

Intramuscular injection in patients with bleeding disorders: Guidance for patients and clinicians.

Subcutaneous vaccination remains the standard of care for patients with inherited bleeding disorders. However in light of current guidance that the Pfizer vaccine available in the UK must be given intramuscularly, the Haemophilia Centre at St. George's Hospital have produced guidelines for patients and staff to minimise the risk of intramuscular haematoma formation as a result of vaccination.

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Risks associated with intramuscular injection in people with bleeding disorders

The main concern for patients with bleeding disorders receiving injections into their muscles is the formation of an intramuscular haematoma. This is when you bleed into your muscle, and it can be painful and difficult to manage once it occurs.

Intramuscular haematoma may also lead to compartment syndrome if left untreated. Compartment syndrome is a painful and potentially serious condition caused by bleeding or swelling within an enclosed bundle of muscles. This may affect blood supply to your limbs or cause nerve damage. It is extremely rare for this to occur in the area you will be injected, but it is important to be mindful of the symptoms.

Symptoms of compartment syndrome include:

- Pins and needles to the affected limb
- Numbness
- Progressive pain
- Tense swelling to the affected area
- Pain on bending or straightening the arm
- Disproportionate pain that is not relieved with paracetamol

Please see <https://www.nhs.uk/conditions/compartment-syndrome/> for further information on what compartment syndrome. To lessen the risk of you developing a haematoma following your intramuscular vaccination we are issuing the following guidance.

It is your responsibility as a patient with a bleeding disorder to follow this guidance and produce this leaflet to the clinician administering the vaccine so they may be informed also.

Patients: Preparing for the vaccine

- We are advising all bleeding disorder patients to take tranexamic acid commencing the night before the vaccination and for twenty four hours following this. Standard dosing for tranexamic acid is 1g three times a day, however if we have previously advised you to use a different dose e.g. 1g twice a day please continue with this dosing. Please contact your GP well in advance of your vaccine to obtain your tranexamic acid. Please do not contact the haemophilia office to arrange this prescription.
- You will most likely receive this injection into your deltoid muscle, which is at the top of your arm, to your non-dominant arm i.e. if you are right handed your left arm will be injected. We are advising patients to ice this area before and after injection. You will need to bring your own ice pack. This will cause the blood vessels to contract and reduce bleeding risk. Hold an ice pack wrapped in a tea towel for five minutes before the injection and for five minutes after. If you are experiencing minor swelling or bruising you may continue to ice the area for five minutes at a time every twenty minutes.
- Please read our table on condition specific advice for guidance on your particular bleeding disorder.

Patients: After care

- Ice the area immediately after injection as described above.
- Please ask the person administering the vaccine for a compression bandage to the injection site. This should be loose enough that you can slide a finger beneath it but still give a feeling of firm support. Please wear this for a minimum of twelve hours following vaccination. This should reduce bruising or bleeding experienced.
- Avoid heavy lifting or strenuous use of the affected arm for a minimum of forty eight hours after the vaccine.
- Please be mindful of the symptoms of compartment syndrome and contact the haemophilia office if you are having undue pain or bruising to the infection site.

Clinicians administering the vaccine

This patient cohort is at an increased of intramuscular haematoma formation, therefore please follow the below guidance on reducing the risk of this complication.

- Please allow the patient adequate time to ice the area prior to injection. They may do this in the waiting area.
- Please consider using the smallest available gauge needle in the pack (25g orange 1inch/25mm in length) when administering the vaccine to minimise trauma to the muscle.
- Do not aspirate when administering the vaccine as this causes additional pain and tissue trauma.
- Encourage the patient the hold their ice pack against the vaccination site with pressure for five minutes after the injection.
- Please offer a compression bandage to the injection site. This should be loose enough that you can slide a finger beneath it but still give a feeling of firm support. This should reduce bruising or bleeding experienced by the patient.

Condition Specific Guidance	
Von Willebrand Disease, type 1 and 2	Please follow advice outlined in leaflet above, no additional guidance.
Mild haemophilia A/B with baseline levels of >10i.u./dL	Please follow advice outlined in leaflet above, no additional guidance.
Mild haemophilia A/B with baseline levels of <10i.u./dL	Please follow advice outlined in leaflet above and in addition you will require desmopressin or factor replacement, please liaise with the haemophilia office to arrange this.
Moderate haemophilia A/B	Please follow advice outlined in leaflet above and in addition you will require factor replacement, please liaise with the haemophilia office to arrange this.
Severe bleeding disorder patients with a factor deficiency	Please follow advice outlined in leaflet above. Additionally, please administer your prophylaxis on the day of vaccination as close to the time as possible. If you are unable to administer your own factor please liaise with the haemophilia centre to administer it for you. Not for additional dosing the following day unless you have bleeding concerns
Severe bleeding disorder patients with a platelet function defect e.g. Glanzmann's Thrombasthenia or Bernard Soulier	Please follow advice outlined in leaflet above. Additionally please have a low threshold for contacting the haemophilia office with bleeding symptoms.
Other platelet function defects	Please follow advice outlined in leaflet above, no additional guidance.
Other factor deficiencies (inc.XIII, XI,X,VII, V, fibrinogen deficiency and dysfunction)	Please follow advice outlined in leaflet above, no additional guidance.
Unclassified bleeding disorder	Please follow advice outlined in leaflet above, no additional guidance.

Emergency Information

If you experience any of the symptoms of compartment syndrome following your vaccination please contact the haemophilia office on 0208 725 0763, or if outside of office hours please phone the hospital mainline on 020 8672 1255 and ask to speak to the haematology registrar on call as a matter of urgency. Do not wait for the haemophilia office to reopen if this occurs out of hours, you may need to attend the Emergency Department at St. George's for assessment and treatment.