



Background and Introduction

- Complex reconstructive surgeries using donor bone, skin, fat, fascia and muscle are associated with extended hospitalization, complications and pain in head and neck cancer patients.
- Traditionally opioid based medications are used. The amount and duration vary.
- Growing concern over opioid use and addiction has prompted adoption of multimodal, opioid-sparing pain management strategies

Aim

To determine if patients undergoing osseous microvascular free flap reconstruction of head and neck defects have higher inpatient pain requirements compared to those undergoing non-osseous reconstruction.

Methods and Materials

- Retrospective chart review
- Inpatient narcotic were converted to morphine-equivalent doses (MEDs) for comparison.

Results

- Demographics:**
 - N=318; 207 male (65%); mean age 64 years.
 - Reason for surgery: Cancer (81%)
- Osseous vs. Non-osseous flaps:**
 - Total MED: **224.5 vs. 173.9 mg**
 - Daily MED: **16.4 vs. 17.5 mg** ($p=0.67$, NS)
- MMA protocol:**
 - Daily MED decreased from **25.9 → 11.2 mg**
 - 56% reduction** ($p<0.0001$)
- COVID-19 visitor restrictions:**
 - Total MED: **234.6 vs. 181.3 mg** ($p=0.16$, NS)
 - Daily MED: **20.6 vs. 16.9 mg** ($p=0.25$, NS)

	Osseous (n=93)	Non-Osseous (n=225)	p values
Total MME	224.48	172.88	0.13
MME/day	16.38	17.56	0.67
Age, years (mean)	64	64	1
Operative Time, minutes (mean)	738	636	< .00001
Neck Dissection			0.46
Bilateral	19 (20%)	61 (27%)	
Unilateral	35 (38%)	76 (34%)	
None	39 (42%)	89 (40%)	
Tracheotomy			0.00001
Yes	85 (91%)	134 (59%)	
No	8 (9%)	91 (41%)	
History of XRT			0.13
Yes	29 (31%)	90 (40%)	
No	64 (69%)	135 (60%)	
Opioid PCA			0.03
Yes	49 (53%)	90 (40%)	
No	44 (47%)	135 (60%)	
MMA Protocol			0.16
Yes	43 (46%)	124 (55%)	
No	50 (54%)	101 (45%)	
OR Takeback			0.07
Yes	19 (20%)	28 (12%)	
No	74 (80%)	197 (88%)	

