USER GUIDE

# Arterial Blood Gas Syringe

Step-by-step arterial blood sampling with the Standard and the Safety version.

1 ml · 3 ml

Calcium-balanced lithium heparin

**For healthcare professionals.** This guide supplements the Instructions for Use supplied with the product. It does not replace them.



Standard version



**Safety version**
with hinged needle shield

## Product overview

| | |
|---|---|
| Purpose | Collection of arterial blood samples for blood gas analysis |
| Volumes | 1 ml · 3 ml |
| Anticoagulant | Calcium-balanced lithium heparin |
| Needle tip | 5-facet, short bevel |
| Plunger gasket | Silicone |
| Packaging | Blister pack or PE pack |
| Use | Single use only |

## Kit components

### STANDARD VERSION



**Syringe**
with needle



**Green block**
needle protection



**White cap**
sealing



**Waste bottle**
air and waste blood

### SAFETY VERSION



**Syringe**
with safety needle



**3-in-1 waste blood bottle**
needle block, seal and waste blood collection in one part

## Before you start

- Confirm the patient's identity.
- Assess the puncture site and collateral circulation (for example with a modified Allen test) as your facility requires.
- Prepare gloves, eye protection and mask, skin disinfectant, gauze, an adhesive dressing and an arterial compression device.
- Disinfect the puncture site and let it dry completely.
- Do not use skin cleansers containing benzalkonium or other quaternary ammonium compounds. They can affect electrolyte results.
- Check the pack. Do not use the product if the pack is damaged or already open, or after the expiry date.

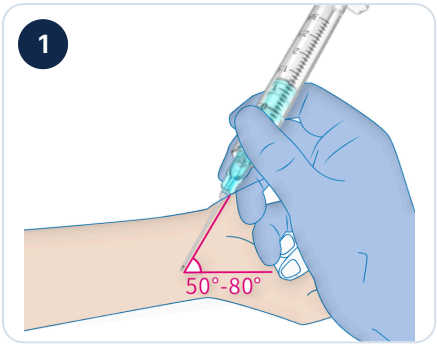
PROCEDURE A

# Standard version

Eight steps from puncture to disposal. The green block protects the needle; the white cap or the waste blood bottle seals the syringe.

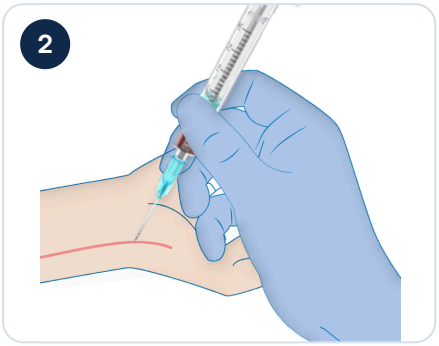
## AT THE PATIENT

Steps 1 to 3



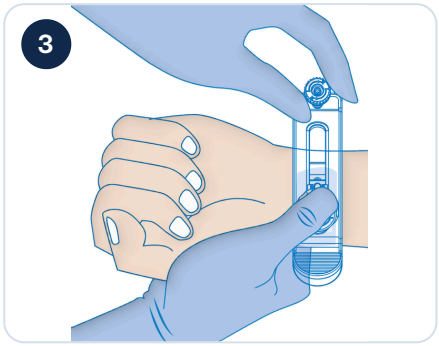

### Puncture

Disinfect the puncture site. Insert the needle into the artery at an angle of **50° to 80°**.




### Blood collection

Let arterial blood fill the syringe. When it reaches the **pre-set volume**, withdraw the needle.

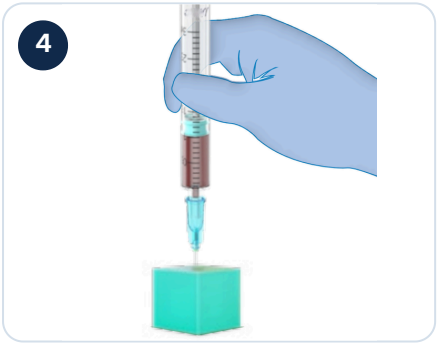



### Haemostasis

Stop the bleeding at once with a dedicated arterial compression device.

