

INCIDENCE OF BONE STRESS INJURIES IN DIVISION I COLLEGIATE ATHLETES

Background

- Female collegiate athletes are at a higher risk of developing bone stress injuries than male athletes due to the Female Athlete Triad
- The Female Athlete Triad is a condition characterized by the interplay of disordered eating, amenorrhea (the absence of menstruation), and osteoporosis.
- Women involved in sports emphasizing leanness or requiring weight management such as track and field and cross country, may be at an increased risk of BSIs.

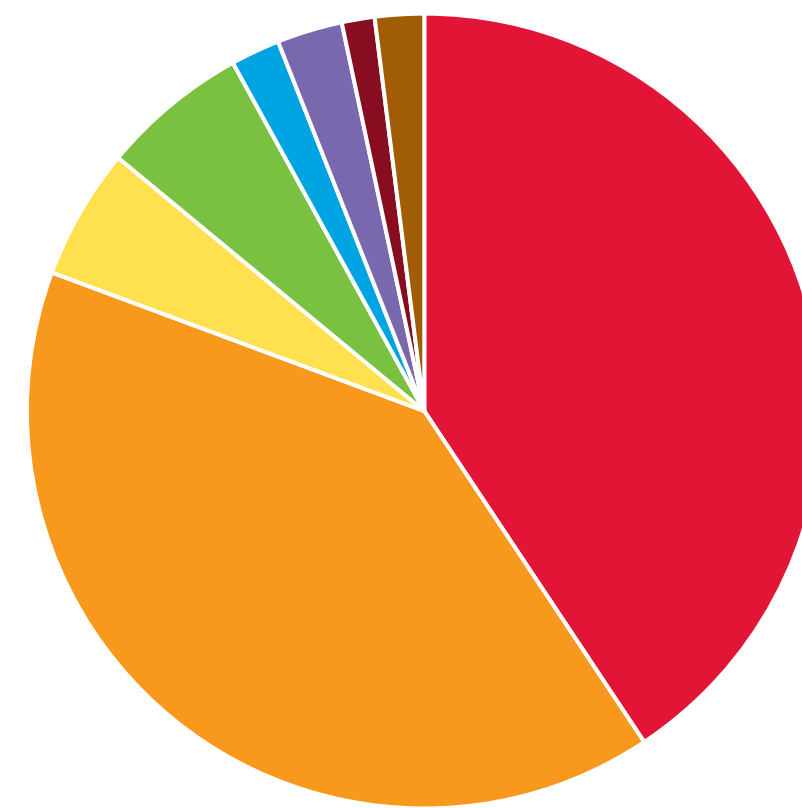
Methods

- This study was a retrospective chart review of data collected from medical records between 2020-2021.
- Data sources:** NCAA database and EPIC medical records
- Sample size:** 151 incidences of BSIs among both male and female college athletes at the University of Colorado-Boulder
- Sports represented:** football, men's basketball, women's basketball, women's volleyball, skiing, cross country, track and field, and women's tennis.
- All data was kept in a safe, encrypted database

Results

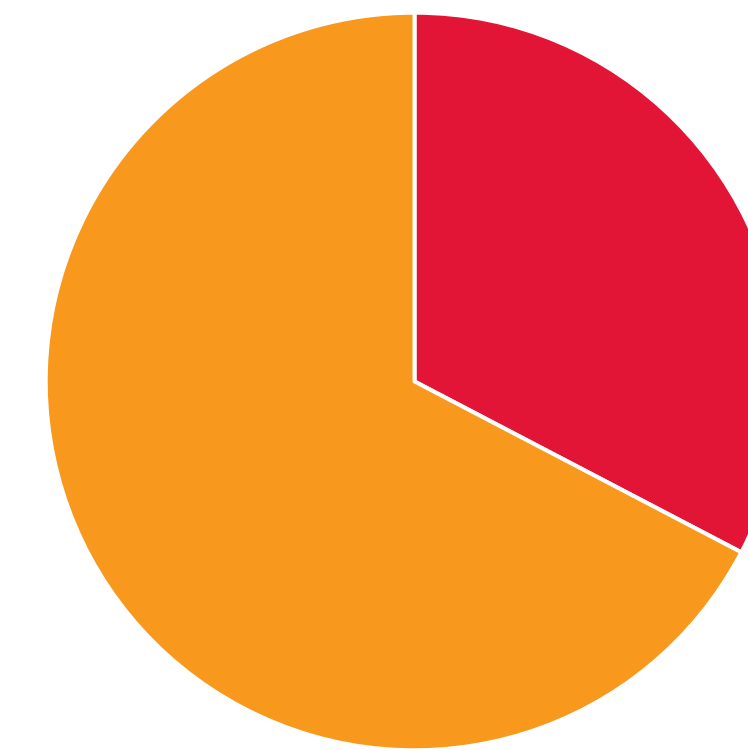
Number of Bone Stress Injuries By Sport

- Track and Field
- Cross Country
- Football
- Lacrosse
- Skiing
- Soccer
- Tennis
- Basketball



