# Protocol Long Term Cardiovascular Risk After Covid In Young Adults

# Systematic Review and Meta-Analysis Protocol: Long-Term Cardiovascular Risk After COVID-19 in Young Adults  
  
## Title  
Long-Term Cardiovascular Risk After COVID-19 in Young Adults: A Systematic Review and Meta-Analysis  
  
## Background  
COVID-19 has revealed potential cardiovascular complications beyond the acute phase. While initial concerns focused on elderly populations, emerging evidence suggests that young adults (<40 years) may also be at risk for long-term cardiovascular outcomes including myocarditis, arrhythmias, and thromboembolic events. Existing cohort studies provide scattered evidence, but a systematic synthesis could inform screening and prevention strategies for this previously low-risk population.  
  
This meta-analysis will pool risk estimates from cohort studies comparing cardiovascular outcomes in young adults with prior COVID-19 infection versus controls without infection.  
  
## Research Question  
What is the pooled risk of cardiovascular outcomes (myocarditis, arrhythmia, thromboembolism) among young adults (<40 years) with prior COVID-19 infection compared to controls?  
  
## Objectives  
1. To quantify the pooled risk of long-term cardiovascular outcomes following COVID-19 in young adults  
2. To assess heterogeneity and sources of variability across studies  
3. To evaluate the quality and bias of included studies  
4. To provide evidence-based recommendations for clinical screening and prevention  
  
## Methods  
  
### Eligibility Criteria  
  
#### Participants  
- Young adults aged 18-39 years  
- History of confirmed COVID-19 infection (based on PCR, antigen, or antibody testing)  
- Comparison groups: Non-COVID-19 controls (preferably age- and sex-matched)  
  
#### Interventions/Exposure  
- SARS-CoV-2 infection (any variant)  
  
#### Comparators  
- Individuals without confirmed COVID-19 infection  
  
#### Outcomes  
\*\*Primary Outcomes:\*\*  
- Myocarditis (diagnosed by clinical criteria, echocardiography, cardiac MRI, or biopsy)  
- Cardiac arrhythmias (atrial fibrillation, ventricular arrh...