

dōTERRA

Practitioner Toolkit

Medical & Scientific Edition

A comprehensive resource for healthcare professionals exploring the science, research, and clinical application of essential oils.



113+

Active research partnerships with universities, hospitals & clinical institutions

175+

Hospitals using dōTERRA essential oils in clinical settings

10,000+

Peer-reviewed studies on essential oils published in the last two decades

30+

In-house scientists in dōTERRA's cutting-edge research laboratory

Essential Oils Represent One of Modern Medicine's Most Exciting Opportunities



Dr. Russell Osguthorpe, MD

Chief Medical Officer, doTERRA International
MD, McGill University School of Medicine
Residency, Children's Hospital Denver
Fellowship, Washington University School of Medicine
Faculty, University of Utah, Department of Pediatrics

Essential oils have demonstrated broad applicability in clinical environments as adjuncts to traditional therapy and complementary treatments.

Thousands of peer-reviewed medical studies validate the therapeutic value of essential oils in modern medical practice.

Quality and scientific integrity are critical — from rigorous sourcing to multi-method laboratory testing.

doTERRA's mission is to place quality information and quality oils in the hands of every practitioner.

Synthetic Oils Fail to Replicate Nature's Therapeutic Power



- Many essential oils on the open market are synthetic derivatives of naturally occurring plant compounds.
- Research shows synthetic oils are not biologically effective and lack the therapeutic response of pure oils.
- The gap between synthetic and natural compounds is significant and measurable.
- doTERRA's CPTG testing protocol was created specifically to address this critical quality gap.

The CPTG[®] Standard — What Sets doTERRA Apart

Rigorous Multi-Method Testing at Every Stage of Production

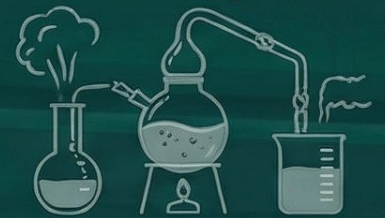
- Without an accepted industry standard, doTERRA developed CPTG Certified Pure Tested Grade[®]
- Every batch is tested in internal labs and by independent third-party laboratories
- CPTG represents the most comprehensive quality assurance protocol in the industry



Sourcing



Distillation



Finished Product



Twelve Advanced Testing Methods Verify Purity, Potency, and Authenticity

CPTG Testing Methods — Part 1



GC/MS (Gas Chromatography/Mass Spectrometry) — Identifies and quantifies every chemical compound; confirms identity and purity.

LC/MS (Liquid Chromatography/Mass Spectrometry) — Detects non-volatile substances such as pesticides, herbicides, and synthetic adulterants.

FTIR (Fourier Transform Infrared Spectroscopy) — Generates a chemical 'fingerprint' to verify structural authenticity against nature's blueprint.

ICP-MS (Inductively Coupled Plasma Mass Spectrometry) — Detects trace levels of heavy metals down to parts per billion.

Chirality Testing — Checks 3D molecular orientation; reveals hidden synthetics.

Isotopic Analysis — Verifies carbon-isotope signature based on growing environment.

Additional Testing Methods Ensure Safety and Detect Contamination

CPTG Testing Methods — Part 2

HPTLC (High-Performance Thin Layer Chromatography)



Creates a visual compound fingerprint, enabling rapid detection of adulteration or contamination.

Expert Sensory (Organoleptic)



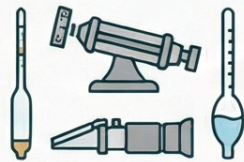
Trained experts evaluate appearance, aroma, and color; human senses catch what instruments may miss.

Microbial Testing



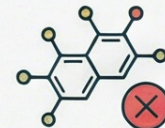
Screens for harmful bacteria, mold, and other microorganisms to ensure safety for clinical use.

