



The following information resources have been selected by the National Health Library and Knowledge Service Evidence Virtual Team in response to your question. The resources are listed in our estimated order of relevance to practicing healthcare professionals confronted with this scenario in an Irish context. In respect of the evolving global situation and rapidly changing evidence base, it is advised to use hyperlinked sources in this document to ensure that the information you are disseminating to the public or applying in clinical practice is the most current, valid and accurate. For further information on the methodology used in the compilation of this document — including a complete list of sources consulted — please see our [National Health Library and Knowledge Service Summary of Evidence Protocol](#).

QUESTION 188

Is there evidence that SARS-CoV-2 can be bloodborne and spread by needle-stick injuries/blood transfusions?



Is there evidence that SARS-CoV-2 can be bloodborne and spread by needle-stick injuries/blood transfusions?

Main Points

1. In general, respiratory viruses are not known to be transmitted by blood transfusion, and there have been no reported cases of transfusion-transmitted coronavirus.
2. Bloodborne transmission has not been reported in the literature. The likelihood of bloodborne transmission is low. While the virus has been detected in blood, the presence of the virus or viral components does not equate with infectivity.
3. Individuals are not at risk of contracting COVID-19 through the blood donation process or via a blood transfusion.
4. As there is still a theoretical risk of transmission, routine blood donor screening measures should be in place to prevent individuals with clinical respiratory infections from donating blood and ensuring the safety of the blood supply.



Summary of Evidence

Individuals are not at risk of contracting COVID-19 through the blood donation process or via a blood transfusion, since respiratory viruses are generally not known to be transmitted by donation or transfusion (4, 5, 8).

SARS-CoV-2 RNA in blood has been reported in some studies that have tested for it (8,14). However, the likelihood of bloodborne transmission (e.g. through blood products or needlesticks) appears low (8, 19). There is no evidence that Covid-19 has been transmitted by blood transfusion (1, 4, 5, 6). All available high quality evidence indicates that blood-borne transmission of COVID-19 is unlikely but there remains a theoretical risk (3, 4, 13, 10, 11, 14, 19).

There are numerous reports in the scientific literature of blood transfusions from patients infected with COVID-19 where the virus did not transmit to the recipients (11, 12, 13, 15, 16, 17, 18).

Though the risk is minimal, routine blood donor screening measures should be in place to prevent those with respiratory infections from donating blood and ways to mitigate this risk have been suggested in the literature (1, 9, 10, 13, 14, 18).



Irish and/or International Guidance

What does the Irish Blood Transfusion Service say?¹

[Covid-19 / Coronavirus](#)

- There is no evidence that Covid-19 has been transmitted by blood transfusion.

What does the World Health Organization say?

[Transmission of SARS-CoV-2: implications for infection prevention precautions](#)²

Some studies have reported detection of SARS-CoV-2 RNA, in either plasma or serum, and the virus can replicate in blood cells. However, the role of bloodborne transmission remains uncertain; and low viral titers in plasma and serum suggest that the risk of transmission through this route may be low.

What does the European Centre for Disease Prevention and Control say?

[Coronavirus disease 2019 \(COVID-19\) and supply of substances of human origin in the EU/EEA - second update](#)³

Based on the current evidence, blood-borne transmission of COVID-19 seems unlikely. However, given the relatively short time that has elapsed since the outbreak of the virus, the possibility of COVID-19 transmission by transfusion in the future cannot be completely excluded. Therefore with the current status of knowledge, the risk of transfusion-transmitted COVID-19 remains theoretical.



Peripheral blood immune cells, including T cells, B cells, NK cells, NKT cells and monocytes, express low levels of ACE2 (<5%). A higher proportion of ACE2-expressing cells was found in haematopoietic peripheral cells (HPCs) and the highest in haematopoietic stem cells (HSCs). The presence of ACE2 means that the SARS-CoV-2 virus can enter these cells. The effects of viral infection on the function of immune and haematopoietic cells is under investigation. Ex vivo studies show that, exposure to the SARS-CoV-2 S protein alters the functional proliferation/expansion of HSCs and HPCs. A recent study demonstrated that SARS-CoV-2 can infect CD4+T cells but does not actively replicate within the host T cells. Case reports showed that haematopoietic cell transplantation (HCT) from pre-symptomatic donors with a viral RNA-positive nasopharyngeal sample did not cause COVID-19 in the recipient. The absence of SARS-CoV-2 transmission via HCT or blood transfusion, and the uncertainty surrounding the possibility of virus replication in HSC, suggest that the risk of COVID-19 transmission by HCT and chimeric antigen receptor T cells (CAR T-cells) therapy is theoretical.

What does the U.S. Food & Drug Administration say?

[COVID-19 Frequently Asked Questions](#)⁴

Q: Can SARS-CoV-2, the virus that causes COVID-19, be transmitted by blood transfusion?

A: In general, respiratory viruses are not known to be transmitted by blood transfusion, and there have been no reported cases of transfusion-transmitted coronavirus.

What does the American Association of Blood Banks say?

[Statement on Coronavirus and Blood Donation](#)⁵

The Task Force reminds the public that:



- Individuals are not at risk of contracting COVID-19 through the blood donation process or via a blood transfusion, since respiratory viruses are generally not known to be transmitted by donation or transfusion. The U.S. Food and Drug Administration continues to report that there have been no reported or suspected cases of transfusion-transmitted COVID-19 to date. In addition, no cases of transfusion-transmission were ever reported for the other two coronaviruses that emerged during the past two decades (SARS, the Severe Acute Respiratory Syndrome Coronavirus, and MERS-CoV, which causes Mideast Respiratory Syndrome).
- Routine blood donor screening measures – which may include travel deferrals – are already in place to prevent individuals with clinical respiratory infections from donating blood and ensuring the safety of the blood supply.

What does NHS Blood and Transplant say?

[Coronavirus: latest advice](#)⁶

Q: Can you tell me if I've had coronavirus?

A: No, we do not routinely test for coronavirus because there is no evidence it is transmitted through blood donation.



Point-of-Care Tools

What does BMJ Best Practice say?

[Coronavirus disease 2019 \(COVID-19\)](#)⁷

Transmission via other body fluids (including sexual transmission or bloodborne transmission) has not been reported. While the virus has been detected in blood, cerebrospinal fluid, pericardial fluid, pleural fluid, urine, semen, saliva, ocular tissue including the cornea, tears, and conjunctival secretions, as well as in the middle ear and mastoid, the presence of virus or viral components does not equate with infectivity.

What does UpToDate say?

[Coronavirus disease 2019 \(COVID-19\): Epidemiology, virology, and prevention](#)⁸

Detection of SARS-CoV-2 RNA in blood has also been reported in some but not all studies that have tested for it. However, the likelihood of bloodborne transmission (eg, through blood products or needlesticks) appears low; respiratory viruses are generally not transmitted through the bloodborne route, and transfusion-transmitted infection has not been reported for SARS-CoV-2 or for the related Middle East respiratory syndrome coronavirus (MERS-CoV) or SARS-CoV.



International Literature

What does the international literature say?

[Ngo et al \(2020\). Blood Banking and Transfusion Medicine Challenges During the COVID-19 Pandemic \[Review\]⁹](#)

Several measures were adopted by all blood donation centers and blood drives to prevent transmission of SARS-CoV-2. Measures included temperature screening for all donors and staff before entry into the donation centers, social distancing (>6 feet) when possible, disinfecting machines and surfaces between donations, having donors and staff wear face masks, use of hand sanitizer before and during the donation process, and increased spacing between beds. These preventative practices echoed the Centers of Disease Control (CDC) guidelines and were similarly implemented in other blood donation centers.

[Chang et al \(2020\). Coronavirus Disease 2019: Coronaviruses and Blood Safety \[Review\]¹⁰](#)

The World Health Organization declared COVID-19 in China as a Public Health Emergency of International Concern. Two other coronavirus infections—SARS in 2002–2003 and Middle East Respiratory Syndrome (MERS) in 2012—both caused severe respiratory syndrome in humans. All 3 of these emerging infectious diseases leading to a global spread are caused by β -coronaviruses. Although coronaviruses usually infect the upper or lower respiratory tract, viral shedding in plasma or serum is common. Therefore, there is still a theoretical risk of transmission of coronaviruses through the transfusion of labile blood products. Because more and more asymptomatic infections are being found among COVID-19 cases,



considerations of blood safety and coronaviruses have arisen especially in endemic areas. In this review, we detail current evidence and understanding of the transmission of SARS-CoV, MERS-CoV, and SARS-CoV-2 through blood products as of February 10, 2020, and also discuss pathogen inactivation methods on coronaviruses.

[Leblanc et al \(2020\). Risk of transmission of severe acute respiratory syndrome coronavirus 2 by transfusion: A literature review¹¹](#)

The emergence of the novel coronavirus in Wuhan, China, at the end of 2019 and its worldwide spread to reach the pandemic stage has raised concerns about the possible risk that it might be transmissible by transfusion. This theoretical risk is further supported by reports of the detection of viral RNA in the blood of some infected individuals. To further address this risk, a thorough PubMed literature search was performed to systematically identify studies reporting data on the detection of SARS-CoV-2 RNA in blood or its components. Complementary searches were done to identify articles reporting data on the in vitro infectivity of blood components. At least 23 articles presenting data on the detection of SARS-CoV-2 RNA in blood, plasma, or serum were identified. Of these, three studies reported on blood donors with COVID-19 infection identified after donation, and no cases of transfusion transmission were identified. A few studies mentioned results of in vitro infectivity assays of blood components in permissive cell lines, none of which were able to detect infectious virus in blood or its components. Complementary searches have identified reports demonstrating that the correlation between the presence of viral RNA in a biologic sample and infectivity requires a minimal RNA load, which is rarely, if ever, observed in blood components. Overall, the



available evidence suggests that the risk of transmission of SARS-CoV-2 by transfusion remains theoretical.

[Corman et al \(2020\). SARS-CoV-2 asymptomatic and symptomatic patients and risk for transfusion transmission \[Case Series\]](#)¹²

Oral swabs, sputum, and blood samples from 18 asymptomatic and symptomatic patients with SARS-CoV-2 infection were examined using RT-PCR testing in order to assess the risk of transfusion-related transmission. In asymptomatic patients as well as patients with flu-like symptoms and fever, no SARS-CoV-2 RNA could be detected in the blood or serum despite a clearly positive result in all throat swabs. As patients with symptoms of infectious disease will not be admitted to blood donation, the risk for transfusion transmission of SARS-CoV-2 seems to be negligible.

[Bassil et al \(2020\) Is blood transfusion safe during the COVID-19 pandemic? \[Editorial\]](#)¹³

In the absence of evidence-based guidelines, the international community has adopted conservative measures to ensure the safety of blood products at the level of blood donation. The recommendations suggest the education of donors on self-deferring in exposed or symptomatic patients and informing the blood center if they develop COVID-19-related symptoms within 28 days of donation. Patients who had or were exposed to COVID-19 had to self-defer for at least 28 days. It was also recommended to quarantine the blood products until the donor is considered safe defined by the 'absence of a reported subsequent illness' and recall the blood components if the donor became symptomatic or reported contact with a certified case within 14-28 days of donation.

The published literature has reported on the occurrence of blood transfusions from patients infected with COVID-



19 in several instances. The transfusion of platelets from a donor revealed to be infected with COVID-19, three days after platelet donation to a patient diagnosed with severe aplastic anaemia did not contaminate the recipient, who did not develop any symptoms of COVID-19. Similarly, blood and platelet transfusion to nine recipients from COVID-19-positive donors who donated before they became symptomatic (a minimum of 3 days interval between the blood donation and the onset of symptoms), did not transmit the virus to the recipients. The viral load of asymptomatic patients may be insufficient to transmit the infection to the blood recipient or may be neutralized during certain blood manipulations.

Blood banks are endeavouring to avoid blood products coming from revealed positive donors as well as exposed and asymptomatic donors. However, as screening tests are unreliable at the donor or blood donation level, the blood preparation process may be the best safety checkpoint to ensure that the transfusion is not contaminated.

[Katz et al \(2020\). Is SARS-CoV-2 transfusion transmitted? \[Editorial\]](#)¹⁴

A number of published studies report that the RNA of SARS-CoV-2, the virus causing pandemic COVID-19, is detected in the blood, plasma, or serum of infected people. Unsurprisingly, some of these reports include RNA detection in blood donors. This gives rise to the obvious question: Is SARS-CoV-2 a transfusion-transmitted infection (TTI)? If it is, does it cause a transfusion-transmitted disease (TTD)? We do not know; we think it is unlikely, but we have not proven the negative.

As is always the case, judicious transfusion practice is among the most important measures for decreasing TTI/TTD



risk. It is no surprise that our colleagues in the bleeding disorders community have addressed their risk of SARS-CoV-2 TTD from labile components most appropriately: “treatment decisions should be based on clinical risk/benefit analysis balancing the safety of not treating a bleeding event and any residual risk of acquiring another infection”.

[Cappy et al \(2020\). No evidence of SARS-CoV-2 transfusion transmission despite RNA detection in blood donors showing symptoms after donation \[Letter\]](#)¹⁵

In the context of the SARS-CoV-2 pandemic, we relied on the French hemovigilance network to investigate the presence of SARS-CoV-2 RNA in the plasma of blood donors reporting COVID-19-like symptoms after donation or in donations involved in recipient-initiated trace-back studies, whenever a patient developed symptoms related to COVID-19 shortly after a blood transfusion.

In conclusion, although SARS-CoV-2 transfusion transmission risk cannot be totally excluded, we demonstrated that viremia was extremely rare in asymptomatic blood donors, viral RNA levels were very low when detected, and the corresponding plasma was not infectious in cell culture. The presence in the plasma of nucleic acid related to emerging viruses for which transmission by blood is not the natural mode of contamination does not necessarily imply a threat to blood safety. Proving transfusion transmission is extremely difficult in real time, and hemovigilance is therefore a major corner stone of blood safety.

[Luzzi et al \(2020\). COVID-19: Further evidence of no transfusion transmission \[Letter\]](#)¹⁶



In our service, we had 5 donors who experienced COVID-19 symptoms after donation whose blood products have already been transfused to patients. The time between the donation and the COVID-19-related symptoms varied from one to eight days. Two donors had the COVID-19 diagnosis confirmed by PCR, while two confirmed the infection through anti-SARS-CoV-2 immunoassays and two had presumptive diagnosis. There were nine blood products derived from the donations: six platelet units, one red blood cell unit and two granulocyte concentrates. All but one of the nine recipients were immunosuppressed and none presented COVID-19-related symptoms after the transfusions.

In summary, we provide here further evidence that SARS-CoV-2 infection is not transfusion-transmitted. This is very important information for transfusion services, as it sheds light on the fact that testing blood donors with immunoassays to detect anti-SARS-CoV-2 antibodies is not recommended unless the goal is to provide an epidemiological overview of the infection.

[Kwon et al \(2020\). Post-donation COVID-19 identification in blood donors \[Commentary\]¹⁷](#)

In conclusion, no recipients of platelets or red blood cell transfusions from donors diagnosed with SARS-CoV-2 infection following donation developed COVID-19-related symptoms or tested positive for SARS-CoV-2 RNA. Therefore, transfusion transmission of SARS-CoV-2 to recipients did not occur. Even though transfusion to these nine recipients all occurred before the donors developed symptoms or were diagnosed as COVID-19, to prevent blood products being transfused at the earliest possible moment, it is optimal for blood services to receive the



details of all confirmed COVID-19 cases from their health authorities and not solely rely on post-donation information provided by blood donors. As of 9 March 2020, the KRCBS is receiving the list of all COVID-19 cases identified in Korea for cross referencing to donors to trace recipients or recall any blood products not transfused and to apply a 3-month deferral for future donations.

[Cho et al \(2020\). COVID-19 transmission and blood transfusion: A case report¹⁸](#)

COVID-19 can be transmitted from asymptomatic individuals; this feature may play a critical role in this pandemic status. Furthermore, the mean incubation period for SARS-CoV-2 infection has been reported to be from 0 to 14 days. In this case, transfusion of blood products obtained from infected individuals who had not yet developed signs and symptoms of COVID-19 did not result in disease transmission, even though, the platelet recipient was diagnosed with very severe aplastic anaemia and was taking immunosuppressive drugs.

Interestingly, there are existing pathogen inactivation technologies that might minimise the risk of transmission of SARS-CoV-2 via blood transfusion; coronaviruses are highly susceptible to heat inactivation and/or denaturation at acidic or basic pH, although there is concern that these methodologies might damage blood components. The American Association of Blood Banks (AABB) and the Centers for Disease Control and Prevention (CDC) currently do not recommend any specific SARS-CoV-2-related actions by blood collection establishments. Meanwhile, the European Center for Disease Prevention and Control (ECDC) suggests a precautionary deferral from donation of blood for 21 days after any possible exposure to confirmed patients. Additionally, those recovering



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from COVID-19 should avoid donating blood for at least 28 days after symptom resolution and completion of therapy.



Other

[National \[California, USA\] PEPLINE Recommendations on Percutaneous Exposures to SARS-CoV-2 in Occupational Settings](#)¹⁹

QUESTION

Is there a risk of percutaneous SARS-CoV-2 transmission via blood following a needlestick or other sharps injury involving a source person who has or might have SARS-CoV-2, the virus that causes COVID-19?

RESPONSE

SARS-CoV-2 is not considered a blood-borne pathogen. SARS-CoV-2 is a respiratory virus; respiratory viruses are not known to be transmitted by blood. Although percutaneous transmission of SARS-CoV-2 from blood may be a theoretical concern, the risk of such an occurrence is believed to be negligible and no cases have been reported to date.



Produced by the members of the National Health Library and Knowledge Service Evidence Team†. Current as at 10 February 2021. This evidence summary collates the best available evidence at the time of writing and does not replace clinical judgement or guidance. Emerging literature or subsequent developments in respect of COVID-19 may require amendment to the information or sources listed in the document. Although all reasonable care has been taken in the compilation of content, the National Health Library and Knowledge Service Evidence Team makes no representations or warranties expressed or implied as to the accuracy or suitability of the information or sources listed in the document. This evidence summary is the property of the National Health Library and Knowledge Service and subsequent re-use or distribution in whole or in part should include acknowledgement of the service.



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The following PICO(T) was used as a basis for the evidence summary:

P Population person location condition/patient characteristic	MEDICAL PROFESSIONALS WORKING WITH NEEDLES/PATIENTS RECEIVING BLOOD TRANSFUSIONS
I Intervention length location type	BLOOD OF THOSE WHO HAVE TESTED POSITIVE FOR SARS-COV-2
C Comparison another intervention no intervention location of the intervention	
O Outcome	AVOID SARS-COV-2 INFECTION

The following search strategy was used:

("COVID-19" OR CORONAVIRUS OR "WUHAN VIRUS" OR "2019-NCOV" OR "SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2" OR "2019 NOVEL CORONAVIRUS" OR "2019 NEW CORONAVIRUS")

AND (BLOOD TRANSFUSION OR BLOOD EXCHANGE OR BLOOD INFUSION OR BLOOD REPLACEMENT OR HEMOTHERAPY OR MULTITRANSFUSION OR POLYTRANSFUSION OR RETRANSFUSION OR TRANSFUSION BLOOD OR TRANSFUSION THERAPY)

AND (VIRUS TRANSMISSION OR TRANSMITTED OR TRANSMISSING OR SPREAD)

