May 26, 2022

Your date with COVID may not turn out so well!
So, turn down the invite – get vaccinated and boosted!

Approximately
1 in 5 adults
ages 18+ have a health condition that might be related to their previous COVID-19 illness, such as:

- Neurologic and mental health conditions*
- Cardiovascular conditions
- Kidney failure
- Respiratory conditions
- Musculoskeletal conditions
- Blood clots and vascular issues

Talk to your health care provider if you have symptoms after COVID-19

A growing number of persons previously infected with SARS-CoV-2, the virus that causes COVID-19, have reported persistent symptoms, or the onset of long-term symptoms, ≥4 weeks after acute COVID-19; these symptoms are commonly referred to as post-COVID
conditions, or long COVID. Among all patients aged ≥18 years, 38% of case-patients experienced an incident condition compared with 16% of controls; conditions affected multiple systems, and included cardiovascular, pulmonary, hematologic, renal, endocrine, gastrointestinal, musculoskeletal, neurologic, and psychiatric signs and symptoms. By age group, the highest risk ratios were for acute pulmonary embolism and respiratory signs and symptoms. These findings translate to one in five COVID-19 survivors aged 18–64 years, and one in four survivors aged ≥65 years experiencing an incident condition that might be attributable to previous COVID-19.

Differences by age group were noted. The relative risk for cardiac arrhythmia was significantly higher among patients aged 18–64 years compared with those aged ≥65 years. Similarly, the risk for musculoskeletal pain was higher among patients aged 18–64 years than among those aged ≥65 years. Among case-patients, the risks for 10 incident conditions were significantly higher among those aged ≥65 years than among those aged 18–64 years; these conditions were renal failure, thromboembolic events, cerebrovascular disease, type 2 diabetes, muscle disorders, neurologic conditions, and mental health conditions (including mood disorders, anxiety, other mental conditions, and substance-related disorders).

The occurrence of 26 clinical conditions previously attributed to post-COVID illness was assessed by review of the scientific literature (3–5) (Supplementary Table 1, https://stacks.cdc.gov/view/cdc/117411)
Since the vaccines are not 100% effective (but they still are 80% effective against the newer variants), does being vaccinated protect you from long COVID symptoms if you have a breakthrough infection? No, but the risk is lessened if you have a breakthrough infection after vaccination. In a study by the Department of Veterans Affairs (VA) involving 33,940 individuals with breakthrough infection, there was more than twice the risk of pulmonary complications, clotting and blood disorders and fatigue. They also documented higher risks of cardiovascular, GI, kidney, mental health, musculoskeletal, and neurologic disorders. The good news - compared with individuals who had COVID infection without prior vaccination, those who had been vaccinated and developed a breakthrough infection had a lower risk of death and a consistently reduced risk of blood and clotting disorders and pulmonary disorders.

**Conclusion:** Vaccines by themselves are not 100% effective at preventing infection, and do not eliminate the risk of long COVID if one develops a breakthrough infection. However, the risk is diminished. And:

- **Individuals who are unvaccinated have 4.9 times the risk of developing COVID compared to those who have had a booster vaccine.**
- **Individuals who are unvaccinated have 7.4 times the risk of hospitalization**
- **Individuals who are unvaccinated have 9.1 times the risk of death**

Get vaccinated/boosted.

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