

Marijuana Use Minimizes Patient Reported Pain Following Lower Extremity Gunshot Wounds



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BACKGROUND

- There has been a rise of medical and recreational marijuana use in an atmosphere of continuing and increasing legalization.
- We are currently facing a major public health crisis in opioid addiction, overdoses and deaths caused from opioid toxicity. Meanwhile, marijuana has no known lethal dose and there are no reported deaths from cannabis toxicity.
- Patients who sustain low energy civilian gunshot wounds (GSW) represent a demographically similar cohort and thus make a useful group to evaluate the effects of marijuana on pain.

OBJECTIVE

To investigate the association between marijuana and reported pain in patients whom have sustained low-energy gunshot wounds to the lower extremity at an urban, level one trauma center.

METHODS

- Review of GSW patients (Figure 1) at one urban trauma center.
- Charts reviewed for injury info, patient demographics, treatment and drug and narcotic use (Table 1).
- Clinical outcomes were based off the Short Musculoskeletal Functional Assessment (SMFA) score and Visual Analog Scale (VAS) pain score.
- Patients were divided into two groups based on self-reported recreational marijuana use:
 - Frequent recreational users of marijuana (more than once a month for at least 12 months)
 - Non-Marijuana users.

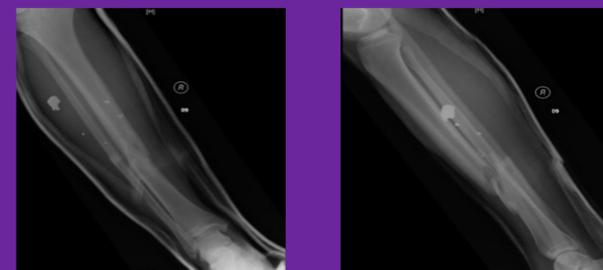
Table 1. Patient demographics and marijuana use

	Marijuana-Use Group (n=5)	Non Marijuana-Use Group (n=45)
Age (mean)	28.6 years old	26.3 years old
Gender		
Males	100%	88.9%
Females	0%	11.1%
Ethnicity		
African-American	100%	80%
Caucasian	0%	2.2%
Hispanic	0%	13.3%
Other	0%	4.4%

Table 2. Long-term mean functional outcomes, as measured by SMFA, between the marijuana use group and the non-marijuana use group, following lower-extremity gunshot wounds. A higher SMFA score correlates with worse function. ** represents significance at P<0.05.

	Marijuana-Use Group	Non Marijuana-Use Group	P-value
Pain Scores	0.00	2.40	<0.001**
Total SMFA	0.98	11.08	<0.001**
Functional Status	9.12	20.75	<0.001**
Bothersome Nature of Injury	0.86	12.07	<0.001**
Daily Activities	2.00	14.11	0.002**
Emotional Status	1.42	14.84	<0.001**
Mobility	0.56	13.58	<0.001**

Figure 1. Radiographs demonstrating gunshot wounds to the lower Extremity.



RESULTS

- 133 patients who had sustained a lower extremity GSW during the study period were identified.
- Of those, 14 were either incarcerated or expired and 69 patients were lost to follow-up or refused to participate.
- The remaining 50 patients (38%) had follow-up recorded.
- No patients in the marijuana group reported to using opioids at latest follow-up (Mean 22.6 months).
- Nine patients in the non-marijuana group (20%) were still using opioids at the time they were contacted (mean 23.6 months), while no patients in the marijuana user group were concomitantly using opioids.

CONCLUSIONS

- This study lends some clinical evidence that correlates decreased pain and improved functional outcomes among patients who have sustained GSW trauma, and are marijuana users.
- Law makers and governmental officials should consider the benefits of medical marijuana in states that have not yet passed legislature-legalizing cannabis, for the treatment of chronic pain.
- Marijuana, used for medicinal purposes, may have value in alleviating the opioid epidemic in patients who sustain orthopaedic trauma.

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