequent expressions of anger and annoyance, the tendency to argue in a loud voice, and the potential for physical aggression when provoked.
- Neurotic hostility, characterized by chronic anger, low trust, and hostility that is not openly expressed; by itself, neurotic hostility has not been shown to increase the risk of heart disease, but in combination with expressive hostility it is a potent factor in heart disease.

Researchers Margaret Chesney, Nanette Frautschi, and Ray H. Rosenman believe that Type A persons often have an "enhanced potential for hostility."66 This potential can be created by either genetic or learned factors. Because the enhanced potential is chronic, or ever present, even minor irritations or upsets can trigger a hostile rage. Type A's who have free-floating hostility react with seething anger and dwell on the objects of their despis-
In a report published in *Psychology Today*, the kind of personality Williams describes as being at highest risk is “deeply suspicious. They feel that they must remain constantly on guard against others, whom they believe are dishonest, antisocial, and immoral.” The Duke University team of researchers claims that this kind of hostility predicts not only blockages in the coronary arteries, as measured by X-ray studies of patients suffering chest pains, but also death from heart disease and other causes.

Psychologist Timothy Smith of the University of Utah reported to the 2004 Society of Behavioral Medicine meeting that couples with no history of heart disease developed the early signs of disease if they were hostile and domineering in their interactions—even those over things as basic as household chores, in-laws, money, and children. Smith’s research showed that those who were hostile began developing calcium deposits in their coronary arteries—an early sign of arterial damage. The more hostile and strained their relationship, Smith says, “the more severe this silent atherosclerosis tended to be.”

Part of the reason why hostile Type A personalities run a greater risk of heart disease is that they more frequently trigger the cascade of potentially damaging hormones that are released as part of the fight-or-flight response. As Williams puts it, “Trusting hearts may live longer because for them the biologic cost of situations that anger or irritate is lower.”

Another reason hostility may be correlated so strongly with heart disease is that people who are hostile tend to drive others away, and social support, social networking, and social integration have been repeatedly proven to be strong protectors of health.
In summing up the importance of hostility as a toxic component of Type A personality, Williams says that the coronary-prone hostile personality has three parts: cynical mistrust of other people’s motives, frequent feelings of anger, and aggressive expression of hostility toward others without regard for their feelings.72

Anger. Another part of the toxic core of the Type A behavior pattern is anger, defined by researchers as “an emotional state incorporating feelings ranging from irritation and aggravation to rage and fury.”73 (Anger is often confused with hostility, which is an habitual way of evaluating people or events in a negative, cynical, paranoid way.) Researchers believe that the powerful combination of hostility and unexpressed anger carries the greatest risk of heart disease.

The particular combination is deadly, say researchers, and it appears to have a much greater impact on health than any single factor. “It isn’t the impatience, the ambition, or the work drive,” says Redford Williams, explaining the health risk of Type A personality. “It’s the anger: it sends your blood pressure skyrocketing. It provokes the body to create unhealthy chemicals. For hostile people, anger is poison.”74

The greatest risks, researchers believe, are from hostility paired with unexpressed anger, or “anger-in,” a specific way of reacting to the people or situations that make a person angry. People who harbor unexpressed anger are not able to express their angry feelings, even when those feelings are appropriate or justified.

There is some disagreement among researchers about the dangers of suppressing anger. In the Western Collaborative Group Study, the men most likely to have a heart attack were the ones who became angry and “blew up” more than once a week. Another study conducted at the University of Michigan School of Public Health measured the way that “cool reflection,” suppression of anger, and expression of anger affected blood pressure, and determined that the healthiest approach was “cool reflection”: acknowledging the anger but not expressing it with verbal or physical hostility.

It appears that just the presence of ongoing anger may be more important than how it is expressed; thus, cognitive therapy approaches that simply allow the anger to dissolve so it no longer needs to be expressed may be valuable.

Cynicism. Cynicism, anger, and hostility are closely related emotions: As Redford Williams describes it, cynical mistrust of others is the driving force behind hostility. It almost starts a chain reaction, he explains:

*Expecting that others will mistreat us, we are on the lookout for their bad behavior, and we can usually find it. This generates the frequent anger to*
which the hostile person is prone, and that anger, combined with a lack of empathy for others—a natural consequence of the poor opinion we hold of others in general—leads us to express our hostility overtly, in the form of aggressive acts towards others.75

When cynicism is paired with hostility, the effects can be devastating to health. In one experiment, Duke University Medical Center researchers asked a group of college students (some of whom were hostile and some of whom were not) to solve a difficult series of scrambled word puzzles. Physiological responses, such as blood pressure, were measured during the experiment.

At the end of the first part of the experiment, researchers found that there was no difference between the two groups as they were doing the puzzles. Then they added another factor designed to separate students who were also cynical: Researchers stood over the students while they were doing the puzzles and made snide remarks like “Stop mumbling; I can’t understand what you are saying” and “Remember, you’re getting paid to do this.”

Once the element of harassment was added, the students who were cynical showed sharp differences in physiological responses. They had higher blood pressure, higher blood flow, and more anger while they were doing the puzzles and being harassed, and their blood pressure remained high for fifteen minutes after they did the puzzle. Researchers attribute the changes in the cynical students to the fact that hostile people “view other people’s actions and motives very cynically. They thought the researchers were ‘out to get them,’ felt threatened, and reacted, while low hostiles did not perceive the researchers’ actions as a personal attack.”76

Suspicousness. Suspicousness is a trait closely allied to cynicism. In a study at Duke University’s Center for the Study of Aging and Human Development, researchers noted that “people who are suspicious are constantly on guard, and there’s evidence to suggest that this may raise levels of potentially harmful stress-induced hormones in the blood.”77 In the same study, those who scored high on a test of suspiciousness were significantly more likely to become ill and die during the fifteen years the study was conducted. The greater risk for illness and death due to suspiciousness held up even after researchers took into account other risk factors, such as age, sex, physician rating of functional health, smoking, cholesterol, and alcohol intake.78

In a separate study, Friedman and Rosenman studied 1,990 middle-aged men who had not yet developed coronary heart disease. Each man was given the Minnesota Multiphasic Personality Inventory as well as a
questionnaire that evaluated sixteen personality factors. The study subjects were then monitored for five years to determine which ones became ill or died. Those most likely to develop coronary heart disease were the suspicious ones.

**Excessive Self-Involvement.** One of the most interesting theories about Type A behavior and the potential link to heart disease points to a personality trait that researchers think is a killer: excessive self-involvement. A person whose language is excessively peppered with references to I, me, mine, and other self-references seems to be at the greatest risk of all for coronary heart disease.