Optical Rotation / Specific Gravity / Refractive Index



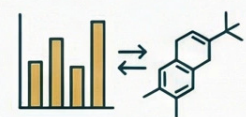
Physical property measurements verify concentration, dilution, and consistency against known benchmarks.

Targeted Synthetic Marker Detection



Searches for specific synthetic compounds that should never appear in pure essential oils.

Chemometric Ratio Analysis



Compares compound ratios to nature's original composition; any deviation signals adulteration.

Research Partnerships & University Collaborations

113 Active Partnerships Drive Evidence-Based Innovation Across Global Institutions

University of Mississippi – NCNPR



Five-year, \$5 million research partnership signed in 2022 to establish industry-wide quality standards for essential oils.



NCNPR's scope includes chemometrics, pharmacokinetics, pharmacodynamics, and metabolomics.

The first published study established new authentication standards for lavender, revealing that two-thirds of market lavender samples are adulterated or of poor quality.

Roseman University College of Pharmacy



Independent researchers purchased doTERRA oils directly from the market and tested them across multiple research models.

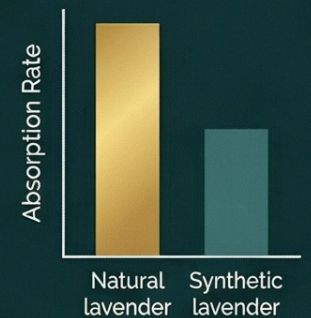


They discovered 'The Oil Effect' — doTERRA essential oils produce reproducible, therapeutically-relevant cellular activity that cannot be replicated by administering purified individual components.

doTERRA awarded \$128,000 in grant funding to advance this research.

Prime Meridian Health & NCNPR – Pharmacokinetics Study

A pharmacokinetics study demonstrated that doTERRA lavender essential oil reaches measurable levels in the human body at nearly twice the rate of synthetic lavender compounds — demonstrating superior bioavailability and absorption compared to synthetically produced chemical equivalents.



2024 ICSB Conference — Groundbreaking Presentations

doTERRA Presents Peer-Reviewed Research to 300+ Global Scientists and Industry Leaders

22nd International Conference on the Science of Botanicals (ICSB) | April 2024 | Oxford, Mississippi |
Attended by 300+ researchers and industry leaders worldwide

