Wedge fractures of the distal part of the Humeral Shaft

Helix-shaped plate, another alternative

M. Reimundo, S. Sapriza, A. Fernández, S. Lambert

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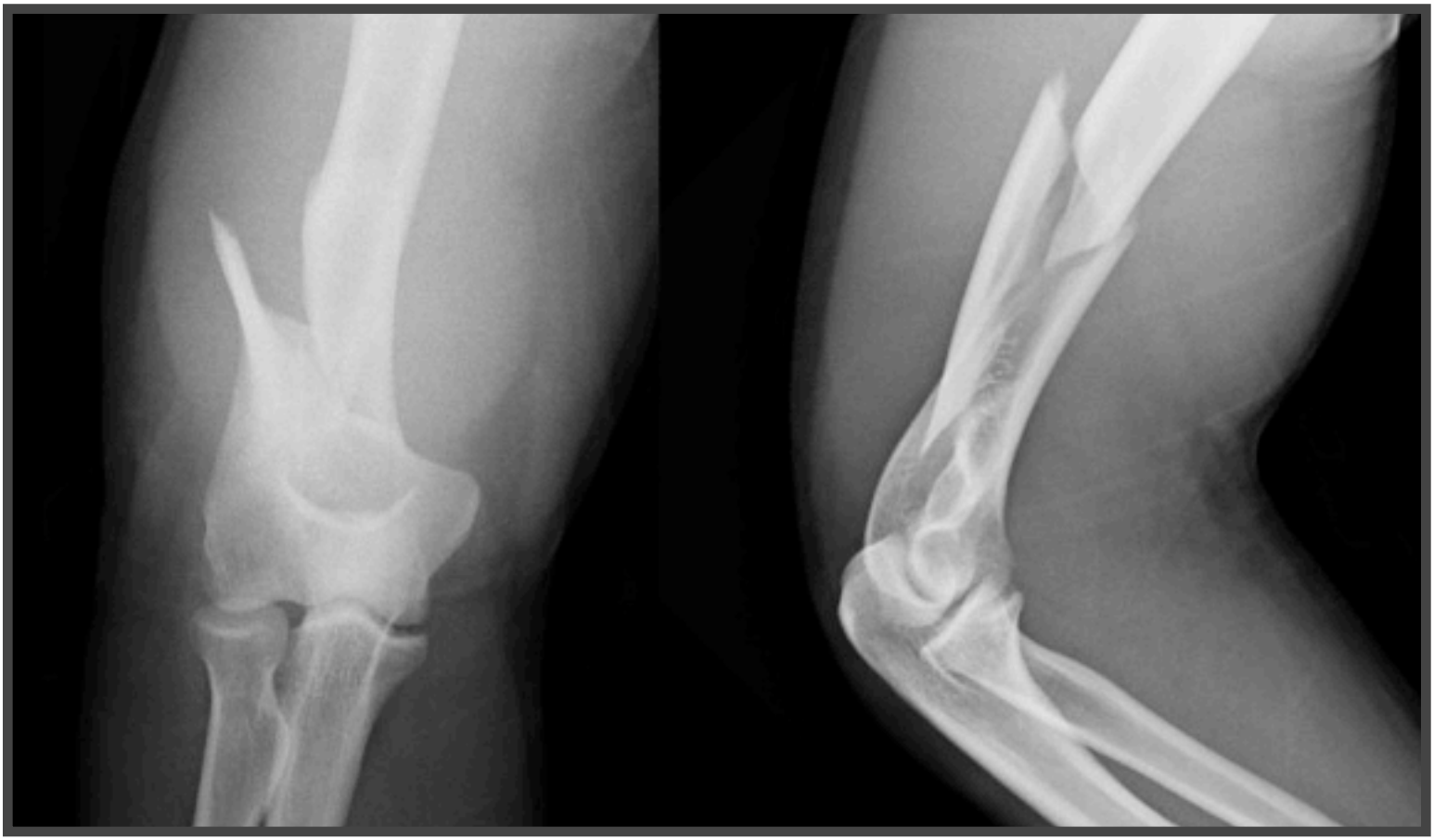
Wedge fractures of the distal part of the humeral shaft can be operated through a posterior or an anterior approach.



