

Exposure

Exposure We all know that smoking is bad for your health. Just as smoking can lead to heart disease, cancers and many other fatal health problems, prolonged exposure to secondhand smoke can do the same. Ever walk into a smoky room and wonder how much you're breathing? In her research published at the University of California at Berkeley, Katherine Hammond found that spending two hours in the nonsmoking section of a restaurant can be equivalent to smoking 1½ cigarettes. Do you work in a smoky bar? Pull a 10-hour shift, and you may as well smoke a pack of cigarettes. It's not surprising that this year, approximately 53,000 nonsmoking Americans (PDF) will die from exposure-related illnesses and conditions — more than will die in auto accidents. But how much time can you spend in a smoky room without putting yourself at risk of health problems? Not long (PDF). In the last 20 years we've learned a lot about exposure. Spending short amounts of time in, for example, a smoky bar can have serious consequences: After 5 Minutes Your aorta stiffens as much as if you'd smoked a cigarette. The aorta is the main artery that carries blood from your heart to your body. When it stiffens, your heart has to work harder to pump blood. (Source: "Unfavorable Effects of Passive Smoking on Aortic Function in Men," *Annals of Internal Medicine*, 15 March 1998, Vol.128, No.6, 426-34.) After 20 Minutes Your blood platelets involved in the clotting process are activated as much as they are in pack-a-day smokers. As a result, you have a much greater risk of having a heart attack or stroke. These platelets can also damage the artery lining in ways that lead to cholesterol buildup. (Source: Burghuber, O.C. "Platelet sensitivity to prostacyclin in smokers and non-smokers." *National Center for Biotechnology Information*, 1986 Jul;90(1):34-8.) After 30 Minutes Your coronary arteries are compromised to the same extent as a smoker's. Usually, when you become active, the arteries that carry blood to your heart muscle can dilate, feeding your heart at a faster rate to compensate for increased activity. However, after only 30 minutes of exposure, they have a much more difficult time dilating and boosting flow to your heart muscle. As a result, your heart has to work harder with less energy to sustain itself. Your risk of having a heart attack goes up. Otsuka et al. "Acute Effects of Passive Smoking on the Coronary Circulation in Healthy Young Adults," *Journal of the American Medical Association*, July 25, 2001—Vol. 286, No. 4. After 2 Hours Two hours is equivalent to 4 cigarettes (PDF). Your heart rate may speed up, and you are at a greater risk of irregular heart beat (arrhythmia). Arrhythmia can be fatal, and it can trigger a heart attack. (Source: Pope, CA 3rd. "Acute exposure to environmental tobacco smoke and heart rate variability," *National Center for Biotechnology Information*, 2001 July, Vol.109, No.7, pp. 711-6.) Because of the number of chemicals in secondhand smoke that cause cancer, the U.S. Environmental Protection Agency categorizes it with asbestos and radon as a "Group-A Carcinogen." There is no known safe level of exposure to secondhand smoke. No ventilation system can purify the air of the more than 130 toxic chemicals found in secondhand smoke. The only solution is to keep the chemicals from filling the air in the first place.