Return to Play and Performance After Operative Repair of Scapholunate Interosseous Ligament Tears in NBA Athletes

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Disclosures

None

Background

- Incidence of scapholunate interosseous ligament (SLIL) instability higher than initially postulated
- Delay in treatment due to complexity of diagnosis, various degrees of injury severity and misinterpretation of symptoms
- Undertreatment vs excessive treatment
- Prior literature has not demonstrated return to play (RTP) rates for SLIL injury specifically

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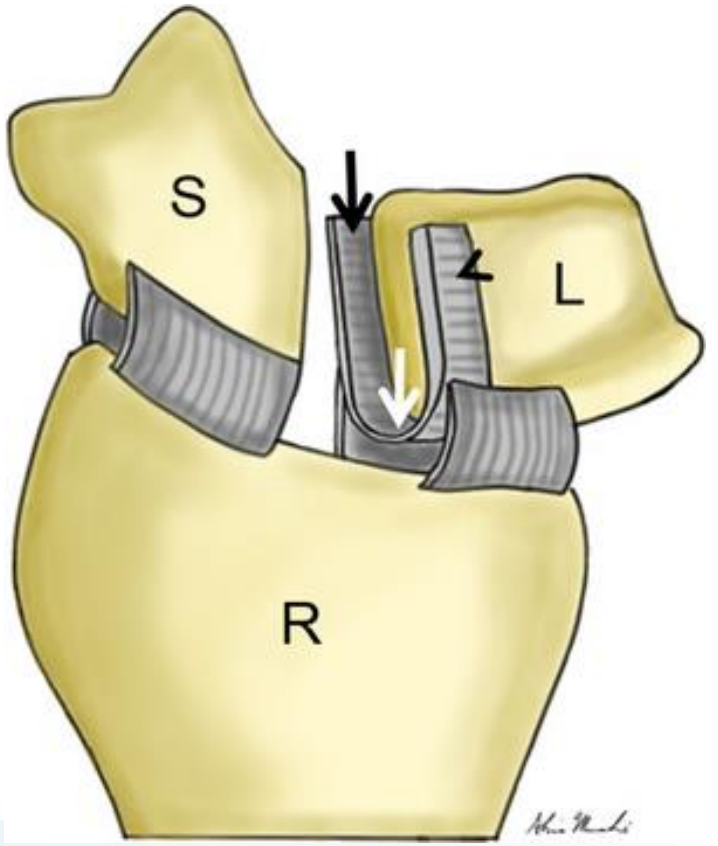
Background

- C shaped ligament with 3 distinct components
- Vulnerable following fall on extended, ulnarly-deviated, and carpally supinated wrist
- SLIL disruption can lead to instability of entire carpus



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Purpose

To determine the rate of RTP and performance outcomes in NBA players following a SLIL tear

