

**BREATHE EASY**  
The Number-One Health Tip for  
Cannabis Smokers is Also the Easiest

by Mark Mathew Braunstein

**Annotated Bibliography**

All links active March 2020.

J.L. AZORLOSA, M.K. Greenwald, and M.L. Stitzer, “Marijuana smoking: effects of varying puff volume and breathhold duration,” in *The Journal of Pharmacology and Experimental Therapeutics*, February 1995, Volume 272, Number 2, pages 560-569.

Summary at:

<https://www.ncbi.nlm.nih.gov/pubmed/7853169>

and at:

<http://europepmc.org/abstract/MED/7853169>

Conclusion:

“These findings ... cast doubt on the common belief that prolonged breathholding of marijuana smoke enhances classical subjective effects....”

Robert I. BLOCK, Roxanna Farinpour and Kathleen Braverman, “Acute Effects of Marijuana on Cognition: Relationships to chronic effects and smoking techniques,” in *Pharmacology Biochemistry and Behavior*, November 1992, Volume 43, Issue 3, pages 907-917.

Summary at:

[https://doi.org/10.1016/0091-3057\(92\)90424-E](https://doi.org/10.1016/0091-3057(92)90424-E)

and at:

<https://www.ncbi.nlm.nih.gov/pubmed/1448485>

Conclusion:

“There were a few hints that prolonged breath holding increased marijuana's effects under some test conditions, but in general it did not. ... Prolonged breath holding itself affected performance in four tests, regardless of whether subjects smoked marijuana or placebo.”

Mitch EARLEYWINE, “Marijuana’s Health Effects – The Pulmonary System,” Chapter 7, pages 154-158, in *Understanding Marijuana: A New Look at the Scientific Evidence*, 2002, Oxford University Press.

Amazon “Look Inside” for the book, including four pages of Chapter 7, at:

<https://www.amazon.com/dp/0195182952>

Chapter 7 summary at:

<https://doi.org/10.1093/acprof:oso/9780195138931.003.0007>

and at:

<https://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780195138931.001.0001/acprof-9780195138931-chapter-7>

Conclusion:

“Two studies show that holding ‘hits’ does not appear to lead to greater changes in mood. ... Exhaling soon after inhaling should produce identical subjective experiences with markedly less potential for respiratory injury.”

Mitch EARLEYWINE, "Pulmonary Harm and Vaporizers," Chapter 11, pages 153-160, in *The Pot Book: A Complete Guide to Cannabis*, edited by Julie Holland, M.D., 2010, Inner Traditions / Park Street Press.

Amazon "Look Inside" for the book, including four pages of Chapter 11, at:

<https://www.amazon.com/dp/1594773688>

Publisher's "Browse Inside" with 50 pages of the book, though none of this chapter, at:

<https://www.innertraditions.com/books/the-pot-book>

Conclusion:

"Users who are committed to holding their breath should probably exhale the marijuana smoke first. Otherwise, exhaling soon after inhaling should produce identical subjective experiences with markedly less potential for respiratory injury."

Donald P. TASHKIN, "Smoked marijuana as a cause of lung injury," in *Monaldi Archives for Chest Disease*, June 2005, Volume 63, Number 2, document 645.

Summary at:

<https://doi.org/10.4081/monaldi.2005.645>

and

<https://www.ncbi.nlm.nih.gov/pubmed/16128224>

Full text at:

<https://www.monaldi-archives.org/index.php/macd/article/view/645/633>

Conclusion:

"Although far fewer marijuana than tobacco cigarettes are generally smoked on a daily basis, the pulmonary consequences of marijuana smoking may be magnified by the greater deposition of smoke particulates in the lung due to the differing manner in which marijuana is smoked."

James P. ZACNY and L.D. Chait, "Breathhold duration and response to marijuana smoke," in *Pharmacology Biochemistry and Behavior*, June 1989, Volume 33, Issue 2, pages 481-484.

Summary at:

[https://doi.org/10.1016/0091-3057\(89\)90534-0](https://doi.org/10.1016/0091-3057(89)90534-0)

and at:

<https://www.ncbi.nlm.nih.gov/pubmed/2554344>

Conclusion:

"...there was little evidence that response to marijuana was a function of breathhold duration."

James P. ZACNY and L.D. Chait, "Response to marijuana as a function of potency and breathhold duration," in *Psychopharmacology*, February 1991, volume 103, Issue 2, pages 223-226.

Summary at:

<https://doi.org/10.1007/BF02244207>

Two-page preview at:

<https://link.springer.com/article/10.1007%2FBF02244207#citeas>

Conclusion:

"The results confirm previous findings that prolonged breathholding does not substantially enhance the effects of inhaled marijuana sm