ICUC® App ID: 12-WE-729

Posterior Approach

The posterior approach allows a better bone purchase on the distal bone fragment, either using two plates or a 3.5 LCP Extra-articular Distal Humerus Synthes® plate.

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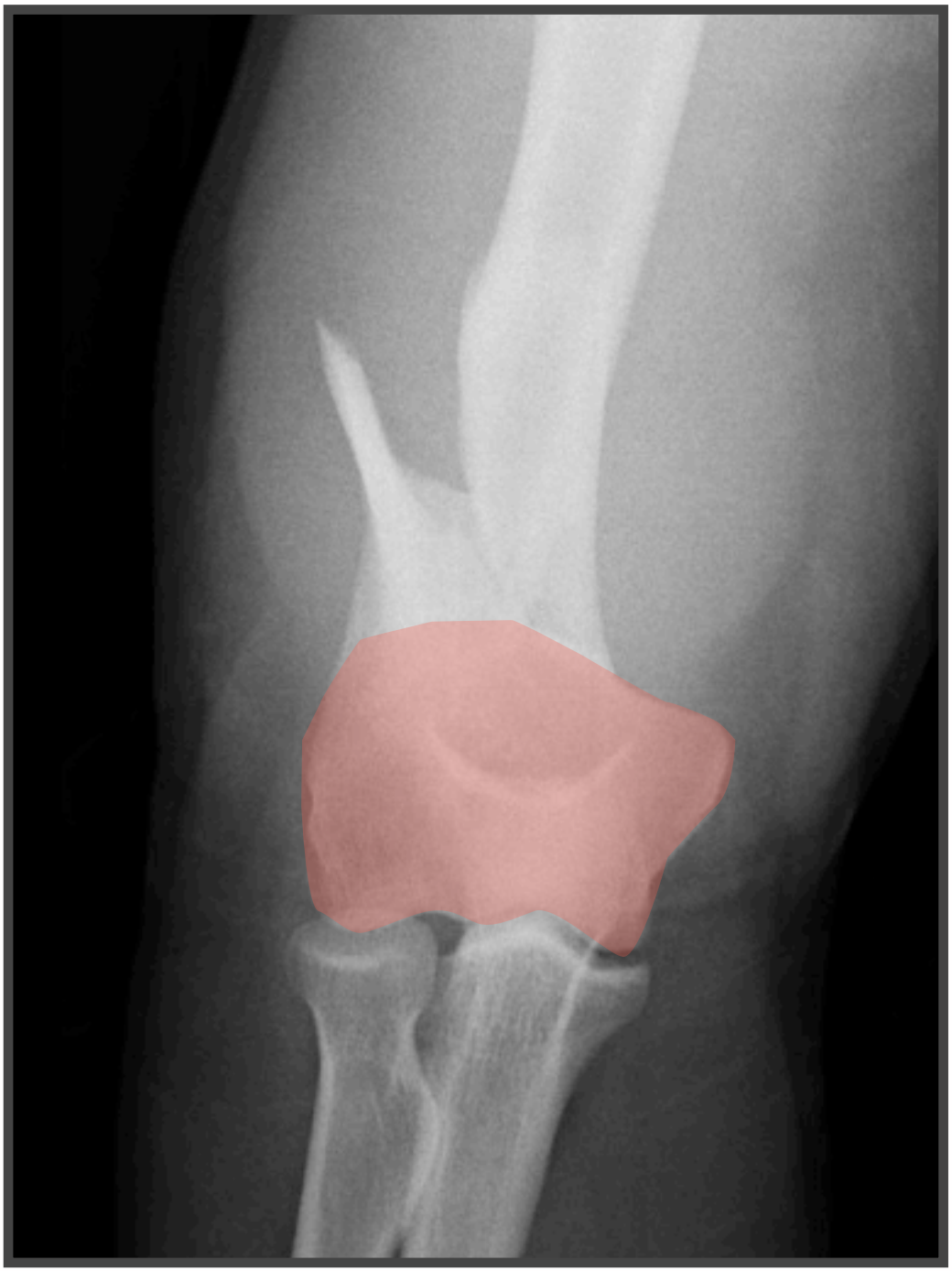
3.5 LCP Extra-articular
Distal Humerus Synthes® plate