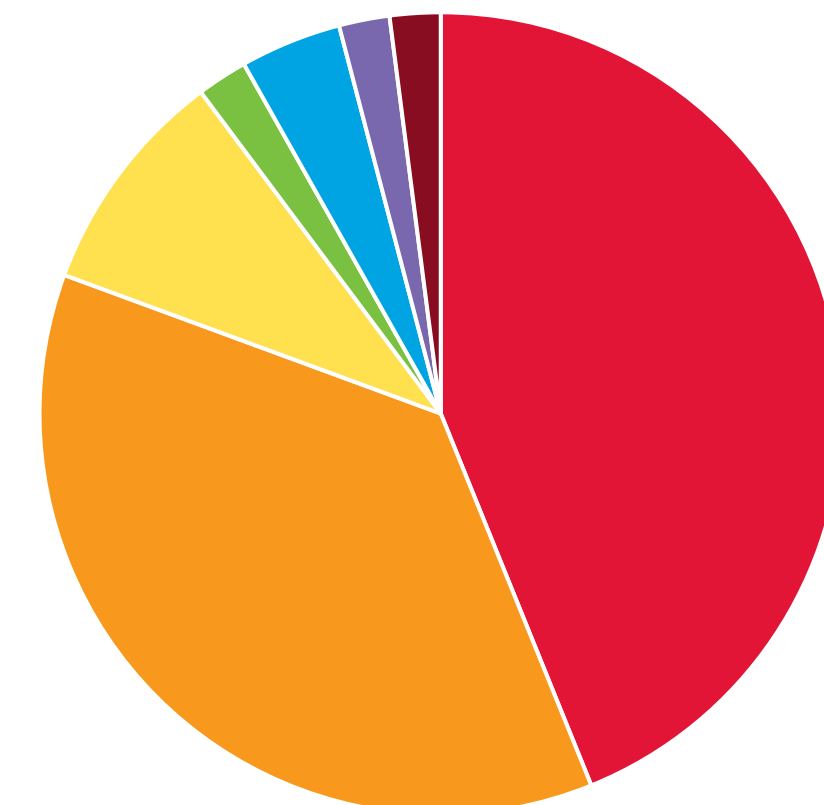
Number of Bone Stress Injuries By Sex

- Male
- Female



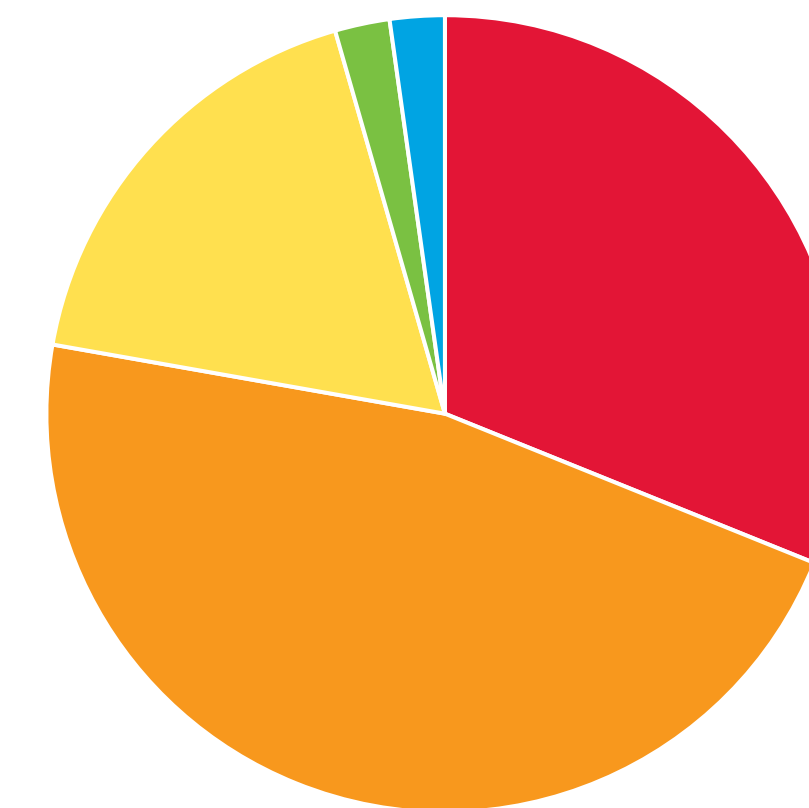
Number of Bone Stress Injuries by Female Sport

- Track and Field
- Cross Country
- Lacrosse
- Skiing
- Soccer
- Tennis
- Basketball



