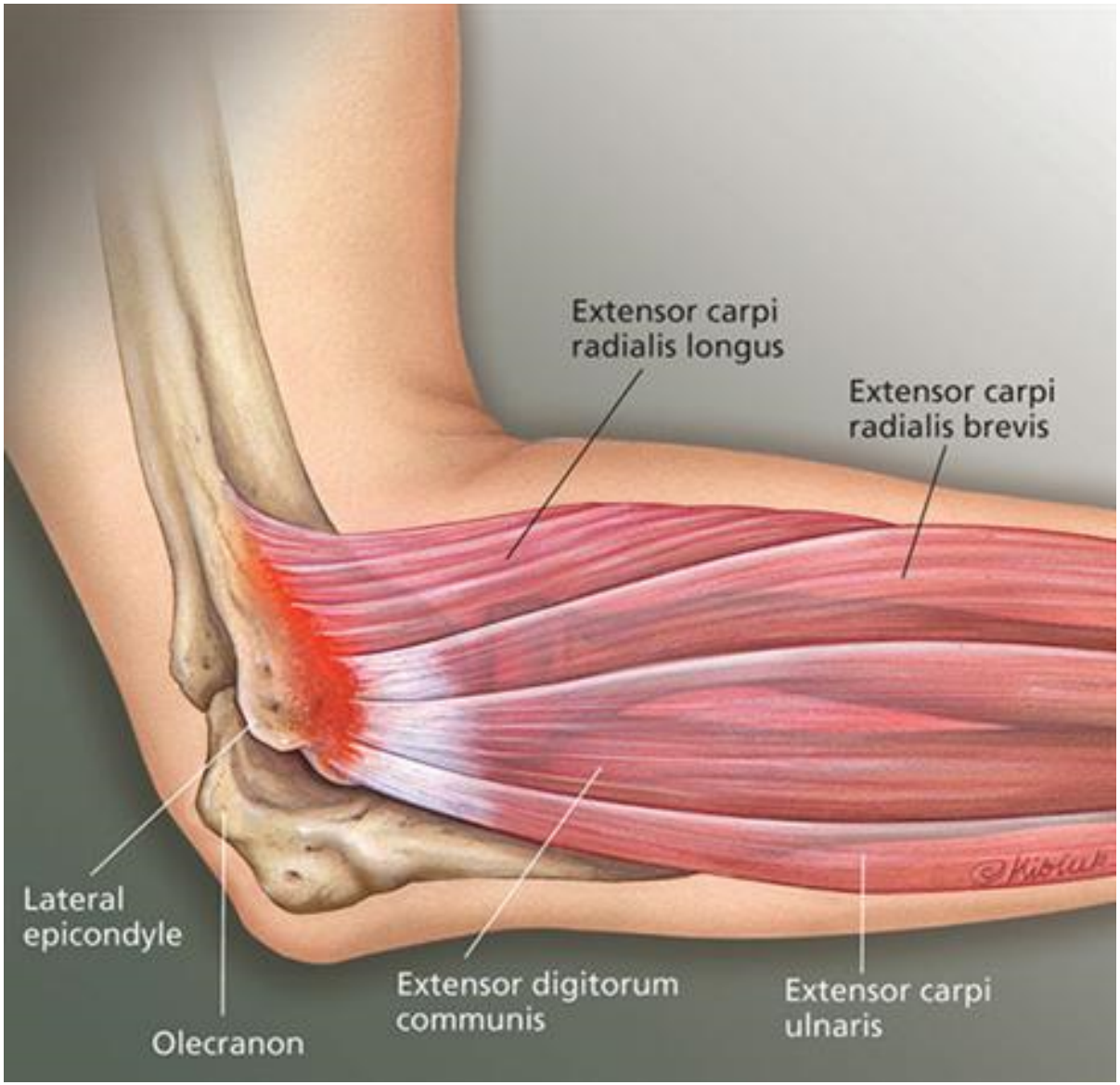
Lateral Epicondylitis

Tennis Elbow

- Overuse injury
- Eccentric overload at origin of common extensor tendon


Extensor carpi radialis longus
Extensor carpi radialis brevis
Lateral epicondyle
Olecranon
Extensor digitorum communis
Extensor carpi ulnaris

- up to 50% of all tennis players develop
  - risk factors
    - poor swing technique
    - heavy racket
    - incorrect grip size
    - high string tension
- common in laborers who utilize heavy tools
- workers engaged in repetitive gripping or lifting tasks
- most common between ages of 35 and 50 years old

Pathophysiology

- tenodesis effect to optimize grip causes overuse of ECRB
- precipitated by repetitive wrist extension and forearm pronation
- common in tennis players (backhand implicated)

Pathoanatomy

- usually begins as a microtear of the origin of ECRB
- may also involve microtears of ECRL and ECU

Clinical Features

- point tenderness at ECRB insertion into lateral epicondyle

- provocative tests
  - the following manoeuvres exacerbate pain at lateral epicondyle
    - resisted wrist extension with elbow fully extended – COZENS TEST
    - resisted extension of the long fingers
    - maximal flexion of the wrist
    - passive wrist flexion in pronation causes pain at the elbow- MILLS MANOEUVRE

- Radiographs
    - Usually normal
    - Calcifications in the extensor muscle mass (20%)

- USG
    - ECRB appears thickened and hypoechoic
    - Most useful diagnostic tool

- Histology
  - histopathological studies of the ECRB tendon tissue shows
    - fibroblast hypertrophy
    - disorganized collagen
    - vascular hyperplasia
    - Angiofibroblastic dysplasia

- Diagnosis
  - diagnosis is primarily based on symptoms and physical exam

Nonoperative

- **activity modification, ice, NSAIDS, physical therapy, ultrasound**
  - first line of treatment
- techniques
  - tennis modifications (slower playing surface, more flexible racquet, lower string tension, larger grip)
  - counter-force brace (strap)
  - steroid injections (up to three)
  - physical therapy regimen
  - acupuncture
  - iontophoresis/phonophoresis
  - extracoproeal shock wave therapy
- outcomes
  - up to 95% success rate with nonoperative treatment, but patience is required

Operative

- **release and debridement of ECRB origin**
  - **Open / percutaneous / Arthroscopy**

  - indications
    - if prolonged nonoperative (6-12 months) fails
    - clear diagnosis (isolated lateral epicondylitis)
    - intra-articular pathology

  - contraindications
    - inadequate trial of nonsurgical treatment
    - patient noncompliance with the recommended nonsurgical treatment