



**Digital Commons@**

Loyola Marymount University  
LMU Loyola Law School

---

Honors Thesis

Honors Program

---

5-7-2016

## Addiction: Physiology in Performance, Opioid Pharmacology in Character Development for the Theater

Lacey M. Smith

Loyola Marymount University, lacey.marie@verizon.net

Follow this and additional works at: <https://digitalcommons.lmu.edu/honors-thesis>



Part of the [Acting Commons](#), [Nervous System Commons](#), [Other Chemicals and Drugs Commons](#), and the [Performance Studies Commons](#)

---

### Recommended Citation

Smith, Lacey M., "Addiction: Physiology in Performance, Opioid Pharmacology in Character Development for the Theater" (2016). *Honors Thesis*. 113.

<https://digitalcommons.lmu.edu/honors-thesis/113>

This Honors Thesis is brought to you for free and open access by the Honors Program at Digital Commons @ Loyola Marymount University and Loyola Law School. It has been accepted for inclusion in Honors Thesis by an authorized administrator of Digital Commons@Loyola Marymount University and Loyola Law School. For more information, please contact [digitalcommons@lmu.edu](mailto:digitalcommons@lmu.edu).

# Addiction: Physiology in Performance Opioid Pharmacology in Character Development for the Theater

Lacey Marie Smith<sup>1</sup> and Nenad Pervan<sup>2</sup>

<sup>1</sup>Department of Health and Human Sciences, Loyola Marymount University, Los Angeles, CA

<sup>2</sup>Department of Theater Arts, Loyola Marymount University, Los Angeles, CA

## Abstract

Actors inquire into the physical, mental, and emotional impulses of their respective characters in the effort to develop a cohesive persona for the stage. The goal of this research is to determine whether a more thorough, scientific understanding of the physiopsychological phenomena a character experiences, specifically opioid withdrawal, will aid in the depiction of symptoms on stage. The project began with a research period and culminated in physical dissemination through theater performance. Both video, audio, and text media were utilized to establish a thorough comprehension of the physiological mechanisms in opioid addiction. Further profiling of the characteristics and symptomatic episodes of addicted persons were emphasized in the research period to be implemented and represented in rehearsal. The rehearsal process was comprised of three-four hours of rehearsal for seven weeks and included both individual character work with the director as well as scene work with fellow actors. Six shows in total were performed in the Barnelle Theater and research was found to be particularly applicable in Act 1, Scene 2 of the show. Physical symptoms of withdrawal, such as hot and cold sweats, muscular cramping, shaking, and physical anxiety, were mimicked and integrated into performance to convey opioid dependence. It was determined that understanding the science behind the symptoms allowed for a more realistic depiction of addiction in performance. Further research should include in-person testimony and interviews from individuals who have experienced substance abuse, withdrawal, and addiction.

## Background

### Opioids

Both naturally occurring and chemically synthesized opioids are one of the most frequently prescribed and utilized analgesics.<sup>1</sup> Opioids target receptors in the brain involved in pain-modulation pathways and neuron inhibition, altering chemical expression and releasing "feel-good" neurotransmitters. Affectors of both the central and peripheral nervous systems, chronic use of morphine-derived substances, can lead to non-intended, negative cognitive abnormalities.<sup>2</sup>

### Heroin

A morphine-derivative, the heroin molecule is formed by substitution of both hydroxyl groups in morphine with acetyl groups, thereby increasing the lipid solubility of the molecule and facilitating a quicker penetration of the blood-brain barrier. Consequently, heroin can be up to four times more potent than morphine with a faster onset. Within the brain, heroin is metabolized into morphine and binds to reward pathway receptors, producing a cognitive and physiological "high".<sup>3</sup>

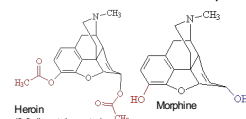


Figure 1

### Substance-Related and Addictive Disorders

Chronic use of opiates can lead to tolerance, defined by the American Psychiatric Association as a need for markedly increased amounts of substance to achieve intoxication. Tolerance can rapidly lead to addictive disorders often characterized by impaired ability to resist using, disruption of typical social functioning, and cognitive, behavioral, and physiological symptoms of withdrawal.<sup>4</sup>

## Methods

### Research

- The observational period took place immediately upon being cast and began with multiple read-throughs of Hristo Boytchev's original work, *The Colonel and the Birds*
- Further investigation of opioid pharmacology occurred utilizing documentary footage, recorded video testimony, scholarly articles, and scientific text.

