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Breaking Down Cheer: Unveiling Common Injuries Among Adult Allstar Cheerleading Athletes in the United Kingdom

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Breaking Down Cheer: Unveiling Common Injuries Among Adult Allstar Cheerleading Athletes in the United Kingdom

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Abstract

The physical demands and participation of Allstar cheerleading have increased over the last two decades and so has the risk of injury. However, little is known about injury epidemiology in adult Allstar cheerleaders within the United Kingdom. The purpose of this study was to identify the most common injury site, mechanism, and positions susceptible to injury among adult Allstar cheerleading athletes in the United Kingdom and explore common treatment and management. A descriptive cross-sectional quantitative study was conducted using an electronic questionnaire distributed to adult cheerleaders in the United Kingdom. Data collected included demographics, training history, injury characteristics, and treatment and management with frequency analysis performed. A total of 130 cheerleaders participated. The most common injury site was head/face (15.99%). Basing/stunting was the most common mechanism of injury (28.03%), with main bases and tumblers reporting the highest median injury rates (~4). Cheerleaders were mostly advised on complete rest from training (63.39%) and the use of ice application for treatment (23.14%). Upper limb injuries were more common than lower limb injuries among adult Allstar cheerleaders, with a large number to the head/face, which differs to the current literature. Further research is needed to help healthcare professionals develop specific injury prevention programs and explore sex differences.

Keywords: Allstar, Injuries, Epidemiology, Cheerleading

Crynodeb

Mae gofynion corfforol a chyfranogiad codi hwyl Allstar wedi cynyddu dros y ddau ddegawd diwethaf ac felly hefyd y perygl o anaf. Fodd bynnag, ychydig iawn sy'n hysbys am epidemoleg anaf mewn rhai sy'n codi hwyl i Allstar o fewn y Deyrnas Unedig. Diben yr astudiaeth hon oedd adnabod y safle anaf fwyaf cyffredin, mecanwaith a'r safleoedd sy'n agored i anaf ymysg oedolion sy'n athletwyr codi hwyliau Allstar yn y Deyrnas Unedig ac archwilio triniaeth gyffredin a rheolaeth ohono. Cynhaliwyd astudiaeth feintiol ddisgrifiadol, trawsadrannol gan ddefnyddio holiadur electronig a ddosbarthwyd ymysg oedolion sy'n codi hwyliau yn y Deyrnas Unedig. Mae'r data a gasglwyd yn cynnwys demograffeg, hanes hyfforddiant, nodweddion anaf, a thriniaeth a rheolaeth gyda dadansoddiad amllder yn cael ei berfformio. Cyfranogodd cyfanswm o 130 o oedolion sy'n codi hwyliau. Y lleoliad anaf mwyaf cyffredin oedd y pen/wyneb (15.99%). Bod mewn safle sy'n codi/taflu athletwyr eraill yw'r mecanwaith anaf mwyaf cyffredin (28.03%), gyda'r prif rai sydd ar y gwaelod ac sy'n cael eu troelli yn adrodd am y cyfraddau anaf canolrifol (~4). Cafodd y rhai oedd yn codi hwyl eu cynghori'n bennaf i gael seibiant llwyr oddi wrth hyfforddiant (63.39%) a defnyddio rhew ar yr anaf fel triniaeth (23.14%). Roedd anafiadau i'r breichiau yn fwy cyffredin nag anafiadau i'r coesau ymysg oedolion sy'n codi hwyliau i Allstar, gyda nifer fawr i'r pen/wyneb, sy'n wahanol i'r llenyddiaeth gyffredol. Mae angen ymchwil pellach er mwyn helpu gweithwyr proffesiynol gofal iechyd i ddatblygu rhaglenni atal anafiadau penodol ac archwilio gwahaniaethau rhwng y rhywiâu.

Geiriau Allweddol: Allstar, Anafiadau, Epidemoleg, Codi Hwyl

Introduction

The physical demands of cheerleading have progressed since Johnny Campbell led crowd cheering and chanting at a sports event at the University of Minnesota in 1898, creating side-line cheerleading for the first time (Gavanda et al., 2023). In the late 1980's, the first Allstar cheerleading program was created in the United States of America (USA), shifting the focus from sideline support to competitive performance, which increased the physical demands of the sport due to the inclusion of complex stunts, tumbling, and choreographed routines designed for competition (Xu et al., 2022). Cheerleading can be categorised as side-line cheer, high school/college cheer, urban cheer, pom dance and Allstar cheer; with high school/college cheerleading and Allstar cheerleading being the most popular (Gavanda et al., 2023; Xu et al., 2022). For the past 30 years cheerleading has been a competitive sport in the United Kingdom (UK) and is one of the fastest growing sports in the country, with over 89,000 athletes (Sport Cheer England, 2020). Since 2014/15, UK cheerleading teams have advanced to compete internationally at the International Cheer Union World Championships (Sport Cheer England, 2020). Allstar cheerleading has evolved into an elite global sport, which has intensified competition, leading to greater injury risk due to higher impact, speed, and power required for tumbling, jumps, stunts and tosses (Bagnulo, 2012).

