

## What is 'vulnerability'?

The risk that someone will die from Covid-19 infection is a combination of the risk that they will get the infection, and the risk that, once infected, they will develop serious illness and die ('vulnerability').

The risk that someone will get the infection through work can be reduced through control measures that minimise workplace exposure and through use of personal protective equipment. If the risk that someone will get the infection through work remains higher than their risk of becoming infected outside work, then, for the individual worker, their personal vulnerability becomes important.

## What is Covid-age?

Covid-age is a simple, easy to use tool that helps assess an individual's vulnerability to Covid-19. It is based on published evidence for the main risk factors. Age was chosen as the basis for the tool because the evidence shows age is the greatest risk factor for death from Covid-19; for example, in comparison with a healthy person aged 20, a healthy person aged 60 has more than 30 times the risk of dying if they contract Covid-19.

Covid-age summarises vulnerability for combinations of risk factors including age, sex, ethnicity and various health problems. It works by "translating" the risk associated with each risk factor into years which are added to (or subtracted from) an individual's actual age. This then gives a single overall measure of vulnerability. It can be used in people with no underlying medical conditions or multiple medical conditions. One measure combines all of an individual's risk factors with their actual age.

Covid-age does not provide an exact measure, so when it is used to calculate vulnerability from medical conditions, and particularly multiple medical conditions, clinical judgement must also be used by a suitably qualified health professional. It is intended as part of an occupational health assessment of fitness for work. It is not intended for use in clinical treatment pathways.

## How do I use Covid-age?

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

1. A healthy white woman, aged 40, has a Covid-age of  $(40-8) = 32$  years
2. A white man aged 45, BMI 36 with severe asthma, has a Covid-age of  $(45+5+4) = 54$  years.
3. An Asian woman aged 50 with Type 2 diabetes has a Covid-age of  $(50-8+4+9) = 55$  years.

The Covid-age scale is based on the vulnerability of healthy white men. So, for example:

- Someone with a Covid-age of 25 has the same vulnerability as a healthy white man aged 25.
- Someone with a Covid-age of 55 has the same vulnerability as a healthy white man aged 55.

The 45-year-old man in example 2 above has the same vulnerability as a healthy white man aged 54 years; in example 3 the 50 year old Asian woman has the same vulnerability as a healthy white man aged 55 years.

Employers will want to know what to do with 'Covid-age'. One simple approach is to put 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, their vulnerability group, and the expected level of Covid-19 in the local population.

The table below is a suggested practical grouping, given the current prevalence of Covid-19 in the UK. If in the future prevalence falls, it may then be reasonable for vulnerable workers to undertake a wider range of work.

<b>Vulnerability level</b>	<b>Definition</b>	<b>Workplace considerations</b>
<b>Very High</b>  <b>Covid-age</b> <b>Mid-70s and</b> <b>above</b>	High risk of death if infection occurs.  Those who must take great care when they leave the security of their own home.	Ideally work from home.  If attending work, the risk should not be significantly greater than the risk within their own home.  Ensure low likelihood of anyone breaching social distancing. Ensure they can maintain good personal hygiene with low likelihood of contacting contaminated objects and surfaces.
<b>High</b>  <b>Covid-age</b> <b>60s to mid-</b> <b>70s</b>	High risk of becoming hospitalised and seriously ill if infection occurs.  Those who can leave their home to go shopping or for a walk in the park, and associate freely with other members of their household.	OK to attend work if the risk of doing so is no greater than the risk of shopping in the local supermarket, or social distancing in the streets, parks and countryside.  Keep the risk in the workplace as low as reasonably practicable by redeployment or controls including PPE.  Clinical work, care work and working closely with others (such as teaching, sharing a vehicle, using public transport) may be possible provided controls (e.g. screens, PPE) are effective in managing the risk.  Some individuals in essential roles may be asked to accept a higher risk and agree to do so where this can be justified.
<b>Moderate</b>  <b>Covid-age</b> <b>40s and 50s</b>	Those who are much less likely to develop severe disease if infection occurs	A moderately increased risk of infection may be accepted where there are no reasonably practicable means of reducing it further.  Includes clinical work with higher hazard and risk levels, or roles where physical control or restraint is required, or where additional risk has to be accepted and can be justified.
<b>Low</b>  <b>Covid-age</b> <b>below 40</b>	Those who are very unlikely to develop serious illness if infection occurs	Increased risk of infection may be accepted where there are no reasonably practicable means of reducing it further.
<b>Pregnancy</b>	No current evidence of significantly increased risk to mother or baby unless mother has significant medical problems	Current advice is to minimise the risk to pregnant women, while allowing them to choose whether to attend work and what role to undertake at work. Risk should be reduced as far as reasonably practicable.  Advised to avoid roles where a degree of risk cannot be avoided, such as clinical work, care work and working closely with others