### Substance-Related Scene Breakdown

Act and Scene	Intoxication/Substance	Physical Symptoms Exhibited
Act I, Scene I Act I, Scene III	Intoxicated/Morphine	Compensatory neurological functioning, relaxed muscular movement, measured composure
Act I, Scene II	Withdrawal/Heroin	Muscle spasms, uncontrollable shaking, sweating, joint pain, cognitive stress (facial)
Act I, Scene IV	Veisalgia/Alcohol	Drowsiness, head-ache, light sensitivity, dizziness
Act I, Scene VII	Intoxication/Alcohol	Slurred speech, muscle relaxation, social disinhibition

### Rehearsal

Rehearsal began on September 9<sup>th</sup>, 2015 and continued until the opening of the show. The process included read-throughs, collaborative scene work, individual monologue work, and numerous discussions about the visual translation of the script onto the stage. Personal character work occurred throughout the process and incorporated a belief in the character's motivation with the designated use of substance, or lack thereof, in each scene.

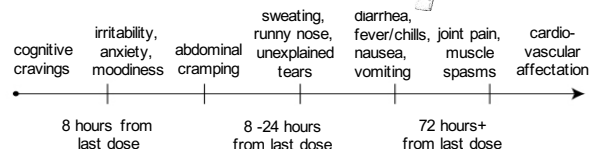
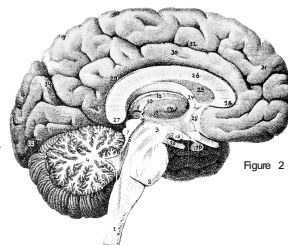
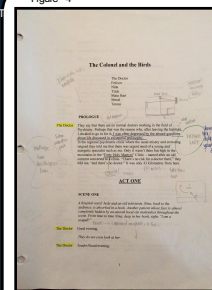


Figure 3

Figure 4



## Results

Performances occurred on October 29<sup>th</sup>, 30<sup>th</sup>, and November 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, in the LMU Barnelle Theater. Particularly supported by a theatrical space in which the audience is close in proximity

to the actor (as in the Barnelle theater), an understanding of the physiological mechanisms of opioid addiction was crucial to a realistic depiction of the disorder. It was determined that a comprehension of opioid-induced cognitive affectation was particularly useful in the development of character response to the actions and intentions of other character's throughout the play. Establishment of a specific mindset (either theoretically added or enhanced by substance use) within scenes induced reactions to externally imposed demands that would have otherwise remained static. Further research and experimentation should involve the actor interviewing persons who have directly experienced symptoms of withdrawal and intoxication and should more heavily focus on the technique of realistic substance administration in front of an audience.

"Everything I've said about myself is true except for one little thing – the truth is that I'm no doctor, I'm simply an addict."

- Doctor, *The Colonel and the Birds*, Act I, Scene II

## References and Acknowledgements

Loyola Marymount University Undergraduate Research Opportunities Program  
Department of Communications and Fine Art

Department of Health and Human Sciences

1. Al-Hasani R, Bruchas MR. Molecular Mechanisms of Opioid Receptor-dependent Signaling and Behavior. *J Am Society of Anesthesiologists*. 2011; 115:1363-1381.

2. Kosten TR, George TP. The Neurobiology of Opioid Dependence: Implications for Treatment. *Sci Pract Perspect*. 2002; 1(1): 13-20.

3. Sawynok J. The therapeutic use of heroin: a review of the pharmacological literature. *Canadian Journal of Phys and Pharm*. 1986; 64(1): 1-6.

4. American Psychiatric Association. Substance Related and Addictive Disorders. *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. 2013.

Figure 5