Allstar cheerleading is a high intensity team-based performance sport, requiring athletes to complete a 2-and-a-half-minute routine filled with tumbling, stunting, gymnastics manoeuvres, pyramids, jumps, and dance on either a sprung floor or 'dead' floor (Marolde et al., 2021); with athletes specialising in positions of flyers, bases, or spotters. The flyer is supported above the ground performing various manoeuvres, while bases (main and side) support, lift and stabilise the flyer in the air, requiring significant strength, endurance, and coordination (Goodwin et al., 2004). Lastly, spotters protect the flyers' head and shoulders during stunts, but are at risk of injury due to falls, improper landings, or miscommunication (Marolde et al., 2021). The routines involve complex stunts, pyramids and tumbling sections, often incorporating flexibility stunts such as heel stretch, arabesque, and scorpion positions, as well as dynamic dismounts such as cradles and basket tosses (Chee and Chew, 2021; Shields et al., 2009a). The tumbling section, which is similar to artistic gymnastics, includes

both standing and running tumbling passes and require substantial lower-body power, core stability, and upper-body strength (Chee and Chew, 2021). Lastly, the jumps and dance section places further physical demands on the athletes, requiring lower-body strength, flexibility, co-ordination, and balance to achieve positions while airborne such as hurdle, pike, and toe touch (Chee and Chew, 2021), with muscular endurance is required to perform continuous movements.

Injuries are a common concern in Allstar cheerleading due to the intense physical demands and high-risk stunts and tumbles; however, this has not been documented within the UK. Globally, the knee, wrist, shoulder and head are frequently reported injured sites (Chee and Chew, 2021; Marolde et al., 2021; Xu et al., 2021), with ankle injuries being the most prevalent over the last two decades (Chee and Chew, 2021; Jacobson, 2005). Lower Limb (LL) injuries are more common in high school/college cheerleaders (Xu et al., 2021), but further investigations are warranted to adequately assess epidemiology of injury for UK athletes (Marolde et al., 2021).

Literature review

Epidemiology

Allstar cheerleading is rapidly growing, from 1990 to 2003 the number of cheerleading athletes in the world increased from 600 thousand to 3.6 million; and more recently in the USA alone the participation of cheerleading raised from 3.2 million in 2010 to nearly 3.8 million in 2019 (Marolde et al., 2021; Xu et al., 2021). As the sport grows, competition intensity and skill complexity increases, raising injury risk (Canty and King, 2024). This poses a dilemma for healthcare professionals and coaches in managing risk and developing injury prevention strategies, which is currently limited by a lack of injury data in Allstar cheerleading within the UK (Marolde et al., 2021). In addition, most epidemiology data available mixes ages and cheerleading categories, making it difficult to identify injury patterns specific to adult Allstar cheerleaders. Without more focused data, it becomes challenging to implement effective measures to reduce injury risk.

According to Xu et al. (2022), cheerleading athletes report at least one injury during their cheerleading careers, however, Marolde et al. (2021) reported that this may be higher, with athletes averaging 2.04 injuries over their time in the sport. Chee and Chew (2021) investigated 111 Singapore Varsity and open level cheerleaders, demonstrating that 68.5% of respondents sustained an injury. The most injured body part is the ankle (36.8%) (Chee and Chew, 2021; Jacobson, 2005), and the most common injury that cheerleaders sought medical attention for was soft tissue sprains/tears (57.7%). However, it can be difficult to identify whether such studies account for multiple injuries and may lead to underestimations of incidence. Many of the athletes included within studies are aged 18 to 23 years, are at peak physical condition, and engaging with high-performance skills; therefore, are potentially exposed to higher risk of injury, inadequate recovery, or overtraining (Tanaka and Toussaint, 2023; Xu et al., 2022). Marolde et al. (2021) examined injuries within younger Brazilian Allstar cheerleaders (aged 15 to 24 years) and provided an interesting but alternative finding that the wrist was the most common injury site (14.8%), which may be a result of high impact and weightbearing demands at the wrists during stunting and tumbling. Concerningly, growth plates in adolescents' wrists may have not fully ossified and therefore this could result in increased seriousness of injury (Dover and Kiely, 2015); whereas older participants are more likely to injure the lower limb (Chee and Chew, 2021; Xu et al. 2021).

The most common type of injury in cheerleading is ligament sprains and muscle strains (Canty and King, 2024; Chee and Chew, 2021; Xu et al., 2021), with more than half of cheerleaders reporting this type of injury, likely due to the high demands placed on the musculoskeletal system (Shields and Smith, 2011). Muscle strain injuries often occur from overstretching when excessive tension or force is placed on the muscle fibres or ligaments during tumbling or stunting, exceeding the tissue load capacity (Bagnulo, 2012). Additionally, athletes who exhibit joint instability or incorrect landing positions are at increased risk of a sprain injury. However, the classifications of injuries are often broad and not location specific.

