

"Mini-Fellowship" Intensive Ketamine Infusion Training Course for Clinicians



A COMPREHENSIVE COURSE AND CLINICAL WORKSHOP FOR CLINICIANS

That Complies with All APA and ASA Training Recommendation





About Our Program

As Director of the Ketamine Research Institute and speaking from the perspective of over thirty-five years of academic and clinical practice with ketamine therapy, I would like to tell you why my colleagues and I think that this program is the finest learning opportunity for clinicians to acquire the essential knowledge and clinical skills necessary for this new and exciting therapy.

This unique program allows clinicians to learn the fundamentals of ketamine administration and receive specialized training from experienced practitioners. The curriculum is designed for both novice and experienced clinicians and provides an in-depth overview of ketamine infusion protocols, side effects monitoring, patient safety considerations, and therapeutic approaches. Through exposure to the latest research findings and clinical insights, participants gain a deep understanding of the science behind ketamine and its potential applications.

The program also includes interactive didactic sessions, supervised clinical training, and case studies to help clinicians apply their new knowledge in real-world everyday practice settings. In addition, our expert faculty provide hands-on instruction and one-on-one mentoring to ensure that participants acquire the necessary clinical skills to administer ketamine infusions safely and effectively.

Overall, I believe that this program offers an unparalleled opportunity for clinicians to master the art of ketamine infusion therapy and become leaders in the field. With a thorough understanding of the science behind ketamine infusions and practical experience with administering them, clinicians will be equipped to provide the best possible care for their patients.

Thank you for your time and consideration. I am confident that this program will provide participants with the necessary knowledge and skill to become leaders in ketamine infusion therapy.

Looking forward to seeing you there!

Gerald Grass, MD



2023 "Mini-Fellowship" Intensive Ketamine Infusion Training Course for Clinicians Outline

Course Organization: An Overview and Structure

The "Mini-Fellowship" Intensive Training Course is divided into three sections – **Didactic modules**, **Clinical modules**, and **Experiential sessions**– which provide an in-depth and practical approach to ketamine therapy. Each module section builds upon the previous one to progressively increase your understanding of the basic and more advanced principles of ketamine therapy.



Didactic

The didactic modules emphasize an in-depth and practical approach to ketamine therapy utilizing knowledge of the underlying principles of ketamine therapy. Each didactic module establishes a firm foundation in ketamine-based treatment, emphasizing an advanced precision-medicine approach. You will achieve significantly greater clinical effectiveness by using precision medicine and target-controlled infusions rather than a "one-size-fits-all," "fixed-dose" protocol.



Clinical

The clinical modules allow clinicians to gain experience administering ketamine infusions under the close supervision of more experienced clinicians. In these sessions, clinicians perform and practice all the necessary steps that are essential to a successful infusion.



Experiential

Going a step beyond, we offer experiential sessions in which clinicians are invited to personally experience what it is like to have a ketamine infusion. It is our experience that clinicians who have a first-hand understanding of what ketamine feels like and how it affects cognition, mood, and behavior gain valuable new insights into the "ketamine experience." These insights and experience allow you to appropriately formulate an individualized infusion treatment plan for each patient and better prepare them for the unique phenomenology of ketamine therapy.

The Training Environment

All course training is conducted "on-site" and "in-person" in our infusion center. This format provides an opportunity to become familiar with the environment in which infusions are performed, as well as get first-hand experience with all the necessary monitoring equipment, intravenous delivery systems, and supplies necessary for the safe and effective administration, storage, and handling of ketamine.

Course Benefits

Most importantly, our unique approach emphasizes three essential components of ketamine infusion therapy **that are not offered in any other training program.**

1. A **Precision-Medicine** and **Target-Controlled infusion** approach to ketamine therapy,
2. **Supervised clinical training** administering ketamine as recommended by the APA
3. The opportunity to **personally experience a ketamine infusion.**
4. Ongoing **mentoring and clinical advisement** as you begin your ketamine program

We believe these components are essential to acquire the knowledge, understanding, and skill necessary to become a highly skilled clinician in ketamine therapy. Together, they provide the best opportunity for developing superior clinical proficiency and expertise.

In Conclusion

Our program is exceptional and exceeds consensus recommendations published by the American Psychiatric Association and the American Society of Anesthesiologists relating to ketamine therapy. We are committed to helping clinicians learn how to provide ketamine-based therapy safely and effectively.



