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## Long COVID: A (somewhat) short summary of risks, symptoms, and natural course

### CLINICAL QUESTION

How common is Long COVID, what are the symptoms and how long does it last?

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### BOTTOM LINE

The presence of Long Covid (persistence of  $\geq 1$  symptom after acute infection) is found in 20-80% at 60 days post-infection, varying widely based on study design and population. Risk factors include increased age, increased severity of initial infection and female sex. Fatigue, dyspnea, and cognitive effects are the most common symptoms, but the list is long. Symptoms decline over time, but some patients will have persistent symptoms at and possibly beyond 8 months.

### EVIDENCE

- Risk of Long Covid: Results vary by population/study design and definition.
  - Solicited patient symptoms, 4 systematic reviews of observational studies: Patients reporting  $\geq 1$  symptom at ~60 days after Covid-19 diagnosis was 72%-80%.<sup>1-4</sup>

- Solicited symptoms, newer cohort studies: Patients reporting ≥1 symptom at ~60 days after Covid-19 diagnosis was 22%-44%.<sup>5-9</sup>
  - Compared to 9%-20% of 'control' (non-covid) patients report ≥1 symptom (statistically different).<sup>5,6</sup>
- Seeking care for Long Covid: ~15% at ≤144 days.<sup>10</sup>
  - Compared to ~9% of control patients and ~13% of patients with other past lower respiratory tract infections.
- Common symptoms: Four systematic reviews pooled results of 10-45 studies and 1,876-47,910 patients.<sup>1-4</sup>
  - Most common symptoms at ~60 days are fatigue 40-58%, dyspnea 24-37%, anosmia 17-24%, memory loss/cognitive decline/confusion 7-28%, cough 14-19%, atypical chest pain/discomfort 13-24%, anxiety/depression 12-22%, headache 12-44%, insomnia/sleep troubles 11-29%, loss of taste 9-23%, general pain/discomfort/myalgia/joint pain 15-25%.
- Risk factors for Long Covid: Studies of predictors of Long Covid are inconsistent.
  - Likely predictors (~2x higher risk): Female sex, more severe initial infections (or more initial symptoms), and increasing age.<sup>5,8,9,11</sup>
- Objective/imaging findings: Cannot clarify what findings precede Covid.
  - MRI study in 201 severe (42% had ≥10 symptoms) Long Covid patients found inflammation of pancreas, liver or heart in 12-19% versus 0-6% of controls.<sup>12</sup>
  - 177 previously hospitalized Covid patients (mean age 57, 62% male) with ≥1 symptom at 90-120 days.<sup>13</sup>
    - Lung CT: 63% abnormal (ground glass 2/3 or fibrotic lesion 1/3).
    - Cognition testing (example MoCa): 38% impaired (not defined).
- Effect of time:
  - Newer cohorts: Patients followed at three time points:
    - ≥1 symptom at 60 days=26%, 120 days=21%, 240 days=15%.<sup>6</sup>
    - Individual symptoms (like dyspnea) follow similar patterns, example:
      - Anosmia: 60 days=15%, 120 days=11%, 240 days=9%.
    - Others find similar declines in symptoms over time, but longer studies required.<sup>2,5,7,11</sup>
- Children: Evidence is scant, but children likely have a lower risk of Long COVID.<sup>14</sup>

## CONTEXT

- Prolonged health issues can occur after other serious infections (example lower respiratory tract infections).<sup>9,10</sup>
  - Guidance documents of Long COVID are growing.<sup>15-18</sup>
    - Some<sup>15,16</sup> advise approaching work-up/management on individual primary symptom(s).
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*Authors do not have any conflicts of interest to declare.*