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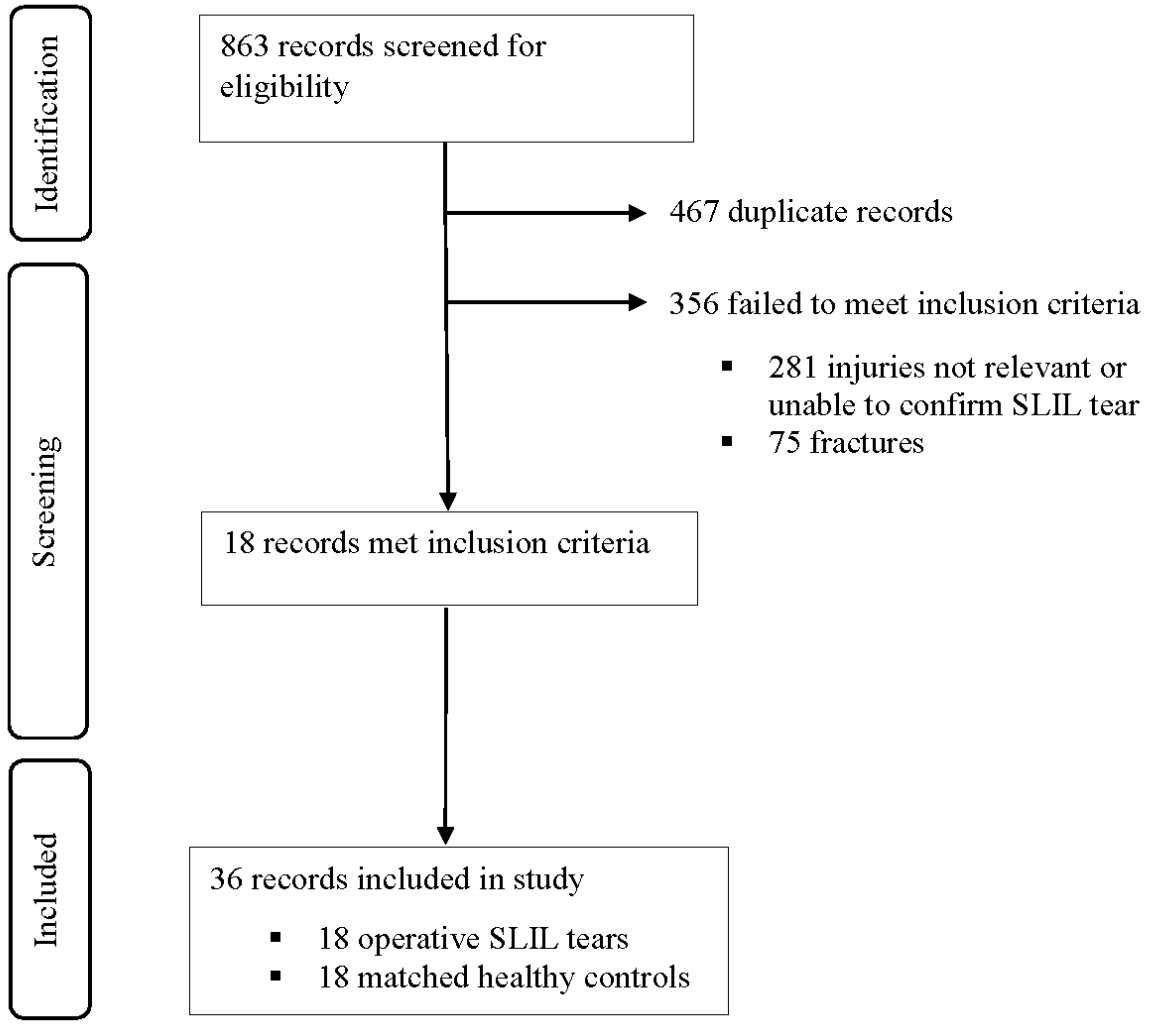
Methods

- Case-control series
- Inclusion criteria
  - Played in the NBA between 1957 and 2023
  - Confirmed SLIL tear
  - Confirmed operative repair
- Exclusion criteria
  - SLIL injuries with other concomitant injuries
  - Repeat injuries
  - Injured during 1st NBA season
  - Indeterminant injury or surgery information