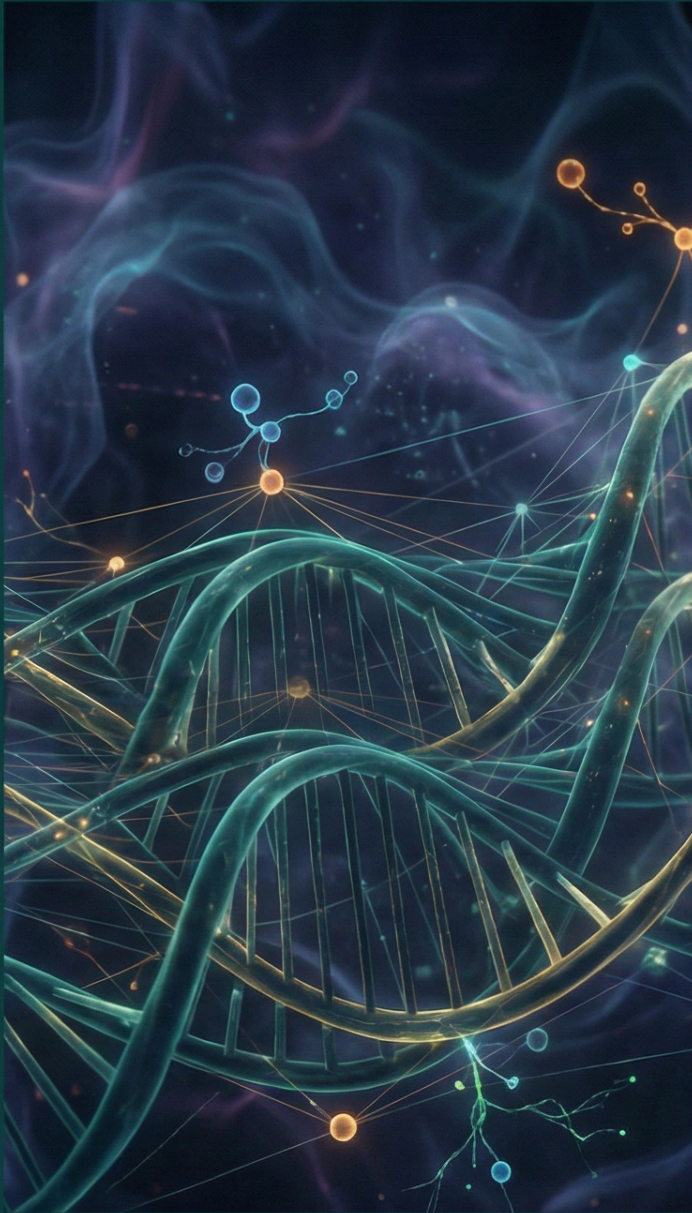
Dr. Russell Osguthorpe

**Current Obstacles Relating to
Substantiating Essential Oil
Dietary Supplement Claims
and Proposed Solutions**

Dr. Nicole Stevens, VP of Clinical Research

**Evaluation of a Lavender-Based
Natural Product System for
Sleep Support**

Sharing compelling clinical trial findings



Peer-Reviewed Human Clinical Trials Validate Essential Oil Efficacy

Clinical Research Highlights — Part 1

Frankincense & Boswellic Acid Complex — Epigenetic Study

Clinical trial revealed protocol reprogrammed over 12,000 genes, supporting healthy inflammatory response, cognitive resilience, and metabolic flexibility.



Adaptiv[®] Calming Blend — Stress & Mood Clinical Study

Human clinical study demonstrated measurable impacts on stress reduction and mood improvement; evidence for clinical diffusion protocols.



AromaTouch[®] Hand Technique — Clinical Trial

Human clinical trial confirmed statistically significant effects on relaxation and stress markers through structured aromatic touch.



Expanding Evidence Base for Essential Oil Applications in Modern Healthcare

Clinical Research Highlights — Part 2

On Guard® Protective Blend — Immune Health Study

Clinical investigation validated role in supporting immune health; scientific validation for practitioner protocols involving immune support.

Peppermint Softgels — PDR Inclusion

Milestone achievement — inclusion in Physician's Desk Reference underscores researched benefits for digestive health and practitioner-facing product validation.

Lifelong Vitality Pack® — Clinical Trial

Demonstrated multiple health benefits including synergistic effects of active ingredients on overall wellness and systemic health markers.

MetaPWR® — Metabolic Health Clinical Trials

Studies examined impact on fat cell development and blood sugar stabilization; validated role in supporting metabolic health.

Active & Upcoming Clinical Trials

Cutting-Edge Research Continues to Expand Essential Oil Science

1. **Lavender Authenticity Study (Published 2022):** Established new authentication standards; found 2/3 of market samples adulterated.

2. **Frankincense & Inflammation (NCT06488417):** Examines gene expression, genome-wide methylation, and serum protein markers.

3. **Essential Oil Inhalation & Acute Stress (NCT07473544):** Randomized, double-blind trial with 200 participants (Completion 2027).

4. **Essential Oil-Based Immune Support (NCT07482644):** Double-blind, placebo-controlled trial evaluating safety and efficacy (Start May 2026).



