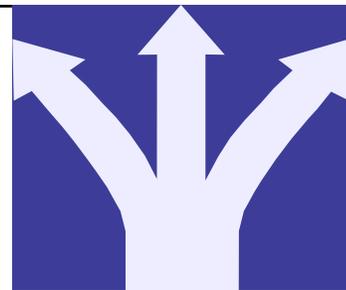


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Volume 10, Number 1

April/May 2010

Anger and Physical Health

How the body responds to anger in the moment affects the body long after the moment has passed. An automatic response to anger, known as the fight-or-flight syndrome, produces physiological changes: increased blood pressure and heart rate, constriction of blood vessels, increased muscle tension and changes in hormone and insulin levels. Williams and Williams in their book *Anger Kills* (1993) write that approximately 20% of people have high levels of hostility -which can be a component of anger-high enough to actually pose a danger to health. Despite inconsistent results in the research, studies on heart disease, diabetes and injury do provide evidence that physical illness can be caused by or made worse by feelings of anger. Numerous studies go on to state that psychological and behavioral interventions, based on anger prevention and management techniques, can be combined with traditional medical treatment to positively impact current health problems and reduce risk for future illness.

Heart Disease and Anger

Two meta-analyses of coronary heart disease (CHD) found enough evidence to suggest a substantial association between anger and hostility and physical illness. Krantz et al. (2002) cite evidence that both psychological and psychosocial factors can have a significant influence on coronary artery disease and that behavioral intervention can positively influence outcome of illness. Chida et al. (2009) conclude that anger and hostility are significantly associated not only with increased cardiac events in healthy people but also with poor prognosis in patients with existing CHD. Interestingly, harmful effects in healthy individuals were greater in men than in women. Both sets of authors conclude that more rigorous research is needed to determine characteristics of patients to target for treatment and to explore effectiveness and mechanisms of various types of treatment. Research should also investigate anger and other factors that mediate heart disease (stress, gender, socioeconomic status, other health risks).

Another study of the relationship between anger and risk of coronary heart disease looked at 3 different types of anger expression: constructive anger (discussing anger to resolve the situation), destructive anger justification (blaming others for one's anger) and destructive anger rumination (brooding over an anger-inducing incident). The researchers wanted to determine if these distinct types of anger expression differentially predicted incident of coronary heart disease. They found that higher levels of destructive anger justification was associated with a 31% increased risk of CHD in both men and women. (Davidson and Mostofsky, 2010)

Insulin Resistance and Anger

In a 2006 study, Zhang et al. found that higher scores on a hostility index scale, combined with high levels of stress, are associated with increased insulin resistance. Insulin resistance can cause diabetes. Cynicism was the hostility component that was most significant. The authors suggest that programs could be developed for people who show hostility to cope with reactivity and stress in healthier ways. Behavioral health techniques related to finding positive activities, changing cognitive distortions, and regulating emotions are relevant here. Krantz et al. also state that chronic stress might affect hormonal and metabolic processes, such as insulin resistance, that can increase risk for atherosclerosis.

Anger and Injury

Higher levels of anger were found to increase the rate of acute injury in a 2006 study by Vinson and Arelli based on emergency room admissions. The associations changed based on type of injury, and were stronger for men than for women. Intentional harm from another person's behavior was strongly linked to anger in the victim. The reasons are not clear, but the finding can contribute to injury prevention guidelines. The influence of anger expression on wound healing (Gouin, et al. 2008) is a significant factor, more so than social support,

(continued)

negativity, and health behaviors. Trouble with anger expression can impact immune system function and recovery after surgery; patients are more likely to heal at a slower rate. Learning anger management skills to moderate and regulate feelings of anger may have a role in reducing injury and increasing wound healing.

Strategies

Williams and Williams (1993) describe several aspects of a successful anger management plan. These are characteristics of people who experience less hostility and anger and live healthier physical and emotional lives:

- People who approach life directly and with confidence.
- People who have a solid sense of their ability to change situations.
- People who perceive challenges as a goal to attain rather than as overwhelming obstacles.

Strategies to contain and manage hostility and anger, according to Williams, are broken down into these areas:

1. Think more effectively. Use reasoning skills to evaluate and react to a specific situation. Decrease the situations in life that can lead to hostile feelings and resentment.
2. Adopt positive attitudes. Identify and engage in activities you enjoy.
3. Deflect hostile thoughts and decrease anger through thought-stopping, distraction, and meditation.
4. Improve relationships. Learn to act more gently and kindly to others.

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(The article was done with the research/writing assistance of Of Alice Miele, LICSW)

FROM THE FILES:

Positive Parenting May Prevent Social Aggression in Early-Maturing Girls

Previous research as shown that early puberty in girls is related to problems such as delinquency and substance use. They may be at higher risk for aggression because they are likely to be accepted by and form relationships with older boys who are more likely than younger children to engage in undesirable behavior.

However, authors of research on early-maturing girls speculate that positive parenting may protect these girls from engaging in negative behavior.

The researchers studied 3 parenting variables: knowledge, nurturance, and communication. Knowledge involved being aware of their child's friends and social activities. Maternal nurturance was based on girls' reports of how often their mothers were supportive and affectionate and whether they shared personal problems and future plans with her and did things together. Communication was based on whether parents talked with their daughters about violence, tobacco use, puberty and sex.

Medscape Medical News, August, 2008