# Covid-19 vaccination for people with hemophilia and other bleeding disorders

## Recommendation from the Medical Board* of the Swiss Hemophilia Network (SHN) 2021 (version 2)

1) People with hemophilia (PWH) and other bleeding disorders (OBD) are not at greater risk for being infected by SARS-CoV-2 or developing a more severe course of COVID-19.
2) Therefore, prioritization as defined by the Federal Office of Public Health (FOPH) has to be applied to PWH or OBD, vulnerable persons first including:
   a. Persons > / = 75 years or
   b. Person 65 – 74 years +/- and additional risk factors, such as obesity, high blood pressure, diabetes, cardiac disease, pulmonary disease, renal disease, immunodeficiency, as defined by the FOPH (see: www.bag.admin.ch for a detailed description of the risk profile).
3) Currently, there is no COVID-19 vaccine licensed for persons <16 years of age or for pregnant persons.
4) COVID-19 vaccination is applied intramuscularly (i.m.) by the smallest possible needle (23G or 25G or as recommended by the manufacturer) and should be followed by 10 min pressure on injection site.
5) After application, the injection site should be inspected for progressive swelling and hematoma or allergic reaction. In that case, please contact your physician and/or the Hemophilia Treatment Centre (HTC) to plan further treatment. Discomfort and mild swelling up to 2 days might also appear after vaccination in persons without bleeding disorders.
6) Persons with severe or moderate hemophilia or severe von Willebrand Syndrome (VWS) Type 3 should apply coagulation factors before vaccination.
7) The interval between factor application and vaccination should not be longer than 24 hrs for standard half-life factor (F) VIII and FIX products and not more than 48 hrs for extended half-life products. Ideally, prophylaxis should be performed the day of vaccination.
8) Patients with mild hemophilia / VWS and factor activity >10 % or on emicizumab treatment do not need prophylactic factor substitution.
9) PWH who have a rest activity between 5 - 10% should be advised individually by their hemophilia treaters and prophylaxis has to be arranged by the hemophilia treatment centre. Persons with clinically relevant VWS Type 1 or 2 (VWF activity or FVIII <10%) should also be advised according to their residual activity and treated individually by factor replacement / DDAVP.
10) PWH treated on demand should apply 20 - 40 IU FVIII / FIX / kg weight.
11) Patients with a rare bleeding disorder (including those with thrombocytopenia and/or platelet function disorders) should also receive the vaccination under the above noted (point 4) protective measures.
12) Patients with afibrinogenemia, should receive the vaccination on the day of fibrinogen substitution. Patients with hypo- or dysfibrinogenemia should be advised according to their clinical symptomatology and treated individually by tranexamic acid.
13) Patients with severe thrombocytopenia or severe platelet dysfunctions should be advised according to their clinical symptomatology and treated individually by tranexamic acid or DDAVP as advised by their haematologist.

14) In case of a hematoma immobilization, cold application and analgesics should be applied or further factor substitution discussed.
15) Persons with known reactions to PEG should be vaccinated by a PEG-free vaccine.
16) Up to now there are no data that vaccinations are increasing the risk for inhibitor development.
17) Vaccination can also be applied to patients under immune-suppressive agents (cortisone and others) and PWH under immune tolerance or hepatitis C or HIV treatment.

This statement is released on behalf of the medical board* of the Swiss Hemophilia Network (SHN) in relation to international guidance as WHF, EAHAD, EHC, NHF, GTH on 1st February 2021. As more data will be available up-dates will follow.

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