Aetiology and Risk Factors

In any sporting environment there are modifiable and non-modifiable factors (Ng et al., 2019). A modifiable risk factor in cheerleading is stunting techniques, which can increase injury risk for both flyers and bases (Pierce et al., 2022; Shields et al. 2009a; Vincent et al., 2022). However, Marolde et al. (2021) found no significant association with cheerleading positions and occurrence of injuries in Brazilian Allstar cheerleaders, whereas Currie (2016) identified that bases accounted for 45.5% of all injuries in high school cheerleaders.

On the other hand, non-modifiable risk factors include the individuals' sex, age and injury history (Deng and Yu, 2025; Viecelli and Ewald, 2022). Chee and Chew, (2021) reported males were significantly more likely to be injured while basing and tumbling compared to female athletes. A history of previous injuries, particularly with an early return to cheerleading and without appropriate rehabilitation can lead to reinjury (Swenson et al., 2013). A history of ankle injuries puts individuals at a higher risk of reinjury, although reoccurrence may be reduced through injury prevention programming (Herzog et al., 2019; Stephenson et al., 2021).

Over the past two decades, stunting/basing has been regularly cited as the most common task causing injury irrespective of age and performance-type and is performed by side bases, back bases, and flyers (Chee and Chew, 2021; Deng and Yu, 2025; Jacobson, 2005; Shields and Smith, 2011). But as the demands have increased for complexity due to evolving sport standards (Jones and Khazzam, 2017), the physiological demands on the athlete have changed. Stunting requires strength, power, endurance, and coordination, as flyers perform flexibility skills, while supported by bases who must catch the flyer landing from heights. High-risk collaborative stunts, such as basket tosses and pyramids, have been identified as a primary mechanism of catastrophic injury in cheerleading (Deng and Yu, 2025). Furthermore, mastering stunting requires repetitions, which can lead to fatigue, increasing tissue stress and the risk of overuse injuries (Deng and Yu, 2025; Xu et al., 2022).

Shields et al. (2009b) indicated that Allstar cheerleaders are more likely to be injured during a tumbling manoeuvre. Tumbling exposes the athletes to high impact forces, with ankle loads reaching up to 10 times bodyweight, and wrists bearing 2-4

times bodyweight during skills such as round-offs and handsprings, whereas hard landings can generate forces of 15 times bodyweight at the ankle (Caine et al., 2013).

Treatment and Management

It is important that injured athletes are appropriately treated and managed for their injuries to be able to return to sport safely and to reduce the risk of reinjury or chronic injury (Palermi et al., 2023). The time lost from cheerleading injuries varies, as adult cheerleaders in Singapore commonly miss 1-7 days from training (63.2%), a finding that reflects a short recovery period likely influenced by high levels of physical conditioning and minimal tissue damage (Chee and Chew, 2021). In contrast, Canty and King (2024) found that youth cheerleaders across all divisions typically returned to training within 1-3 weeks after injury (41%), but both studies lack specificity to the location of injury, tissue type affected (ligament, muscle or bone), and tissue healing theory.

With a lack of cheerleading injury management literature, it may be pertinent to consider gymnastics studies because of the similarity of movement patterns and physical demands. More recently, Williams et al. (2023) provided insight into injury pathology in gymnastics in Wales and found that the most common advice (70%) given to athletes regarding injuries and training was to continue training with adaptations to exercises to accommodate their abilities. This included reduced intensity, altered movements, or using supportive equipment to be able to train safely without overloading the injured site. However, there is limited epidemiological research examining cheerleading injuries within the UK (Deng and Yu, 2025). Existing studies highlight a need for further investigation into injury patterns, including differences by position and injury site. Furthermore, the published studies fail to provide detail on what treatment was sought by injured athletes, limiting practitioners' understanding of how cheerleading injuries are managed in practice, and restricts the development of evidence-based guidelines for injury management in UK adult Allstar cheerleaders.

Aims

The aim of the study was to describe the frequency of injury patterns and management among adult Allstar cheerleading athletes in the UK.

Objectives

To identify the most common injury types sustained.

To analyse the positions associated with injury.

To examine the treatment and management strategies reported by injured athletes.

Hypothesis

Lower Limb (LL) injuries will occur more frequently than upper limb (UL) injuries among adult Allstar cheerleading athletes.

Basing/stunting would represent the primary task associated with injury and base position will demonstrate the highest number of injuries.

Methods

Ethical Approval

Wrexham University provided full ethical approval (Reference number: 1772), prior to the collection of the data.