A trio of researchers working under the auspices of the National Heart, Lung, and Blood Institute and the California Affiliate of the American Heart Association studied first a group of students and, later, 13,000 middle-aged men whom they had determined to be Type A personalities. Two findings were significant: First, blood pressures increased when people made self-references; and second, those with Type A personalities made twice as many references to themselves as did those with Type B personalities. Those who developed coronary heart disease (especially those who died from it) were those who tended to be excessively self-involved.

Self-involvement seems to be such an important factor because people who are self-involved tend to be “hot reactors”; they have extreme cardiovascular reactions when subjected to stress, including precipitous increases in blood pressure and health-harming chemical changes. The excessive self-involvement may be what actually causes the hostility and anger that have been so strongly linked to Type A heart disease. The facts are that self-involvement may be related to, and often accompanied by, other dangerous Type A traits such as hostility.

**Workaholics.** The characteristics of the Type A personality lead many to confuse Type A with “workaholism,” but a workaholic isn’t necessarily a Type A. Yale researcher Marilyn Machlowitz, who wrote a dissertation on workaholics, defines them as people “whose desire to work hard and long is intrinsic, and whose work habits almost always exceed the prescriptions of the job and the expectations of those with whom or for whom they work.” Machlowitz further defines the workaholic as “that blur of a person rushing by with an overflowing briefcase, dictating into a tape recorder, checking the time, and munching on a sandwich.”

There are some important distinctions between Type A behavior and workaholics. Type A’s tend to have a hard-driving, competitive approach to work because they crave the recognition and approval of others; most workaholics do it because they truly love to work. Type A’s play with the same feverish pitch they bring to the office; a workaholic simply prefers work
over play and, given the choice, will work instead of play. Type A's are driven and unhappy; many workaholics are satisfied, happy people who genuinely enjoy what they are doing. The difference lies in the motivation behind the hard-working busyness: one person driven by fear of failure and the need to prove oneself worthy, the other by love of work and a sense of mission.

The real difference between workaholics and Type A personalities seems to lie with hostility. The workaholic seldom is hostile. The Type A is almost always hostile. While Type A personalities are hostile and often unhappy, most workaholics, says Machlowitz, are happy.

When does workaholism become a health problem? According to Robert Rosen, director of the Institute on Organizational Health at the Washington Business Group on Health, an inflexible addiction to work is what is unhealthy: "If you're avoiding something or if the need for manipulation and power becomes the overriding fuel for the commitment to work, you're placing yourself at risk of affecting your health." Researchers point out that most health problems occur when workaholics are mixed with nonworkaholics, either at home or in the office. And then, ironically, it's the nonworkaholic who usually pays the price in terms of health risks.

Effects of Coronary-Prone Behavior on the Body

Coronary-prone behavior causes health problems because it literally wrecks havoc on the body. In his book *Super Immunity*, psychologist Paul Pearsall gives a vivid description:

> The supersystem sizzles with neurochemical changes, we roast in our hormonal stew, and, as if by some universal wisdom, the body can be stopped in its tracks by adopting an "enough is enough" strategy. We overload, our heads start pounding for attention, our hearts get attacked for our lack of intimacy, and our vessels cause the doctor's mercury gauge to warn us that things are getting too high. Even our bowels can get irritated with us and show their displeasure in their own unique language. Somewhere in our bodies, through our overuse and abuse of our supersystems, something is burning out.

Type A behavior is essentially an exaggerated stress response, and the body begins pumping out hormones needed to fight or flee. It's the classic fight-or-flight reaction we all have in response to stress, whether mental or physical. The hostile Type A personality lives in a chronic state of what Redford Williams calls vigilant observation. The body is on constant alert. It never relaxes. The result is increases in circulation, blood cholesterol level, blood triglyceride levels, and blood sugar level.

The physical effects of the Type A behavior pattern begin in the hypothalamus, a complex portion of the brain that lies at its base, directly over the pituitary gland. The hypothalamus sends out signals to various parts of
the body in response to emotion. The anger and hostility that are chronically experienced by a Type A personality are processed by the hypothalamus as it would process an intense physical struggle. As a result, the system is bathed with excessive catecholamines, epinephrine (adrenaline), testosterone, estrogen, thyroxine, and insulin.

The stress associated with Type A behavior causes these effects:

- An increase in adrenaline-like hormones (norepinephrine) that cause microvascular drainage in blood vessel walls, allowing cholesterol in the blood to seep into the wall and eventually creating atherosclerotic plaques.  
- An increase in coronary artery spasm further narrows the vessels supplying oxygen to the heart muscle.
- An increase in blood pressure increases the heart's workload and oxygen requirement. Type A behavior typically results in an increase in norepinephrine, which constricts the blood vessels, resulting in high blood pressure. Several studies have found that high blood pressure is much more common among people with unexpressed anger, especially among those with an "anger-in" style of coping, a very specific Type A trait.
- Blood platelets become more "sticky," part of the process that leads to atherosclerosis and clotting to complete the obstruction of the narrowed arteries. This is a definite risk factor for coronary heart disease.
- All of the above phenomena lead to oxygen imbalance in the heart, resulting in myocardial infarction (heart attack).

A number of studies—including the Framingham Heart Study, the Belgian-French Collaborative Study, and the Japanese-American Study—place the heart disease risk of the Type A personality at more than twice the risk in the population at large.

Unfortunately, the anger and hostility and struggle are chronic, so the body is always pumped full of excess hormones. Even during supposedly "low-voltage" periods of the day, Type A's expose their bodies to "high-voltage" chemicals that can damage and even eventually destroy it. Some of the most profound effects of chronic overload of stress hormones are increased levels of cholesterol and fat, blood platelet changes, alterations in the heart and arteries, excess insulin secretion, magnesium deficiency, and defective immune system function.

The Emotional Effects of Type A Behavior

Significant links exist between Type A hostility (with its attendant insecurity) and the neurochemical changes that cause depression, which has also now been shown to be a significant coronary risk factor. Many of the same neuroendocrine problems described above for Type A are also features of
Depression. Overt mental depression occurs more frequently in Type A people,\(^9\) and hostility improves with antidepressant medication.\(^9\)

We know that marriage quality can have a significant effect on heart disease risk. Research published in the *Journal of Applied Social Psychology* shows that Type A's fail to display the sensitivity and understanding that a long-term relationship requires. Psychologist Don Byrne of the State University of New York at Albany says that this not only limits the Type A's chances of tying the marriage knot, but also greatly increases the likelihood of divorce. Cynicism, for example, has been shown to be highly predictive of marital difficulties.

