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Title:

Medial Ulnar Collateral Ligament Reconstruction and Repair in the United States: Utilization, Reimbursement, and Concomitant Ulnar Nerve Procedures from 2010-2019

Authors:

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Disclosures:

Matthew Best has the following disclosures:

Other/educational support from Arthrex

Other/educational support from Smith and nephew

Other/educational support from Stryker



Background

- Reconstruction or repair of the ulnar collateral ligament (UCL) may be routinely performed with or without ulnar nerve decompression. Although the procedure has become increasingly more common since it was popularized at the end of the 20th century, recent operative trends are less clear.



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Purpose

- We examine nationwide trends of UCL repair and reconstruction, with or without concomitant ulnar nerve procedures over the last decade and report on associated reimbursement of surgery.



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Methods

- We used national data to retrospectively analyze all patients (ages 10-40) who underwent UCL reconstruction or UCL repair from 2010-2019. The rate of concomitant ulnar nerve decompression (in situ release or transposition) was also assessed. Incidence and compound annual growth rates (CAGR) were used to determine surgical utilization. Index surgery and 90-day reimbursement figures were reported.



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Results

- Of the 39,930 UCL injuries recorded from 2010-2019, 3,146 patients underwent UCL surgery (1.04 incidence/100,000) with the majority being in the 15-19 age group.
- UCL reconstruction was more common than repair (2,195 vs. 951).
- While there was an increase in UCL injuries over the period studied (2.16%, $P < 0.001$), there was no significant change in incidence for either surgical intervention



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Results

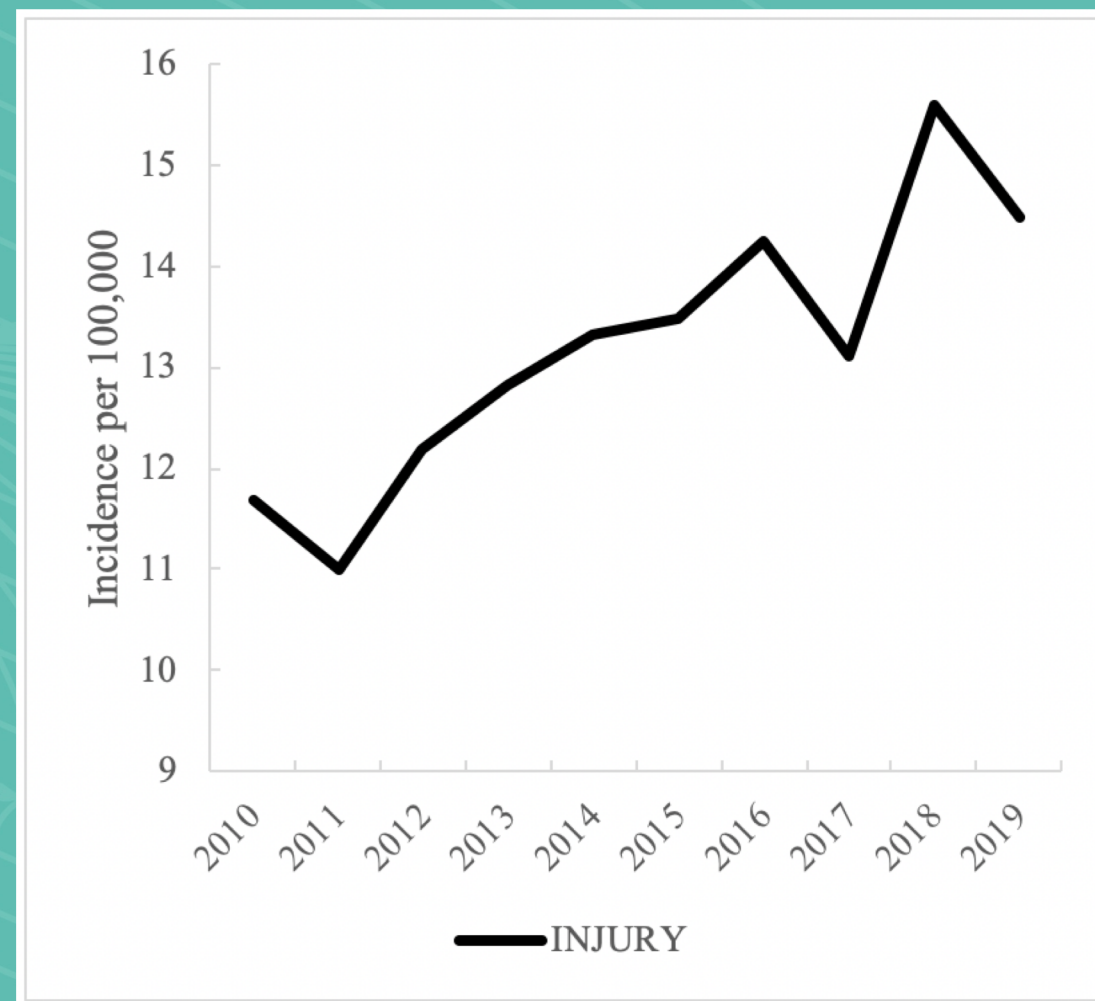


Figure 1: Incidence per 100,000 of Medial UCL injury by year from 2010 to 2019



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Results

YEAR	UCL SURGERY		UCL RECON		UCL REPAIR	
	Number	Incidence	Number	Incidence	Number	Incidence
TOTAL	3,146	1.04	2,195	0.74	951	0.30
2010	335	1.10	208	0.75	127	0.35
2011	324	1.07	220	0.77	104	0.30
2012	311	1.04	222	0.75	89	0.29
2013	321	1.03	227	0.75	94	0.29
2014	319	0.99	247	0.76	72	0.22
2015	303	0.98	234	0.75	69	0.23
2016	292	0.98	229	0.80	63	0.17
2017	283	0.94	189	0.65	94	0.29
2018	292	1.16	181	0.70	111	0.46
2019	366	1.10	238	0.71	128	0.39
CAGR	-	0.00%	-	-0.64%	-	+1.26%
P-VALUE	-	0.987	-	0.119	-	0.454

