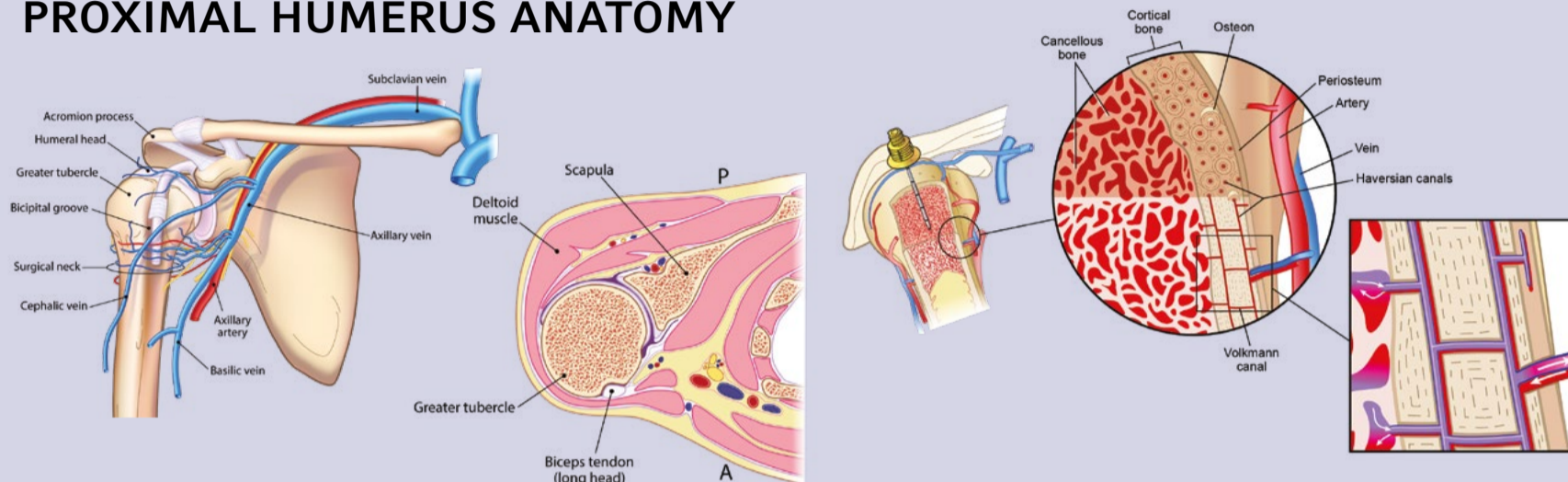




# CLINICAL RESOURCE: PROXIMAL HUMERUS

## PROXIMAL HUMERUS ANATOMY

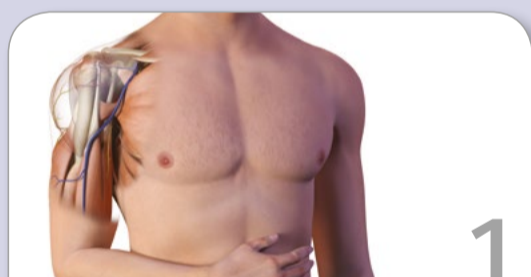


### EZ-IO® ADVANTAGES

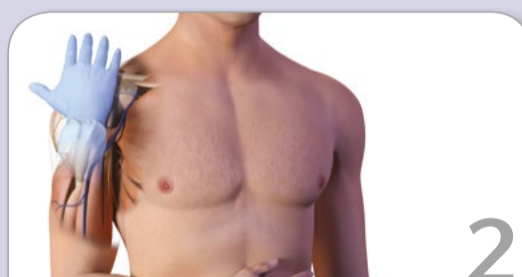
- <1% serious complication rate<sup>1</sup>
- achieves vascular access with anesthesia and good flow in 90 seconds<sup>2</sup>
- 97% first-attempt access success rate<sup>3</sup>
- can be placed by any qualified healthcare provider
- requires no additional equipment or resources<sup>4</sup>

### PROXIMAL HUMERUS SITE ADVANTAGES

- flow rates average 5 l/hour<sup>5</sup>
- 3 seconds to heart with medications/fluids<sup>6</sup>
- lower insertion and infusion pain<sup>5</sup>
- less medication for pain management<sup>5</sup>
- no reported compartment syndrome due to IO placement



1  
Place the patient's hand over the abdomen (elbow adducted and humerus internally rotated).

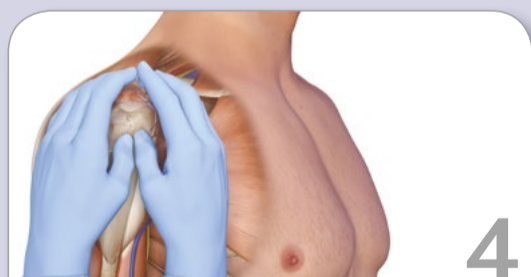


2  
Place your palm on the patient's shoulder anteriorly.

- The area that feels like a "ball" under your palm is the general target area.
- You should be able to feel this ball, even on obese patients, by pushing deeply.

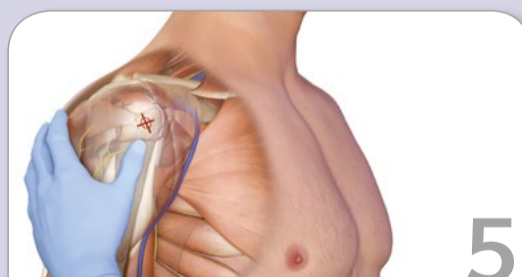


3  
Place the ulnar aspect of one hand vertically over the axilla. Place the ulnar aspect of the opposite hand along the midline of the upper arm laterally.



4  
Place your thumbs together over the arm.

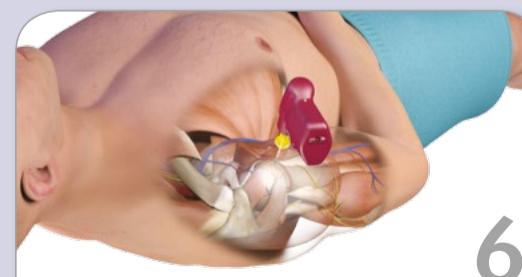
- This identifies the vertical line of insertion on the proximal humerus.



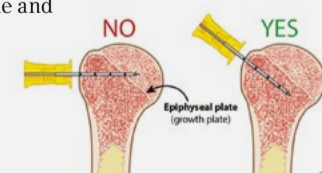
5  
Palpate deeply as you climb up the humerus to the surgical neck.

- It will feel like a golf ball on a tee – the spot where the "ball" meets the "tee" is the surgical neck.

The insertion site is on the most prominent aspect of the greater tubercle, 1 to 2 cm above the surgical neck.



6  
Point the needle set tip at a 45-degree angle to the anterior plane and posteromedial.



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 2 Paxton JH, Knuth TE, Klausner HA. Proximal humerus intraosseous infusion: a preferred emergency venous access. J Trauma. 2009;67(3):1-7.\*  
 3 Cooper BR, Mahoney PF, Hodgetts TJ, Mellor A. Intra-osseous access (EZ-IO®) for resuscitation: UK military combat experience. J R Army Med Corps. 2007;153(4):314-316.  
 4 Dolister M, Miller S, Borron S, et al. Intraosseous vascular access is safe, effective and costs less than central venous catheters for patients in the hospital setting [published online ahead of print January 3, 2013]. J Vasc Access. doi:10.5301/jva.5000130.\*  
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 6 Data on file. 2013 Vidacare Internal Studies.  
 \* Research sponsored by Teleflex Inc. (Vidacare® LLC)