Participants

Adult Allstar cheerleaders from the UK participated in the study. Participants were eligible if they were eighteen years or older, of any sex, a member of a competitive cheerleading team, have completed one full season registered as a competitive Allstar cheerleading athlete, and have competed at either British Cheerleading Association, Future Cheer, United Kingdom Cheerleading Association, Legacy, International Cheerleading Coalition, Incredibly Cool Events, or Cheer City competitions.

Participants were excluded if they were under the age of eighteen years, had less than one full season of cheerleading experience, not a member of a competitive Allstar cheerleading team, or unable to provide informed consent.

Design

A descriptive cross-sectional design with a quantitative approach was implemented, using an electronic questionnaire to investigate common injuries among Adult Allstar cheerleaders in the UK.

Questionnaire

The questionnaire was developed using Microsoft Forms and adapted from questions utilised in previous injury-related studies to capture injury data (Fuller, 2006; Williams et al., 2023). The questionnaire was adapted to reflect the context of cheerleading injuries and face validity considered by the research team. A pilot study of the questionnaire was distributed to individuals over the age of eighteen years at a single cheerleading club to adapt vocabulary prior to distribution.

The questionnaire consisted of 22 mandatory questions. The questionnaire was split into four sections: demographics, training history, injury characteristics, and treatment.

Procedure

A list of UK cheerleading teams was compiled of teams that competed in the 2024 International Allstar Federation (IASF) Cheerleading Worlds competition, and teams with details on social media platforms: Facebook and Instagram. The teams were contacted through email and social media platforms.

The questionnaire was conducted electronically online and distributed via email to cheerleading clubs and shared on the UK Cheerleading coaches Facebook Forum group. Access to the questionnaire was restricted to individuals with the link which was accessible for a period of one month. The data collected was anonymised at the point of submission.

Data Analysis

All questionnaire responses were exported into Microsoft Excel and Statistical Package for the Social Sciences (SPSS) for analysis. Frequency analysis was performed using SPSS (Version 29.0.1.0, IBM). The demographics, training history, injury characteristics and treatment data are shown in percentages and frequencies.

The dependent variables were number of LL injuries sustained, number of UL injuries sustained, and the injury characteristics. Injury characteristics included injury received, time off, advice given and treatment received. The independent variable was cheerleading position (flyer, side base, back base, front base, main base, tumbler). To assess whether the number of injuries differed among cheerleading positions, injuries were grouped according to participant-reported position.

Results

A total of 130 adult Allstar cheerleaders completed the online questionnaire. The most common age group was 18-24 years ($n = 74$, 56.92%), and most common position for the athlete was side base ($n = 48$, 36.92%; see Table 1).

Table 1

Descriptive data of cheerleading participants

Characteristics	Athletes ($N = 130$, %)
Sex	
Male	5 (4%)
Female	124 (95%)
Other	1 (1%)
Age (years)	
18-24	74 (56.92%)
25-29	28 (21.54%)
30-34	9 (6.92%)
35-39	8 (6.15%)
40-44	7 (5.38%)
45-49	3 (2.31%)

50+	1 (0.77%)
Position	
Flyer	22 (16.92%)
Side base	48 (36.92%)
Back base	30 (23.08%)
Front base	6 (4.62%)
Tumbler	2 (1.54%)
Main base	6 (4.62%)
Multiple positions	16 (12.31%)

Descriptive data demonstrated 93% ($n = 121$) athletes reported having an injury due to cheerleading, and 7% ($n = 9$) reported having no injuries. Athletes were not included in the individual question analysis if they selected ‘I don’t know’. The most common number of injuries per cheerleader was 3 injuries ($n = 25$, 19.23%) and injuries were mostly sustained during cheerleading training ($n = 121$, 78.06%). Among injuries reported, the head/face was the most frequently injured body site ($n = 63$, 15.99%), followed by the wrist ($n = 51$, 12.94%) and ankle ($n = 51$, 12.94%; see Figure 1). The most common type of injury was to the ligaments (sprain/tears/ruptures; $n = 68$, 14.95%; see Figure 2), and basing/stunting was the most common task for injury with 81 injuries (28.03%; Figure 4). The most reported duration of time off due to an injury was 8-28 days ($n = 39$, 34.21%); 71 athletes had recurring injuries (58.68%), and 86 cheerleaders had received medical treatment for their injury (70.49%). The most frequent advice given to cheerleaders was to have complete rest from training ($n = 71$, 63.39%), and the most reported treatment was application of ice ($n = 81$, 23.14%; see Table 2).

