

PERSONNEL DE SOINS AVEC INFECTION COVID-19

RAG électronique 20/01/2021

QUESTION

Le 26/10/2020, le RAG a émis un avis sur les exceptions à l'isolement pour le personnel de soins COVID+, afin d'assurer la continuité des soins. Cet avis comporte l'introduction suivante : " *L'incidence des infections au COVID-19 dans la population et le nombre de patients hospitalisés pour COVID-19 augmentent, les clusters sont plus nombreux dans les MRS et un nombre accru de personnel de santé est absent en raison d'une infection due au COVID-19 (isolement) ou d'une exposition (quarantaine). Une question a donc été posée pour évaluer la possibilité que le personnel de soins de santé ayant une infection COVID-19 puissent continuer à travailler dans les établissements et institutions de soins de santé (hôpitaux, maisons de repos, autres institutions de soins, travailleurs de la santé en soins primaires,...), y compris dans les services non COVID. "La même question est à nouveau posée au RAG 14 mois plus tard, alors que l'on s'inquiète du nombre élevé d'infections par le variant Omicron.*

RECOMMANDATIONS

1. **Il n'est pas recommandé de déployer des membres du personnel de soins COVID+ pendant leur période d'isolement.**
2. Si une pénurie de personnel est prévue, tous les moyens possibles doivent être explorés pour l'éviter : renforcement des NPIs dans la société et au sein des établissements de santé, recours à du personnel temporaire ou à des bénévoles, augmentation des possibilités de télétravail/téléconsultations, détournement du personnel des activités non essentielles/non urgentes...
3. L'exception existante est maintenue, selon laquelle le personnel COVID+ asymptomatique peut être déployé dans des unités COVID (c'est-à-dire une unité comptant uniquement des patients COVID-19) dans des conditions strictes si c'est la seule possibilité de maintenir la continuité des soins. Cette exception doit être limitée au personnel entièrement vacciné mais peut également être appliquée, si nécessaire, aux travailleurs de la santé ayant un test Ag rapide positif (précédemment interdit, car on s'attend à ce qu'un test Ag rapide positif indique une charge virale plus élevée).
4. En tout dernier recours, lorsque toutes les autres options ont été épuisées, et uniquement pour éviter que des patients ayant besoin d'aide ne restent pas sans les soins nécessaires, il peut être envisagé de déployer le personnel soignant COVID+ pendant leur période d'isolement dans des unités non-COVID. La décision sur l'acceptabilité de cette option nécessite un équilibre minutieux entre la sécurité individuelle du patient, le coût sociétal des maladies non traitées, l'équilibre délicat de la continuité des activités et le bien-être du personnel. Le RAG recommande donc une discussion plus large avec les autres stakeholders avant d'appliquer cette mesure. Les unités ou collectivités dont les patients/résidents présentent un risque accru de maladie grave (par exemple, les maisons de repos, les unités d'oncologie, les unités de transplantation...) devraient être les toutes dernières à déployer du personnel COVID+.

5. Si la décision est prise de déployer du personnel de soins COVID+ dans des unités non-COVID, cela ne peut se faire que pour le personnel :
 - a. avec une vaccination complète
ET
 - b. n'ayant pas présenté de symptômes de COVID-19 au cours des dernières 24 heures¹
ET
 - c. après au moins 5 jours d'isolement OU
au moins 3 jours d'isolement et un résultat négatif au test RAT (l'autotest n'est pas autorisé)
ET
 - d. le membre du personnel accepte de mettre fin à l'isolement de manière anticipée
ET
 - e. des mesures strictes de contrôle et de la prévention des infections sont prises : port d'un masque FFP2 à tout moment et hygiène stricte des mains, pauses déjeuner/café séparées des collègues, pas d'utilisation des transports publics, dans la mesure du possible utilisation de vestiaires et d'entrées séparées
6. Comme pour les exceptions précédentes, cela ne doit jamais être le travailleur de la santé lui-même qui prend la décision de reprendre le travail avant la fin de la période officielle d'isolement. Cette exception ne peut être appliquée que par les hôpitaux et les établissements de soins et la décision doit être prise par la direction conjointement avec le médecin de travail/hygiéniste. Il convient de tenir un registre indiquant quel personnel COVID+ a été employé, quand et dans quel service.

CONTEXT

Current procedures

Quarantine:

After a high-risk exposure, including exposure in the household, fully vaccinated staff is allowed to continue working provided they are asymptomatic and wear an FFP2-mask at all times when around others.

There are no additional exceptions for healthcare staff.

