

Don't Go Breaking My Heart - Literally!



By *Jamie Wells, M.D.* — October 13, 2016



Don't go breaking my heart. Seriously, love —oops, I mean life— is a battlefield. Literally.

Who knew musicians had so vast an understanding of cardiology?

This week a study came out that I will invoke to abdicate personal responsibility should actual heartache consume me. I can now implore anyone I interact with to be kind and peaceful and not drive me to anger - which clearly would not be within my own control in our current culture of blame displacing - for the sake of my own heart health.

Don't you just adore scientific studies and their ability to fit your chosen narrative?!

Apparently, INTERHEART performed a large case control, 12,461 person, 52 country-wide study on the significance of anger, vigorous physical exertion and emotional upset in the hour before symptom onset of acute myocardial infarction (aka AMI = a heart attack). It claims a population-attributable risk of 7.7% with strenuous physical activity and 8.5% with anger and emotional upset. The research concludes: "Physical exertion and anger or emotional upset are triggers associated with the first AMI in all regions of the world, in men and women, and in all age groups, with no significant effect modifiers." It further asserts the consequence is additive if both factors are present during that critical time. (1)

The hypothesis being that due to our instinctual “fight or flight” response the subsequent surge of stress hormones initiates a cascade of cardiovascular events. Adrenaline and its neurotransmitter cronies wreak havoc by systemic vessel constriction. This raises heart rate, blood pressure, heart tissue oxygen demand and may compel rupture of an atherosclerotic plaque among other potential triggering scenarios. Extrapolating further, they caution that doctors should still advise patients of the health benefits of regular exercise while emphasizing short-term intense physical activity may carry a risk.

Though their findings are consistent with other data, the material need be assessed with a discerning eye. Being observational in design, it can't establish causation, is subject to recall bias and the self-reporting is not objective to name a few hindrances. This, however, doesn't mean it entirely lacks merit.

According to the World Health Organization, ischemic heart disease is the leading cause of global death. In heart attacks, cardiac muscle dies because of clots or blockages in the coronary arteries which are its vital passageways. [Chronic high stress](#) [1] is known to cause many physical problems, so this new information with respect to AMI is not turning the world on its end. That said, it is important to appreciate the damage external stressors can do.

Broken Heart Syndrome is a condition that mimics AMI. Though its cause is not fully understood, it results in heart muscle failure within minutes to hours of when a usually previously healthy person experiences severe stress - emotional or physical. Unexpected loss of a loved one. Domestic Abuse. Legal and financial trouble. Serious surgery. Situations of intense grief, surprise and anger are known culprits.

The apex of the left ventricle balloons out and the heart becomes an ineffective pump. The odd shape it maintains mimics a Japanese octopus trap, hence, its alternative name “Takotsubo Cardiomyopathy.” Chest pain and shortness of breath are common. Lab tests can be abnormal making it tough to identify. When studies demonstrate a wall movement irregularity in the absence of clogged arteries, it becomes more evident. Fortunately, if treated and discovered early, patients can do very well with symptoms resolving in a few days to weeks. Complications can arise, however, if ignored, so it is always essential to be seen urgently when enduring chest pain or the like.

One working theory includes the heart cells being temporarily stunned by stress hormones, as opposed to being killed in AMI, thereby impairing its pumping capacity. (2) It can be life threatening and lead to major setbacks (e.g. arrhythmias, heart failure, valve issues), but more often it is very treatable without long-term problems.

For those who suffer from this stress cardiomyopathy, the refrain in recommendations always encourages lifestyle modifications in better ways to manage and cope with stress. Yes, having supportive, nurturing relationships with whom you feel comfortable discussing your fears and worries can be helpful to alleviate stress. As can routine exercise, good sleep, healthy eating and relaxation therapy tricks.

Heck, these are wonderful goals. Sustaining on an hourly and daily basis is the challenge.

But, let's be realistic. We can only control what we can control. Shifting your focus to those things assuages the worry. Efforts to minimize stress in any and all aspects of life are laudable, but are they achievable? No yoga retreat can prevent a catastrophic and fatal motor vehicle accident. Learning of this news for a loved one can't be tempered no matter the delivery. But, wearing seat belts, being alert, not being under the influence and abiding by traffic laws can lessen the impact and sometimes make the difference between minor and fatal. Not always.

Life is a minefield. It is also filled with wonder. Depending on your outlook you can decide to be motivated by fear or invigorated by ambiguity. Which perspective do you think minimizes your stress levels?

Changing inciting behaviors in our loved ones is a lofty task. Or, with strangers for that matter. Altering your response to those behaviors is more likely the path that will be in your own heart's best interest.

Maybe, this study could be a useful tool to employ some guilt with family and friends when your temper or emotional compass starts to wander out of whack due to their presence? Despite being a huge proponent of accepting personal responsibility, even I can think of some rare instances where espousing "If you cared about my heart and well-being, then you wouldn't stress me" could be gratifying. Win-Win.

Sources:

- (1) Smyth A, O'Donnell M, Lamelas P, Teo K, Rangarajan S, Yusuf S. Physical Activity and Anger or Emotional Upset as Triggers of Acute Myocardial Infarction: The INTERHEART Study. *Circulation*. 2016;134:1059-1067.
- (2) NIH: National Heart, Lung, and Blood Institute: [What is Broken Heart Syndrome](#) [2]
- (3) To learn more about chronic stress, refer to my article on stamina by clicking [here](#) [1].

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[2] <http://www.nhlbi.nih.gov/health/health-topics/topics/broken-heart-syndrome#>