ZORGPERSONEEL MET EEN COVID-19 INFECTIE

elektronisch RAG 20/01/2021

VRAAG

Op 26/10/2020 bracht de RAG een advies uit over uitzonderingen op isolatie voor COVID+ zorgpersoneel, om de continuïteit van zorg te waarborgen. Dat advies heeft de volgende inleiding: "*De incidentie van COVID-19 infecties in de bevolking en het aantal in het ziekenhuis opgenomen COVID-19 patiënten neemt toe, er komen meer clusters voor in woonzorgcentra en een toenemend aantal medewerkers in de gezondheidszorg is afwezig vanwege een COVID-19 infectie (isolatie) of blootstelling (quarantaine). Daarom werd een vraag gesteld om na te gaan of gezondheidswerkers met een COVID-19-infectie kunnen blijven werken in zorginstellingen en -praktijken (ziekenhuizen, verpleeghuizen, andere zorginstellingen, eerstelijnszorg...), ook op niet-COVID-afdelingen.*" Precies dezelfde vraag wordt 14 maanden later opnieuw aan de RAG gesteld, nu met het oog op de bezorgdheid over het hoge aantal infecties met de Omicron-variant.

AANBEVELINGEN

1. **Het wordt niet aanbevolen om COVID+ zorgpersoneel in te zetten tijdens hun isolatieperiode.**
2. Als een personeelstekort wordt verwacht, moeten alle mogelijke middelen worden onderzocht om dit te voorkomen: versterking van de NPI's in de samenleving en binnen de zorginstellingen, gebruik maken van tijdelijk personeel of vrijwilligers, meer mogelijkheden voor telewerken/teleconsulten, personeel afleiden van niet-essentiële/niet-dringende activiteiten...
3. De bestaande uitzondering voor asymptomatisch COVID+-personeel wordt behouden, namelijk dat ze onder strikte voorwaarden kunnen worden ingezet in COVID-eenheden (d.w.z. een eenheid met uitsluitend COVID-19-patiënten) als dit de enige mogelijkheid is om de continuïteit van de zorg te handhaven. Deze uitzondering moet beperkt blijven tot volledig gevaccineerd personeel, maar kan zo nodig ook worden toegepast op zorgpersoneel met een positieve snelle Ag-test (voorheen verboden, aangezien verwacht wordt dat een positieve RAT wijst op een hogere virale belasting).

4. In allerlaatste instantie, wanneer alle andere opties zijn uitgeput, en alleen om te voorkomen dat hulpbehoevende patiënten verstoken blijven van de nodige zorg, kan worden overwogen om COVID+ zorgpersoneel in te zetten tijdens hun periode van isolatie in niet-COVID-eenheden. Om te beslissen of dit een aanvaardbare optie zou zijn, moet een zorgvuldige afweging worden gemaakt tussen de veiligheid van de individuele patiënt, de maatschappelijke kosten van onbehandelde ziekte, het delicate evenwicht van de bedrijfscontinuïteit en het welzijn van de werknemers. De **RAG beveelt daarom een bredere discussie met andere belanghebbenden aan alvorens dit toe te passen**. Eenheden of collectiviteiten met patiënten/bewoners met een verhoogd risico op ernstige ziekte (bv. woonzorgcentra, oncologie-eenheden, transplantatie-eenheden...) zouden als allerlaatste COVID+-personeel moeten inzetten.
5. Indien wordt beslist om COVID+ zorgpersoneel in te zetten in niet-COVID eenheden, kan dit enkel gebeuren voor zorgpersoneel dat:
    a. volledig gevaccineerd is
    EN
    b. in de afgelopen 24u geen COVID-19 symptomen vertoond heeft[1]
    EN
    c. ten minste 5 dagen in isolatie heeft doorgebracht OF
    ten minste 3 dagen in isolatie plus een negatieve RAT (zelftesten niet toegestaan)
    EN
    d. de zorgverlener stemt ermee in de isolatie voortijdig te beëindigen
    EN
    e. strikte infectiepreventiemaatregelen worden genomen: het dragen van een FFP2-masker te allen tijde, en strikte handhygiëne, lunch- en koffiepauzes apart van collega's, geen gebruik van openbaar vervoer, waar mogelijk gebruik van aparte kleedkamers en ingangen.

