

**INTERIM SMALLPOX FACT SHEET****SMALLPOX VACCINE AND HEART PROBLEMS**

Careful monitoring of smallpox vaccinations given over recent months has suggested that the vaccine may cause heart inflammation (myocarditis), inflammation of the membrane covering the heart (pericarditis), and/or a combination of these two problems (myopericarditis). Experts are exploring this more in depth.

Heart pain (angina) and heart attack also have been reported following smallpox vaccination. However, it is not known at this time if smallpox vaccination caused these problems or if they occurred by chance alone (heart problems are very common). Experts are investigating this question also.

Reported events are not necessarily caused by the vaccine, and some or all of these events might be coincidental.

**As a precautionary step, if you have been diagnosed by a doctor as having a heart condition with or without symptoms you should NOT get the smallpox vaccine at this time while experts continue their investigations. These include conditions such as:**

- **known coronary disease including:**
  - **previous myocardial infarction (heart attack)**
  - **angina (chest pain caused by lack of blood flow to the heart)**
- **congestive heart failure**
- **cardiomyopathy (heart muscle becomes inflamed and doesn't work as well as it should)**
- **stroke or transient ischemic attack (a "mini-stroke" that produces stroke-like symptoms but no lasting damage)**
- **chest pain or shortness of breath with activity (such as walking up stairs)**
- **other heart conditions under the care of a doctor**

**In addition, you should NOT get the smallpox vaccine if you have 3 or more of the following risk factors:**

- **You have been told by a doctor that you have high blood pressure.**
- **You have been told by a doctor that you have high blood cholesterol.**
- **You have been told by a doctor that you have diabetes or high blood sugar.**
- **You have a first degree relative (for example mother, father, brother, or sister) who had a heart condition before the age of 50.**
- **You smoke cigarettes now.**

## **SMALLPOX VACCINE AND HEART PROBLEMS**

(continued from the previous page)

These may be temporary exclusions and may change as more information is gathered.

The presence of these conditions in a close contact is not a reason for you to defer vaccination.

**If you have received the smallpox vaccine, you should see a health care provider right away if you develop chest pain, shortness of breath, or other symptoms of cardiac disease after vaccination.**

**If you have been diagnosed by a doctor as having heart disease and you have already received the smallpox vaccine, you should contact your heart disease specialist or your regular health care provider if you have questions.**

### **What has been reported?**

- **Past Experience:** Rare cases of heart inflammation following smallpox vaccination were reported in the 1960s and 1970s. Most of these did not occur in the United States and involved a different smallpox vaccine than is being used in the U.S. now.
- **Civilian Vaccinations:** Of the 25,645 civilians who had received the smallpox vaccine as of March 21, 2003, 7 reported heart problems. These included problems like angina (chest pain caused by lack of blood flow to the heart) and heart attacks. Two people who had heart attacks died. It is not known at this time if smallpox vaccination caused these events.
- **Military Vaccinations:** Between December 13, 2002 and March 31, 2003, approximately 325,000 troops received the smallpox vaccine. Eleven cases of heart inflammation have been reported among approximately 225,000 members of the military who received the vaccine for the first time (a rate of about 1 in 20,000). No such cases occurred in people who had been vaccinated before. According to the Department of Defense, one of the cases became severely ill with heart failure on March 27, 2003 and remains hospitalized as of March 31, 2003. The other 10 individuals had mild to moderate disease and have recovered.

For more information, visit [www.cdc.gov/smallpox](http://www.cdc.gov/smallpox), or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY).