

COVID-19 related to coronavirus SARS-CoV-2
Position of the French human milk banks association (ADLF)

In the current epidemic context, questions arise concerning breast milk donors and the treatment of their milk in human milk banks.

• **Regarding COVID-19 infection related to SARS-CoV-2:**

It is an infection with respiratory transmission by close contact (less than one meter). Human-to-human transmission of SARS-CoV-2 is possible within 48 hours of the onset of symptoms. Infection may be asymptomatic or pauci-symptomatic. This justifies all the precautions which are recommended by the health authorities in order to limit the transmission of the virus <https://www.gouvernement.fr/en/coronavirus-covid-19>.

• **Regarding human milk, breastfeeding and coronavirus SARS-CoV-2:**

- ✓ Breast milk has a very specific composition characterized in particular by the presence of many components which have anti-infectious properties.
- ✓ Breast milk is absolutely essential for premature infants, as it significantly reduces the risk of serious complications related to prematurity, in the short and long term. There are major health benefits for these high-risk infants.
- ✓ Breastfeeding is allowed in mothers with COVID-19, unless they have a severe infection that seriously affects their health. Breastfeeding must be carried out under strict hygienic conditions (CDC 2020, Rasmussen 2020, UENPS 2020).
- ✓ COVID19 has been very rarely described in newborns and infants. Evolution is most often benign.
- ✓ According to current data, SARS-Cov2 RNA has been found in breast milk very exceptionally and for a limited period of time. Its infectivity has not been proven to date. (Chen 2020, Chambers 2020, Groß 2020).
- ✓ SARS coronaviruses are sensitive to heat. The SARS-CoV-P9 is inactivated at 67°C for 60 min (Duan 2003). The so-called holder pasteurization (62.5 ° C for 30 min.) Which is carried out in all French human milk banks, as well as other pasteurization protocols (56 ° C for 30 min, 70 ° C for 5 min) allow to eliminate SARS-CoV-2 (Chin 2020; Chambers 2020, Wu 2020, Conzelmann2020, Walker Gregory 2020).
- ✓ On the other hand, refrigeration and freezing do not seem to be effective on SAR-CoV-2 (Walker Gregory2020).

• **Regarding breast milk donation and human milk banks:**

- ✓ It is organized and supported by the French human milk banks (map at : <https://association-des-lactariums-de-france.fr/carte-des-lactariums/>) which all respect common rules concerning the selection of donors based on a health questionnaire and on blood sampling (hepatitis, HIV, HTLV), as well as the handling and treatment of milk by holder pasteurization (63.5°C for 30 min), in accordance with the official *Guide to good practice* published in the official journal of the French Republic (*Guide to good practice 2008*).
- ✓ The hygiene rules applied in French milk banks protect against transmission of the virus. Donors are well informed about the importance of adhering to strict hygiene rules when collecting and transporting milk.
- ✓ Specific questions were added to the usual health questionnaire, in order to define whether the donor is "at risk", that is to say if she has symptoms suggestive of COVID19 (fever, headache, severe asthenia, cough, diarrhea, vomiting, anosmia, etc.) or a confirmed diagnosis of COVID-19. In this case, the ADLF recommends temporarily suspending the donation (or not recruiting) for 14 days, or up to 7 days after the symptoms have ended.

• **Regarding the treatment of milk from a mother to her own infant:**

Since breastfeeding is considered possible in COVID-19 or suspect mothers, human milk banks can continue to pasteurize this own mother's milk when needed.

Jean-Charles Picaud, Cécile Boscher, Delphine Lamireau, Virginie Rigourd, Delphine Dumoulin, Rachel Buffin, Fouzia Voirin, Solène LEFUR

Board of the French human milk banks association (Association des lactariums de France, ADLF)
February 14th, 2020, Updated on March 11th, April 3rd, and June 26th 2020.

Written in collaboration with:

- o Bruno Lina, National Reference Center for Viral Respiratory Infections, Institute of Infectious Agents, Croix Rousse university hospital, Lyon
- o Pierre Frange, Department of Bacteriology, virology, parasitology and hygiene, Necker-Enfants Malades university hospital, Paris

Available information is subject to change and this document will be updated accordingly

References

- Academy of breastfeeding (ABM). Statement on coronavirus 2019 (COVID-19). March 10, 2020. <https://www.bfmed.org/abm-statement-coronavirus>
- Centers for Disease Control and Prevention (CDC). Interim considerations for infection prevention and control of coronavirus disease 2019 (COVID-19) in Inpatient Obstetric Healthcare Settings <https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html>
- Chambers C.D, Krogstad P, Bertrand K, et al. Evaluation of SARS-CoV-2 in Breastmilk From 18 Infected Women. medRxiv2020 Jun 16;2020.06.12.20127944. doi: 10.1101/2020.06.12.20127944.
- Chen H, Guo J, Wang C, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. Lancet. 2020 Mar 7;395(10226):809-815.
- Chin AWH, Chu JTS, Perera MRA, et al.. Stability of SARS-CoV-2 in different environmental conditions. Lancet Microbe 2020 April 2, 2020.
- Conzelmann C, Groß R, Luise Meister T, et al. Holder Pasteurization Inactivates SARS-CoV-2 in Human Breast Milk. Biorxiv Posted June 17, 2020.
- De Rose DU, Piersigilli F, Ronchetti MP, et al. Novel Coronavirus disease (COVID-19) in newborns and infants: what we know so far. Ital J Pediatr. 2020;46(1):56.
- Duan SM, Zhao XS, Wen RF, et al. Stability of SARS coronavirus in human specimens and environment and its sensitivity to heating and UV irradiation. Biomed Environ Sci. 2003;16(3):246-55.
- Groß R, Conzelmann C, Müller J A, Stenger S, Steinhart K, Kirchhoff F, Münch J. Detection of SARS-CoV-2 in Human Breastmilk. Lancet. 2020;395(10239):1757-1758.
- Good practice rules for the collection, preparation, qualification, treatment, storage, distribution and dispensing on medical prescription of human milk by the milk banks in France. Journal Officiel de la République Française n°0004 du 5 janvier 2008, page 328. Website of the French human milk bank association (ADLF): https://association-des-lactariums-de-france.fr/wp-content/uploads/lactarium_guide_bonnes_pratiques_5_janvier_2008_traduction_anglais.pdf.
- Rasmussen SA, Smulian JC, Lednicky JA, et al. Coronavirus Disease 2019 (COVID-19) and Pregnancy: What obstetricians need to know? Am J Obstet Gynecol. 2020 Feb 24.
- Société Française de Néonatalogie (SFN), de La Société Française de Pédiatrie (SFP) et du Groupe de Pathologies Infectieuses Pédiatriques (GPIP). Propositions concernant les nouveau-nés dans le contexte d'épidémie a Covid-19. Publié le 16 mars 2020. <http://www.societe-francaise-neonatalogie.fr/>
- Union of European neonatal and Perinatal Medicine (UENPS) and Italian Society of Neonatology (SIN). Breastfeeding and SARS-CoV-2 infection (Coronavirus Disease 2019 - COVID-19). 28 February 2020. https://www.uenps.eu/wp-content/uploads/2020/03/14marzo.SIN_UENPS0.pdf
- Walker Gregory J, Clifford V, Bansal N, et al. SARS-CoV-2 in human milk is inactivated by Holder pasteurization but not cold storage. Medrxiv, Posted June 20, 2020. doi: <https://doi.org/10.1101/2020.06.18.20134395>.
- Wu Y, Liu C, Dong L, et al. Coronavirus Disease 2019 Among Pregnant Chinese Women: Case Series Data on the Safety of Vaginal Birth and Breastfeeding BJOG. 2020 May . doi: 10.1111/1471-0528.16276.