

Donor Haemovigilance

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The contents of this document are believed to be current. Please continue to refer to the websites for in-date versions.

Clinical assessment of donor adverse events (DAEs):

Assessing donors with possible arm complications

This document is intended for healthcare professionals responsible for the clinical assessment of donors experiencing potential adverse events following blood donations. This will not replace the clinical judgement required for the evaluation of donor adverse events.

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Questions to ask when assessing a donor with possible arm complications

Donors can present with an arm complication due to a nerve injury, tendon injury, inflammation/infection around the venepuncture site or vessel related problems.

- Symptoms can present at the donation session or after leaving the donation session.
- Ensure to record the date and venue of the implicated donation.
- Include open questions e.g., tell me more about your concern. Ask further direct questions to illicit more detailed information if it is not included in the donor's explanation.

Which arm is affected?
<ul style="list-style-type: none"> • Right or left arm. Dominant or non-dominant arm.
Where was the needle inserted in the anterior cubital fossa?
<ul style="list-style-type: none"> • Medial (little finger) or mid/lateral (thumb) side.
How was the venepuncture?
<ul style="list-style-type: none"> • Was it a difficult venepuncture? • Was the needle readjusted? • Was a full donation obtained? <ul style="list-style-type: none"> ○ If yes, what was the duration of the donation? • Was there a suspected arterial bleed? • Is there any rebleeding?
Were there any possible donor-related contributing factors?
<ul style="list-style-type: none"> • Age, sex, BMI • Individual variations in anatomy including poor veins • Did the donor do any heavy lifting post-donation?
Questions regarding the presenting symptoms
<ul style="list-style-type: none"> • What is the presenting symptom? • How does the arm feel? • When did the symptom start – during needle insertion, during donation, on needle withdrawal or after donation? <ul style="list-style-type: none"> ○ If it started at session: did the donor report any symptoms to staff at the time? ○ If it started after donation: how long after donation did it start?
Questions regarding activities of daily living (ADL)
<ul style="list-style-type: none"> • Have the donor's activities of daily living been affected? If yes: <ul style="list-style-type: none"> ○ Which activities and to what extent? ○ For how long?

Questions regarding possible symptoms
<p>Pain</p> <ul style="list-style-type: none"> Is there any pain present? If yes, ask the following questions: <ul style="list-style-type: none"> Describe the pain: e.g. sharp/lancinating/burning/electric shock type/dull pain. Where is the pain? Does the pain radiate anywhere? Is the pain persistent or intermittent? Is there a triggering factor? What makes it worse or better? How severe is it? This can be subjectively measured using a scale of 0-10 (0 = no pain; 10 = severest). Is it increasing in severity? Is there any tenderness, i.e. is it sore to touch? Was the donation different from their previous venepuncture experience (if applicable)? Is there any pre-existing condition affecting the arm?
<p>Sensory symptoms</p> <ul style="list-style-type: none"> Any altered sensation, numbness, tingling or hypersensitivity? <ul style="list-style-type: none"> If present, need to know which finger(front/back), or part of hand and forearm is affected. Any abnormal sensation e.g., allodynia/pain resulting from a stimulus (e.g., a light touch of the skin) which would not normally provoke pain/abnormal feeling in the arm?
<p>Motor symptoms</p> <ul style="list-style-type: none"> Any weakness in the arm, including grip strength? Donor may not be able to move their arm normally. <ul style="list-style-type: none"> If present: important to know whether it is due to weakness or due to pain on movement.
<p>Bruising or skin changes</p> <ul style="list-style-type: none"> Any discolouration/bruising/haematoma? <ul style="list-style-type: none"> If present: important to know the location and extent of the contusion (flat bruises), history of development of discolouration. Is the skin red/discoloured and/or warm to touch?
<p>Haematoma or swelling</p> <ul style="list-style-type: none"> Any lump or swelling? <ul style="list-style-type: none"> If present: important to know where it is and whether it is pulsatile or vibrating.
<p>Vein appearance</p> <ul style="list-style-type: none"> Any tenderness to touch? Does it feel hard/knobbly/corded? Does it have a different appearance (e.g., bulging)? Is it discoloured? Any red tracking marks along the vein?
<p>Circulatory changes:</p> <ul style="list-style-type: none"> Does the arm and/or hand appear paler and feel colder compared to the other side?