Isolation:

The duration of isolation was shortened to 7 days after symptom onset (or after positive test if person remains asymptomatic) of which at least 72h without fever and improvement of other symptoms. The period of isolation is followed by an additional 3 days where extensive precautions need to be taken, e.g. wearing an FFP2-mask when around others.

In the event of acute shortage of staff, an asymptomatic HCW with a positive PCR test can exceptionally be deployed to a COVID-19 department if this is the only possibility to ensure continuity of care. This can only be done under strict conditions:

- all contact with colleagues and other persons should be avoided
 - o this implies wherever possible the use of separate entrances, changing rooms, break rooms etc
- the HCW agrees to come to work
- the viral load is low (as quantified by PCR or with a negative rapid Ag-test)

¹ à l'exception d'une anosmie/dysgueusie ou d'une toux sèche pouvant persister longtemps

Infectious period of the Omicron variant and influence of vaccination

(For completeness, a relevant paragraph of the [RAG advice of 04/01/2022](#) is repeated below)

Viral loads and viral dynamics do not only depend on the variant of concern but can also be influenced by characteristics of the infected person (age, sex, vaccination status) and are dynamic over the course of infection. It is therefore not easy to compare different findings.

Kissler et al. previously described viral dynamics in a longitudinally followed cohort of healthy young male athletes (1). Comparing 36 participants infected with the alpha variant, 36 with the delta variant and 41 participants with “wild-type” infection did not yield any differences in mean peak viral load or clearance of infection by virus variant. In contrast, comparing infections between vaccinated and unvaccinated individuals also showed similar peak viral loads, but a faster clearance of infection in vaccinated individuals (mean clearance 5.5 days for vaccinated, compared to 7.5 days for unvaccinated). That **vaccination status, and not previously circulating VOCs, influenced the speed of clearance of infection** was confirmed in another large high-quality study of Singanayagam et al. (2). However, as pre-existing immunity seems to influence Omicron infections less, it is unclear whether this advantage for vaccinated individuals would remain.

To account for inter-individual differences and safely end isolation early for some, whilst maintaining isolation for highly-infectious individuals, Quilty et al. modelled the effect of repeated self-testing (3). According to their analysis, **the number of infectious days in the community can be reduced to almost zero by requiring at least 2 consecutive days of negative tests**. Since, as described above, faster clearance is expected in vaccinated individuals, **test-to-release policies save fewer days in unvaccinated individuals** and would require a larger number of tests. Regarding Omicron, if the shorter incubation/proliferation time would be confirmed, this would increase the number of days saved and reduce the number of tests needed. An important caveat is that the **modelling assumes a sensitivity of the self-tests of 89% and a specificity of 99%, which seems high compared to previously described results** (see annex advice 04/01 for an overview). Moreover, it is as of yet unclear to which extent the sensitivity of rapid antigen tests is maintained for Omicron. Preliminary results from evaluations [in the UK](#) and [the Netherlands](#) are reassuring, but the [US FDA issued a warning](#) regarding possible reduced sensitivity, based on their preliminary evaluation results, and one in-vitro [study in Switzerland](#) found a lower sensitivity in detecting Omicron compared to previous variants by some tests.

Two pre-print studies, both with relative small sample sizes, have been identified that evaluate the duration of infectiousness for the Omicron variant.

In Japan, 21 individuals infected with the Omicron variant underwent daily PCR-testing (4). All cases were either mild (n=17) or asymptomatic (n=4) and almost all cases were vaccinated (19/21 = 90%). Peak viral load was around day 3-6, with still relatively high viral loads day 7-9 and a marked decrease after 10 days. As it is difficult to translate Ct-values to infectiousness, the authors also attempted viral culture. Importantly, **virus cultures were still positive for 3 out of 16 symptomatic cases (19%) day 7-9 after symptom onset**. As a positive viral culture is thought to equate infectiousness, this raises questions about the safety of ending isolation early. For all 4 asymptomatic cases, viral culture was negative from at least 6 days after initial positive test.