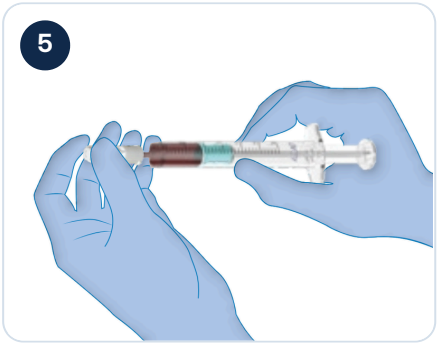
## SECURE AND PREPARE THE SAMPLE

Steps 4 to 6



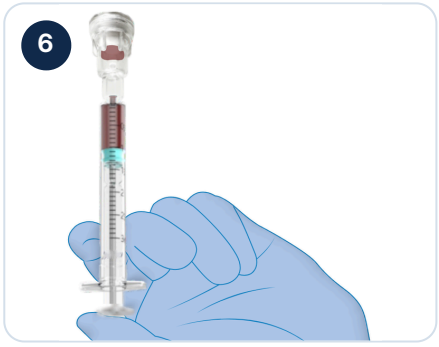

### Needle protection

Insert the needle into the **green sealing block**. This protects staff and patients from needlestick injury.




### Sealing

Remove the needle. Immediately tighten the **white sealing cap** or the **waste blood bottle** onto the syringe.

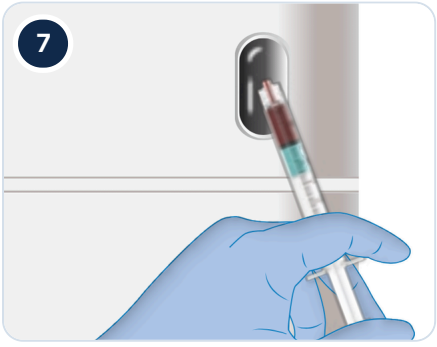



### Mixing and waste drainage

Hold the syringe upright, **tip up**. Roll it repeatedly to mix the sample. Expel the air from the front of the syringe, then an appropriate amount of waste blood.

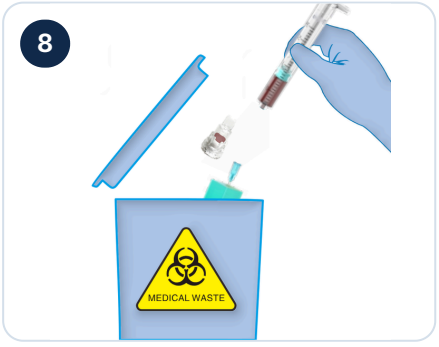
## ANALYSE AND DISPOSE

Steps 7 and 8




### Testing

Take the sample to the blood gas analyser for testing without delay.




### Disposal

After testing, discard the syringe and its accessories in a dedicated medical waste container.

### Key points

- Air goes out first. With the tip up, air collects at the front of the syringe.
- Waste blood goes into the waste blood bottle only, never onto gauze.
- Mix again just before analysis.
- See page 4 for timing and sample quality.

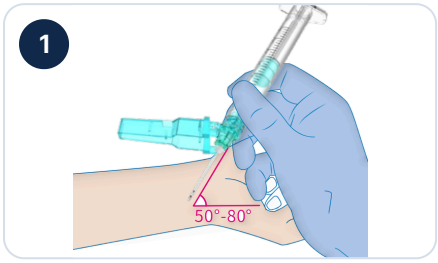
PROCEDURE B

# Safety version

Collect the sample, then transfer it to the analyser with the needle in place or needle-free.

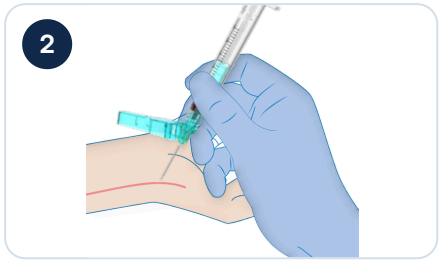
## AT THE PATIENT

Steps 1 to 3



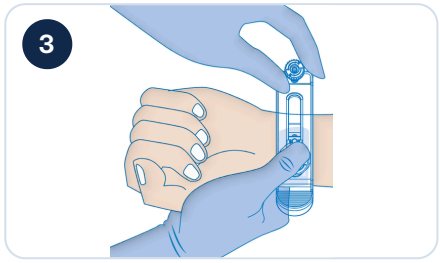

### Puncture

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### Blood collection

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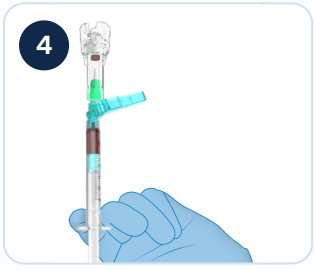



### Haemostasis

Stop the bleeding at once with a dedicated arterial compression device.