ICUC® App ID: 13-EA-754

Anterior Approach

The anterior approach is often chosen when the surgeon feels the need to visually explore the radial nerve. When an anterior approach is used, it may be difficult to obtain a good bone purchase on the distal bone fragment.



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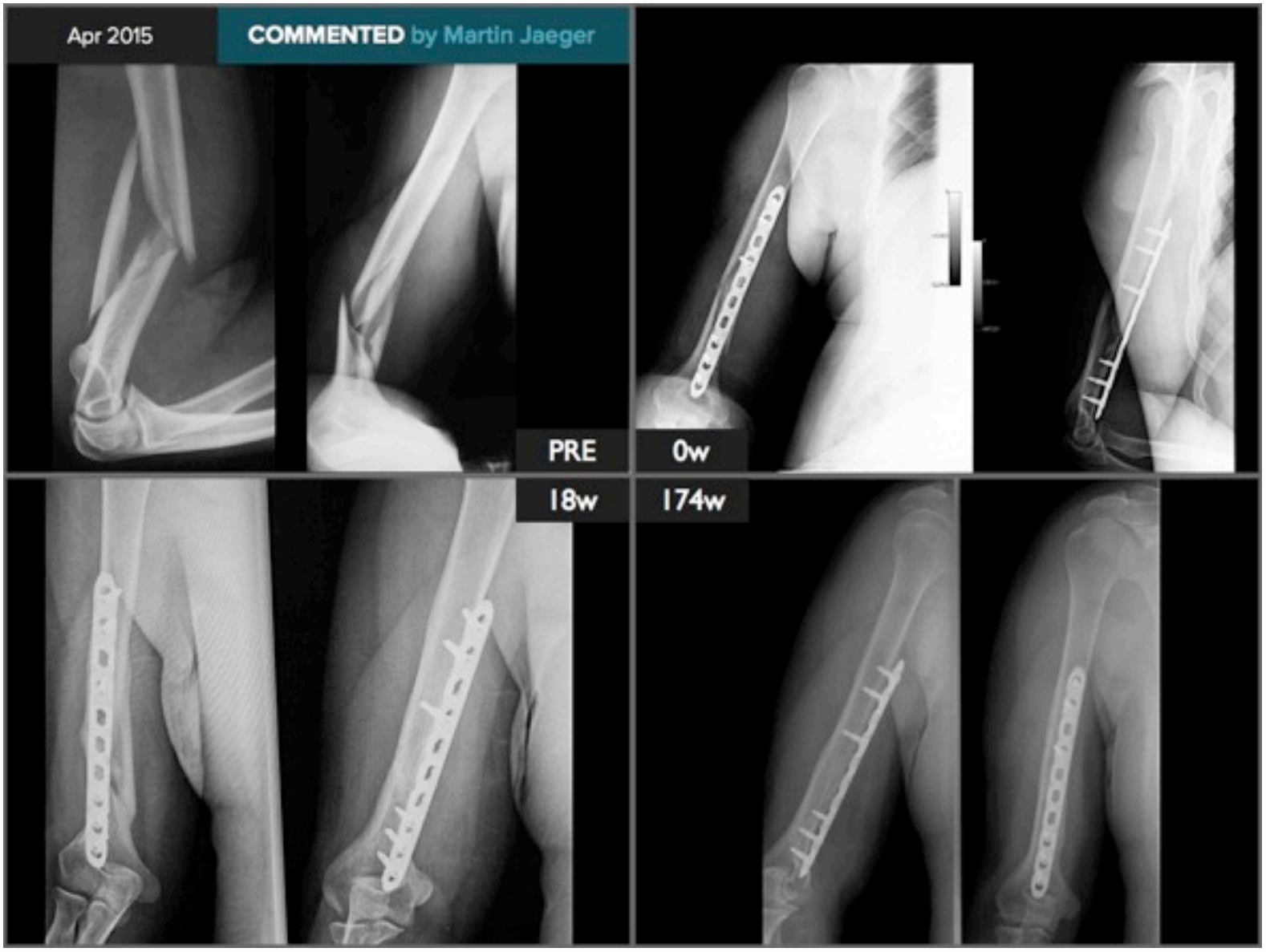
You may or may not be lucky....