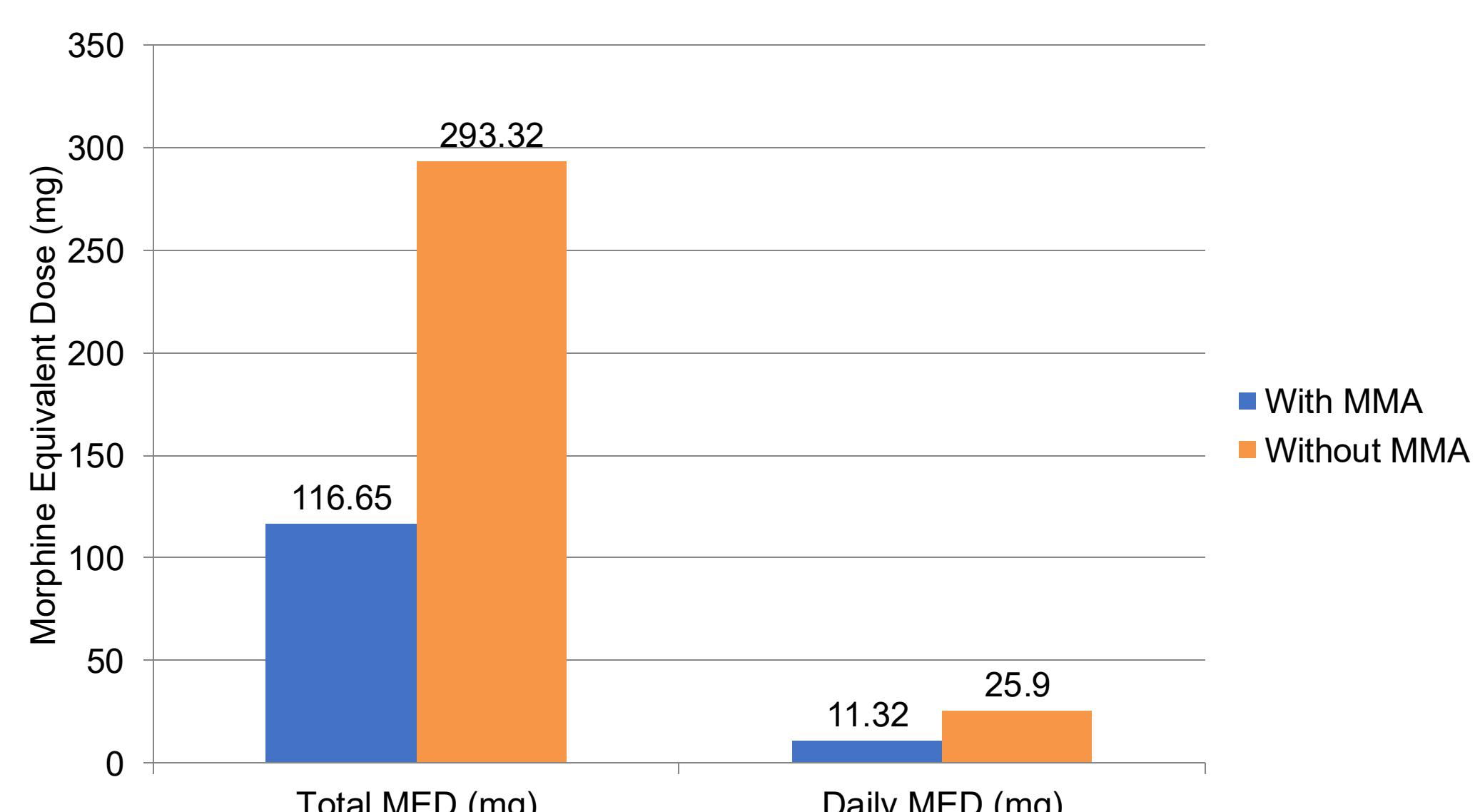


Figure 2. Impact of the MMA on Opioid Requirements. P< 0.0001.
MMA reduces total opioids consumption by 60.2% and daily consumption by 56.3%.

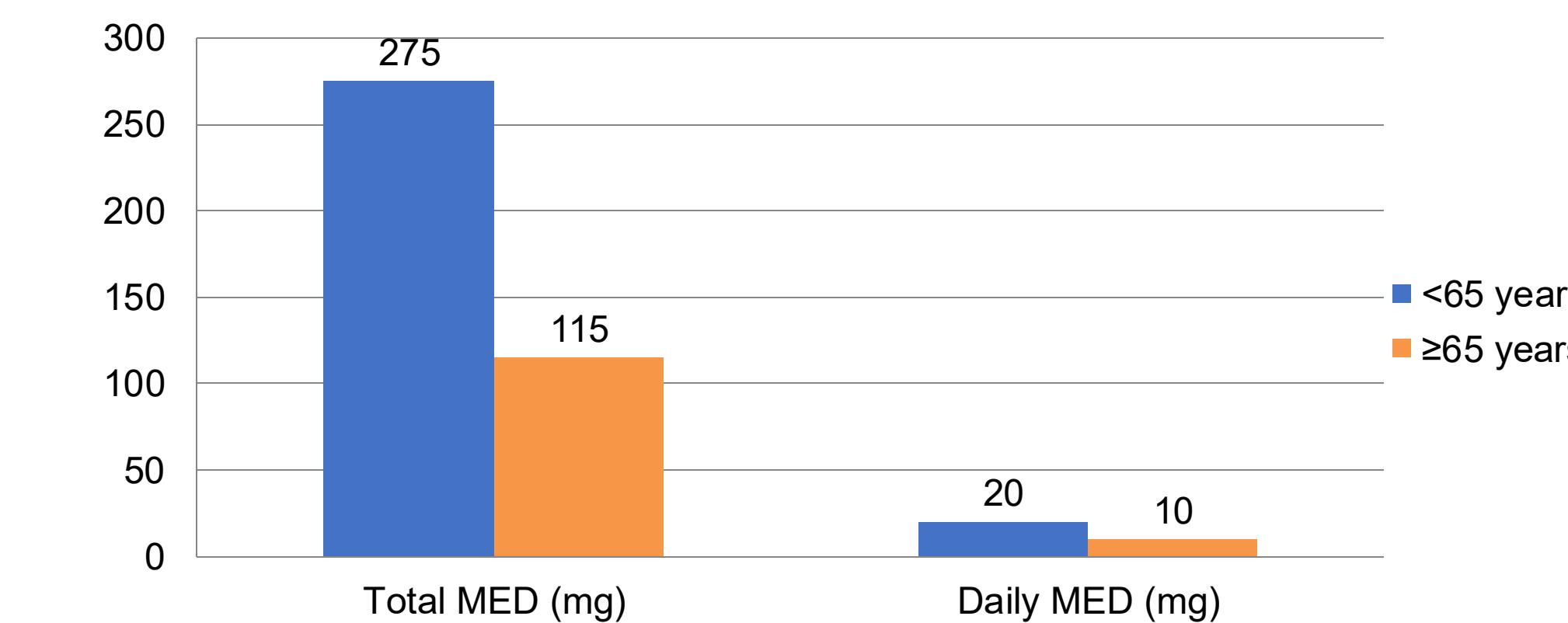


Figure 1. Age Related Differences in Opioid Requirements. P< 0.01
Patients < 65 required 137% more total opioids and 59% more daily opioids compared to older adults.

Discussion

- There is no significant difference in post-operative inpatient opioid pain requirement for patients undergoing osseous microvascular free flap reconstruction compared to non-osseous reconstruction.
- The implementation of an MMA protocol at our institution was associated with significantly decreased inpatient narcotic use.
- There was no significant difference in inpatient opioid use observed during the restricted visitor policy during the COVID-19 pandemic.

Conclusion

A standardized MMA protocol with age-adjusted strategies may significantly reduce post operative opioid use in head and neck reconstruction patients.

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