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. Paratracepital, 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