Type A personalities have also been shown to have a weaker network of social support than more easygoing Type B's. Psychiatrist Karen A. Matthews of the University of Pittsburgh points out that some of the "abrasive" interpersonal traits of the Type A personality (such as hostility) may interfere with social relationships, leading to increased social isolation.\(^9\)

Researchers at Duke University Medical Center say that "Type A's with low levels of social support had more severe coronary artery disease than Type A's with high levels of social support. . . . These results are consistent with the hypothesis that social support moderates the long-term health consequences of the Type A behavior pattern."\(^9\) An example of this was a study of 10,000 Israeli men at high coronary risk. Those with loving support from their wives had half the angina incidence of those who lacked such support.\(^9\)

**Type A Behavior and Heart Disease Risk**

The Type A who seems most at risk is the minimally educated and trained assembly line worker who has the least amount of control over his environment.\(^9\) Close behind is the demanding person who has been placed in a position for which he is not competent or the middle manager given much responsibility but little control. The factors of social support, lack of control, and other situational elements all affect the Type A personality. While various research results may show different rates of risk, they all show one thing: A Type A personality (or coronary-prone personality) definitely increases the risk of heart disease.

Hostile Type A personality increases the risk of heart disease as much as or more than the "standard" risk factors of cigarette smoking, high serum cholesterol, and high blood pressure and is synergistic with them. If Type A coexists with another risk factor, the risk of developing coronary heart disease is four times greater. If Type A personality exists alongside two additional risk factors, the risk of developing coronary heart disease is eight times greater.\(^9\)

The risk from Type A may be even more important at younger ages. In the age bracket of thirty-nine to forty-nine years, Type A men are 6.5 times more likely to have a heart attack.\(^9\)
**Impact on Men, Women, and Children**

Women can pay an even greater price for Type A behavior than men do. The prestigious Framingham Heart Study showed that a Type A woman runs four times the risk of heart disease as compared with her Type B sister. Other studies portray the gap as even wider: Statistics from the Western Collaborative Group Study show that Type A women are three times as likely as Type B women to develop angina. Friedman found that Type A women are seven times more likely than Type B's to develop heart disease.

The hallmarks of Type A personality in men are time urgency, relentless drive for achievement, free-floating hostility, and inability to relax. Women have many of the same traits, but they often can't express their hostility as directly. The result is an increasing feeling of isolation and alienation that may be an even more dangerous manifestation for women than busyness or anger.

Children can also exhibit Type A personality and can pay the price in terms of susceptibility to heart disease. The process of coronary heart disease begins early in childhood. Although present research does not show a direct link between coronary-prone behavior in children and coronary heart disease in adults, there is evidence that children assessed as Type A exhibit behavior patterns similar to those of adults assessed as Type A.

The attitude can also be carried into adulthood. Established research shows that roughly half of all children remain in the personality category they exhibit during childhood. New research reported in *Science News* indicates that "the Type A pattern of aggression and competitiveness shows up early in life and can persist, perhaps putting the individual at risk of heart disease as an adult." Type A personality manifests itself among children much as it does among adults. Almost all Type A children score high on hostility and anger; many are suspicious. Most have higher achievement test scores and classroom grades, independent of IQ test scores, most likely because of their competitive nature. Type A children also tend to be more outgoing, talkative, and physically active; more aggressive in their interactions with others; and more likely to experience a greater number of aversive significant life events than are Type B children.

**Psychosocial Coronary Risk in Women**

According to study results, factors that create significant risk for coronary death in women include being divorced and disempowered, feeling socially isolated, and being depressed. Sudden death in women, presumably from heart rhythm abnormalities, has also been linked to bereavement and to being childless. Interestingly, behavior nearly opposite of the
angry, hard-driving Type A man was more predictive of cardiac mortality in women: suppressed (but real) anger, slowness, and low level of arousal (as is seen in depression).

The Role of Type A Personality in Other Illnesses
The role of Type A personality in heart disease has been acknowledged and widely known for decades, but the health-harming aspects of Type A personality aren’t limited to heart disease. In one study reported in the British Journal of Medical Psychology, researchers got a glimpse of how broad the impact of Type A personality may be on health. The Type A subjects had not only more coronary heart disease but also significantly more peptic ulcers, asthma, rheumatoid arthritis, and thyroid problems. Conditions that seem particularly related to the presence of Type A personality include ulcers, headache, cancer, genital herpes, and vision problems.

The reported number of diseases per person was dramatically higher among Type As, even though the Type A subjects in the study were markedly younger than the others. Globally, the Type A’s had much more illness. Study leaders concluded that Type A behavior is a general disease-prone condition.

One broad-range study showed that people with Type A personality ran a significantly higher risk of having accidents, dying from accidents, and dying from violence. In another study that involved a group of more than 2,000 men who had survived the Western Collaborative Group Study follow-up period, those who had the fewest Type A characteristics had the best health twenty-two years later.

Type A behavior does increase the risk of developing certain diseases, but there may be a silver lining to the Type A cloud. Internist Brian Miller believes that Type A personality can actually become an asset when a person is fighting disease. “Interestingly,” he points out, “I see patients with very driven personalities get better faster than other patients. Apparently, these patients feel there is more to live for.” The key appears to be transforming the hostility and cynicism while preserving some of the assertive, active-living characteristics.

The findings about personality and heart disease risk bear other implications for treatment as well. Dr. Dean Ornish, president of the Preventive Medicine Research Institute and well-known for his approaches to heart disease treatment, recommends an approach that includes stringent dietary changes, regular exercise, and stress management. Behavioral approaches such as yoga, meditation, and group sharing have helped reduce hostility and stress—and have been shown to reduce stress hormones, relax the blood vessels, and promote a sense of well-being. “Diet and exercise alone
are like a two-legged stool," says Redford Williams. "It's more stable with the third leg, stress management."115

In one trial of Ornish's approach, those who included behavioral approaches in their treatment showed 91 percent reduction of angina within the first few weeks to months of the study, saving the expense and trauma of bypass surgery or angioplasty. In another study, Mutual of Omaha used Ornish's program on 194 heart patients and saved $30,000 per patient over the next three years. Based on that success, the federal government is studying the possibility of applying the treatment plan for Medicare patients.116

**Type D Personality**

Another behavior pattern—the "Type D personality,"117 characterized by the tendency to experience negative emotions and the inability to express feelings in social situations—has also been linked to heart disease.

A large body of scientists found that certain negative emotions, such as anger,118 anxiety,119 depression,120 worry,121 and hopelessness,122 all increased the risk of coronary artery disease. Heart bypass patients who are depressed at the time of their surgery are more than twice as likely to die during the next five years when compared to people whose conditions are the same but who are not depressed.123 Other factors, including social isolation, have also been shown to impact the heart—and the emotional stress of being alone causes heart attack survivors to die at twice the rate of those who live with others. "They're heartbroken in more ways than one," says Dr. Herbert Benson, president of Boston's Mind/Body Medical Institute.124

Apparently the constellation of negative emotions has a much greater impact on the development of heart disease when it is combined with what is referred to as "social inhibition," or the inability to easily make contact with others, talk to strangers, express opinions to others, make "small talk" (even with close acquaintances), carry on an easy conversation, impact others, take charge in group situations, or feel at ease in a group. Researchers have labeled the combination of negative emotions and social inhibition Type D Scale-16 (DS16). Those who score high on both social inhibition and negative feelings are said to have a "distressed" personality (thus the name Type D). Scientists found that the presence of either negative emotions or social inhibition without the other did not necessarily increase the risk of heart disease, but that the combination can be deadly.125

The problem isn't the occasional experiencing of these negative emotions, but the tendency to experience these negative emotions across time and a variety of situations126 and the tendency to suppress negative emotions.127 Researchers have also found that people diagnosed with affective
disorder are also significantly more likely to develop both fatal and nonfatal coronary artery disease.  

