

Conference abstract

Tracing your way to the OR

Erik Gamarra, MD^{1a}, Daniel Rebock, DO¹, Stephen Welch, DO¹

¹ General Surgery, Corewell Health East - Dearborn

Keywords: 2026 QI Summit Poster Presentation

<https://doi.org/10.69735/001c.163747>

INTRODUCTION

Penetrating injuries from gunshot wounds pose a difficult problem for healthcare professionals. Bullets often have unpredictable trajectories, which makes it difficult to determine which structures have been affected. With the advancement of CT scanners, the use of X-rays to determine trajectory of projectiles has fallen out of favor. However, the simple adjunct of radiotracer markers in utilization of X-rays in 2 planes may have its benefits in providing clinically relevant information to the surgeon with a hemodynamically unstable patient who warrants going directly to the OR and not the CT scanner. AIMS: To increase the use of radiotracer markers to > 50% in 3 months in patients with GSW who are evaluated in the ED.

METHODS

A multidisciplinary team including trauma director, ED personnel, nursing, and radiology leadership implemented the use of radiotracer markers for any trauma activation involving a penetrating injury. An informational handout was given to the team leaders which was disseminated among the team. Utilizing the Trauma Registry Database, quarterly data was collected prospectively for the use of the radiotracer markers in GSW for three quarters, including pre and post implementation.

RESULTS

Pre-intervention data from Jul-Sept 2024 showed 14% use of the markers. Post-intervention data from Oct-Dec 2024 showed an increase of use to 53%. The following quarter Jan-Mar 2025 showed a decline in use, 29%. Data was further stratified to examine injuries to the extremities, excluding the hands & feet, and truncal injuries. Head and neck injuries were excluded. Patients requiring immediate surgical intervention bypassing the CT scanner were also noted to have an increase in radiotracer markers after our intervention.

CONCLUSIONS

The use of radiotracer markers was significantly improved and easily adopted by our front-line ED personnel. The sustainability can be improved with more frequent reminders. The utility of the markers in operative planning remains to be seen. However, this initiative demonstrates a promising first step in a potentially useful, inexpensive adjunct.

Published: June 29, 2026 EDT.



This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CCBY-4.0). View this license's legal deed at <http://creativecommons.org/licenses/by/4.0> and legal code at <http://creativecommons.org/licenses/by/4.0/legalcode> for more information.