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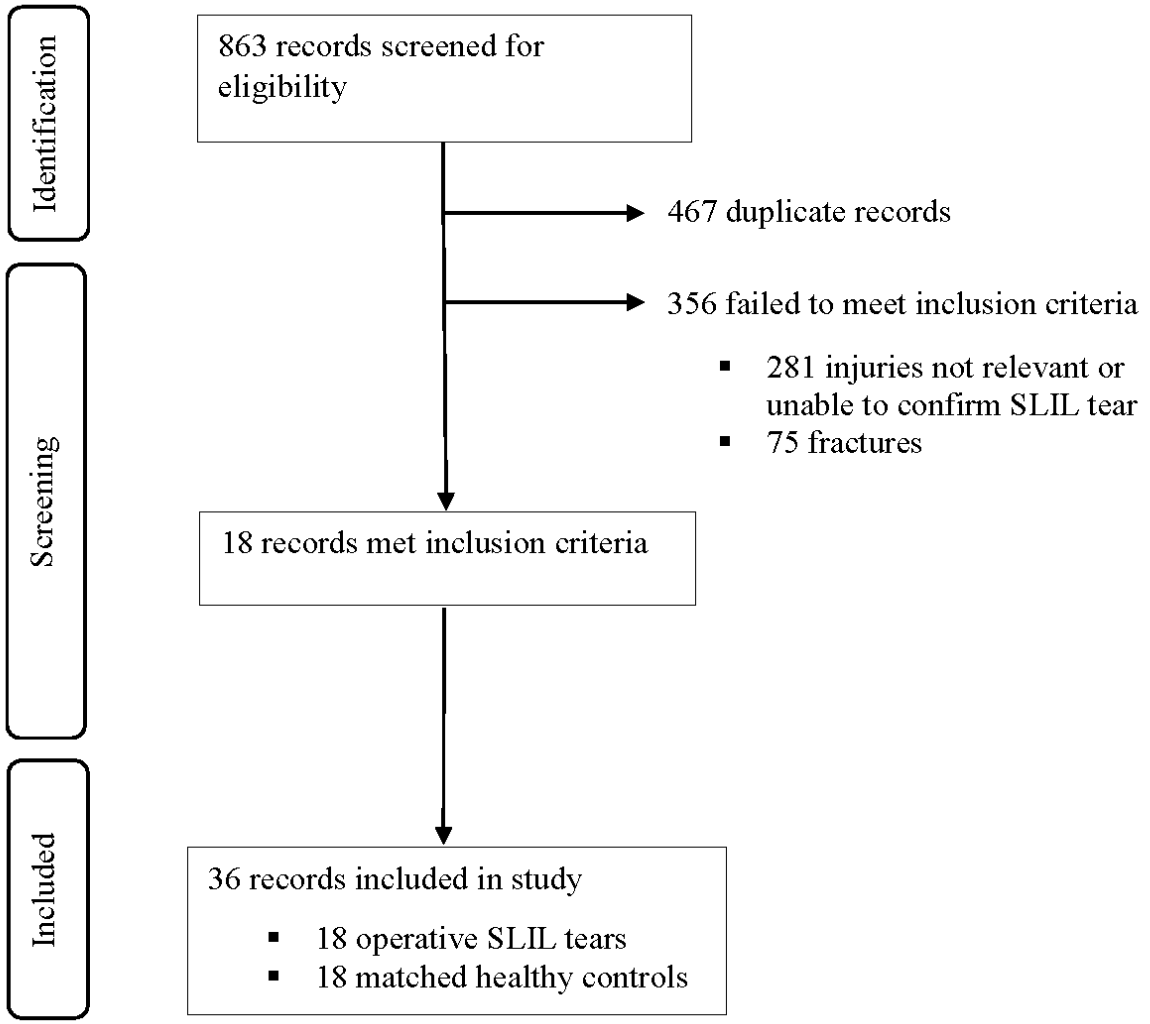
Methods

- Control cohort identified
  - Comparable position
  - Similar career



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Outcome Measures

Primary outcomes

- Frequency of RTP in the NBA after operative repair of SLIL tears, as well as the average time to return after surgery and the number of seasons played after return, as of the 2032-24 season.

Secondary outcomes

- Risk factors associated with SLIL tears, as well as in-game performance before versus after surgery.

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Outcome Measures

Statistical analysis

- Performed to assess for differences in athlete characteristics between the injury and control cohorts, and to identify differences in seasonal performance pre- versus post-surgery among athletes who returned to play.

