Comminuted Distal Humerus Fractures in the Elderly: Total Elbow Replacement

1. Epidemiology
    a. >80% Female
    b. Typically autonomous, independent
2. Comorbidities
    a. Poor reserve
    b. Variable function and compliance
    c. Osteoporosis
        i. Poor fixation
        ii. More comminution
        iii. Poor soft tissue envelope
3. Treatment options
    a. Non-operative
        i. Frail, medically unwell, poor rehab potential
    b. ORIF
        i. Patient medically and functionally amenable to surgery
        ii. Fracture allows stout anatomic fixation and early functional rehab
    c. TEA
        i. Patient medically amenable to surgery
        ii. Low functional demand, physiologically elderly, lower BMI
            1. Compliant
        iii. Unreconstructable fracture
4. TEA for fracture
    a. Pearls
        i. PATIENT SELECTION: Post important factor
            1. Ideal patient resembles rheumatoid patients
        ii. Approach
            1. Paratricepital, triceps sparing
            2. Can reflect triceps + anconeus pedicle if needed
            3. Protect the ulnar nerve
        iii. Implant
            1. Cemented, Semiconstrained
        iv. Technique
            1. Humerus
                a. Condyle excision
                b. IR 14 degrees
                c. Don't forget the anterior bone graft
            2. Ulna
                a. Excise olecranon and coronoid tip
                b. Burr a trough in the greater sigmoid notch
                    i. Allows in-line access to the medullary canal
                c. Impact until centered in the greater sigmoid notch
                    i. Often requires downsizing the implant
            3. Excellent cementation technique