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Interim recommendations for acute care hospitals concerning the circulation of new Covid-19 variants

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Introduction

Several important SARS-CoV-2 variants have lately been identified, such as the VOC (variant of concern) - 202012/01 (also called 501Y.V1, an isolate belonging to lineage B.1.1.7; first reported in the United Kingdom), variant 501Y.V2 (lineage B.1.1.351, South Africa) and most recently, the 501Y-variant of the lineage B.1.1.248 (Japan/Brazil). [ECDC; Lauring; NIID Japan] While studies suggest VOC-202012/01 to be more transmissible, further characteristics of this and other variants, such as severity of disease or potential escape from immunity/reduced effectiveness of immunization are yet to be determined. [ECDC; Lauring] However, currently available evidence does not indicate higher virulence per se, but rather a higher potential for spread and cross-infection. [Volz et al]

Increasing circulation of these variants has been reported in many countries. The VOC-20212/01 already has become the predominant strain in parts of the United Kingdom and is also circulating in Switzerland. Most recent sequencing data from the Canton of Geneva suggests that replacement of other strains by the UK variant has already started. Therefore, the FOPH aims to slow down the new variants' spread through enhanced surveillance and targeted contact tracing measures in order to allow sufficient time to vaccinate risk groups. [BAG] Some reference laboratories are upgrading their molecular diagnostic tools and testing pathways for faster detection of new variants.

The actual impact of new SARS-CoV-2 variants on **acute care hospitals** is a matter of ongoing investigation. Very preliminary data indicate that infectiousness is higher, possibly due to higher viral load and increased affinity to the host ACE2 receptor (through alteration of the receptor binding domain of the spike). [Volz; Lauring; Rambaut] More transmissible new variants are likely to result in additional admissions and higher pressure on healthcare facilities, but also increase the likelihood of nosocomial outbreaks, thus posing a risk to non-Covid-19 patients and HCWs. The risk increases in particular when standard and isolation precautions are not adequately observed.

In accordance with FOPH guidance concerning new SARS-CoV-2 variants in different settings, [BAG] Swissnoso provides the following interim recommendations for acute care hospitals, especially those without a dedicated microbiology laboratory on site.

Recommendations concerning the circulation of new Covid-19 variants

Preparedness

Strict standard hygiene precautions	Regularly remind all staff about importance of strict adherence to standard hygiene precautions
Create awareness among frontline staff for recognition of potential index cases with new variants (new admissions or inpatients)	**Suspect case(s) of new Covid-19 variant infection** especially in the following situations[i]: - The patient reports recent travel/contact with people travelling to relevant foreign countries - Unusually high caseload situations or rapidly increasing clusters
Optimize laboratory diagnostic resources and fast referral for variant testing of positive samples from potential new-variant index cases	- Check if your local laboratory offers testing for variants. If not, identify a reference laboratory where RNA extracts can be sent to for further analysis (N501Y PCR costs covered by FOPH)[ii] - Adapt testing pathways to ensure rapid detection of variant cases through dedicated molecular (PCR) assays, followed or accompanied by targeted and representative sequencing
Access to Covid-19 vaccination	Vaccines should be given to high-risk patients, HCW, and other target groups (as outlined by the FOPH) as soon as they are available for them.

Early detection

Suspected index cases to undergo rapid laboratory testing for new variant[ii]	The local infection team should be informed by the laboratory about new cases.

Also see → FOPH guidance [BAG]

[i] Also consider new variant infection in cases with persistently elevated viral load over an unusually prolonged period.

[ii] Suspected new variants, e.g. 501Y.V1 and 501Y.V2 in SARS-CoV-2 positive cases can be detected via PCR assays targeting the N501Y mutation [BAG]. Laboratories should declare suspected new variants via mandatory reporting (e.g. ISM) and rapidly refer the sample for genome sequencing in order to confirm characteristic gene mutations. FOPH List of laboratories information under: https://www.bag.admin.ch/dam/bag/de/dokumente/biomed/heilmittel/COVID-19/labore-pcr-varianten.pdf.download.pdf/Liste%20der%20Labore%20mir%20etablierter%20N501Y-mutationsspezifischer%20PCR%20(18.01.2021).pdf

Rapid control and prevention *According to local/cantonal guidelines and in consultation with local hospital infection prevention and control team*

Strict adherence to *combined droplet and contact* isolation for suspected and confirmed cases	At present there is no evidence for the benefit of additional precaution measures for new variants. Ensure strict adherence to ***combined droplet and contact* isolation precautions for** suspected/confirmed cases.[iii] Cohorting of cases is possible (irrespective of whether wild-type or variant SARS-CoV-2).
Confirmed cases: *Tracking and testing* of unprotected contacts (patients and HCWs)	Contact tracing[iv] and testing of all unprotected contacts, with testing on *day 0 and 5* after the last exposure (or at least on *day 5*).

Also see → other Swissnoso recommendations on Covid-19 https://www.swissnoso.ch/forschung-entwicklung/aktuelle-ereignisse/

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[iii] Suspected cases can be managed with isolation precautions at the patient bedside, in case of limited single rooms

[iv] Tracing of contacts of contacts may be considered (in alignment with cantonal health authorities) [BAG]