



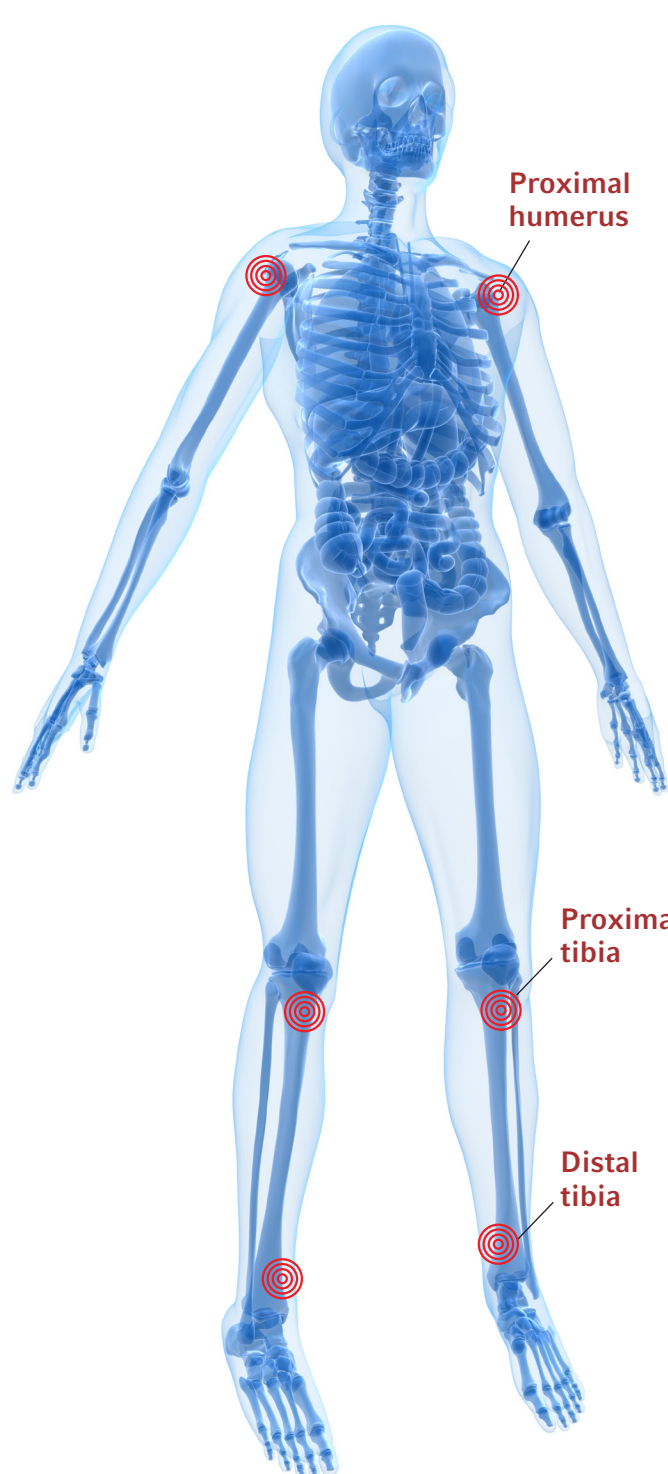
Arrow® EZ-IO® Intraosseous Vascular Access System

Adult and Older Child Landmarking Guide

For intraosseous access any time in which vascular access is difficult to obtain in emergent, urgent, or medically necessary cases, for up to 24 hours. For patients ≥12 years old, the device may be extended for up to 48 hours when alternative intravenous access is not available or reliably established.



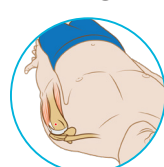
Insertion site identification



Palpate site to locate appropriate anatomical landmarks for needle set placement and to estimate soft tissue depth overlying the insertion site. Use the correct technique below based on patient and site selected:

Proximal humerus

Using either of the following methods, adduct and internally rotate the arm.



Place the arm tight against the body; rotate the hand so that the palm is facing outward, thumb pointing down

OR



Place the hand over the abdomen with the arm tight against the body

To landmark on the anterior shoulder, palpate the greater tubercle by letting it sink into the palm of your hand.

Proximal tibia

Extend the leg; find the tibial tuberosity. Insertion site is approximately 2 cm medial, or the mid-point between the medial and lateral portion along the flat portion of the anterior tibia (depending on patient anatomy). If unable to palpate the tibial tuberosity, the insertion site is approximately 3 cm below the inferior border of the patella at the same site as if tuberosity were palpated. Aim the needle at a 90-degree angle to the bone for insertion.