Table 2

Injury characteristics

Characteristics	Number of athletes (%)
Time off due to injury (days)	
1-3	22 (19.30%)
4-7	38 (33.33%)
8-28	39 (34.21%)
>29	15 (13.16%)

Treatment received	
Yes	71 (58.68%)
No	50 (41.32%)
Advice given	
Complete rest from training	71 (63.39%)
Can do cheerleading but with modifications	32 (28.57%)
Training is okay	8 (7.14%)
Not allowed to tumble	1 (0.89%)
Treatment and Management	
Education	11 (3.14%)
Exercise rehabilitation	62 (17.71%)
Bracing	50 (14.29%)
Taping	69 (19.71%)
Ice	81 (23.14%)
Heat	45 (12.86%)
Transcutaneous Electrical Nerve Stimulation	2 (0.57%)
Mobilisations	14 (4.00%)
Surgery	8 (2.29%)
Scans	1 (0.29%)
Medication	3 (0.86%)
Sport massage	1 (0.29%)
Stitches	2 (0.57%)
Ultrasound massage	1 (0.29%)

Figure 1

Percentage and number of injuries per body site; 396 injuries were reported

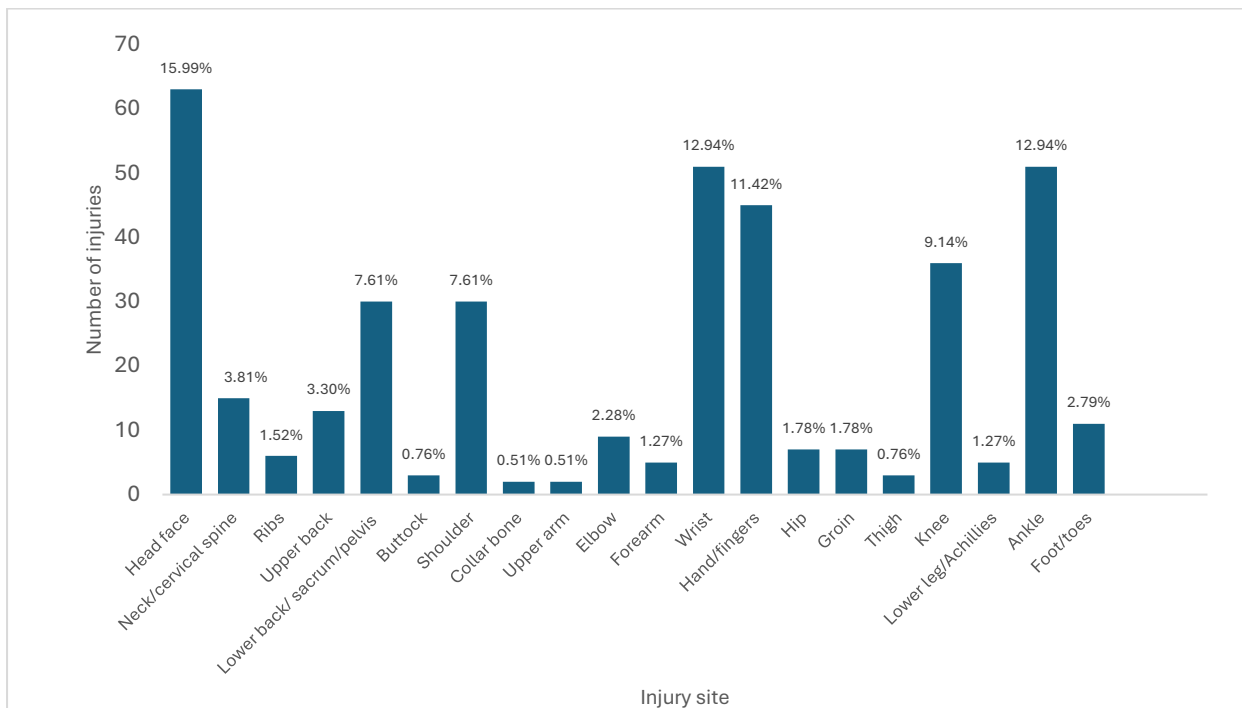
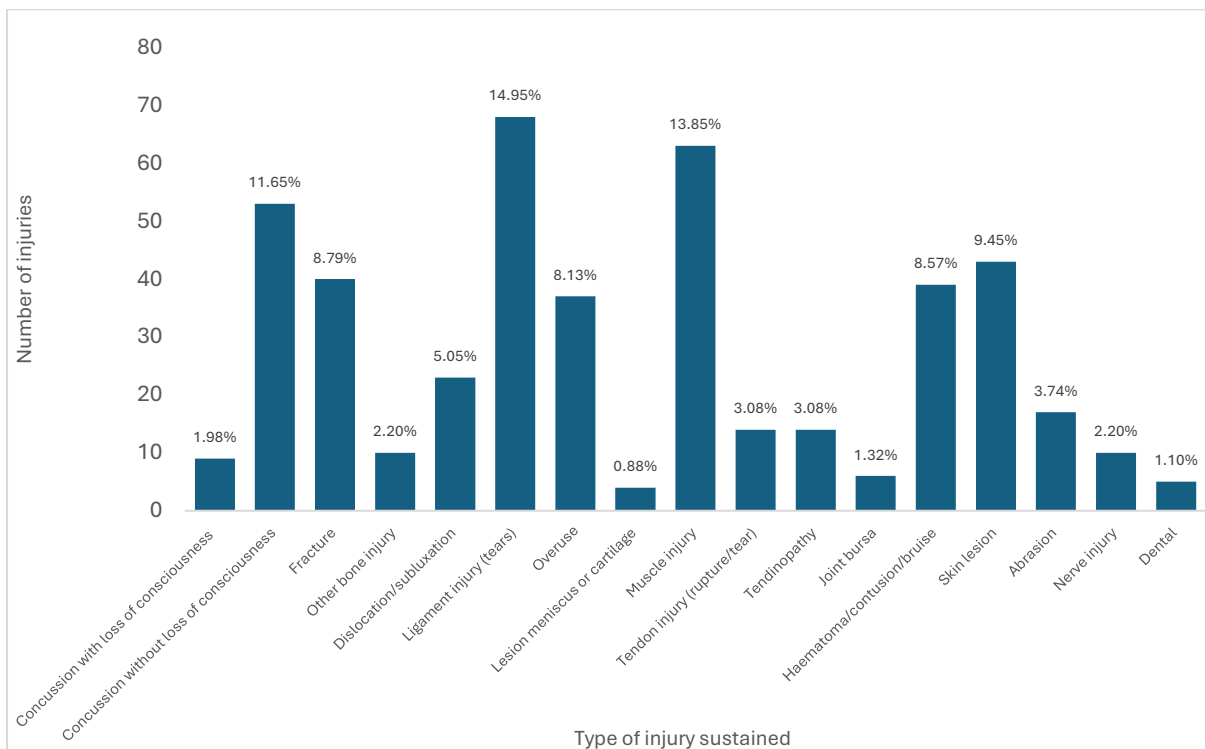