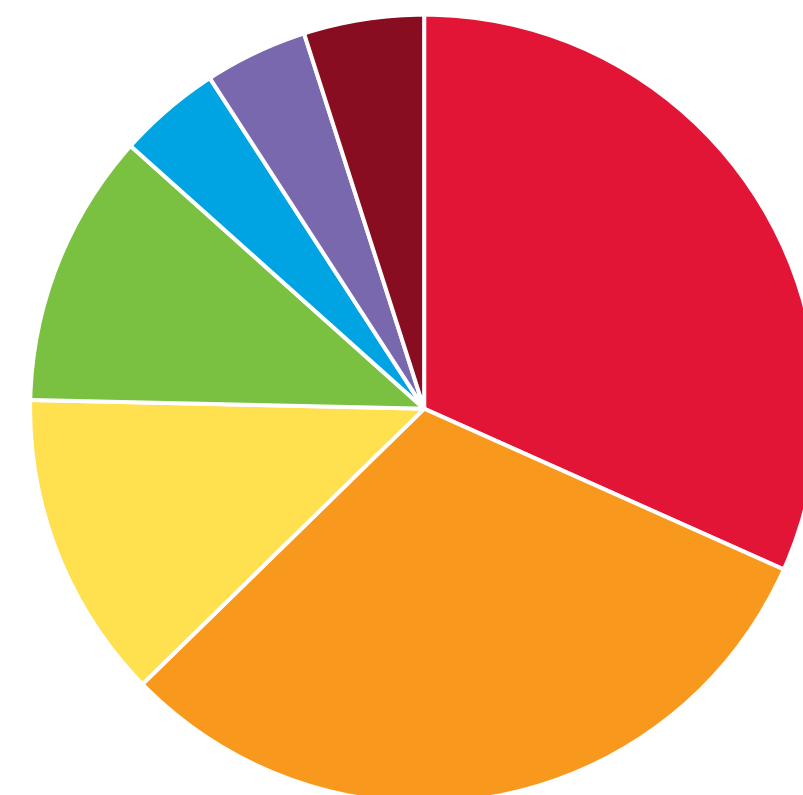
Number of Bone Stress Injuries by Male Sport

- Track and Field
- Cross Country
- Football
- Skiing
- Baskeball



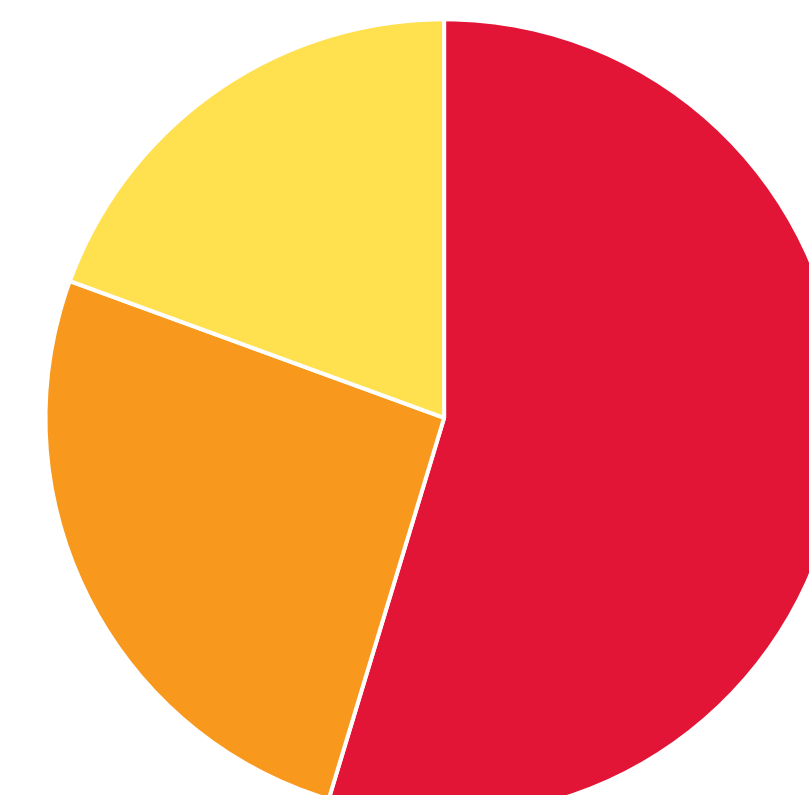
Number of Bone Stress Injuries by Body Part

- Foot
- Lower Leg
- Thigh
- Pelvis
- Ankle/Heel
- Groin/Hip
- Lumbar Spine



Number of Bone Stress Injuries by Season

- In-Season
- Off-Season
- Pre-Season



Conclusions

- The incidence of bone stress injuries (BSIs) is notably higher among male and female athletes participating in track and field and cross country when compared to other sports
- The incidence of BSIs is higher in women compared to men
- the incidence of BSIs is notably higher in the lower leg and foot compared to other regions of the lower extremity
- The incidence of BSIs is higher during "in-season" training than other sports seasons.

Implications

- There is a correlation between the incidence of lower extremity bone stress injuries and different Division I collegiate sports.
- The data gained from this study, plus the data already known about the "female athlete triad" will enable collegiate athletic programs to identify both male and female athletes that are at high risk for developing stress fractures (BSIs).

Disclosures

There are no conflicts of interest