Long-range research conducted over a period of ten years involving almost 300 men and women between the ages of thirty and eighty found that Type D personality:

- increases the risk of cardiac death, especially among patients with established coronary heart disease.
- causes increased risk of subsequent heart attack among myocardial infarction patients.
- increases the risk of death by four times among coronary artery disease patients.

Research also shows that close relationships help to ease the emotions related to Type D personality. In one study reported in September 2004 by psychologist Timothy Smith of the University of Utah, simply looking at a picture of someone you love helps reduce the stress response, reducing heart rate and blood pressure. Massachusetts cardiologist Harvey Zarren found that when he rode in an ambulance with heart patients, he asked the patient to describe what he or she loved most in life. The patients' abnormal heart rhythms stabilized and high blood pressure fell to normal. Unlike his colleagues, Zarren never had a patient progress to cardiac arrest while in the ambulance.

The Controversy

The notion of coronary-prone personality is a controversial one, possibly because behavior is much more difficult to pinpoint as a risk factor than are other, more specific risk factors that can be measured in a laboratory (such as high blood pressure or elevated cholesterol). "Behavior comes from the soft, fuzzy science of psychology, rather than from the hard, precise, biomedical sciences," psychologist Ethel Roskies points out, a fact that may make it difficult for medical researchers to accept the coronary-prone personality. Medical personnel may have even more difficulty with the concept, she adds, "if behavioral modification, rather than conventional medical and surgical techniques, is seen as the treatment of choice for this new type of risk factor."

Still another reason for controversy, says Roskies, is the "personal involvement of most health professionals and scientists with Type A behavior." The competitive selection process itself guarantees that a large majority of professional health care workers are more likely to be Type A, and may thus feel threatened when behavioral issues are brought up. "When we
speak of diabetes mellitus or smoking, we are speaking of other people. 'them,' 'ont there'; but when we talk about Type A, in contrast, we are talking about ourselves.\textsuperscript{113}

Researchers themselves have different concepts of exactly what a Type A personality is, they use different criteria to assess what they believe to be Type A personalities, they rely on people to judge themselves as Type A (a judgment that isn't always accurate), and many researchers have problems judging Type A behavior in anyone except male executives.\textsuperscript{134} Self-assessment tests for qualities like hostility are notoriously unreliable because of a well-demonstrated self-delusion. It is, after all, not very socially acceptable to try to prove oneself hostile.\textsuperscript{135}

Still, a growing body of evidence links Type A behavior or at least some components of it to the development of heart disease, the likelihood of suffering recurrent heart attacks, and death from heart disease. Important data also link some of the components of Type A behavior with other illnesses as well and with the increased likelihood of premature death.

Type C Personality:
The Cancer-Prone Personality

One of the most controversial notions being explored by medical researchers is that of a cancer-prone personality, a set of traits that predisposes a person to cancer. The exact effect of personality on cancer is difficult to assess: People can be exposed unwittingly to carcinogens that may play a role, and there can also be a vast difference in a number of factors between the time of prognosis and the time of diagnosis. Nonetheless, an increasing number of physicians believes that the trends definitely point to a link between personality and cancer and that these notions give a new and pressing direction to medical research.\textsuperscript{136}

The notion of a cancer-prone personality isn't new. The second-century physician Galen noted that "melancholic" women had a greater tendency toward breast cancer than their more "sanguine" counterparts. Medical writers in the eighteenth century described in detail the personality traits and experiences shared by cancer patients. And eminent British physician Sir James Paget noted in 1870, "The cases are so frequent in which deep anxiety, deferred hope, and disappointment are quickly followed by the growth or increase of cancer that we can hardly doubt that mental depression is a weighty addition to the other influences that favor the development of the cancerous constitution."\textsuperscript{117}

Researchers became keenly interested in the possibility of a cancer-prone personality during the 1950s, when psychologist Eugene Blumberg
began noticing a "trademark" personality among cancer patients in a Long Beach veterans' hospital. He wrote, "We were impressed by the polite, apologetic, almost painful acquiescence of the patients with rapidly progressing disease as contrasted with the more expressive and sometimes bizarre personalities of those who responded brilliantly to therapy with remissions and long survival."

To figure out whether there was any connection, Blumberg administered psychological tests to the cancer patients. The tests measured whether they could release pent-up emotions, how anxious they were, and whether they were depressed. Then he matched test results with patients at intervals and checked to see how rapidly their disease was progressing.

He found that the patients with the fastest-growing tumors were the ones who were "consistently serious, overcooperative, overly nice, overly anxious, painfully sensitive, passive, and apologetic." And they had been that way all their lives. The patients with the slow-growing tumors, on the other hand, were the ones who had developed a way of coping with life's stresses.

At about the same time, physicians at San Francisco's Malignant Melanoma Clinic were becoming interested in the same questions. They had noticed a "disturbing pattern" in the personalities of patients with melanoma (a particularly virulent form of skin cancer). The patients were "nice"—too nice. In fact, they were passive about everything, including their cancer. Could it be a coincidence? The doctors didn't think it was, so they asked University of California School of Medicine psychologist Lydia Temoshok to talk to the patients and determine whether a personality pattern emerged.

After talking in detail to 150 of the clinic's melanoma patients, Temoshok declared that there was a distinct pattern. The cancer patients were indeed very, very nice. They never seemed to express any negative emotion—not fear, or sadness, or anger, or denial, or any of the other emotions common to a patient struggling with a terminal disease. The patients couldn't express negative emotion, assert themselves, acknowledge or attend to physical pain, or admit their own needs. In fact, say the researchers, these patients "were the rock of stability for their families. Even in the face of cancer, they maintained this composure. When one of them was diagnosed, she might say, 'I'm doing fine. But I'm really worried about my husband. He takes things so hard,'" explained Temoshok. These cancer patients, in the face of a painful, devastating, and almost certainly terminal disease, seemed always happy, always in control.