"Mini-Fellowship" Intensive
Ketamine Infusion Training
Course for Clinicians

Day 1

Day 1. Ketamine-Based Therapy:

The Current State of Ketamine Therapy

Didactic Modules:

Didactic
Overview

Overview

Why Consider Ketamine?

Mood Disorders An Overview – Depression, Anxiety, Bipolar, PTSD

Multifactorial Etiologies Contribute to Causation and Treatment Failures

Monoamines Are Not As Effective As We Had Hoped

Current Treatment Options – Therapy, Medications, rTMS, ECT, Ketamine, Psychedelics

Reasons to Add Ketamine Therapy to Your Therapeutic Toolbox

My Experience and Qualifications with Ketamine

The Issues Surrounding Ketamine Therapy

Ketamine Therapy is Misunderstood by Many

The Hype, The Reality, The Better Way

What's Important to know about Ketamine Therapy

Where do we go from here

Structure of the Course – This Is Not a TED Talk

Didactic
Module
1

Module 1

Ketamine - A New Approach for the Treatment of Mood Disorders

The Best Place to Start is at the Beginning

Zarate: A New Approach for the Rapid and Effective Treatment of Mood Disorders

A Deeper Look into The Evolution of Ketamine Therapy

Seminal/Landmark Research Studies – Key Players
Significant Researchers In The Field
1994 - The Origins of the Standard Ketamine Infusion
The 2000 Berman/Krystal Study – A Landmark Study
2006 – Ketamine Becomes Recognized

New Keys to Understanding Depression

The Human Connectome and Mood Disorders
A New Model: Depression - A Neural Disconnection Syndrome
Ketamine and Neuroplasticity

Questions Arise About Ketamine as a Therapeutic Modality

The Non-FDA Drug Trial Approach to Ketamine Development
The Issues: Administration – Durability – Dosage - Frequency

How To Standardize and Facilitate Ketamine Treatment

Large Randomized Placebo-Controlled Drug Trials
Whom Do You Ask? Anesthesiologists, Psychiatrists, or Bench Researchers

Use What We Know – An Existing Model?

What Model To Use?
Administration – Durability – Dosage – Frequency
The **"Standard Ketamine Protocol"** Emerges

Didactic
Module
2

Module 2

The Standard Ketamine Infusion

The Standard Ketamine Infusion Protocol

Qualifications, Training, Equipment, and Safety Recommendations
Who Is A Candidate For Ketamine Therapy – Patient Selection
The Infusion – Version 1 and – Version 2
Patient Follow-Up and Maintenance
Best Outcome studies – Research studies

The Protocol Doesn't Tell The Whole Story

Ketamine Infusion Timeline and Experience
Physiological and Psychological Variables

Transpersonal Experiences – Do They Matter?
Ketamine Safety, Abuse, and Adverse Effects

Houston, We Have A Problem...

Clinician Don't Always Follow The Protocol
Compliance with guidelines and recommendations
Do clinicians adhere to the "Standard Ketamine Infusion" Protocol

The Wild West of Ketamine Therapy –It's Dangerous Out There!

How Bad Is It? – A Video Example of a typical infusion
The "Zappy" Syndrome
Worse Yet – Big Business Gets Involved: Franchising & Home Delivery of Ketamine
What Has Been The Result?
Effectiveness-Adverse Effects-Worsening Symptoms-Suicidality
Malpractice Suits, DEA/DOJ Intervention, and Legislation

Didactic
Module
3

Module 3

The Basics: Rules, Regulations, and Requirements

Professional Regulatory Agencies

American Psychiatric Association
American Society of Anesthesiology
State Medical Boards
Drug Enforcement Agency

Who Is A Candidate For Ketamine Therapy

Patient Selection
Evaluation – Labs, Records, Referrals
Cautions and Contraindications

Avoiding Medico-Legal Issues: It's All In The Documentation

Examples: Metrics – Forms – Notes - Logbook

Screening Metrics, Brief Medical History
Initial Evaluation and Consent
Pre-Procedural Evaluation
Ketamine Infusion Record

Post-Procedural Note
Discharge Instructions
DEA Controlled Substance Logbook

General Operational Concerns

Space Requirements
Personnel Requirements
Equipment Requirements/Vendors
Supply Requirements/Vendors
Pharmaceutical Requirements/Vendors

Clinical Modules:

The clinical modules allow clinicians to gain experience administering ketamine infusions under the close supervision of more experienced clinicians. Clinicians perform and practice all the necessary steps essential to a successful infusion. The first day provides the framework required to comply with professional regulatory agencies and evidenced-based best practices.

