

How Mental Health Affects The Heart



Research, Diagnosis, and Treatment

Growing research is now showing that mental health is associated with the risk factors for many cardiovascular diseases. Mental health can affect the heart both directly, through biological connections, and indirectly, through unhealthy behavior.

Depression, anxiety, stress, mood, and PTSD, can cause physiologic effects on the body. These effects include, increased cardiac reactivity (Tachycardia and High Blood Pressure), reduced blood flow to the heart, and increased cortisol levels. If these

effects persist, calcium may build up in the arteries, metabolic disease may occur, and heart disease may be caused.

Angina, when part of the heart muscle is temporarily not able to get enough nutrients and oxygen, can be caused just by high emotion, and increases the risk of heart attack.

Heart failure, stroke, and heart attack can also be a cause for disorders such as depression, anxiety, and PTSD, making the -



risk for further cardiovascular complications greater.

Depression alone is a high risk factor for coronary artery disease, affects how well a person recovers from heart disease, and increases the risk for further heart complications.

Mental health disorders can increase a person's chance of adopting unhealthy behaviors such as smoking, drinking, inactivity, and bad food choices. This happens when a person experiencing a mental health disorder does not have a healthy coping strategy, making it difficult for them to make the healthy lifestyle choices necessary to recover properly and reduce their risk for cardiovascular disease.

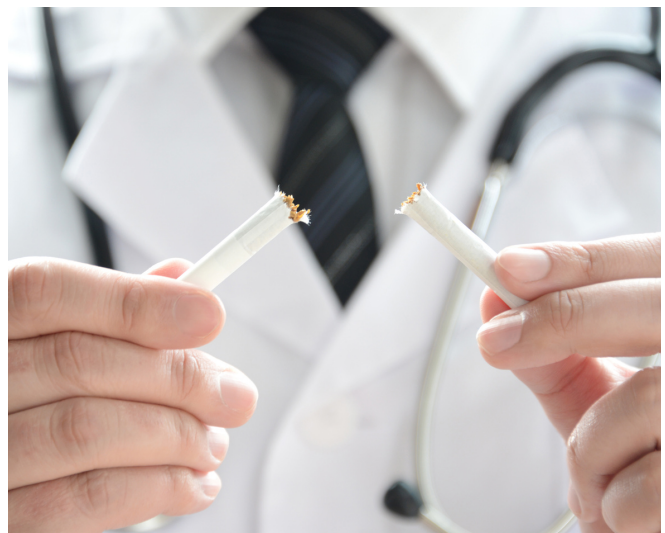
How damaging are these unhealthy side-effect behaviors?

Smoking

The nicotine in smoke can increase anxiety, tension, depression and even increase the risk of developing schizophrenia.

The temporary release of dopamine, and the shut down of the brain's own mechanism of receiving dopamine can make it not only chemically addictive, but psychologically addictive as well. This physiological dependence can make it harder for a person with depression to quit smoking. On top of worsening mental health disorders, nicotine is now known to cause rapid cognitive decline, increased risk of dementia, loss of brain volume, heightened risk of cancer, and a two to four times increased risk of stroke.

The heart also suffers from smoking. The chemicals in smoke cause damage to the heart and blood vessels directly which can lead to cardiovascular disease. On top of directly damaging your heart and blood vessels, smoke can also cause plaque, scar tissue, calcium, fat, and other materials to build up in the arteries. The build-up of these materials in the cardiovascular system can lead to a disease called atherosclerosis.

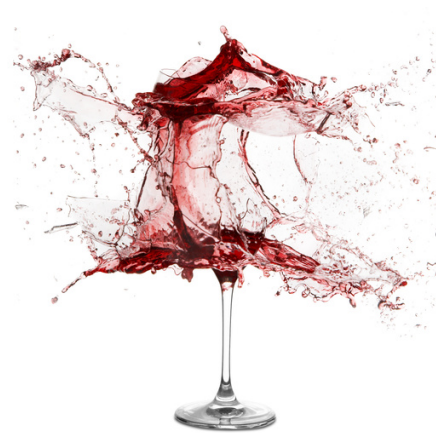


When atherosclerosis is caused and the blood in the arteries thickens, it becomes harder for blood to flow through the vessels to the heart and brain. This increased blood pressure can lead to a heart attack or stroke.