The result of Temoshok's research was what she called the Type C personality—essentially the complete opposite of the hard-driving Type A.
Type C's are overwhelmed by emotions they have not been able to express or resolve. Temoshok found that the Type C was at high risk for cancer:

- The Type C melanoma patients had thicker, more aggressive tumors, both signs of a bleaker prognosis.
- Temoshok was able to predict survival based on the way the patients initially reacted when they heard their diagnosis. Those most likely to die were women who reacted with stoicism and men who reacted with helplessness and hopelessness.
- Melanoma patients were significantly more likely than either healthy people or people with heart disease to repress their emotions (a Type C strategy).
- The melanoma patients who were more able to openly express their emotions also had more lymphocytes (immune cells that are key in fighting cancer) around their tumors. The patients who repressed their emotions had fewer lymphocytes at tumor sites.
- Temoshok found significant associations between every single negative emotional state and recurrence of the disease or death several years later. Temoshok believes that the data show "powerful evidence" that people who died of cancer suffered a collapse of their usual Type C coping style and were then overwhelmed by emotions they couldn't express or resolve.\(^{141}\)

To test the validity of her theory, Temoshok videotaped detailed interviews with each of the 150 melanoma patients she had originally talked to in the clinic. She then invited a group of her colleagues to look at the videotapes and to help her categorize the patients by what they judged to be each one's personality type: Type A, Type B (relaxed and easygoing), or Type C (passive, overly compliant, and unable to express negative emotions—what Temoshok called "a fragile accommodation to the world"). Temoshok followed the patients' progress for the next year and a half. Most of the Type C's were concentrated in what doctors called the relapser's group, the patients whose conditions worsened or who died.

Based on similar cancer-personality studies that had been conducted during the previous thirty years and a continuation of her own research, Temoshok concluded that behavior and personality may not cause cancer, but certain personality traits affect how an individual copes with stress and may very well affect the outcome of the disease. Other research confirms that rather than causing cancer, the identified personality and behavior traits correlate more closely to how aggressively the disease progresses.\(^{142}\) Temoshok even went so far as to say that people with a Type C personality
are likely to have “a worse outcome than might be expected on medical grounds.” In discussing the Type C personality, Temoshok points out that it is not actually a personality, but a “behavior pattern.” At its origins, she says, is a defense mechanism that is useful in moderation but that later gets out of control.

The findings of the melanoma study and of various follow-up studies have convinced Temoshok of two things. First, she says, changing Type C behavior can both improve the health of people who are already sick and actually help prevent cancer among healthy ones. Some of the most important skills, she says, are developing an awareness of needs, reframing ideas about feelings (feelings aren’t bad, but blocking feelings is), learning how to express emotion, taking charge, getting social support, working through hopelessness, and cultivating a fighting spirit.

Second, Temoshok learned that “people did not bring cancer on themselves. No one can be blamed for mind-body factors in cancer, because no one intentionally develops the cancer-prone behavior pattern . . . When brought about with compassion and self-care, awareness of Type C behavior offers the person opportunities for growth and empowerment, not self-blame.”

**LeShan’s Analysis**

One of the researchers most prominent in the study of a cancer personality is psychologist Lawrence LeShan, who began his research at about the same time Blumberg was puzzling over his “nice” cancer patients in the veterans’ hospital.

LeShan interviewed 250 patients who had been hospitalized for cancer, and compared their response to those of patients who had been hospitalized for other diseases. LeShan was fascinated by a striking similarity in the life history of the cancer patients, with three specific “life events” common to the cancer patients:

- Cancer patients described a “bleak” childhood; they had a tense, hostile relationship with one or both parents, and they felt lonely and isolated. They began to feel that a satisfying, “safe” relationship with another person was not possible.

- As young adults, they finally found something to which they were able to make a strong emotional commitment—another person, a cause, a job, or something else. The emotional investment was strong, and that object of emotional investment became the centerpiece of their lives.

- Something happened to take away the object of emotional investment: The spouse died, they were fired from their job, or a beloved child took
up with unsavory companions and forsook the family. There was nothing to replace the great void, and six to eight months later these people were diagnosed with cancer.146

Other Research
Another psychologist who noticed a striking similarity in the histories of cancer patients was Claus Bahnsen, then at Jefferson Medical College in Philadelphia. In interviewing cancer patients, he, too, found that they had very similar backgrounds; most pronounced was a cold, strict, aloof relationship with their parents. Scottish researcher David Kissen, who has spent the bulk of his career studying the personality traits of lung cancer victims, has also noted the common thread among this particular group—the loss of someone close during childhood and the apparent lack of emotional involvement over the loss.

Expression of Emotion
The hallmark of the cancer personality, according to Temoshok, is the “non-expression of emotion.” Kissen says that whatever emotions they feel are kept bottled up inside. Many have unresolved tension, usually concerning a parent or other family member, but they refuse to express or resolve it. Even when they are experiencing tremendous despair, it is characteristically “bottled up”; while cancer patients are often described by other people as kind, sweet, and benign, this sweetness is “really a mask they wear to conceal their feelings of anger, hurt, and hostility.”

In a study by psychologists at the University of Oslo in Norway, researchers examined how personality and culture influenced the likelihood of developing breast cancer. Women whose personalities were characterized by repression, self-blaming defense mechanisms, and the inability to feel or express anger were significantly more likely to develop breast cancer.

Stress and Cancer
While stress may play a role, researchers believe that stress alone is probably not the cause of cancer. As one put it, “The stress of life changes alone does not induce the development of cancer. There must also be an underlying personality structure that handles such life changes in an unhealthy way. Feelings of loneliness and hopelessness, of being helpless or trapped, often characterize people who develop this dread disease.”

Most other researchers agree; based on an analysis of cancer personality studies, one commented that cancer patients are more commonly lonely, angry, rigid, self-sacrificing, repressed, depressed, and hopeless. Others
say that cancer patients characteristically react to stress, loss, or change with a feeling of helplessness, hopelessness, or an overwhelming inability to cope. Still others say that repressed anger and negative emotions in general contribute to the progression of cancer.

**Depression: A Factor?**

Until recently, researchers believed that the personality trait of depression had a strong link to the development of cancer, but ensuing research shows that depression apparently is not a factor in the development of cancer.

According to research conducted by National Institute on Aging psychologist Alan Zonderman and published in the *Journal of the American Medical Association*, depressed people have no greater risk of developing cancer than the general population. Zonderman and his colleagues studied a group of more than 6,000 people, 1,000 of whom showed signs of depression (such as crying spells, insomnia, loss of appetite, and poor concentration). They followed the medical histories of all 6,000 people for the next ten years. At the end of ten years, 11 percent of the depressed people had developed cancer, but so had 10 percent of the nondepressed ones. The number in each group who had died from cancer during the ten-year period was exactly the same: 4 percent.

Earlier studies that did show a link between depression and cancer were probably flawed for a variety of reasons (too small a sample group, failure to control for other factors, and so on). In concluding his study, Zonderman stated that “we found that depressive systems didn’t predict who was going to get cancer or who was going to die from cancer ten years later.”