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You may or may not be lucky....

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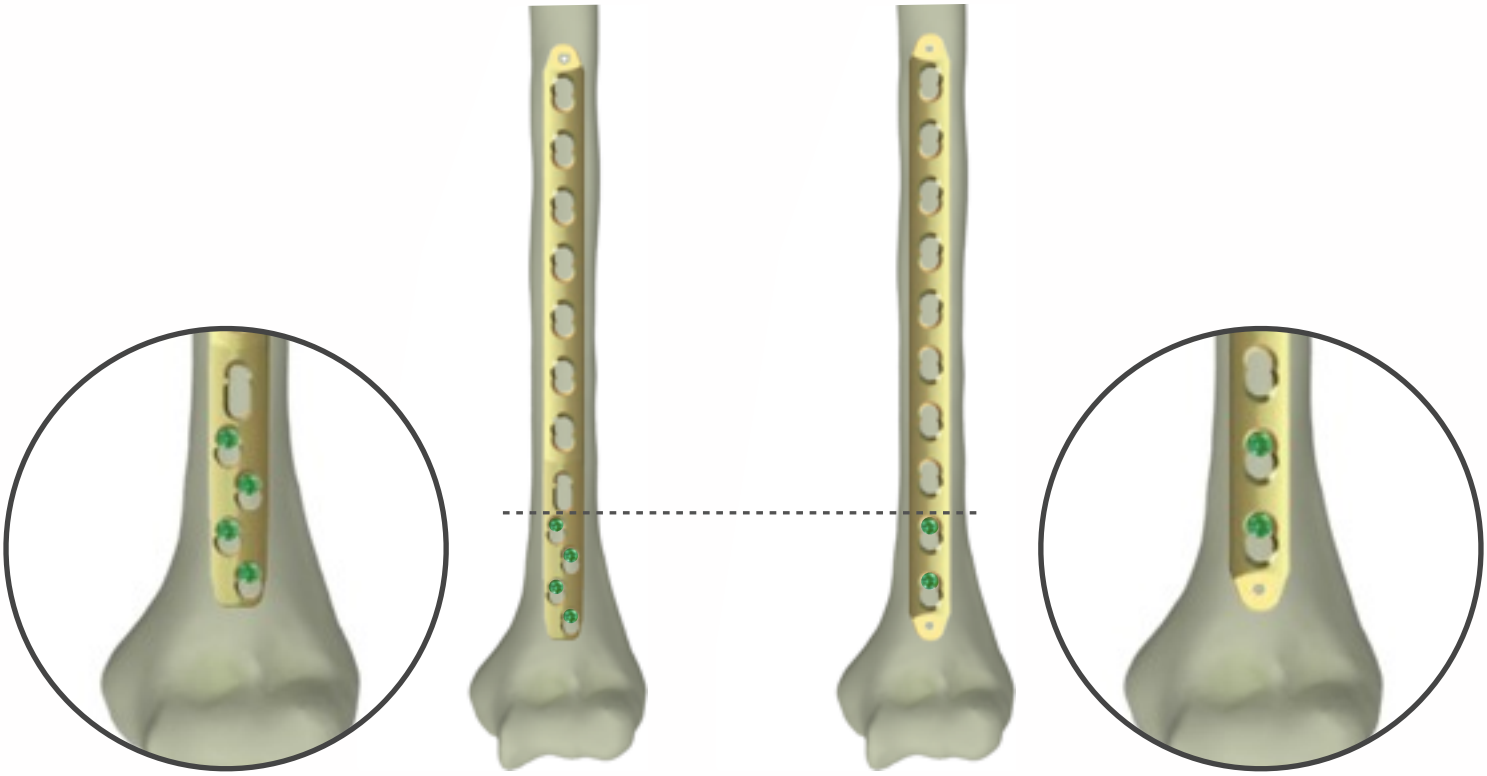
Bone purchase may be slightly improved by the use of a Synthes® LCP Metaphyseal plate.



