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## **ETU014**

### **The Use of 3D Reconstruction in CT Scan Examination of Elbow Joint with Dislocation Cases at Surakarta Orthopedic Hospital**

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**Introduction:** Patients with elbow joint dislocations had CT scans with 2D and 3D reconstructions, in some studies, it is sufficient to examine the elbow joint using conventional radiography with anteroposterior and lateral projections. However, in some cases that cannot be evaluated using conventional radiography, a CT scan can facilitate diagnosis, particularly when enhanced with multiplanar and 3D imaging to provide better assessment. **Methods:** This study employed a descriptive qualitative methodology utilizing a case study approach to examine CT scans of elbow joint dislocations at the Radiology Installation of Prof. Dr. R Soeharso Orthopedic Hospital Surakarta, conducted from September 2024 to March 2025. **Results:** A CT scan of the elbow joint exhibiting clinical dislocation was performed with standard preparation. The patient was positioned supine on the examination table with feet oriented first, utilizing 2D and 3D reconstruction, covering a scanning area from 1/3 distal humerus to 1/3 proximal antebrachia. The reason for employing 3D reconstruction is that the dislocation has persisted for over 24 hours and is categorized as severe. 3D reconstruction helps radiologists in visualizing indicators that are challenging to assess with traditional radiography, such as microfractures. It facilitates communication among doctors regarding the assessment and treatment plans for patients with dislocations. **Conclusions:** The utilization of 2D and 3D reconstruction in CT scan evaluations of the elbow joint facilitates diagnoses that are unattainable through conventional radiography, prompting researchers to support these techniques in dislocation cases.

**Keywords:** CT scan, elbow joint, 2D and 3D reconstruction