**Other Factors**

People who develop cancer tend to be what researchers call loners, people who feel lonely and who face the world with bland, unemotional exteriors. To test that notion, psychologists Pirkko Graves and John Shaffer, along with their colleagues at the Johns Hopkins University School of Medicine, analyzed psychological data collected over almost two decades on nearly 1,000 male medical students at the school. They used personality traits to divide the men into five groups. Then they scrutinized the students’ medical records, which had been collected each year over a period of almost forty years.

Graves and Shaffer found that the people most likely to develop cancer were the people who were lonely and unemotional. They developed cancer sixteen times more often than members of the healthiest group. The ones least likely to develop cancer were members of what Graves and Shaffer called the acting-out emotional group—people who were anxious, easily
upset, and depression-prone but who expressed their feelings freely. Fewer than 1 percent of the people in the acting-out emotional group developed cancer during the forty years of follow-up.\(^{157}\)

In one study of breast cancer patients, researchers saw that those who were not lonely seemed to have the best prognosis. Among the breast cancer patients, women with numerous close friends were less likely to die than those who had few or no close friends.\(^{158}\)

Helplessness and hopelessness have also been strongly associated with cancer, and they appear to influence not only who develops cancer but also who is able to survive it. "It is well-known, if quietly admitted, that the best medicine may be to no avail when given to someone who has already given up the struggle for life," stated one researcher. "Even if there is no strong relationship between the origins of cancer and some personality type, the evidence does suggest that the way in which a person responds to the threat may have a lot to do with surviving the physical insult of cancer."\(^{159}\)

In fifteen years of following breast cancer patients, researchers found that the ones who survive the longest with no recurrence of disease are also the ones who reacted to their cancer diagnosis in one of two ways: Either they denied that there was anything seriously wrong with them, or they rallied with a "fighting spirit"—a determination to do everything possible to beat the cancer. Fighting spirit also involved a positive expectation and a feeling that they could control their lives, regardless of the cancer. Seven years after appropriate treatment, the survival of the deniers and the fighters was about the same (about 80 percent), but then the protection provided by denial faded. At twelve years, 80 percent of those with "fighting spirit" were still alive, as compared with only 50 percent of those who used denial to cope. Those who succumbed most easily were the ones who kept a stiff upper lip (the stoics, as Greer called them) and the ones who collapsed in a hopeless, helpless, all-is-lost response; only 20 percent of the helpless-hopeless survived at five years.\(^{160}\) Other studies have confirmed that a strong will to live prolongs survival of breast cancer patients, as does better coping ability in dealing with problems.\(^{161}\)

With all the research findings that are emerging, most agree that there does seem to be a particular cancer-prone personality—if not one that actually causes cancer, then at least one that contributes to its development, spread, and mortality. But there may still be cautions regarding cancer personality research and theory. In the first place, says one researcher, there is a danger in delving into the personalities of people already diagnosed with cancer: To become a person with cancer is to cease to be a "normal" person, and a cancer victim may look back and interpret everything that happened in life in light of the cancer.\(^{162}\) Second, asking a cancer patient to recount details from the past makes a researcher reliant on the person's memory.
There's also the natural tendency for recent events to eclipse earlier ones. It's difficult for anyone to look back at a time in life and weigh the particular stresses or events that may have occurred. These weaknesses are precisely why researchers lean more heavily on studies that test an entire population before cancer is ever diagnosed.159

That considered, it can likely be helpful to integrate mind-body techniques into cancer treatment and prevention programs. To begin, it has been demonstrated that mind-body techniques help strengthen the immune system, which may mobilize the body to fight the cancer itself. When combined with good nutrition and exercise, particularly helpful practices may include relaxation techniques (such as meditation, guided imagery, and progressive muscle relaxation) and strong social support (supporting and helping others as well as seeking others who can support you).164

Mind-body techniques have been shown to help in cancer treatment; even if they have not resulted in a cure, they have improved the quality of life for cancer patients. At Boston's Dana-Farber Cancer Institute, an ancient Chinese movement and meditaion technique—qigong—has been used to reduce pain and anxiety among cancer patients. Tens of thousands of cancer patients are now using mind-body techniques to help them cope with pain, depression, and anxiety and to help them sleep better; these techniques include yoga, talk therapy, visualization, tai chi, music therapy, relaxation techniques, and prayers, among others.

Of the nation's twenty-six major cancer centers, fourteen now offer complementary medicine programs that include mind-body techniques, bringing together oncologists and alternative practitioners. The Society for Integrative Oncology, founded by Dr. Barrie Cassileth, chief of integrative medicine at New York's Sloan-Kettering Cancer Center, held its first international conference in late 2004.

Lorenzo Cohen, head of integrative medicine at Houston's M.D. Anderson Cancer Center, says that mind-body techniques will soon become as much a part of standard cancer care as chemotherapy or radiation. "In the not-so-distant future," he says, "oncologists will send patients to learn tai chi or yoga the way cardiac specialists now send patients to stress-management courses after they've had a heart attack."165

The Rheumatoid Arthritis—Prone Personality

Of all the forms of arthritis, rheumatoid arthritis is the most crippling and most devastating. As an autoimmune disease, it is characterized by the immune system turning against the body and attacking the collagen in the joints' connective tissue. Because it isn't associated with wear and tear, rheumatoid arthritis attacks people of all ages, including children.
The disease has long been considered to have a powerful psychological component. Some researchers are so convinced of the arthritis-personality connection that they have described rheumatoid arthritis as the "expression of a personality conflict."166

Identical Twin Study
Study of the link between personality and rheumatoid arthritis began in earnest in the early 1960s, when a team of researchers from the University of Rochester studied eight pairs of identical twins—one of whom had rheumatoid arthritis while the other did not. Because only one twin in each set had the disease, researchers knew that genetics was not a factor.

Researchers interviewed each of the twins—all women—in great detail to determine not only personality traits but also life events that may have led to the diagnosis of rheumatoid arthritis. They found some strikingly similar patterns among the women afflicted with arthritis. In each pair of twins, the one with arthritis seemed to put herself under a great deal of stress; in fact, these women actually seemed to seek out stress. The disease seemed to manifest itself only after each woman had decided to dedicate her energies to a particularly stressful or distasteful situation.167 For example, one woman took a job she really didn't want so she could impress her in-laws. Another gave up personal pursuits to spend her life caring for her psychotic stepfather.

Other striking similarities emerged. The healthy twins felt free to express criticism and to argue but described their marriages as happy ones. The arthritic twins spoke ill of their husbands and apparently put up with considerable abuse in their marriages, yet they never argued with their husbands.168 In summing up that peculiar dichotomy, one researcher remarked that people with rheumatoid arthritis "will endure stressful situations longer than their siblings. The arthritic patients' inability to express anger may make some situations more stressful to them than these same situations would be to other people."169

The healthy women described themselves as people who liked people. They said they were easy to get acquainted with, were active, were constantly busy, were productive workers, and enjoyed life in general. The self-image of the arthritic twins was just the opposite. They described themselves as moody and easily upset. They claimed they were nervous, tense, worried, depressed, and high-strung. While the healthy sisters enjoyed life, the arthritic ones said that they were struggling.