Drinking

Alcohol consumption, especially heavy alcohol consumption can have damaging effects on the brain. From memory impairment, and depression, to other debilitating conditions. Long term moderate to heavy drinking can lead to many disorders, including Wernicke's encephalopathy. This disorder caused by a thiamine deficiency causes mental confusion, paralysis of the eyes, and loss of muscle coordination.

Moderate to heavy alcohol consumption also directly damages many organs, including the heart. This damage can cause high blood pressure, heart failure, and stroke.



Over time, alcohol consumption can weaken the heart muscle, making it more difficult for the heart to pump blood through the body. This weakness causes the heart to thin and enlarge, eventually causing the heart and blood vessels to stop functioning properly. This loss of function is called cardiomyopathy.

Inactivity

Low physical activity levels can reduce blood flow in the brain, affecting memory and cognitive abilities. Activity levels also directly impact the body's insulin resistance, inflammatory response, and the release of growth factors.





The impact of exercise on the brain is extensive, allowing for better blood flow to the brain, the growth of new blood vessels, and even better survival of new developing brain cells.

Move smart, stay smart, get smarter.

Low activity level is one of the 5 major risk factors for cardiovascular disease. Physical activity and exercise is known to reduce blood pressure and bad cholesterol, while increasing the body's ability to use insulin to control glucose levels in the blood.

Unhealthy Diet

Your brain functions only as well as the quality of fuel you feed it. Your brain uses vitamins, minerals, and antioxidants to nourish the cells and protect them from oxidative stress which can damage brain cells. Low quality foods such as refined sugars are harmful to the brain, promoting inflammation and oxidative stress while decreasing your body's regulation of insulin.

Serotonin, the neurotransmitter responsible

for regulating sleep, appetite, mood, and pain, is produced in your gastrointestinal tract. This function causes the food that you eat to directly affect how you feel inside, and out.

The food you eat affects many of the cardiovascular disease risk factors including cholesterol and blood pressure. Foods with saturated and trans fat, high sodium levels, and refined sugars, damage the heart and blood vessels. Eating fruits and vegetables, whole-grain carbohydrates, and low-fat dairy products nourishes the entire body including the heart, drastically reducing the risk for heart disease.

Diagnosis

The diagnosis of mental health disorders is not always easy in someone already suffering from heart disease. The disease and disorder may share similar side effects such as tiredness and low energy levels. This makes interviews used to identify a person's mental health necessary.



Prevention and Treatment

Providing appropriate knowledge and services to support healthy behavior such as, physical activity, diet quality, and reduced smoking, can reduce the risk of a cardiovascular event.

Sleep

Getting enough sleep will improve energy levels, motivation, and mood.

Physical Activity

Being active keeps the heart, head, and body healthy. Getting outside for a walk, or bike ride just a few times a week will keep a person happy and healthy.

Eating Healthy

Eating more proteins, whole grains, and vegetables, while decreasing sugary and fatty foods, will increase energy levels, keep meals interesting, improve brain and heart health, and better the look of the body, helping mood and self-esteem.



Reducing Smoke and Alcohol

Reducing smoke and alcohol decreases their direct effects on the brain and heart while giving more time to be social, do productive tasks, all bettering life, health, and mood.

Relaxation Techniques

Relaxing activities such as reading, watching a movie, spending time with a friend, or enjoying the outdoors, takes the mind off the rest of life while giving the mind more satisfying stimuli.

Recreation

Finding that weekly activity you love, like a sport, an art class, or a baseball game, gives a positive distraction that gets you out and loving life.

Just a smile can reduce the risk of heart disease.



“A Full 12 Lead ECG will show if there are any signs of heart disease, define, and locate it. That information will help you identify the current cardiovascular state of your patient's heart, and affect what diet or exercise program you may recommend to your patient. You will want to monitor your patient's heart alongside any programs you may recommend to your patient over time.” - Roger E. Nasiff Ph.D.



Resources

[Mental Health and Heart Health - AHA](#)

[Heart Disease and Mental Health Disorders - CDC](#)

[The Head-Heart Connection - HMS](#)

[Heart Disease and Mental Health - BHG](#)

[Smoking and Mental Health - MHF](#)

[Smoking and Your Brain - HL](#)

[How Smoking Affect Heart Health - FDA](#)

[Alcohol's Damaging Effects on the Brain - NIH](#)

[Alcoholic Cardiomyopathy and Your Health - HL](#)

[Regular Exercise Changes the Brain - HMS](#)

[Exercise and Cardiovascular Health - AHA](#)

[Nutritional Psychiatry - HMS](#)

[Sleep and Mental Health - HMS](#)
