How dangerous are new mutations of the SARS-CoV-2 virus and what should we advise patients with regard to these mutations?

What the research says
Several variants of concern (VOCs) have been identified to date. Current VOCs appear to be more transmissible than previous variants and some may differ in terms of the severity of disease they cause. Early indications suggest that VOC Alpha (formerly B1.1.7) might be associated with higher rates of symptomatic infections based on case and hospitalization rates (Hornby et al 2021). While initial observational data suggested an increased risk for hospitalization and death associated with VOC Alpha (NERVTAG 2021), a study among hospitalized patients has not found an increase in disease severity associated with this variant (Frampton et al 2021). However, this variant has been associated with increased infection rates among children and younger adults in some countries including the US, Canada and Israel (Duong 2021). While some new variants appear to be causing more illness in younger people (clinical observation) this may be due to higher levels of testing or higher levels of exposure in these younger age groups and the presence of a true causative relationship has not been established. The efficacy of SARS-CoV-2 vaccines against all current VOCs is under active surveillance. Evidence of efficacy has so far been reported for the Oxford/AstraZeneca vaccine against the Alpha (>74%) and for the Novavax vaccine against the Alpha (89.3%) and Beta (formerly B.1.351 VOC; 49.4%; ECDPD 2021).

What this means for your clinical practice
- Current evidence suggests that the SARS-CoV-2 VOCs may be associated with higher rates of community transmission. Remain vigilant for potential SARS-CoV-2 infection in patients of all ages presenting for care.
  - Continue to follow National guidance on infection control in primary care including triaging patients, use of personal protective equipment, cleaning and ventilation of clinical areas.
  - Be vigilant for COVID-19 symptoms regardless of patient age.
- There is a potential for reduced effectiveness of current SARS-CoV-2 vaccines against VOCs (and other variants) and it is possible that revaccination may be required in the short term as the situation evolves.
  - As available evidence continues to support the efficacy of current vaccines against VOCs continue to offer vaccination as per National guidance.
- Consider testing for SARS-CoV-2 infection in anyone of any age exhibiting symptoms suggestive of COVID-19 illness according to availability of test services and National guidance. Continue to offer advice to patients to take steps to maintain social distancing where possible as per National guidance.
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**Source:** Adapted from Centres for Disease Control (USA). ‘SARS-CoV-2 Variant Classifications and Definitions’ (published 1 June 2021)

**Last updated:** 1 June 2021

<table>
<thead>
<tr>
<th>Variant</th>
<th>Effect on transmission</th>
<th>Effect on disease severity</th>
<th>Effect on vaccine efficacy</th>
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| Alpha (formerly B.1.1.7)  
First detected in the UK | ~50% increased | Potential increased severity based on hospitalization and case fatality rates | Not known |
| Beta (formerly B1.351)  
First detected in South Africa | ~50% increased | Not known | Indications of reduced efficacy |
| Gamma (formerly P.1)  
First detected in Japan/Brazil | Not known | Not known | Not known |
| Delta (formerly B.1.617.2)  
First detected in India | Not known | Not known | Not known |
| Epsilon (formerly B.1.427/B.1.429)  
First detected in the USA | ~20% increased | Not known | Not known |


*Classed as a variant of interest by the WHO
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Useful links and supporting references


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