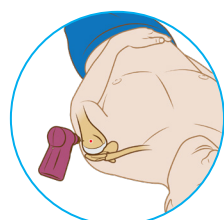
Distal tibia

Insertion site is approximately 3 cm proximal to the most prominent aspect of the medial malleolus. Palpate the anterior and posterior borders of the tibia to ensure that your insertion site is mid-line on the flat center aspect of the bone.

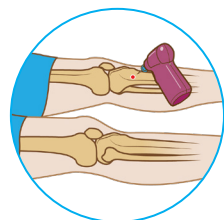
Insertion technique

Clinical judgment should be used to determine appropriate needle set selection based on patient weight, anatomy, and tissue depth overlying insertion site.

Angle

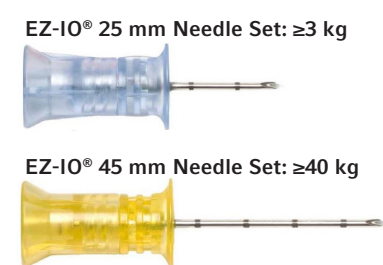


Proximal humerus
Aim needle set at a 45-degree angle as if aiming toward opposite hip.



Proximal and distal tibia
Aim needle set at a 90-degree angle to bone.

Insertion

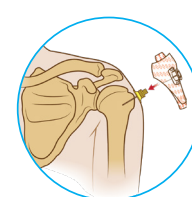


1. Push needle set tip through skin until tip rests against bone.
 - The 5-mm mark, closest black line to the hub, must be visible above skin for needle set length confirmation.
 - Consider longer needle to ensure adequate needle length for insertion.
2. Squeeze trigger and apply gentle, steady pressure.

When to stop

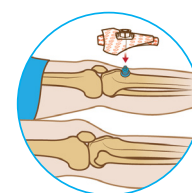
All sites

Immediately release trigger when you feel a sudden “give” or loss of resistance as needle set enters medullary space.



Proximal humerus
For most adults, needle set should be advanced until hub is flush or against skin.

Apply arm immobilizer or another securement device. Do not raise arm above 45 degrees to prevent inadvertent needle dislodgement.



Proximal and distal tibia

Use caution, and do not apply excessive pressure, as this may cause the driver to slow and/or stop.

Rx Only.
CAUTION: Federal (USA) law restricts this device to sale by or on the order of a physician.
The Arrow® EZ-IO® Needle Set is Sterile, Single Use: Do not reuse, reprocess, or resterilize. Reuse of device creates a potential risk of serious injury and/or infection that may lead to death. Refer to Instructions for Use for complete warnings, indications, contraindications, precautions, and potential complications.

This material is not intended to replace standard clinical education and training by Teleflex Incorporated, and should be utilized as an adjunct to more detailed information that is available about the proper use of the product. View educational resources at Teleflex.com or contact a Teleflex clinical professional with any detailed questions related to product insertion, maintenance, removal, and other clinical education information.

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Arrow® EZ-IO® Intraosseous Vascular Access System

Neonate and Young Child Landmarking Guide

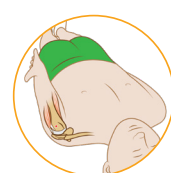
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Insertion site identification

Palpate site to locate appropriate anatomical landmarks for needle set placement and to estimate soft tissue depth overlying the insertion site. Use the correct technique below based on patient and site selected:

Proximal humerus

Using either of the following methods, adduct and internally rotate the arm.



Place the arm tight against the body; rotate the hand so the palm is facing outward, thumb pointing down

OR



Place the hand over the abdomen with the arm tight against the body

To landmark on the anterior shoulder, palpate the greater tubercle by letting it sink into the palm of your hand.

You must be able to palpate the greater tubercle before insertion to avoid errant placement.