Clinical
Module
1

Introduction to the Infusion Room

The Clinical Encounter – What Does It Look Like?

The Ketamine infusion Suite:

Physical Space and Setting
Patient preparation and monitoring
Equipment and Supplies
Infusion/syringe pumps
Safety Issues, Transporting, and Patient Discharge



"Mini-Fellowship" Intensive
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Day 2

Day 2. Ketamine-Based Therapy:

Efficacy *versus* Effectiveness

Didactic Modules:

Didactic
Module
4

Module 4

Ketamine Is Not As Effective As You Think – But It Can Be!

Ketamine Infusion Therapy – Recap

The Standard Ketamine Infusion

Ketamine Therapy In The "Real World"

Ketamine Is Not As Effective As You Think – But It Can Be!

The Efficacy of Ketamine in Research Studies

How Effective is Ketamine in the Real World?

The Efficacy-Effectiveness Gap

The Reason Why Ketamine Studies Are So Conflicting and Confusing

What Do We Need To Know To Make It Better?

We Need To Know Three Things: The Principles, The Variables, The Solution

More About Ketamine: [THE PRINCIPLES](#)

Ketamine Pharmacological Characteristics

Why Researchers Think Ketamine is a "Dirty" Drug

Why Ketamine Is So Effective –It's "*Broad Spectrum*" Master Molecule

Simple Mg/Kg Administration is Unreliable and Inaccurate

Why The Dose of Ketamine Is Not Important – TCI

Didactic
Module
5

Module 5.

Target Controlled Infusions and The Variables That Affect Plasma Concentrations

Plasma Concentrations And The Dose-Response Curve

What Is The ED₅₀ and ED₇₅ of Ketamine, and Why Is This Important

What Is A Target-Controlled Infusion?

Pharmacokinetic Modeling Of The Ketamine Infusion

THE VARIABLES: "Real-World" Patients

Research Subjects Are Not "Real-World" Patients

"Real World" Patient Examples

Essential Patient Characteristics That Affect Response and Outcome

The 5 Key Factors:

Mass: Body weight affects concentrations, distribution, and elimination

Morbidity: Comorbid medical conditions impact ketamine effectiveness

Medications: Many medications/supplements alter P450 metabolism

Metabolism: BDNF, MTHFR, COMT, and Testosterone are critical

Mindset: Expectations and Frames of Reference influence the outcome

Clinical Modules:

The second and third day consists of supervised clinical training to develop the skills and techniques used in ketamine therapy. It also reinforces the concepts of Precision Medicine and Target-Controlled infusions discussed in the didactic modules of the course.

The goal is to provide clinicians with first-hand experience conducting actual ketamine infusion therapy from beginning to end. Supervised clinical training provides the knowledge, skills, and confidence you need to administer ketamine infusions to their patients in a safe and highly effective manner.

Clinical

Module

2

Module 2**First Clinical Session****Supervised Clinical Training**

These sessions allow clinicians to administer ketamine infusions under the close supervision of more experienced clinicians. Clinicians perform and practice all the necessary steps that are essential to a successful infusion, including:

Pre-procedure Preparation

- Preparation of the infusion suite
- Setting up your infusion tray
- Audio and Visual enhancements
- Pre-procedure patient preparation
- Determination of adjusted body weight
- Patient positioning
- Vital signs monitor application and adjustments
- Confirmation of pre-treatment vitals

The Ketamine Infusion

- IV insertion techniques
- Infusion methodologies: Gravity, Drip Assist, Infusion pumps
- Determining target ketamine plasma concentrations
- Pharmacokinetic modeling during infusion
- Using the electronic ketamine infusion record
- Assessment of acute psychological and physiological effects during infusions
- How to perform infusion rate or concentration adjustments
- Preventing infusion occlusions, flow reductions, and disconnects
- Tips for guiding patients through the infusion
- Avoiding and managing adverse effects

Post Procedure Issues

- The immediate recovery period: nausea, fatigue, disequilibrium
- Debriefing and integration techniques
- Post-infusion recovery monitoring
- Patient transportation and discharge

Experiential
Module
1

Module 1E
First Experiential Session

The Ketamine "Experience"

In this section, an opportunity is provided for clinicians to personally experience the non-ordinary states of mind that patients under their care will encounter during an infusion. The ketamine infusion experience can be a profound and life-changing event for many of your patients.