Figure 2

Percentage and number of injuries per type of injury; 455 types of injuries were reported



Position

Sixteen participants were excluded from the data analysis due to selecting multiple positions. A total of 3 participants with injury rates of 10 were found in back, side, and front base positions (Figure 3). Flyer position reported to have ($n = 22$) injuries, side base ($n = 48$) injuries, back base ($n = 30$) injuries, front base ($n = 6$) injuries, multiple positions ($n = 16$) injuries, tumbler ($n = 2$) injuries and main base ($n = 6$) injuries. The mean number of injuries was 18.57 ± 16.36 .

Figure 3

Injury rates by position cheerleading athletes

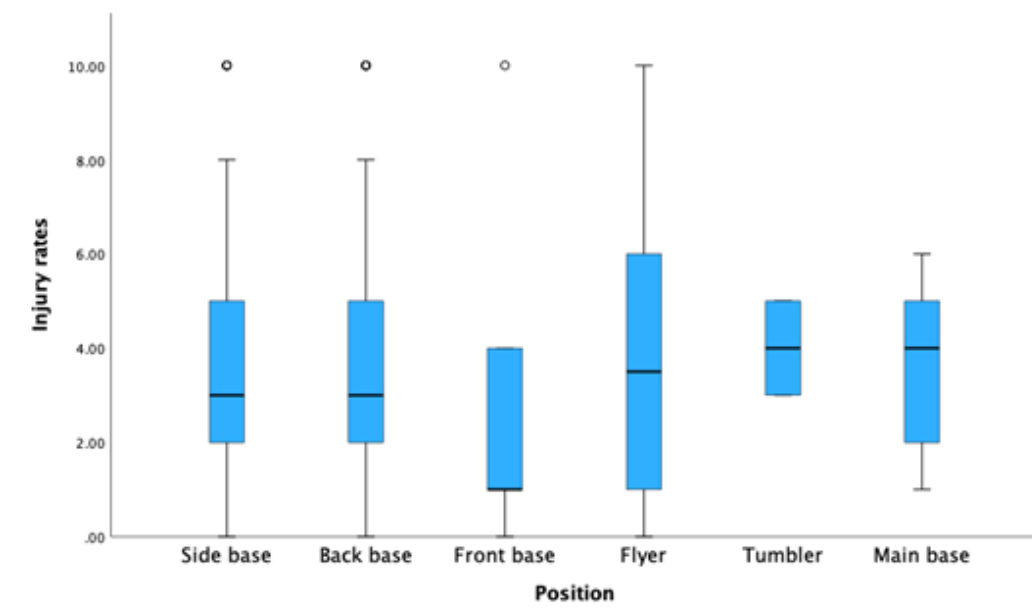
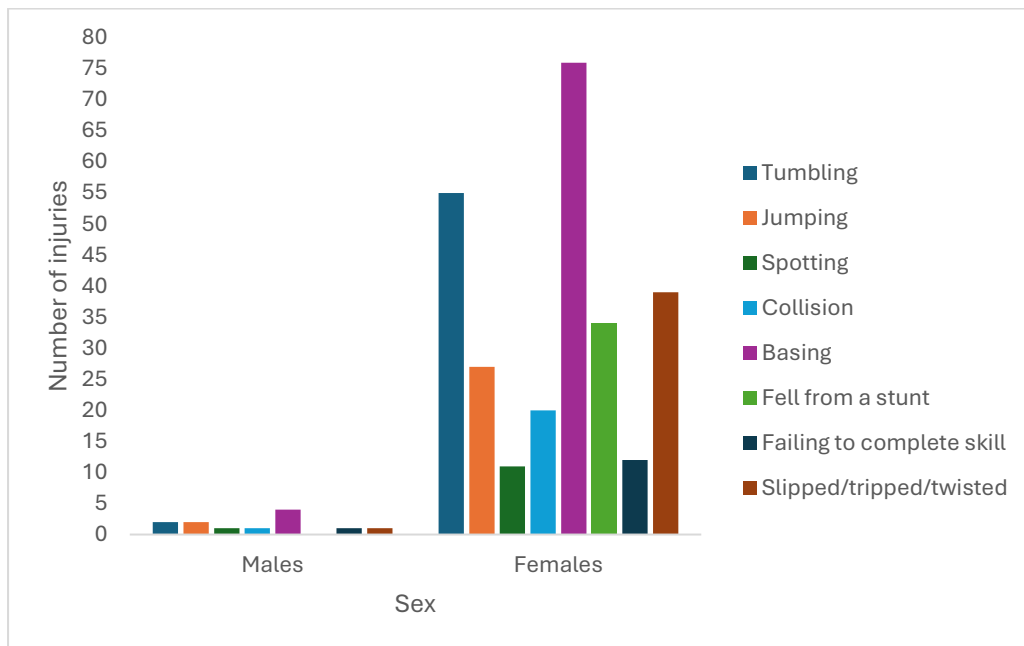