[1] met uitzondering van anosmie/dysgeusie of een droge hoest die lange tijd kan aanhouden

6. Net als bij de vorige uitzonderingen mag het nooit de zorgverlener zelf zijn die de beslissing neemt om vóór het einde van de officiële isolatieperiode weer aan het werk te gaan. De uitzondering kan alleen worden toegepast door ziekenhuizen en zorginstellingen en de beslissing moet worden genomen door de directie samen met de bedrijfsarts/hygiënist. Er moet een register worden bijgehouden van het COVID+-personeel met vermelding van wanneer en in welke dienst ze werden tewerkgesteld.

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
    - 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)

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.

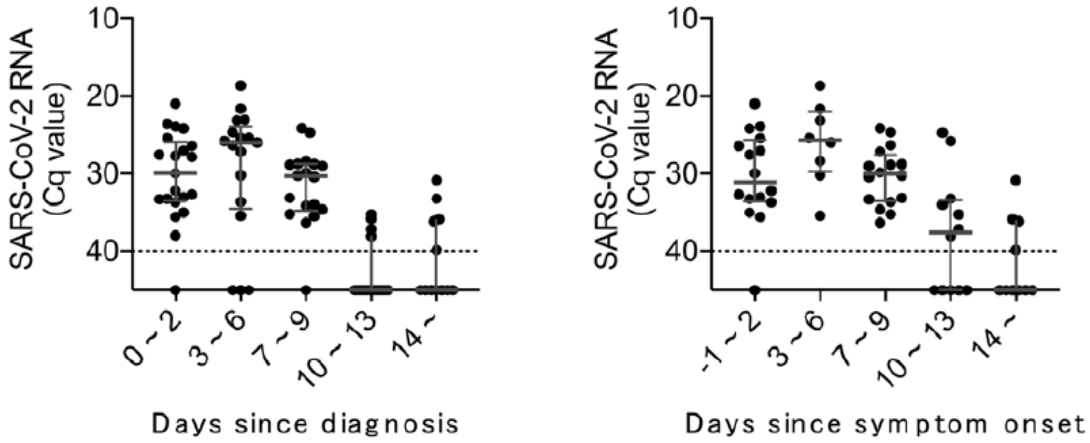


Fig 1. Evolution of viral load in Omicron-infections. *Source: NIIDDC (4)*

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.

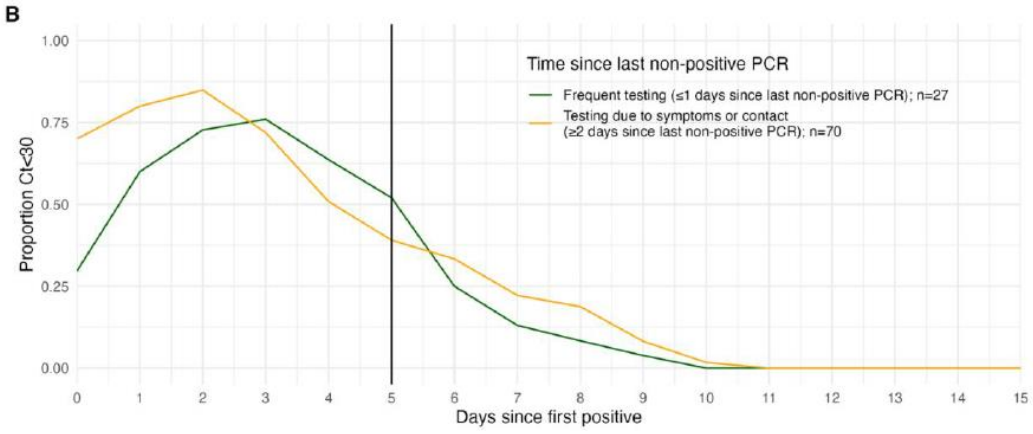


Fig 2. Evolution of the proportion of potentially infectious individuals (as represented by Ct-value <30) per day post first positive test for Omicron-infections. *Source: Hay et al (5)*