When combined with the extensive didactic knowledge provided in the course modules and hands-on supervised clinical training administering ketamine, this unique opportunity and approach offers the greatest opportunity for developing the clinical competence and expertise necessary to determine the appropriateness and precise application of this treatment modality for their patients

Framing the Ketamine Experience

- Valuable tips for beginning an infusion session
- Understanding Models for the ketamine experience
- Visual, Kinesthetic, and Somatic processing

Experiencing dissociation

- Time and space expansion
- Non-linear thought
- The ketamine continuum and depth of immersion
- The spacious present

Debriefing and integration techniques

- Returning from the experience
- Post-infusion Phenomena
- Learning from Insights gained to adjust subsequent infusion session



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Day 3

Day 3. Ketamine-Based Therapy: The Precision Medicine Approach

Didactic Modules:

Didactic
Module
6

Module 6 **Significantly Improving Ketamine Therapy**

THE SOLUTION: Optimizing Patients and Targeting Your Infusion

Precision Medicine:

- What is Precision Medicine?
- Patient Selection/Evaluation Criteria
- Mindset – It's more than set and setting
- Medical Contraindication and Morbidities
- Co-Morbidity and Metabolic Issues
- Preliminary Diagnostics, Labs, and Genetics
- Biomarkers and Treatment Concerns

Target Plasma Concentrations for Various Disorders

- Anxiety and PTSD
- Depression and Bipolar Disorder
- Miscellaneous Conditions

Enhancing The Ketamine "Experience"

- The Framework of Reference
- Monitoring and Guiding Techniques
- Audio Enhancements
- Visual Enhancements
- Kinesthetic Enhancement
- Typical Trajectory of a Ketamine Infusion

Didactic
Module
7

Module 7

The Precision Medicine and Target-Controlled Infusion Approach To Ketamine-Based Therapy

Ketamine Infusion Therapy – Recap

The Standard Ketamine Infusion vs. The Improved Approach

Course Summary: Putting It all together

A Rapid Guide To Your first infusion

Optimization Begins At The First Encounter

Quick Reference Guide To Ketamine Therapy

Test Your Knowledge – Case Presentations

Ketamine Infusion Video – A Critique

More is better – tolerance, tachyphylaxis, and hormesis

I don't know why It Didn't Work For Me – the effects of concurrent medication

It cures everything... right? – expectations and multiple comorbidities

Mentoring Program

What is the Program

Clinical Advice and Suggestions

Indications/Contraindications

Dosage Requirements

Treatment response

Operational and Business Concerns

Space and Staff Requirements

Suppliers

Marketing

Ketamine Research Institute Referral Network

Contact Information

Didactic
Module
8

Module 8

Ketamine Infusion Center Standards – Supplemental

Ketamine Infusion Center Standards

- I. Medical director requirements**
- II. Practitioners' qualifications**
- III. Staffing requirements**
- IV. Practice guidelines**
 - a. Medical records
 - b. Patient selection and screening
 - c. Patient admission
 - d. Ketamine infusion unit/area
 - e. Patient care and monitoring
 - f. Patient discharge

 - g. Equipment
 - h. Infusion/syringe pumps
 - i. Emergency management
 - j. Medication management
 - k. Safety
 - l. Physical space
 - m. Infection prevention/control
 - n. Sterile processing management
 - o. Quality improvement program
 - p. Manuals

Appendices: Documentation, Forms, and References

Clinical Modules:

On the third day of supervised clinical training, clinicians gain additional experience in administering ketamine therapy. Suggestions and improvements are made to further your understanding of the unique nature of ketamine therapy. Refinements to the infusion protocol and technique are discussed and demonstrated during this phase.

Clinical
Module
3

Module 3C Second Clinical Session

Supervised Clinical Training

On day three, students continue with supervised clinical training. This additional experience provides more time to build upon the knowledge from the previous days and allows for essential vital concepts to be reinforced.

