

The Monitored Anesthesia Care and Soft-Tissue Infiltration With Local Anesthesia Technique (MAC- STILA) for Geriatric Hip Fracture Surgery Is Associated With Less Postoperative Altered Mental Status Compared to Spinal Anesthesia

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Purpose: Our objective was to assess how the MAC-STILA technique for geriatric hip fractures compares to spinal anesthesia (SA) with regard to postoperative mental status.

Methods: This was a single-center retrospective review of operatively hip fractures between January 1, 2019 and December 23, 2023. Inclusion criteria were AO/OTA type 31A/B hip fracture, fixation with closed reduction and percutaneous pinning, short/long intramedullary nail, and anesthesia either MAC-STILA or SA. Covariates were patient demographics, injury/surgery characteristics, postoperative altered mental status (AMS), and hospital quality measures. Patients were cohorted into MAC-STILA vs SA groups and covariates compared using standard statistical tests (P<0.05 significant). Multivariable analysis was used to assess the association of anesthesia technique and AMS while controlling for confounders.

Results: 237 patients (79 MAC-STILA and 158 SA) were identified. The MAC-STILA cohort had higher American Society of Anesthesiologists (ASA) scores (P<0.001), more assistive device use at baseline (P<0.001), and less independence (P = 0.009). SA trended toward increased incidence of postoperative AMS (27.2% vs 17.7%, P = 0.107). MAC-STILA results in decreased odds of AMS up to 3 days after hip fracture surgery (Table 1).

Conclusion: The MAC-STILA technique for geriatric hip fractures is associated with less postoperative AMS compared to SA. Although both techniques require use of sedation, the physiologic insult of SA may increase AMS risk in this vulnerable population.

Outcome	Variable	O.R. (95%CI)	Sig.
Any POD AMS	Dementia at Baseline	57.4 (15.66 - 210.48)	<.001
	MAC -STILA	.07 (.017 -.284)	<.001
AMS POD 0	Dementia at Baseline	80.86(21.05 - 310.66)	<.001
	MAC -STILA	.08 (.02 - .35)	<.001
AMS POD1	Dementia at Baseline	85.79 (22.18 -331.90)	<.001
	MAC -STILA	.08 (.02 - .36)	<.001
AMS POD 2	Dementia at Baseline	111.77 (23.28 - 536.62)	<.001
	MAC -STILA	.05 (.01 - .25)	<.001
AMS POD 3	Dementia at Baseline	328.03 (36.76 - 2926.92)	<.001
	MAC -STILA	.01 (.001 - .09)	<.001