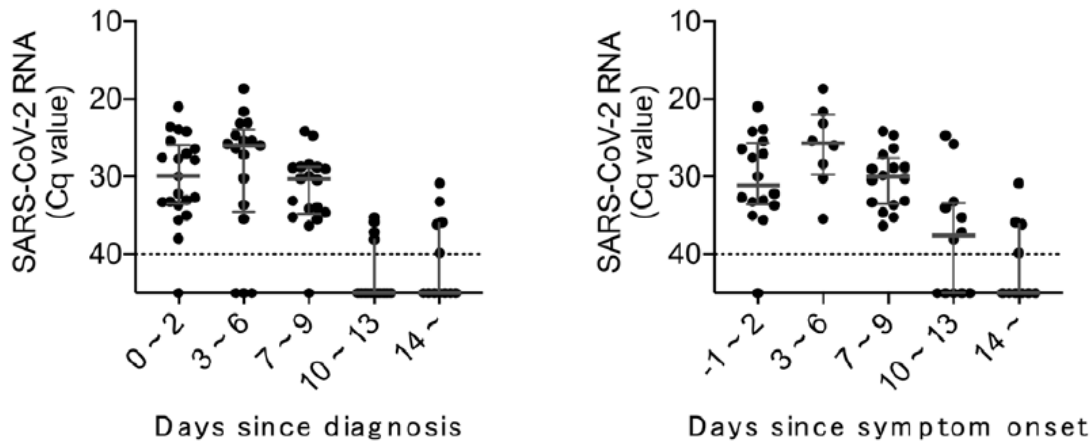


Fig 1. Evolution of viral load in Omicron-infections. *Source: NIIDDC (4)*

The second pre-print study evaluates testing data from the National Basketball Association in the US (5). Of note is that the tested population includes mostly healthy young men. When comparing 97 Omicron infected-individuals with 107 Delta-infections, overall time to PCR-negativity was slightly shorter for Omicron (9.87 days [95% CI 8.83-10.9]) than for Delta (10.9 days [9.41-12.41]), although confidence intervals overlap. The authors also note that the observed difference might be related to other factors than the variant in itself, as they did not account for prior immunity or vaccination status.

As in the Japanese study, a high proportion of cases still had Ct-values of <30 (used as a proxy for infectiousness) >5 days after the initial positive test (see Figure 2). After day 10, virtually all samples had a Ct-value of ≥ 30 . Of note is that days are counted from the first positive test (and hence, for the orange curve, day 1 could e.g. represent day 3 after symptom onset if there was a delay in testing) and that not all participants were followed up until a negative test result was obtained. Hence the true proportion of individuals with Ct-values >30 might be higher than depicted in Figure 2.

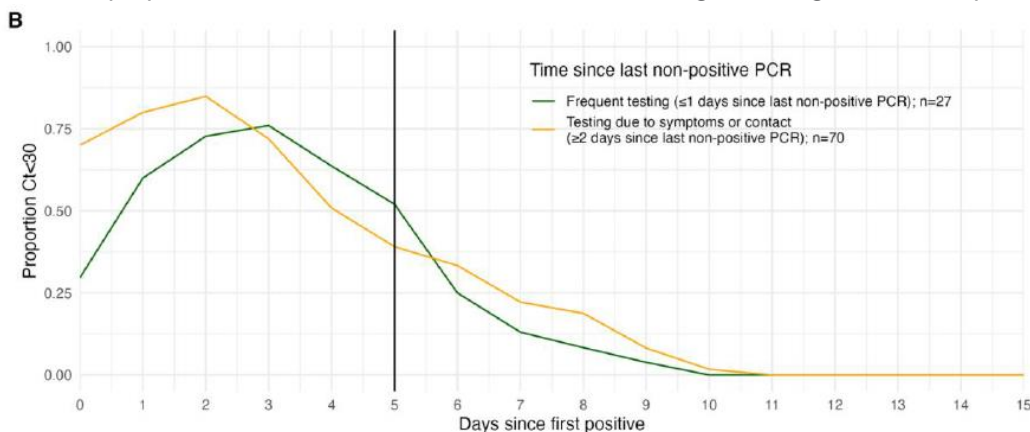


Fig 2. Evolution of the proportion of potentially infectious individuals (as represented by Ct-value <30) per day post first positive test for Omicron-infections. *Source: Hay et al (5)*

International guidance

All international guidelines state as a general rule that people with a positive test should self-isolate. The RAG advice of 03/01/2021 holds an overview of standard duration of isolation in other countries early January, which was between 5 and 14 days.

ECDC

On the 7th of January, ECDC issued [guidance on options for a shortened isolation](#) in case of high or extreme pressure on healthcare systems and society. They note “*The available scientific evidence to support any change to the existing quarantine and isolation guidance is currently limited. Therefore, the suggested options are based on a pragmatic approach, taking into account the need to uphold critical functions in society.*” and **preferentially stick to an isolation period of minimum 6 days for vaccinated cases and minimum 10 days for unvaccinated cases**. The table below presents options for crisis-situations.

