

The Process of Progress in Medicine,  
in Sports Medicine, and  
in Baseball Medicine

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Notes

- I. History of medicine
  - A. Characteristics of progressive contributors
    - 1. Scientists
    - 2. Strong clinicians
    - 3. Teachers
    - 4. Prolific writers
  - B. Herodotus ~500 BC
    - 1. Diet and exercise
    - 2. Hippocrates' teacher
  - C. Hippocrates ~500 BC
    - 1. Culture believed in divine origin
    - 2. Hippocrates: if observe enough cases, can predict disease course
    - 3. Moved medicine from mysticism to evidence based practice
  - D. Galen ~200 AD
    - 1. Experimented
    - 2. Dissected animals
    - 3. Predeterminism
    - 4. Teach
    - 5. Wrote 22 volumes in medicine
      - a) Thought that was all there was to know
  - E. Renaissance
    - 1. Pope Sixtus IV - 1482
      - a) Papal Bull allowing bishops to determine if bodies could be dissected
    - 2. Vesalius ~1540
      - a) Dissected human bodies
      - b) Declared much of Galen's work to be untrue
      - c) "On the Workings of the Human Body"
    - 3. Paré ~1540
      - a) Observed outcomes in 'new' vrs 'old' treatment for open wounds on the battlefield
    - 4. Morgagni ~1770
      - a) Father of modern anatomical pathology
      - b) Determined disease due to specific organs
      - c) Brought an end to predeterminism
      - d) Wrote a book with indexing of over 700 patient cases

- II. Baseball medicine & epidemiology
  - A. Confirms physiological limits and effects of pitching volume
  - B. 1876-1883
    - 1. Pitched 70-98% of the games
    - 2. All 9 innings
    - 3. >100 games/season
  - C. 1884-1891
    - 1. Overhand delivery
    - 2. 69 pitchers threw a season of 389+ innings
      - a) 41% had last win within 3 years
    - 3. Alexander H.P. Leuf M.D.
      - a) Wrote on the effects of 'excessive functional activity'
  - D. 1892 – Cyclones
    - 1. Concerned about pitching frequency
    - 2. Pitched 50-60 games, all innings
  - E. 1893 – Baltimore Orioles Manager, Ned Hanlon
    - 1. Had 6 pitchers (other teams had 4)
    - 2. Following year, took the National League pennant
  - F. 1893-1902
    - 1. 4 pitchers threw 425+ innings
      - a) Last winning season shortly thereafter
  - G. Foul ball rule
    - 1. Fouls were called as 'strikes'
    - 2. Prior to this, could endlessly foul of the ball and tire the pitcher's arm
  - H. Cy Young
    - 1. Record tells of pitching volume and effects
    - 2. Key to longevity and success
      - a) Large repertoire of pitches
      - b) Late start in pro pitching
      - c) Conditioning king
      - d) Low pitch count
- III. Youth today
  - A. Overuse injuries are increasing
  - B. Does volume of pitching play a role in this increase?
- IV. Summary
  - A. Progress leaders
    - 1. Scientists
    - 2. Strong clinicians
    - 3. Teachers
    - 4. Prolific writers
  - B. "You can observe a lot just by watching" Yogi Berra

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