The results of the identical twin study are consistent with what other researchers have found. One researcher who examined more than 5,000 rheumatoid arthritis patients found "that in a high percentage of cases the patients suffered from worry, work pressures, marital disharmony, and con-
cerns about relatives immediately prior to the onset of disease. Others characterize rheumatoid arthritis patients as people who appear to be calm, composed, and optimistic and who rarely, if ever, express anger. Some believe these patients don't even feel anger. On the rare occasions when these patients express anger or rage, they feel overcome with remorse and guilt and feel a strong need to punish themselves. Research has established that people with rheumatoid arthritis are more likely to suffer from emotional disturbance and that they tend to suffer from perfectionism, chronic anxiety, depression, hostility, and introversion.

The Solomon and Moos Study
Stanford University School of Medicine psychiatrist George Solomon and his colleague Rudolf Moos asked to examine each patient who came into the San Francisco General Hospital emergency room complaining of a tender, inflamed, or "hot" joint. Emergency room personnel administered laboratory tests to each patient—a simple blood test indicates the presence of an antibody in the blood. While patients were waiting for the results of the test, Solomon and Moos asked them to participate in a psychodrama.

Solomon and Moos knew that rheumatoid arthritis patients were characteristically nonassertive and inhibited. So they constructed a psychodrama that would put that trait to its most severe test: They asked patients to return an item (an iron for women, a shaver for men) to someone playing a hostile department store clerk. The role required great assertiveness, and the researchers watched carefully as each suspected—but yet undiagnosed—patient play-acted.

Based on how each patient interacted with the "hostile clerk," Solomon made his own diagnosis, predicting which patients would eventually be proven to have rheumatoid arthritis and which would not. He was able to predict with 100 percent accuracy exactly which patients had rheumatoid arthritis simply by watching how they asserted themselves in an unpleasant situation.

Following their initial experiment, Moos compiled everything he could find on the link between personality and arthritis and he became familiar with the case studies of more than 5,000 people with rheumatoid arthritis. Based on his exhaustive studies, he concluded that there was a distinct psychology involved in the rheumatoid arthritis process.

The Immune System Factor
Since rheumatoid arthritis is an immune disorder, researchers have looked at how the personality affects the immune system among arthritis sufferers.
In both animals and humans, emotional distress has significant effects on both immune dysfunction and the inflammatory response characteristic of arthritis.\textsuperscript{174} Rheumatoid arthritis patients have been shown to have an imbalance in the white blood cells (lymphocytes) that regulate much of the immune response. In their blood and joint fluid, rheumatoid patients have a disturbed “immunoregulatory ratio” of helper T lymphocytes (which enhance the immune response) to suppressor T lymphocytes (which decrease the response).\textsuperscript{175}

Other neurochemicals that modulate immune function and inflammation are endorphins, the body’s natural painkillers.\textsuperscript{176} These are well-known to be affected by mental state; for example, happy excitement turns them on, depression turns them off. Less well-known is the fact that endorphins are deficient in both the blood and the brain in many arthritis patients.\textsuperscript{177} Endorphins not only reduce pain perception in the brain but also block the release in tissues of inflammation-producing neurochemicals, such as Substance P and prostaglandins. Substance P has also been thought to be a mechanism by which the nervous system might be involved in rheumatoid arthritis.\textsuperscript{178}

Two of the traits common to arthritis victims, chronic anxiety and repressed hostility, have been shown in repeated studies to compromise the immune system. In one study, researchers carefully studied thirty-three women who suffered from rheumatoid arthritis. They looked at the number of daily “hassles” each went through, the major challenges they faced, and the amount of psychological distress each one had. They then measured the immune function of each woman. As expected, the researchers found major effects on the immune system, and those effects were stronger among the women who suffered greater psychological distress, major challenges, and minor hassles.\textsuperscript{179}

Based on several decades of research into the connection between personality and rheumatoid arthritis, one researcher constructed what he believes to be an accurate picture of the arthritis patient’s personality.\textsuperscript{180} He maintains that rheumatoid arthritis is likely to be dependent and feel inadequate, but they deny their dependency by overcompensating with an outward facade of independence, self-assurance, and self-control. They are aware of strong, unexpressed feelings of anger, but they are severely blocked in their ability to express anger or other emotions. They tend to court others’ favor, but they avoid closeness in interpersonal relationships. They tend to become overactive—a way of dealing defensively with their tensions—and they overreact to even the slightest criticism or rejection. The single most powerful precipitating factor in rheumatoid arthritis “was the loss of, or separation from, important key figures upon whom these patients depended for support.”\textsuperscript{181}
The Ulcer-Prone Personality

Physicians have long acknowledged that the physiology behind gastric ulcer is simple: The ulcer sufferer secretes too much gastric acid. That acid eats away at the lining of the stomach, causing erosion; in severe cases, the ulcer becomes perforated, eating a hole through the wall of the stomach. Most ulcers are caused by infection with a bacterium (*Helicobacter pylori*) that interacts with the acid. Whether mental stress in a susceptible person increases the likelihood of persistent *Helicobacter* infection, as it does with other infections, has not yet been studied.

Use of tobacco, alcohol, caffeine (especially coffee), and aspirin have all been shown to increase gastric acid production. Cigarette smoking is a double-edged sword, since it also delays healing. Certain emotions can also increase acid; the most powerful seem to be frustration, hostility, and resentment. Some people even experience an increase in gastric acid when they see, smell, taste, or chew food—or even think about it.

Anti-inflammatory medications like aspirin (which are more commonly used by stressed patients) can compound the problem by breaking down the mucus barrier that protects the stomach and intestinal lining from the acid.

Pioneering Research

Recent research has indicated the presence of an "nicer personality." Much like the cancer personality or arthritis personality, the ulcer personality may actually cause ulcers, or it may figure in determining how severe ulcers become.

One of the first recorded observations of the emotional link to ulcers occurred in the mid-nineteenth century. Dr. William Beaumont had a patient whose abdominal wall had an opening clear into his stomach. That opening afforded the perfect window through which to view the rate of stomach secretion—and Beaumont noticed that the secretion of stomach juices changed when the man became emotionally stressed.