Figure 4

Sex and task associated with injuries



Discussion

The purpose of this study was to describe the frequency and management of injury among adult Allstar cheerleading athletes in the UK. The objectives were to identify the most common injury types, analyse the tasks associated with injury, and to examine the treatment and management strategies reported by injured athletes.

This study partially supports the hypothesis, as while basing/stunting was the most common task associated with injury (28.03%) performed by flyers, side base, back base, and front bases; the number of UL injuries were greater than LL injuries contradicting previous literature (Chee and Chew, 2021; Jacobson, 2005; Xu et al. 2021). Unexpectedly, in this study the head/face was the most common injured site (15.99%), followed by the wrist (12.94%) and ankle (12.94%) suggesting a shift in injury patterns potentially due to the demands of the sport. This study supports that basing/stunting is the most common task associated with injury (28.03%), aligning with previous studies (Canty and King, 2024; Chee and Chew, 2021; Deng and Yu, 2025). Bases experience high upper-body stresses during lifting and catching flyers, which may explain the high number of UL injuries. This could be influenced by several factors,

including prolonged exposure to physical demands of stunting, repetitive stress on the body, and technical errors. The findings of this study showed that being a side base was the most common position (36.92%) in Allstar cheerleading compared to being a flyer (16.92%) and tumbler (1.54%). While this study did not specifically examine the relationship between injury patterns and positions, it is possible that the high prevalence of UL injuries ($n = 242$) may be associated with the demands of basing/stunting, as bases are required to lift, stabilise, and catch flyers placing stress on the upper limbs (Goodwin et al., 2004). However, injury rates between position were similar, with median values ranging from 2 to 4 injuries across all roles, aligning with the findings by Marolde et al. (2021).

The most common time off due to an injury was between 8-28 days (34.21%), followed by 4-7 days (33.33%) suggesting that athletes experience various levels of injury severity, but the majority are minor. The most common injury type was ligament injuries (14.95%), which is consistent with prior literature that has reported that ligament sprains and muscle strains are most common in cheerleaders (Canty and King, 2024; Chee and Chew, 2021; Xu et al., 2021). Following injury, rest from training was the most frequently reported advice provided (63.39%), with ice application being the most common treatment and management (23.14%). These approaches align with the widely accepted first-aid protocol but may indicate out-of-date practices as injury management has evolved to emphasises an active recovery approach and discourages ice application due to its potential to delay healing (Dubois and Esculier, 2020; Wang and Ni, 2021). This contradicts the study by Williams et al. (2023), who stated gymnastics athletes continue to train with modifications (70%), further exposing the gap between evidence-informed and common practices, which contributes to the need for sport-specific rehabilitation guidelines in Allstar cheerleading.

Limitations

While this study provides valuable insights into injury trends in Adult Allstar cheerleading in the UK, limitations should be acknowledged. The study sample had sex imbalance with only 5 males compared to 124 females, reducing the opportunity for sex comparisons. Secondly, participants in this study self-selected their injury site, type,

and how injuries were sustained, posing some potential limitations based upon interpretation and knowledge.

