

What is Covid-age?

Covid-age is a tool to help assess an individual's overall vulnerability to Covid-19. It is simple, it is evidence-based, and it allows us to summarise a range of risk factors into a single figure; these factors include age, sex, and ethnicity, not just comorbidities. Covid-age does not provide an exact measure, so when it is used to calculate vulnerability from medical conditions, particularly multiple medical conditions, clinical judgement must also be used. Covid-age is intended as an occupational health tool to help assess fitness for work. It is not intended for use in clinical treatment pathways.

How does it work?

We chose 'age' as the basis for the tool because age represents the greatest risk factor for death from Covid; for example, a healthy white man age 60 has over thirty times the risk of a healthy white man age 20. Sex and BMI are also important. A healthy white man has twice the risk of a healthy white woman of the same age; having a BMI of 40 increases the risk by two and a half times. We had to choose a group as the comparator; we chose healthy white men. So, an individual's Covid-age illustrates their vulnerability. Someone with a Covid-age of 25 has the same vulnerability as a healthy white man age 25. Someone with a Covid-age of 55 has the same vulnerability as a healthy white man age 55. Women automatically subtract 8 years when calculating Covid-age; the tool also allows us to recognise the increased vulnerability of ethnic groups as an added factor.

How do I calculate Covid-age?

To calculate Covid-age, just take the person's biological age and add up any additional factors from the table. For example:

- a healthy white woman, age 40, has a Covid-age of $(40-8) = 32$ years
- a white man age 45, BMI 36 with severe asthma, has a Covid-age of $(45+5+4) = 54$ years.
- an Asian woman age 50 with Type 2 diabetes HbA1c >58, has a Covid-age of $(50-8+5+10) = 57$ years.

What do I do with Covid-age?

Employers will want to know what to do with 'Covid-age'. It is generally easiest to place workers into different vulnerability *groups* based on their Covid-age. They can then be given different roles or protection depending on the nature of their work and their vulnerability.

Many employers such as the NHS will want around four groups, 'very high, high, moderate and low vulnerability'. Some employers may want fewer groups; for example, a professional football club may only need two; those who can play and those who cannot.

For more details see:

<https://www.medrxiv.org/content/10.1101/2020.05.21.20108969v1.full.pdf>

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