LCP metaphyseal plate fixation for fractures of the distal third humeral shaft using brachialis splitting approach

Sang Ki Lee, Dae Suk Yang, Shann Haw Chang, Won Sik Choy

From Eulji University College of Medicine, Daejeon, Korea

The use of an anterolateral approach has been described to improve bone fixation distally.
It seems to be still falling short of requirements.

Clinics in Orthopedic Surgery 2013;5:209-215 • http://dx.doi.org/10.4055/cios.2013.5.3.209

Modified Combined Approach for Distal Humerus Shaft Fracture: Anterolateral and Lateral Bimodal Approach

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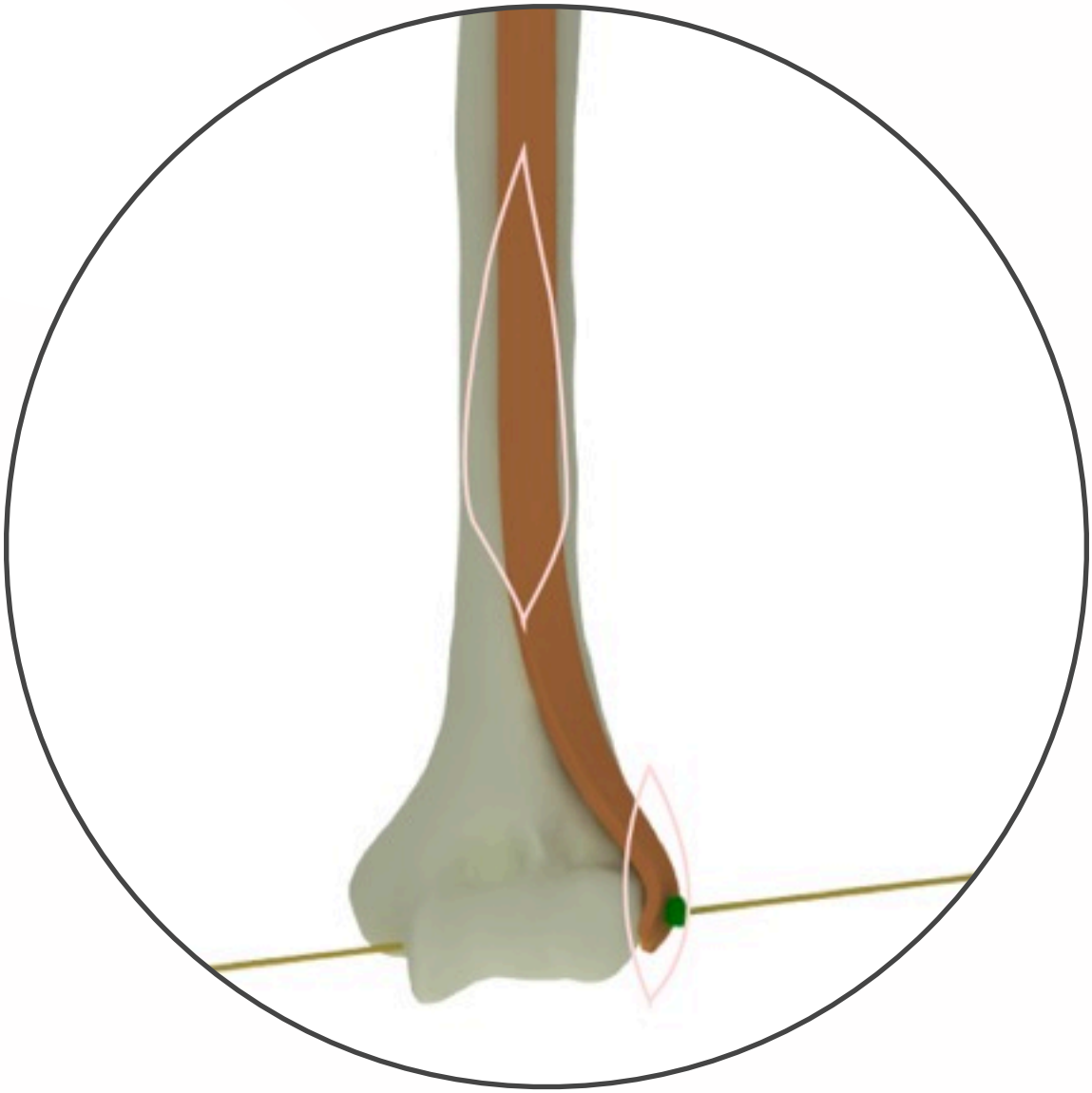
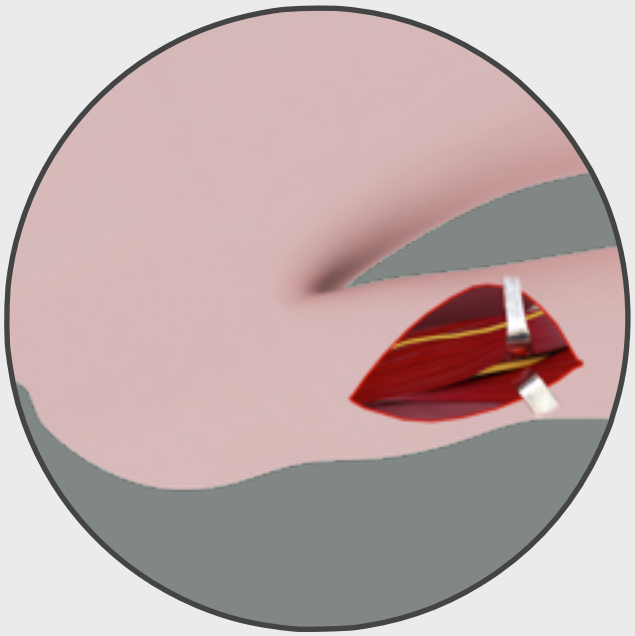
We have developed a different approach to handle this problem:

1. Conventional A K Henry anterior approach, making use of a double window: one to reduce the fracture and another to visually explore the radial nerve.
2. Use of a plate, strongly contoured as a helix, to be anterior to the shaft and lateral to the lateral condyle.
3. Additional minimally invasive approach to the lateral condyle is used to insert a long screw through the most distal hole of the plate, and coaxial with the distal humerus joint block.

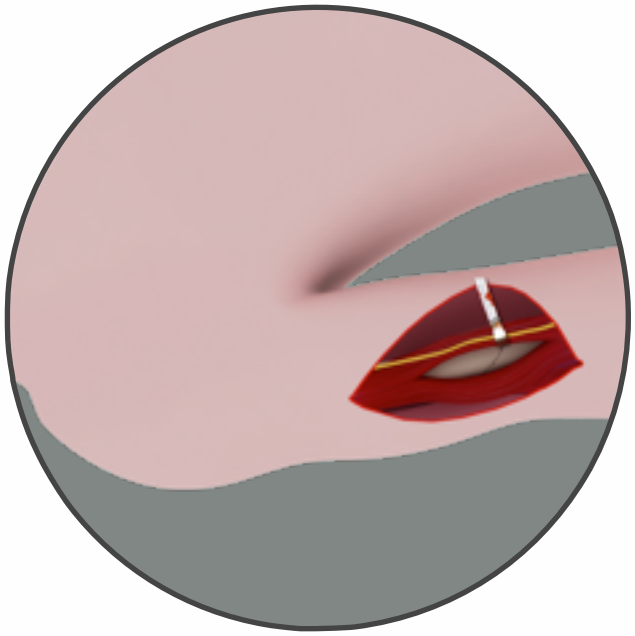


Double Window approach

Radial nerve window

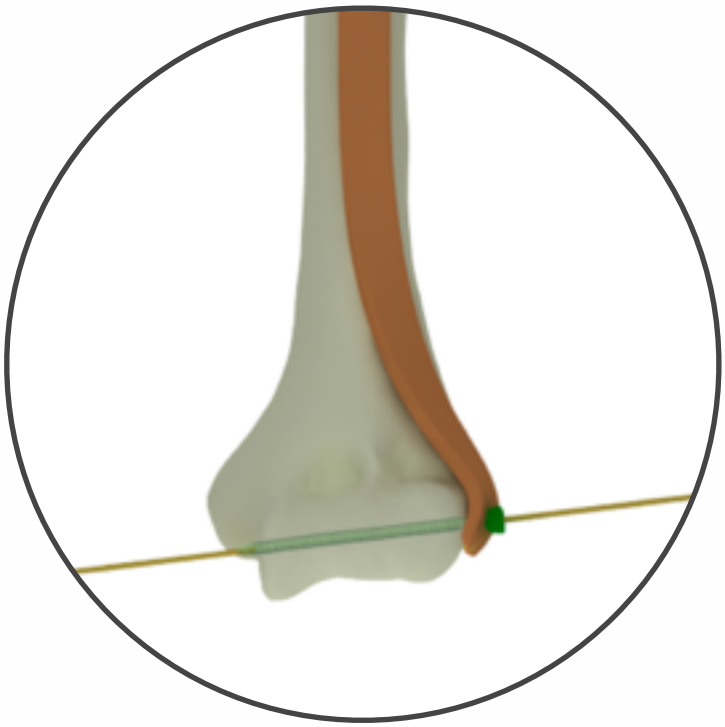


Fracture window

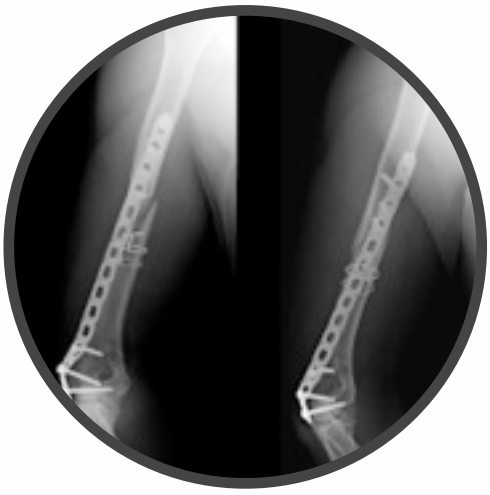


ICUC® App ID: 12-WE-236

In this way, bone purchase at the distal humerus is improved by the use of a long screw coaxial with the distal humerus joint block.



Here are the images of the first 3 cases successfully treated using this approach.



ID: 12-WE-757

ID: 12-WE-485

ID: 12-WE-236

Full data is available in the ICUC® App

Further readings:

1. Scolaro J, Matzon JL, Mehta S. Tips and techniques surgical fixation of extra articular distal humerus fractures with a posterolateral Locking Compression Plate (LCP).
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2. Tong Joo Lee, MD, Dae Gyu Kwon, MD, Suk In Na, MD, Seung Do Cha, MD*Modified Combined Approach for Distal Humerus Shaft Fracture: Anterolateral and Lateral Bimodal Approach.Clinics in Orthopedic Surgery 2013;5:209-215.

3. Levy JC, Kalandiak SP, Hutson JJ, Zych G. An alternative method of osteosynthesis for distal humeral shaft fractures.
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5.Sang Ki Lee, Dae Suk Yang, Shann Haw Chang, Won Sik ChoY . LCP metaphyseal plate fixation for fractures of the distal third humeral shaft using brachialis splitting approach .Acta Orthop. Belg., 2016, 82, 85-93.