	High pressure	Extreme pressure
Vaccinated* cases	3d after symptom onset + 24h without fever + negative RAT/PCR D3 + 3d FFP2	3d after symptom onset + 24h without fever (+ negative RAT/PCR) +5d FFP2
Unvaccinated cases	5d after symptom onset + negative RAT/PCR D5 + 24h without fever + 5d FFP2	5d after symptom onset + 24h without fever (+ negative RAT/PCR) +5d FFP2

*boosted or <6 months after primary vaccination. For regions with Omicron dominance <3m after primary vaccination

CDC

The US CDC issued [recommendations in the context of Omicron](#) to shorten the isolation period to 5 days after symptom onset + 5 additional days of mask-wearing for the general population. They however maintain more strict rules for healthcare workers if possible. In times of crisis, they also present options:

Work Restrictions for HCP With SARS-CoV-2 Infection and Exposures

HCP are considered “boosted” if they have received all COVID-19 vaccine doses, including a booster dose, as recommended by CDC. HCP are considered “vaccinated” or “unvaccinated” if they have NOT received all COVID-19 vaccine doses, including a booster dose, as recommended by CDC.

For more details, including recommendations for healthcare personnel who are immunocompromised, refer to Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2 (conventional standards) and Strategies to Mitigate Healthcare Personnel Staffing Shortages (contingency and crisis standards).

Work Restrictions for HCP With SARS-CoV-2 Infection

Vaccination Status	Conventional	Contingency	Crisis
Boosted, Vaccinated, or Unvaccinated	10 days OR 7 days with negative test [†] , if asymptomatic or mildly symptomatic (with improving symptoms)	5 days with/without negative test, if asymptomatic or mildly symptomatic (with improving symptoms)	No work restriction, with prioritization considerations (e.g., asymptomatic or mildly symptomatic)

Work Restrictions for Asymptomatic HCP with Exposures

Vaccination Status	Conventional	Contingency	Crisis
Boosted	No work restrictions, with negative test on days 2 [‡] and 5–7	No work restrictions	No work restrictions
Vaccinated or Unvaccinated, even if within 90 days of prior infection	10 days OR 7 days with negative test	No work restriction with negative tests on days 1 [‡] , 2, 3, & 5–7	No work restrictions (test if possible)

[†]Negative test result within 48 hours before returning to work
[‡]For calculating day of test: 1) for those with infection consider day of symptom onset (or first positive test if asymptomatic) as day 0; 2) for those with exposure consider day of exposure as day 0

ELEMENTS OF DISCUSSION

- Allowing (asymptomatic) infected HCWs taking care of other patients (even exclusively COVID+) is against all basic principles of epidemic/infection control.
- In case of nosocomial transmission originating from a known COVID+ HCW, this might cause liability issues as well as emotional distress for the involved HCWs.
- Despite a seemingly reduced severity for Omicron, reduced vaccine-induced protection and potential increased transmissibility for Omicron might make deployment of COVID+ HCWs especially problematic in the current setting.
- Not all current absences/sick leaves are related to COVID-infections. Other reasons are e.g. demotivation, burn out, ... Allowing infected HCWs to work will not solve the problem of shortage and might even negatively impact on these other reasons.
- Hospitals should remain safe spaces that are trusted by the public. Employing COVID+ staff might damage the trust of the general public and lead to (more) delay in seeking healthcare for non-COVID conditions.
- The duration of isolation and quarantine was already recently adjusted.
- It is important to give clear messages to the public. Exempting certain professions from the obligation to self-isolate in case of a positive test, might jeopardize compliance with self-isolation in the wider population and lead to increased demand of exceptions for other professions too.
- On the other hand, sometimes it might be safer to deploy a COVID+ HCW rather than not being able to provide care to patients due to severe understaffing. Also, a significant proportion of infections in the community might go undetected (although hospitals still have screening in place and more strict rules than elsewhere in society), so the known COVID+ HCWs might only represent a fraction of all COVID+ HCWs and the focus should rather be on general infection prevention measures.
- Past experiences with “exceptions” for quarantine in HCWs learned that they were applied more as a general rule than an exception. The pressure might be high on HCWs to go working even if they have COVID-19, also outside a setting of extreme shortage of staff.
- In case HCWs with suspected or confirmed COVID-19 need to be deployed, the following elements need to be taken into consideration:
 - the extent to which departments for COVID-19 patients are separated from the other departments (different entrances, different changing room, break space, etc.);
 - related to the HCW:
 - symptoms and type;
 - stage of the illness;
 - level of viral shedding, based semi-quantitative reporting standards if tested by PCR
 - diagnostic test: PCR vs. Antigen;
 - degree of interaction with patients and other HCP in the facility;
 - type of patients they care for (e.g., immunocompromised patients or only patients with SARS-CoV-2 infection);
 - transport mean used to come to work;
 - earlier (or existing) seroconversion does currently not confer protection against reinfection.

L'avis a été envoyé pour input à tous les experts énumérés ci-dessous. Ceux en gras ont apporté une contribution active.

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