- *Table 1: Incidence per 100,000 of UCL Surgery by year from 2010 to 2019: Reconstruction and Repair*



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Repair

Results

- Concomitant ulnar nerve surgery increased over three-fold for UCL repair from 9.45% to 30.47% (CAGR= +12.42%; $p=0.005$) but remained unchanged for UCL reconstruction (CAGR= +2.39%; $p=0.433$).
- Reimbursement for both repair (CAGR= +15.37%; $p<0.001$) and reconstruction (CAGR= +9.35%; $p=0.011$) increased over this period with similar 90-day reimbursements by 2019 (\$3,483 vs \$3,874, respectively).



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Results

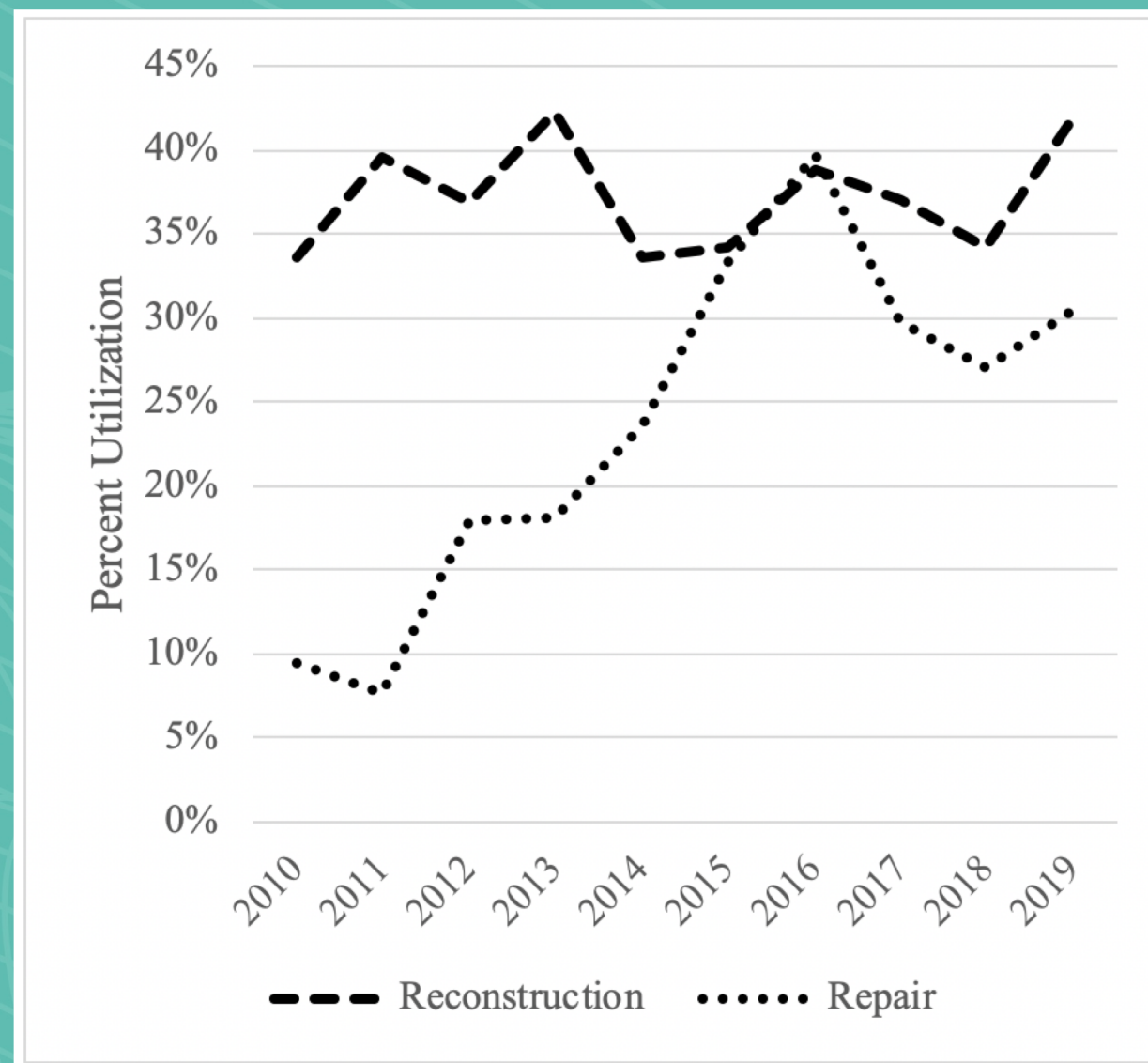


Table 2: Incidence per 100,000 of UCL Injury by Age Group from 2010 to 2019



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Conclusion

- This study shows that while the incidence of UCL injury is increasing, the overall age adjusted CAGR has not significantly changed from 2010 to 2019.
- UCL repair is most frequently performed in younger patients (age 15-19) and has been more routinely performed with ulnar nerve decompression.
- While reimbursement has steadily increased for both types of surgeries, reimbursement for repair has now outpaced reconstruction.



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