Distal femur

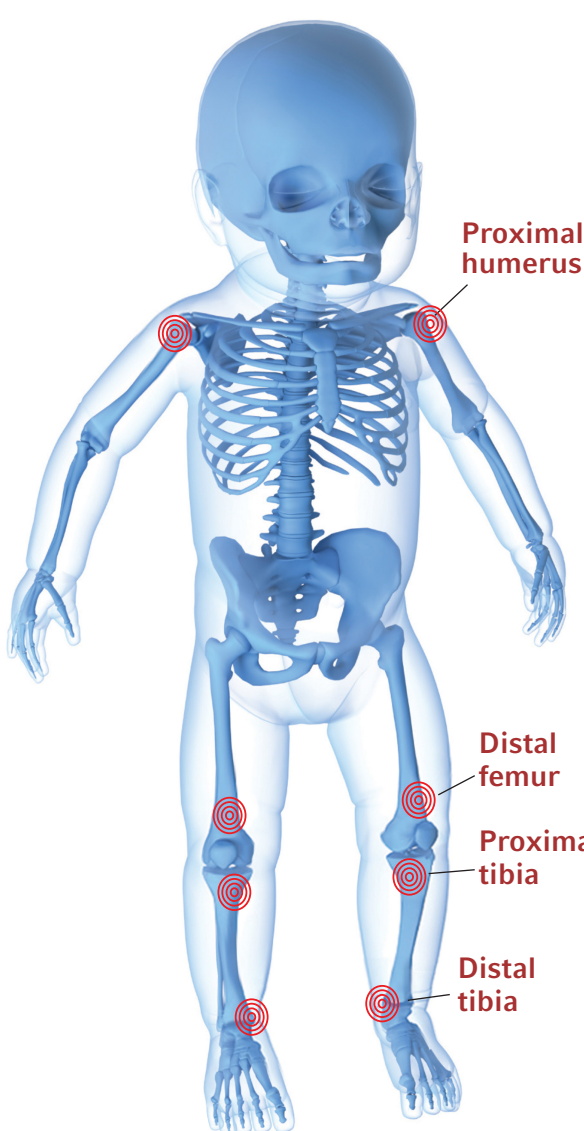
Secure site with leg outstretched to ensure knee does not bend. The insertion site is approximately 1-2 cm proximal to the superior border of the patella and approximately 1 cm medial to the mid-line (depending on patient anatomy).

Proximal tibia

Extend the leg. If the tibial tuberosity can be palpated, the insertion site is approximately 1 cm medial to the tibial tuberosity. If the tibial tuberosity cannot be palpated, the insertion site is approximately 1-2 cm below the patella and approximately 1 cm medial, along the flat aspect of the tibia (depending on patient anatomy).

Distal tibia

Insertion site is approximately 1-2 cm proximal to the most prominent aspect of the medial malleolus (depending on patient anatomy). Palpate the anterior and posterior borders of the tibia to ensure that your insertion site is on the flat center aspect of the bone.



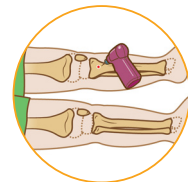
Insertion technique

Clinical judgment should be used to determine appropriate needle set selection based on patient weight, anatomy, and tissue depth overlying insertion site.

Angle



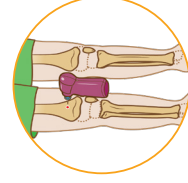
Proximal humerus
Aim needle set at a 45-degree angle as if aiming toward opposite hip.



Proximal tibia
Aim needle set at a 90-degree angle to bone.

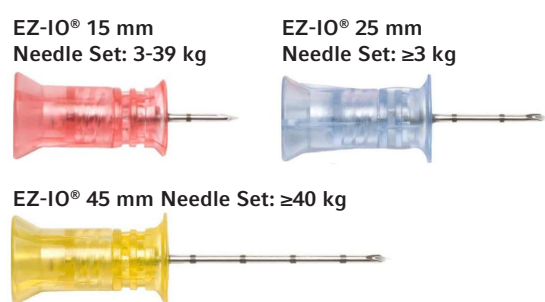


Distal tibia
Aim needle set at a 90-degree angle to bone.



Distal femur
Aim needle set at a 90-degree angle to bone.

Insertion

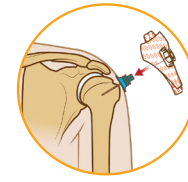


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 - Consider longer needle to ensure adequate needle length for insertion.
2. Squeeze trigger and apply gentle, steady pressure.

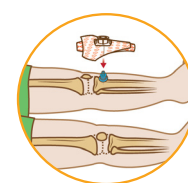
When to stop

All sites

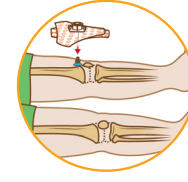
Immediately release trigger when you feel a sudden "give" or loss of resistance as needle set enters medullary space.



Proximal humerus
Apply arm immobilizer or another securement device. Do not raise arm above 45 degrees to prevent inadvertent needle dislodgement.



Proximal and distal tibia
Minimize potential cannula movement with leg board.



Distal femur
Stabilize extremity, leg outstretched, to ensure knee does not bend.

Use caution, and do not apply excessive pressure, as this may cause the driver to slow and/or stop.
AVOID RECOIL: Do NOT pull back on the driver when releasing the trigger.

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Have a question?

Contact a clinical representative at clinical.affairs@teleflex.com or 888-413-3104