Pre-procedure Preparation

- Preparation of the infusion suite
- Setting up your infusion tray
- Audio and Visual enhancements
- Pre-procedure patient preparation
- Determination of adjusted body weight
- Patient positioning
- Vital signs monitor application and adjustments
- Confirmation of pre-treatment vitals

The Ketamine Infusion

- IV insertion techniques
- Infusion methodologies: Gravity, Drip Assist, Infusion pumps
- Determining target ketamine plasma concentrations
- Pharmacokinetic modeling during infusion
- Using the electronic ketamine infusion record
- Assessment of acute psychological and physiological effects during infusions
- How to perform infusion rate or concentration adjustments
- Preventing infusion occlusions, flow reductions, and disconnects
- Tips for guiding patients through the infusion
- Avoiding and managing adverse effects

Post Procedure Issues

The immediate recovery period: nausea, fatigue, disequilibrium
Debriefing and integration techniques
Post-infusion recovery monitoring
Patient transportation and discharge

Experiential
Module
2

Module 2C

Second Experiential Session

The Ketamine "Experience"

In this second section, an opportunity is provided for clinicians who did not have an option on day two to personally experience the non-ordinary states of mind that patients under their care will encounter during an infusion.

Framing the Ketamine Experience

Valuable tips for beginning an infusion session
Understanding Models for the ketamine experience
Visual, Kinesthetic, and Somatic processing

Experiencing dissociation

Time and space expansion
Non-linear thought
The ketamine continuum and depth of immersion
The spacious present

Debriefing and integration techniques

Returning from the experience
Post-infusion Phenomena
Learning from Insights gained to adjust subsequent infusion session

Who Should Attend

Our **"Mini-Fellowship" Intensive Training Course For Clinicians** is particularly well suited for clinicians (MD, DO, NP) in the fields of Psychiatry, Primary Care, Integrative/Functional Medicine, and Emergency Medicine. It was specifically designed for clinicians interested in ketamine therapy who are new to this unique modality and infusion therapy in general.

Course Application and Fees:

How to Apply:

To apply for the course, please contact us by email at training@ketamineinstitute.com indicating your interest in ketamine-based therapy and how you plan to integrate it into your current practice environment. We will arrange to speak with you about the course and answer your questions.

Alternatively, if you are committed to training with us, feel free to download, complete, and return the Training Brochure/Application and email it back to us. In addition to the application form, please submit copies of your current active medical/professional licensure and a brief but thoughtful explanation of your interest in and planned use of ketamine-based therapy.

You may send the materials to us by email at training@ketamineinstitute.com or by Fax at 850-602-9013.

After You Apply:

Once all the documentation has been received and reviewed, we will arrange a convenient time to discuss your application, answer any preliminary questions you may have, and provide you with additional details about the program.

Application to the course does not guarantee acceptance. All applications for training are reviewed, and the class roster is filled on a rolling basis. Each of the offered training courses typically fills early, and submitting your application as soon as possible is beneficial.

Once Accepted:

Before beginning the course, it is helpful to have as much background in ketamine therapy as possible. Many physicians have a naïve view that a ketamine infusion is a simple procedure that support staff can perform and monitor while the clinician is attending to other concerns. That belief has led to the proliferation of "ketamine clinics" that often provide substandard care and have inconsistent or poor outcomes.

To help, we recommend that clinicians who attend the course complete a required reading list and review reference articles we provide. This material will assist you in gaining essential background knowledge, which will be very helpful to benefit from our didactic and clinical sessions and serve as handy reference material in your future practice.

Course Fees:

The registration fee for the 3-Day "Mini-Fellowship" Intensive Training Course for Clinicians is \$8950.00. You will not be billed until formal acceptance has been granted. A \$2,500.00 deposit will be charged upon formal acceptance into the course. The balance of \$6,450.00 will be due in 2 installments, one installment 30 days and one installment 14 days before your course start date. Should you need to cancel within 14 days or less of the course start date, you will receive a full refund of any fees paid, less your initial deposit of \$2500.00.

Please Note:

Accommodations are not included; however, a discounted rate is available for our colleagues with several of our partner hotels, including the Hampton Inn, Ritz-Carlton, and Hilton Art of Ovation hotels.

Please be aware that the course does not focus on the RESTORE infusion process, which is proprietary to the Ketamine Research Institute. Although much of the course centers around the proprietary data, core concepts, and principles used to develop RESTORE, it is our policy to ask all attendees to sign non-disclosure agreements before the start of the course.

If you have any questions, please feel to contact us by email at training@ketamineinstitute.com or by telephone at 800-850-6979.