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

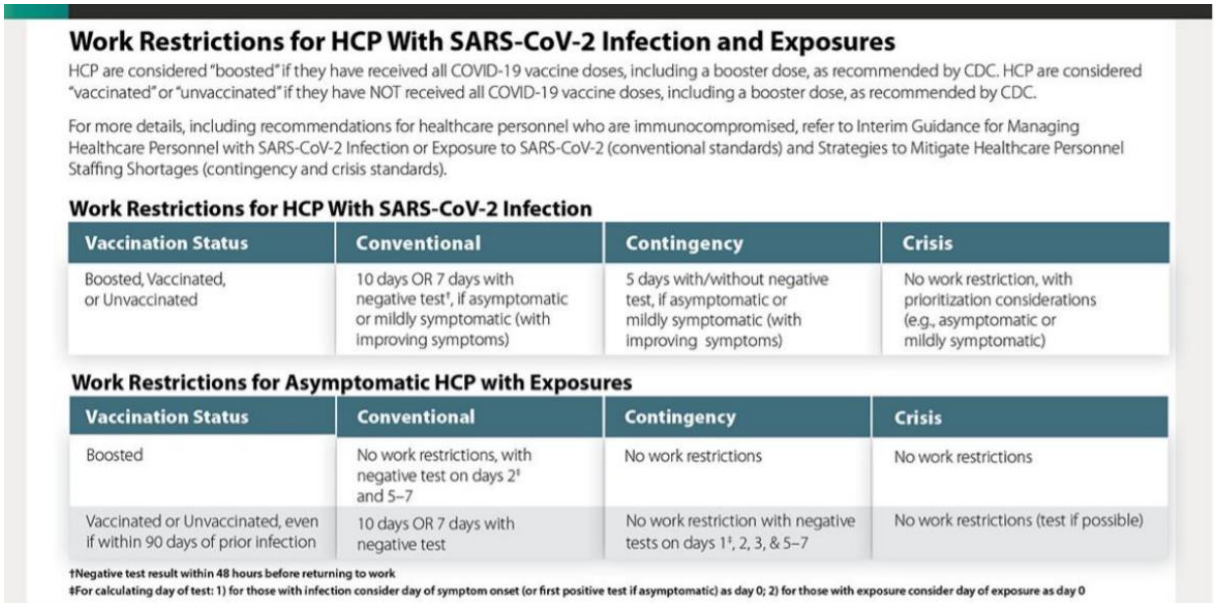
On the 7th of January, ECDC issued guidance on options for a shortened isolation in case of high or extreme pressure on healthcare systems and society. They note "*The available scientific evidence to support any change to the existing quarantine and isolation guidance is currently limited. Therefore, 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 vax

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.

Het advies werd voor feedback toegezonden aan alle hieronder vermelde experten. De experten wiens naam vetgedrukt staat, hebben een actieve bijdrage geleverd.

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REFERENTIES

1. Kissler SM, Fauver JR, Mack C, Tai CG, Breban MI, Watkins AE, et al. Viral Dynamics of SARS-CoV-2 Variants in Vaccinated and Unvaccinated Persons. New England Journal of Medicine. 2021 Dec 23;385(26):2489-91.

2. Singanayagam A, Hakki S, Dunning J, Madon KJ, Crone MA, Koycheva A, et al. Community transmission and viral load kinetics of the SARS-CoV-2 delta (B.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study. The Lancet Infectious Diseases [Internet]. 2021 Oct 29 [cited 2021 Dec 31];0(0). Beschikbaar via: https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00648-4/fulltext

3. Quilty B, Pulliam J, Pearson CAB. Test tot vrijlating uit isolatie na positief testen op SARS-CoV-2 [Internet]. CMMID Repository. 2021 [geciteerd 2021 dec 30]. Beschikbaar via: https://cmmid.github.io/topics/covid19/test-to-release.html

4. Nationaal Instituut voor Besmettelijke Ziekten Ziektebeheersing en Preventiecentrum. Actief epidemiologisch onderzoek naar SARS-CoV-2-infectie veroorzaakt door Omicron-variant (Pango lineage B.1.1.529) in Japan: voorlopig verslag over infectieperiode. 2022 Jan 5 [geciteerd 2022 Jan 10]; Beschikbaar via: https://www.niid.go.jp/niid/en/2019-ncov-e/10884-covid19-66-en.html

5. Hay J, Kissler S, Fauver JR, Mack C, Tai CG, Samant RM, et al. Virale dynamiek en duur van PCR-positiviteit van de SARS-CoV-2 Omicron-variant. 2022 [geciteerd 2022 jan 17]; Beschikbaar via: https://dash.harvard.edu/handle/1/37370587