Questions regarding possible systemic symptoms
<ul style="list-style-type: none"> Does the donor have any systemic symptoms, e.g. fever, rigors, malaise, or myalgia? Does the donor have any pain in the axilla (arm pit) or swelling? Does the donor experience any breathlessness?
Red flags that warrant an urgent medical review
<ul style="list-style-type: none"> ▶ Possible compartment syndrome ▶ Possible hand ischaemia due to arterial puncture or compartment syndrome ▶ Suspected Deep vein thrombosis (DVT), pulmonary embolism (PE) <p>During assessment of the donor, exclude possible ischaemic heart disease if there are any presenting symptoms of concern.</p>
Management and follow-up
<ul style="list-style-type: none"> Ensure the medical record includes advice provided to the donor at the time of discussion, including if they have been advised to seek outside medical care. If further follow-up of the donor is completed, ensure to record if they have required any outside medical care and what the outcome/diagnosis was. Include if any treatment required with analgesia, medication for neurogenic pain or antibiotics, physiotherapy, or onward referral to a specialist, including whether any investigations were completed and what the outcome/diagnosis is.
Consider future donations
<ul style="list-style-type: none"> Is the donor eligible to return to donate in future?
Are there any implications for the donation related components?
<ul style="list-style-type: none"> For donors with suspected cellulitis: donation may need to be recalled as there is a possible risk of bacterial contamination in the pack. Please follow your local guidelines. For a donor with a suspected arterial puncture and where a full donation has been given: the donation pack needs to be observed for haemolysis to ensure product safety.

More information on nerve injury and arterial bleeds can be found on nerve injury and arterial bleed resources available on the JPAC website.

Arm complications: potential associated symptoms

What is this table about?

The following table is a summary of possible symptoms that can be associated with the various arm complications associated with blood donation.

Who can use the information?

The table is available to assist anyone who clinically evaluates a donor who is experiencing a possible arm complication following their donation, in order to help with a possible diagnosis.

The information can also be used to assist educating/teaching staff in their assessment of a donor's arm complication.

What is in scope and out of scope?

The table can be used as guide when evaluating a donor and as an aide for decision making.

Disclaimer: Clinical judgement is required when evaluating a donor's arm complication. The table is only a helpful resource to indicate possible symptoms/signs a complication may present with; detail of the specific symptom/sign needs to be elicited through questioning.

The table is not an exhaustive list, and a donor could declare symptoms not noted.

Boxes with the commonest symptoms related to arm complication are coloured in orange.

Table of potential symptoms associated with arm complications

(the most common associated symptoms are coloured in orange)

Category	Blood outside vessel		Arm pain (nerve or tendon injury)		Local infection/inflammation of soft tissue		Other major blood vessel injury / related complications			
	Arterial puncture*	Bruise	Suspected nerve irritation/injury	Suspected tendon injury	Cellulitis	Thrombophlebitis	Arteriovenous (AV) fistula	Brachial artery pseudo-aneurysm	Compartment syndrome	Deep vein thrombosis
Pain/tenderness	Severe or worsening pain, increasing in severity	Tender to touch (sore feeling)	Sharp/electrical/stabbing/shooting pain moving away from venepuncture site; deep ache may be worse with movement Allodynia	Dull ache Worse with movement, flexion/extension Tenderness	Pain present Tenderness	Pain present Tenderness	Cramping pain	Pain present Tenderness	Burning pain/deep ache Pain may be increasing in severity, especially with stretching Tenderness	Throbbing/cramping Tenderness
Sensory symptoms	Numbness, pins and needles in arm/hand/fingers		Numbness, pins and needles, tingling, altered or loss of sensation**				Numbness, tingling may be present	Numbness, tingling	Distal numbness, pins and needles	
Motor function			Weakness, including grip	Stiffness, loss of or impaired function					Weakness / loss of or impaired function	Weakness
Bruise / skin changes	Bruising, may be expanding, including up the arm	Skin: discoloured (red/purple/black/brown/yellow)	Bruise	Skin: red, warm	Skin: warm, discoloured (red/purple/darker than usual skin), tight/glossy/stretched appearance, may be blistered	Skin: warm, red	Skin: warm, discoloured (purple/red)	Bruise		Skin: warm, discoloured (red/blue/darkened)
Swelling	Haematoma/swelling may be expanding, including up the arm	Swelling/raised bump	Swelling/lump	Swelling/lump	Oedema (swelling)	Swelling	Swelling May be pulsatile/ may be vibrating	Haematoma/ progressively increasing swelling/ lump, may be pulsatile/throbbing	Swelling/bulging of muscle, tense muscle	Swelling in the distal arm
Vein appearance						Warm, tender, hard 'cord', linear streak along the vein originating from/near the puncture site	Purplish, bulging/ stretched veins			Dilated veins, local and may extend on to the chest wall
Circulation	Lower arm/hand may be cold or pale								Diminished distal pulse	
Other	Rebleed may occur				Systemic symptoms, e.g. fever, fatigue, myalgia Axillary discomfort / enlarged lymph nodes		'Buzzing' or 'vibrating' sensation in arm		Tightness/difficulty moving arm	Breathlessness (in case of possible pulmonary embolism)

* Arterial puncture may be symptomless, but serious complications (e.g. compartment syndrome, AV fistula) can occur.

** Nerve symptoms: it may be due to a direct nerve injury, or due to direct compression of the nerve by a large haematoma, or inflammation/infection.