

Vertebral augmentation by spinal level and fracture etiology: a national analysis of 31,885 admissions

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Augmentation does not differ by spinal level, but one published code list manufactures a fivefold gap that does not exist.

Scan to reach the presenting author

1 BACKGROUND

- No national study has examined whether augmentation varies by **spinal level**.
- ICD-10-PCS splits the vertebral column across two body systems, **Upper Bones (0P:** cervical, thoracic**)** and **Lower Bones (0Q:** lumbar, sacrum**)**, so an incomplete code list can silently drop a region.
- We measured augmentation by level and tested two published code lists against a reference standard.

2 METHODS

- **NIS 2022**; adults with a principal vertebral-fracture diagnosis; ICD-10-CM list enumerated from the data, adjudicated, frozen. Phase 2 of a two-phase analysis.
- Percutaneous vertebral augmentation = Supplement or Reposition of a vertebral body part, **percutaneous approach**, across all 25 procedure fields; open approaches excluded as instrumented fixation.
- Two published ICD-10-PCS definitions applied **unchanged** against the reference standard.
- Survey-weighted proportions, Taylor-linearized 95% CIs.

This analysis used de-identified administrative data and was approved by the Hunterdon Medical Center Institutional Review Board.

3 RESULTS

Fracture admissions receiving percutaneous augmentation

13.5%

12.8–14.2 · of 31,885 admissions

Thoracic vs lumbosacral: indistinguishable

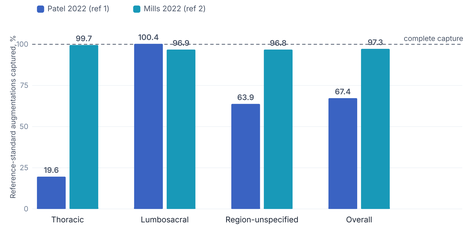
13.0 vs 13.3%

holds within traumatic (10.2 vs 10.7) and pathologic (22.4 vs 25.5) strata

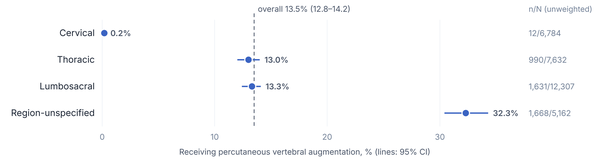
Osteoporotic fractures, all region-unspecified, augmented at

46.0%

43.2–48.7 · all 2,852 carry no anatomic level (M80)



One published list has no thoracic body part. It captures 19.6% of thoracic vs 100.4% of lumbosacral augmentations, yielding apparent rates of 2.5% vs 13.3%: a fivefold treatment deficit absent from the reference standard. The other list captures 97.3%.



Anatomic level does not predict augmentation among adults admitted with vertebral fracture, NIS 2022 (survey-weighted; reference-standard definition).

4 CONCLUSIONS

- Level did not predict augmentation, and the comparison that matters clinically **cannot be made**: osteoporotic fracture concentrates at the mid-thoracic spine and thoracolumbar junction, finer than any ICD-10-CM category, and carries no level at all.
- A published code list omitting one body system **manufactures a regional disparity**.
- Level-stratified augmentation research is structurally impossible in US claims data.
- **Limits:** descriptive, single-year, inpatient only.

Companion poster

- Phase 1, diagnostic composition by region: abstract **2491344**

5 REFERENCES

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