Pioneering research on the ulcer-personality link has been conducted by Dr. Charles Richardson and Dr. Mark Feldman, professors of internal medicine at the University of Texas Health Science Center in Dallas. They found that ulcer patients seem to have the same number of stressful situations as people who don't have ulcers, but they perceive the situations as being far more negative than do other people. When faced with a job change or relocation, for example, ulcer patients perceived disaster and upset instead of adventure or a positive change. In addition, ulcer patients seemed much more likely than others to be neurotic—preoccupied with their own aches and pain and too concerned about their bodily functions. They expected the worst, and felt threatened by a wide variety of situations, even situations that did not pose much of a real risk.
Characteristic Traits

The ulcer personality is characterized by excessive dependency on others and a tendency to rely on other people in ways that are not healthy. Even though such persons are very dependent, they enjoy far less social support than most healthy people do. Many ulcer patients express the feeling that they have few friends or relatives on whom they could depend in times of crisis. They tend to suffer from excessive worry, annoyance, and fear of common situations or circumstances. And, unfortunately, ulcer patients seem to have more times of crisis than others, possibly because the ulcer personality is also marked by deep pessimism or the tendency to always expect the worst. Finally, ulcer patients who have been given psychological tests show a fairly consistent quality: While other people are able to bend with stress, an ulcer patient tends to break. This tendency leads to higher rates of emotional distress, anxiety, and depression among those with ulcers. The situation is aggravated by doing other things to damage the lining of the stomach, such as drinking too much coffee or alcohol.

But researchers are quick to point out the bright side of ulcer personality research: With help and determination, ulcer patients can learn to change the way they look at things, and with a change in personality traits, the tendency toward ulcers can diminish considerably.

An Asthma-Prone Personality?

Research shows that several factors may be at work in the personality traits of an asthmatic. Initially, many asthma episodes are caused by bronchial infection or an allergic reaction; air passages narrow, the victim can’t get enough air, and that feeling is profoundly distressful. Any attending emotional reaction just makes the asthma worse. Asthma is usually maintained by an inflammatory process in the airways that may have some of the same underlying mechanisms involving the central nervous system as those for rheumatoid arthritis. It is not uncommon to see the airway disease of anxious or depressed asthmatics improve significantly when those mental conditions are treated appropriately.

It is now believed that some people later develop an almost Pavlovian response to whatever triggers their asthma. Simply thinking, “I feel a cold coming on; it’s going to cause an asthma attack,” or, “The pollen count is going to be high today,” can be enough to trigger a full-fledged asthma attack without an actual physical insult.

There’s also a vicious cycle among asthmatics, especially childhood asthmatics, that is very difficult to break. An asthma episode tends to engender sympathy, attention, and compassion, and to keep the child home from school. If that’s what asthmatic persons need in their life—more sym-
pathy, attention, and compassion—attacks may become more frequent. Although the biology of the attack is very real, it is precipitated by emotional need.

A few traits seem more common among those with asthma. Many are anxious and feel powerless. Even though they are angry and hostile, they feel weak and out of control of their lives. Finally, many feel ready to strike out at those around them.

Reducing Your Risks

Is it possible to overcome a disease-prone personality? Some researchers think it is. In an address before the National Institute for the Clinical Application of Behavioral Medicine, Henry Dreher suggested the following ideas for change:144

- Develop an awareness of your own needs. You can start on a small scale—maybe you need a few minutes alone when you get home from work before you plunge into family life, for example.

- Discover what Dreher calls an "inner guide"—essentially, an awareness of your innermost thoughts and feelings. If you’re used to suppressing emotion or ignoring your needs, it can take some real concentration.

- Reframe your ideas about your feelings. If you’re troubled by the thought that you are angry toward an abusive parent, stop feeling guilty for your anger. Find appropriate ways to express your anger, work through it, and then build on what is left, even eventually forgiving your abuser.

- Learn the skills of emotional expression. Everyone occasionally feels angry, hostile, disappointed, depressed, or resentful. The key is to acknowledge your emotion, express it appropriately, and then move on.

- Take charge of your medical care; find a physician who will take the time to talk to you, who will explore options, and who will answer questions. Find out all you can, and make your own decisions.

- Get as much social support as you can. A broad network of family and friends is ideal, but you should cultivate at least a few close friends in whom you can confide.

- Work through your feelings of hopelessness. Getting information is the first step; next, figure out what your challenges might be, then work out a game plan for each. As soon as you realize that you have viable options, you’ll find that you feel in charge instead of hopeless.

- Cultivate a fighting spirit; be willing to face challenges head-on and to fight to the finish.
To stress components that are more positive and productive, Dr. Meyer Friedman uses the following drills to help people change the negative components of a Type A personality into the health-protective characteristics of an effective Type B:

- Smile at yourself in the mirror for a minute or two.
- Don’t interfere with someone who is doing a job more slowly than you would do the same job.
- Eliminate two phrases from your vocabulary at work: “How much?” and “How many?”
- Take regular breaks from work; try daydreaming, meditating, or even playing with your pet.

Other effective practices to modify Type A behaviors can include the following.

**Practice Mindfulness.** Do one thing at a time, being completely present with full attention. Give yourself with caring creativity to whatever is chosen to be done in the present moment.\(^{185}\)

- While waiting in lines, practice the enjoyment that comes with socializing or doing relaxation exercises.
- Smile at the competitive antics of yourself or others.
- Drive around the block when you try to beat someone out in traffic.
- Read books that have nothing to do with your vocation.
- Take restful breaks during the day, perhaps using relaxation exercises.
- Eat slowly and mindfully.
- Ask, “What did I do well today, and what’s worth remembering?”
- Practice conditioning a relaxation response after exercise and other arousal.\(^{186}\)

In making the transition, it’s more important to envision what you want (valued Type B traits) than to try not to be hostile. (The brain doesn’t do well with “not” commands, because it needs to picture clearly the desired outcome before change can occur.) As you try to envision the effective Type B traits, work toward these habits:

- **Have less time urgency:** Give more attention to the central task at hand. Be less eager to move on to something else. Be on time, but without frenzy or rage. Be patient. Contemplate, especially beauty and metaphor. Tend to see the whole more than the parts. Value and enjoy the things you’ve already done (or you’re doing now) as much as the things you will do in the future.
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- **Relinquish control:** Delegate. Be tolerant of, or even enjoy, differences. Inspire creative involvement with others.

- **Value yourself:** Appreciate yourself for what you are as much as for what you do. Accept and value yourself as you are. Understand that self-identity is far more than numbers. Feel valued and of worth, regardless of your achievements. Work hard, but don't let failure collapse your self-esteem. Learn to love growth and the process of getting better through mistakes. Compete with yourself, not with others.

- **Get rid of free-floating hostility:** Don't find fault with others to bolster your own ego. Accept with equanimity the trivial errors of subordinates. Enjoy empowering and lifting others. Don't feel tense or induce tension in others. Be self-confident enough to be objective, to see through another's eyes. Be capable of both feeling and expressing affection; enjoy intimate relationships.

The behavior change methods that develop these characteristics are beginning to be proven some of medicine's most valuable preventive approaches!

**ENDNOTES**

8. S. Yousfi et al., “Personality and Disease.”
10. Ibid.
12. S. Yousfi et al., “Personality and Disease.”
15. Fischman, “Fighting Cancer.”