

Optimizing CT resource use in geriatric trauma: is less sometimes more?

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Evaluating blunt trauma in older adults remains a clinical challenge. Subtle clinical signs in this population can mask serious injuries, with physical examinations alone missing up to 25% of significant trauma.¹ This risk has historically driven many trauma teams toward liberal pan-scanning to avoid missing occult injuries. However, comprehensive imaging brings its own risks: increased radiation exposure, detection of incidental findings that lead to further testing, and higher healthcare costs.² Touponse *et al*³ offer a counterpoint to the current pan-scanning paradigm. In their retrospective study, they show that using objective findings from the resuscitation area, including external signs of injury and chest and pelvis X-ray, can effectively direct selective CT imaging and retain diagnostic sensitivity. What makes this study notable is its emphasis on objective, immediately available data to drive imaging decisions—an aspect often not examined in studies comparing the effectiveness of pan-scanning approaches with targeted scanning.⁴ This focus on objective criteria builds on earlier research that demonstrated a selective scanning algorithm using physical examination findings and high-risk criteria could reduce unnecessary imaging by nearly 12% while preserving sensitivity.⁵ However, the study by Touponse *et al* is limited by its setting in a high-resource level I trauma center where standardized protocols and experienced teams are common. In contrast, many older adults are treated in community or rural hospitals where practice variability is high and providers may rely on personal judgment because of a lack of clear guidelines.⁶ In addition, the use of retrospective data comparing patients who had selective versus pan-scanning may also reflect the value of provider judgment, which can be hard to account for even with sophisticated statistical techniques. The current landscape of imaging in geriatric trauma reflects a lack of consensus, leading to variability in care that may contribute to missed injuries, prolonged hospital stays, and increased mortality.⁷ Standardizing practices for use in any setting based on objective clinical findings could ensure that patients receive appropriate, timely care, and reduce unnecessary transfers. In summary, the findings from Touponse *et al* support the integration of clinical assessment with evidence-based decision aids for geriatric trauma imaging.

Prospective validation in diverse environments is essential for establishing standardized protocols that optimize both injury diagnosis and resource utilization.

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REFERENCES

- 1 Thomas E, Al Saedy S, Green S, Hasan M, Chavez C, Glaser J. Pan scan for geriatric trauma patients: Overkill or necessary? *Am J Surg* 2025;243:116209.
- 2 Staudenmayer KL, Hsia RY, Mann NC, Spain DA, Newgard CD. Triage of elderly trauma patients: a population-based perspective. *J Am Coll Surg* 2013;217:569–76.
- 3 Touponse G, Choi J, Calderon C, Luna SE, Tennakoon L, Ko A. CT pan-scanning versus targeted imaging among older adults after ground level falls. *Trauma Surg Acute Care Open* 2025;10:e001534.
- 4 Huber-Wagner S, Lefering R, Qvick L-M, Körner M, Kay MV, Pfeifer K-J, Reiser M, Mutschler W, Kanz K-G, Working Group on Polytrauma of the German Trauma Society. Effect of whole-body CT during trauma resuscitation on survival: a retrospective, multicentre study. *Lancet* 2009;373:1455–61.
- 5 Ho VP, Kishawi SK, Hill H, O'Brien J, Ratnasekera A, Seng SS, Ton TH, Butts CA, Muller A, Diaz BF Jr, *et al*. Scanning the aged to minimize missed injury: An Eastern Association for the Surgery of Trauma multicenter study. *J Trauma Acute Care Surg* 2025;98:101–10.
- 6 Newgard CD, Caughey A, McConnell KJ, Lin A, Eckstrom E, Griffiths D, Malveau S, Bulger E. Comparison of Injured Older Adults Included in vs Excluded From Trauma Registries With 1-Year Follow-up. *JAMA Surg* 2019;154:e192279.
- 7 Kishawi SK, Adomshick VJ, Halkiadakis PN, Wilson K, Pettit JC, Brown LR, Claridge JA, Ho VP. Development of Imaging Criteria for Geriatric Blunt Trauma Patients. *J Surg Res* 2023;283:879–88.



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