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Rehabilitation Protocol After Chronic Ulnar Collateral Ligament Injury: Reconstruction Using Autogenous Graft

Phase 1: Immediate Postoperative Phase (1-3 Weeks)

Goals:

- Protect healing tissue
- Decrease pain/inflammation
- Retard muscular atrophy

Week 1

Brace

- Posterior splint at 90 degrees elbow flexion
- Elbow compression dressing (2-3 days)

Range of Motion

- Wrist active ROM extension-flexion

Exercises

- Gripping exercises
- Wrist ROM
- Shoulder isometrics {with arm at side}(no shoulder internal rotation)
- Biceps isometrics

Cryotherapy

Week 2

Brace

- Application of functional brace set at 30-100 degrees

Exercises

- Initiate wrist isometrics
- Initiate elbow flexion extension isometrics
- Continue all exercises listed above

Week 3

Brace

- Advance brace 15-110 degrees (gradually increase ROM -5 degrees extension and 10 degrees flexion/wk)

Exercises

- Continue all exercises listed above

Phase 2: Intermediate Phase (Week 4-8)

Goals

- Gradual increase in ROM
- Promote healing of repaired tissue
- Regain and improve muscular strength

Week 4

Brace

- Functional brace set 10-120 degrees

Exercises

- Begin light resistance exercises for arm (1 pound)
- Wrist curls, extensions, pronation, supination
- Elbow extension flexion
- Progress shoulder programs emphasize rotator cuff strengthening (avoid external rotation of shoulder until week 6)

Week 6

Brace

- Functional brace set (0-130 degrees); active ROM (0-145 degrees without brace)

Exercises

- Progress elbow strengthening exercises
- Initiate shoulder external rotation strengthening
- Progress shoulder program

Phase 3: Advanced Strengthening Phase (Weeks 9-13)

Goals

- Increase strength, power, endurance
- Maintain full elbow ROM
- Gradually initiate sporting activities

Week 9

Exercises

- Initiate eccentric elbow flexion extension
- Continue isotonic program; forearm and wrist
- Continue shoulder program – “Thrower’s Ten” Program
- Manual resistance diagonal patterns
- Initiate plyometric exercise program

Week 11

Exercises

- Continue all exercises listed above
- Begin light spot activities (e.g., golf swimming)

Phase 4: Return to Activity Phase (Week 14-26)

Goals

- Continue to increase strength, power, and endurance of upper extremity musculature
- Gradual return to sport activities

Week 14

Exercises

- Initiate interval throwing program (phase 1)
- Continue strengthening program
- Emphasis on elbow and wrist strengthening and flexibility exercises

Week 22-26

- Gradual return to competitive throwing