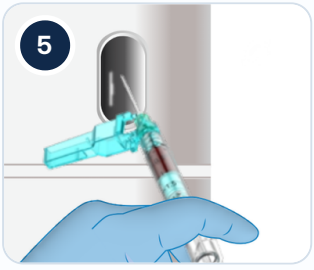
## Then continue with one of the two transfer methods

**METHOD 1** **Transfer with the needle in place** puncture-proof method



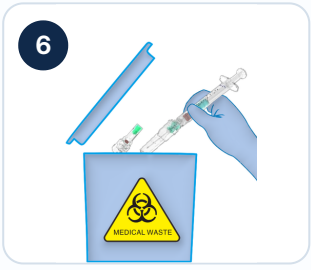

### Mixing and waste drainage

Push the needle fully into the **green rubber block**. Hold the syringe **tip up** and roll it to mix. Expel all air, then an appropriate amount of waste blood.




### Testing

Pull the needle out of the block and immediately align it with the sample port of the blood gas analyser.



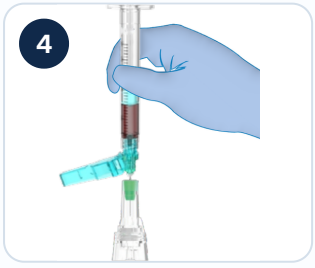

### Disposal

After testing, discard the waste blood bottle and the syringe in a dedicated medical waste container.

**⚠ Safety shield**

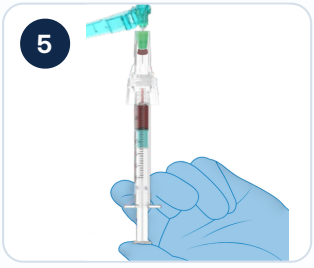
Once the sample is in the analyser and the syringe is withdrawn, **close the needle safety shield** before you discard the syringe.

**METHOD 2** **Needle-free transfer** the needle stays in the green rubber block



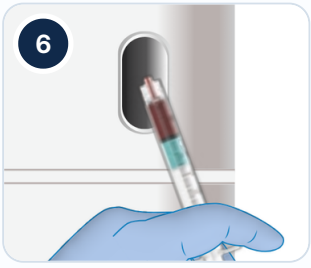

### Needle removal

With the needle in the **green rubber block**, turn the syringe **anticlockwise** to detach it. The needle stays in the block.



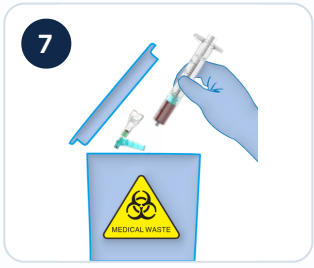

### Mixing and waste drainage

At once, screw the syringe **clockwise** into the Luer lock of the waste bottle. Hold it **tip up** and roll to mix. Expel all air, then an appropriate amount of waste blood.




### Testing

Immediately present the syringe to the blood gas analyser.




### Disposal

After testing, discard the waste blood bottle and the syringe in a dedicated medical waste container.

BOTH VERSIONS

# Sample quality and safety

Blood gas results depend on how the sample is handled between the patient and the analyser.

## Time from collection to analysis



**Collection**
Remove air, seal, mix

**Within 10 minutes**
Recommended time for analysis

**30 minutes**
Latest time for analysis

## Good sampling practice

**Remove air right after collection.** Hold the syringe upright, tip up, and tap it gently so that bubbles rise. Expel the air and a small amount of blood into the waste blood bottle.

**Mix immediately.** Move the syringe in a figure of eight for at least 20 seconds. This dissolves the heparin and helps to prevent clots.

**Label the syringe** with the patient's identification.

**Analyse as soon as possible.** Analysis within 10 minutes is recommended. Do not exceed 30 minutes after collection.

**Mix again before analysis.** Rotate the wrist, then roll the syringe between the palms about 10 times. Expel one more drop into the waste blood bottle.

**Do not analyse clotted samples.** Clots make results unreliable and can damage the analyser.

## ⚠ Warnings and precautions

- **Professional use only.** Arterial puncture must be performed by trained healthcare professionals.
- **Single use only.** Do not reuse the syringe or any of its components.
- Do not use the product if the pack is damaged or already open, or after the expiry date.
- Treat every blood sample as potentially infectious. Wear gloves and personal protective equipment.
- **Never recap the needle by hand.** Use the green block or the safety shield.
- Safety version: close the shield with one hand by pressing it against a firm, flat surface.
- Never expel waste blood onto gauze. This creates a risk of blood exposure.
- Dispose of needles in a puncture-resistant sharps container and of all other parts as medical waste, in line with local regulations.

LINKFAR HEALTHCARE

**Linkfar Healthcare GmbH**
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Product information, samples and OEM enquiries for the Standard and Safety versions.

Product pages

Illustrations are schematic and may differ from the product supplied. This guide supplements the Instructions for Use supplied with the product and does not replace them. Clinical procedures, including site selection, haemostasis and sample transport, are governed by the policies of the healthcare facility and by the instructions of the blood gas analyser manufacturer.