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- ¹ Irish Blood Transfusion Service (2020). Covid-19 / Coronavirus. <https://www.giveblood.ie/can-i-give-blood/covid-19-coronavirus/> [Accessed 09 February 2020].
- ² World Health Organization (2020). Transmission of SARS-CoV-2: implications for infection prevention precautions. <https://www.who.int/news-room/commentaries/detail/transmission-of-sars-cov-2-implications-for-infection-prevention-precautions> [Accessed 09 February 2020].
- ³ European Centre for Disease Prevention and Control (2020). Coronavirus disease 2019 (COVID-19) and supply of substances of human origin in the EU/EEA - second update. <https://www.ecdc.europa.eu/sites/default/files/documents/covid-19-supply-substances-human-origin-second-update.pdf> [Accessed 09 February 2020].
- ⁴ U.S. Food & Drug Administration (2020). COVID-19 Frequently Asked Questions. <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-frequently-asked-questions> [Accessed 09 February 2020].
- ⁵ American Association of Blood Banks (2020). Statement on Coronavirus and Blood Donation. <https://www.aabb.org/regulatory-and-advocacy/regulatory-affairs/infectious-diseases/coronavirus/statement-on-coronavirus-and-blood-donation> [Accessed 09 February 2020].
- ⁶ Irish Blood Transfusion Service (2020). Covid-19 / Coronavirus. <https://www.giveblood.ie/can-i-give-blood/covid-19-coronavirus/> [Accessed 09 February 2020].
- ⁷ BMJ Best Practice (2021). Coronavirus disease 2019 (COVID-19). [https://bestpractice.bmj.com/topics/en-gb/3000201?q=Coronavirus%20disease%202019%20\(COVID-19\)&c=recentlyviewed](https://bestpractice.bmj.com/topics/en-gb/3000201?q=Coronavirus%20disease%202019%20(COVID-19)&c=recentlyviewed) [Accessed 09 February 2020].
- ⁸ UpToDate (2021). Coronavirus disease 2019 (COVID-19): Epidemiology, virology, and prevention. <https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19-epidemiology-virology-and-prevention> [Accessed 09 February 2020].
- ⁹ Ngo A, Masel D, Cahill C, Blumberg N, Refaai MA. Blood Banking and Transfusion Medicine Challenges During the COVID-19 Pandemic. *Clin Lab Med.* 2020;40(4):587-601. doi:10.1016/j.cll.2020.08.013
- ¹⁰ Chang L, Yan Y, Wang L. Coronavirus Disease 2019: Coronaviruses and Blood Safety. *Transfus Med Rev.* 2020 Apr;34(2):75-80. doi: 10.1016/j.tmr.2020.02.003. Epub 2020 Feb 21. PMID: 32107119; PMCID: PMC7135848.
- ¹¹ Leblanc JF, Germain M, Delage G, O'Brien S, Drews SJ, Lewin A. Risk of transmission of severe acute respiratory syndrome coronavirus 2 by transfusion: A literature review. *Transfusion.* 2020 Dec;60(12):3046-3054. doi: 10.1111/trf.16056. Epub 2020 Sep 1. PMID: 32798237; PMCID: PMC7461295.
- ¹² Corman VM, Rabenau HF, Adams O, Oberle D, Funk MB, Keller-Stanislawski B, Timm J, Drosten C, Ciesek S. SARS-CoV-2 asymptomatic and symptomatic patients and risk for transfusion transmission. *Transfusion.* 2020 Jun;60(6):1119-1122. doi: 10.1111/trf.15841. Epub 2020 May 27. PMID: 32361996; PMCID: PMC7267331.
- ¹³ Bassil J, Rassy E, Kattan J. Is blood transfusion safe during the COVID-19 pandemic? *Future Sci OA.* 2020 Sep 17;6(9):FSO626. doi: 10.2144/foa-2020-0116. doi:10.2144/foa-2020-0116.
- ¹⁴ Katz LM. Is SARS-CoV-2 transfusion transmitted? *Transfusion.* 2020 Jun;60(6):1111-1114. doi: 10.1111/trf.15831. PMID: 32542718; PMCID: PMC7323094.
- ¹⁵ Cappy P, Candotti D, Sauvage V, Lucas Q, Boizeau L, Gomez J, Enouf V, Chabli L, Pillonel J, Tiberghien P, Morel P, Laperche S. No evidence of SARS-CoV-2 transfusion transmission despite RNA detection in blood donors showing symptoms after donation. *Blood.* 2020 Oct 15;136(16):1888-1891. doi: 10.1182/blood.202008230. PMID: 32871595; PMCID: PMC7568032.
- ¹⁶ Luzzi JR, Navarro R, Dinardo CL. COVID-19: Further evidence of no transfusion transmission. *Transfus Apher Sci.* 2020 Oct 7:102961. doi: 10.1016/j.transci.2020.102961. Epub ahead of print. PMID: 33077347; PMCID: PMC7539824.
- ¹⁷ Kwon SY, Kim EJ, Jung YS, Jang JS, Cho NS. Post-donation COVID-19 identification in blood donors. *Vox Sang.* 2020 Nov;115(8):601-602. doi: 10.1111/vox.12925. Epub 2020 Apr 21. PMID: 32240537.
- ¹⁸ Cho, H. J., Koo, J. W., Roh, S. K., Kim, Y. K., Suh, J. S., Moon, J. H., Sohn, S. K., & Baek, D. W. (2020). COVID-19 transmission and blood transfusion: A case report. *Journal of infection and public health*, 13(11), 1678–1679. <https://doi.org/10.1016/j.jiph.2020.05.001>.
- ¹⁹ National Clinician Consultation Center, University of California (2020). National PELine Recommendations on Percutaneous Exposures to SARS-CoV-2 in Occupational Settings.



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<https://nccc.ucsf.edu/2020/06/19/national-pepline-recommendations-on-percutaneous-exposures-to-sars-cov-2-in-occupational-settings/> [Accessed 10 February 2020].