

Yellow Fever Vaccine

In people over the age of 60, the decision to undergo vaccination against yellow fever can be tricky. Though relatively safe, this vaccine can cause serious and even fatal reactions and these reactions are more common in people over 60. The vaccine can cause neurologic disease such as encephalitis or Guillain-Barre syndrome. Encephalitis is a serious infection of the brain while Guillain-Barre is an infection that causes paralysis that can last for months. Both of these illnesses are very serious, but they typically resolve on their own without causing lasting damage. The vaccine can also cause a serious disease that is essentially the same as yellow fever and is fatal in over half the cases. As with other vaccines severe allergic or anaphylactic reactions are also possible. The rates of these reactions are expressed in the table below.

Events per 100,000 Doses of Vaccine:

| Age | Neurologic Disease | Yellow Fever Illness | Severe Allergic Reaction | Total | Death |
|--------------|--------------------|----------------------|--------------------------|-------|-------|
| 60-69 | 1.6 | 1.0 | 1.8 | 4.4 | .5 |
| 70 and older | 2.3 | 2.3 | 1.8 | 6.4 | 1.1 |

These risks can be compared to the risk from yellow fever illness for travelers exposed for two weeks during the season of peak transmission.

Events per 100,000 Travelers:

| Travel Destination | Illness | Death |
|--------------------|---------|-------|
| West Africa | 50 | 10 |
| South America | 5 | 1 |

These risks are estimates and are based on the risks for local residents who may have greater outdoor exposure and may not be using insect repellent, and it is likely that they overestimate the true risk for travelers. Between 1970 - 2011 there were just 9 reports of yellow fever in unvaccinated travelers. Then in December of 2016 a yellow fever epidemic started in Brazil and over the next 15 months 10 travelers would be infected and four would die. None of the travelers had been vaccinated.

The decision to undergo vaccination will be influenced by the time of year, duration of stay, amount of time spent out of doors, and the destination. In West Africa, transmission is greatest from July to October, and in South America, transmission is greatest from January to May. Some older travelers to destinations that do not mandate vaccination may reasonably decide that long sleeve shirts, long pants, hats and insect repellent may be the right choice for them. For now, however, all travelers to Brazil should be immunized against yellow fever.