- Shapiro-Wilks
- Mann-Whiney U
- Paired-t
- Unpaired-t
- Wilcoxon matched-pairs signed rank

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Results

Table 1: Demographic and career data for cohorts of scapholunate ligament tears and controls (n = 36)

	SL (n = 18)	Control (n = 18)	*P*
Height (cm)	198.4 (8.65)	198.9 (13.18)	0.882
Weight (kg)	97 (92.25, 101.3)	86.5 (82.5, 102.8)	0.1398
BMI (kg/m^2)	24.58 (1.03)	23.28 (1.58)	**0.0061**
Age at career start (years)	21.17 (1.92)	21.72 (1.87)	0.3853
Seasons in NBA total (years) *as of the 2023-24 NBA season	10.00 (4.50)	10.72 (4.65)	0.6388
Overall draft pick *among athletes who were drafted (n = 16)	13 (3.25, 22.25)	11 (4.25, 24.75)	0.8597

SL, scapholunate; BMI, body mass index; NBA, National Basketball Association.

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Results

Table 2: Position counts per cohort (n = 36)

	SL (n = 18)	Controls (n = 18)
Point guard	3 (16.7)	5 (27.8)
Shooting guard	2 (11.1)	3 (16.7)
Small forward	1 (5.6)	0 (0)
Power forward	1 (5.6)	1 (5.6)
Center	1 (5.6)	4 (22.2)
Combo guard (PG/SG)	2 (11.1)	2 (11.1)
Guard-forward (SG/SF or SG/PF)	4 (22.2)	1 (5.6)
Point forward (PG/SF or PG/PF)	0 (0)	0 (0)
Combo forward (SF/PF)	1 (5.6)	1 (5.6)
Forward-center (SF/C or PF/C)	3 (16.7)	1 (5.6)

PG, point guard; SG, shooting guard; SF, small forward; PF, power forward; C, center.

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Results

Table 3: Descriptive injury, surgery, and return to play data for athletes who sustained a scapholunate ligament tear (n = 18)

	SL
Age at injury (years)	27.44 (4.16)
Seasons in NBA before injury season (years)	6.17 (3.78)
Time between injury and surgery (weeks)	2 (0.82, 4.32)
Injured shooting hand (yes)	10 (55.6%)
RTP (yes)	17 (94.4%)
Time to return from surgery (months) *n = 17	6.23 (2.27)
Seasons in NBA after injury (years) *as of the 2023-24 season *n = 17	2 (1.50, 4.00)

SL, scapholunate; RTP, return to play; NBA, National Basketball Association.

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Results

Table 4: In-game performance one full season before versus after injury/surgery season (n = 16)

	Before	After	*P*
Games played	69.50 (51.75, 79.50)	67.50 (48.50, 76.50)	0.4257
Games started	68.50 (3.00, 79.50)	44.00 (6.50, 66.75)	0.1547
Minutes played *per game	28.15 (8.49)	25.99 (8.73)	0.0585
Points scored *per game	14.99 (8.57)	13.29 (7.80)	**0.0433**
PER	16.24 (5.15)	15.47 (4.76)	0.1596

PER, player efficiency rating.

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Results

Table 5: In-game performance two full seasons before versus after injury/surgery season (n = 10)

	Before	After	*P*
Games played	72.20 (8.48)	61.80 (10.51)	**0.0082**
Games started *n = 9, one patient had incomplete data	50.33 (27.00)	39.30 (29.42)	0.2236
Minutes played *per game	29.60 (21.90, 36.60)	32.45 (19.70, 35.83)	0.3223
Points scored *per game	17.08 (8.57)	15.87 (7.65)	0.6259
PER	17.74 (3.89)	17.00 (3.00)	0.5767

PER, player efficiency rating.

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Discussion

- 94.4% of players were able to return to play at average 6.2 months following treatment with minimal deficits in performance at one and two seasons following official return
- Several delays in treatment seen in athletes throughout this study
- Association between BMI and age and SLIL injuries

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Limitations

- Small sample size
- Difference in radiographic views ordered
  - CT slice thickness
  - Unilateral post-reduction hip X-ray
- No follow-up
  - Uncertainty pertaining to specific radiographic findings

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Conclusions

- **NBA athletes can expect to return to play with a similar level of performance**
- **BMI significantly higher in those who sustained an SLIL injury**
- **94.4% returned to play in the NBA, on average 6.2 months after surgery**

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Thank you!

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