Conclusion

This study was the first to investigate the epidemiology of injuries among adult Allstar cheerleaders in the UK, aiming to identify the most common injuries. The findings revealed that the number of UL injuries were greater than LL injuries, with the head/face being the most common injury site, while ligament injuries (sprain/rupture/tears) being the most common injury type. Additionally, this study provided valuable insights into tasks associated with injury, highlighting basing/stunting as the most common contributor. Further research should explore injury patterns and sex differences in Allstar cheerleading to support healthcare professionals develop cheer-specific injury prevention programs.

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Questionnaire

This questionnaire is in 4 sections: Demographics, training history, injury characteristics, and treatment.

Section 1: Demographics

1. What is your sex?
 - Male
 - Female
 - Other
 - Prefer not to say
 - Not applicable

2. How old are you?
 - 18-24
 - 25-29
 - 30-34
 - 35-39
 - 40-44
 - 45-49
 - 50 +
 - Not applicable

3. What is your position on the team?
 - Flyer
 - Side base
 - Back base
 - Front base
 - Tumbler
 - Other
 - Not applicable

Section 2: Training history

4. What level of Allstar cheerleading do you do?
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7

Supplementary Material

- Other
 - Not applicable
5. How many years have you done cheerleading for?
- 1 year
 - 2 years
 - 3 years
 - 4 years
 - 5 years
 - 6 years
 - 7 years
 - 8 years
 - 9 years
 - 10 years
 - 11 years
 - 12 years
 - 13 years
 - 14 years
 - 15 years
 - 16 years
 - 17 years
 - 18 years
 - 19 years
 - 20 years
 - >21 years
 - Not applicable
6. How many times a week do you train?
- 1 day
 - 2 days
 - 3 days
 - 4 days
 - 5 days
 - 6 days
 - 7 days
7. What is the length of your cheerleading practice?
- 1 hour
 - 2 hours
 - 3 hours
 - 4 hours
 - Other
 - Not applicable

Section 3: Injury Characteristics

8. Have you ever been injured due to cheerleading?
 - Yes
 - No
 - Not applicable

9. How many injuries have you had due to cheerleading?
 - 0
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10
 - > 10
 - Not applicable

10. When did your injuries most commonly occur? (Can provide multiple answers)
 - Haven't had an injury
 - Training
 - Performances
 - Competition
 - Other
 - Not applicable

11. What was the most commonly injured area of your body? (Can provide multiple answers)
 - Head / face
 - Neck / cervical spine
 - Ribs
 - Upper back
 - Abdomen
 - Lower back / sacrum / pelvis
 - Buttock
 - Shoulder
 - Collar bone

Supplementary Material

- Upper arm
- Elbow
- Forearm
- Wrist
- Hand / fingers / thumb
- Hip
- Groin
- Thigh
- Knee
- Lower leg / Achilles tendon
- Ankle
- Foot / toes
- Don't know
- Not applicable
- Other

12. What type of injuries have you had? (Can provide multiple answers)

- Concussion with loss of consciousness
- Concussion without loss of consciousness
- Fracture
- Other bone injury
- Dislocation / subluxation
- Ligament (Sprains/ tears)
- Overuse
- Lesion meniscus or cartilage
- Muscle injury (rupture / strain (pulled a muscle) / tear/ cramps)
- Tendon injury (rupture/ tear)
- Tendinopathy (inflammation of the tendon)
- Joint bursa (inflammation of fluid filled sack near joints and tendons)
- Haematoma / contusion / bruise
- Skin lesion (cut or break to the skin)
- Abrasion
- Nerve injury
- Dental injury
- Don't know
- Other
- Not applicable

13. If selected other, please state the injury

.....

14. What actions have caused an injury? (Can provide multiple answers)

- Tumbling
- Jumping
- Spotting

Supplementary Material

- Collision
- Basing/stunting
- Fell from a stunt
- Failing to complete a skill
- Slipped/ tripped/ twisted body part
- Other
- Not applicable

15. What is the most common length of time you have been out of cheerleading training with an injury that was sustained during cheer?

- 1- 3 days (minimal severity)
- 4-7 days (mild severity)
- 8- 28 days (moderate severity)
- > 29 days (severe)
- Career ending (extremely severe)
- Not applicable

16. Did the injury reoccur?

- Yes
- No
- Not applicable

Section 4: Treatment

17. Did you receive any treatment following the injuries?

- Yes
- No
- Not applicable

18. What was the healthcare professional diagnosis?

.....

19. What was the most common advice for training after the injuries?

- Complete rest from cheerleading
- Could do cheerleading training but needs to be adapted to suit the injury
- Told that training would be ok
- Other
- Not applicable

20. What treatment did you have for the injury? (Can provide multiple answers)

- Education
- Exercise rehabilitation
- Bracing

Supplementary Material

- Taping
- Ice applied
- Heat applied
- T.E.N.S
- Mobilisations
- Surgery
- Other
- Not applicable

21. If selected other, please state what treatment you had

.....

22. Did you feel satisfied with the treatment for your injury?

- Yes
- No
- Not applicable