Hospital & Healthcare Facility Partnerships

175+ Hospitals Nationwide Integrate Essential Oils Into Clinical Care

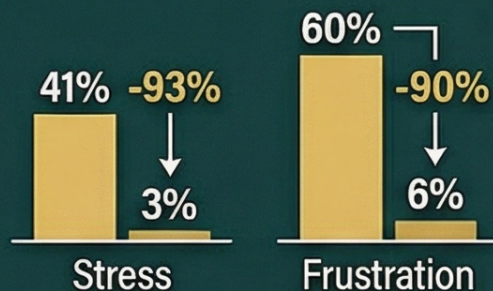
St. Elizabeth Healthcare — doTERRA Center for Integrative Oncology

In October 2019, St. Elizabeth Healthcare (Northern Kentucky) announced a landmark partnership with doTERRA to develop the doTERRA Center for Integrative Oncology — an 8,400+ square-foot dedicated space on the first floor of the St. Elizabeth Cancer Center.

The center provides holistic care options to complement comprehensive cancer treatment, including the use of doTERRA essential oils and aromatherapy, yoga, meditation, and a spa-like environment for patients undergoing active cancer therapy.

Vanderbilt University Medical Center — Emergency Room Diffusion Study

Vanderbilt's emergency room wellness committee tested diffusing doTERRA essential oils (Wild Orange, Lime, Lemon, Citrus Bliss) throughout the ER. A survey of more than 100 ER staff members produced dramatic results: stress among staff fell from 41% to 3%; frustration dropped from 60% to 6%; and 84% of nurses and doctors strongly agreed the oils contributed to a more positive work environment.



84%
Strongly Agreed:
Positive Work
Environment

Duke University Medical Center & Johns Hopkins Hospital

Both Duke and Johns Hopkins are among the 175+ hospitals using doTERRA essential oils in clinical settings as part of integrative medicine and patient wellness programs, reflecting the growing acceptance of aromatherapy as evidence-based complementary care.

In-House Science & Research Leadership

30+ In-House Scientists Lead Global Essential Oil Research

**Dr. Nicole Stevens,
PhD, MS, MPH**

**Vice President of
Clinical Research**

25+ years of essential oil research; PhD in Biochemistry & Molecular Biology, University of Miami Miller School of Medicine; prior research at University of Utah and UNLV Cancer Research Institute; certified principal investigator (CPI); her research has produced novel evidence of essential oil metabolic, proteomic, and epigenetic mechanisms. Principal Investigator on active doTERRA clinical trials.

**Dr. Prabodh
Satyal, PhD**

**Head of Essential Oil
Science**

PhD, University of Alabama in Huntsville; studied chemical compositions of more than 50,000 essential oils; published 100+ peer-reviewed journal articles; creator of the only known mass spectral library of synthetic markers; developing the first fully automated adulteration analysis software for GC/MS.

**Dr. Noura
Ahmed, PhD**

**Director of Scientific
Affairs**

PhD in Biotechnology Science & Engineering, University of Alabama in Huntsville; postdoctoral fellow at Vanderbilt University School of Medicine (Department of Pharmacology); 75+ published peer-reviewed articles on essential oil composition, bioactivity, and natural products drug discovery; building a biological activity database for doTERRA single essential oils and proprietary blends.

**Dr. Cécile Bascoul,
MS, PhD**

**Director of Product
Safety**

PhD, Cardiff University (UK); 15+ years in clinical and preclinical research, pharmaceutical and cosmetic industries; prior work at AstraZeneca, Pierre Fabre, and Laboratoires Boiron; focus on essential oil safety, toxicology, and regulatory compliance.

Medical Advisory Committee

Board-Certified Physicians and Healthcare Experts Guide Clinical Application



Dr. Russell Osguthorpe, MD
Chief Medical Officer



Dr. Kari Coody, PharmD
Clinical Pharmacy



Dr. Brannick Riggs, MD
VP of Education



Dr. Amy Wolthoff, MD
Dermatology



Dr. David Hill, DC
Founding Executive



Dr. Andrew Gough, DO
Emergency Medicine



Dr. Jessica Herzog, MD
Integrative Medicine



Dr. Ashley Anderson, PhD, NP
Women's Health



Dr. Katherine Igah-Phillips, MD
Integrative Medicine



Dr. Chris Spelman, DDS
Dentistry

Resources for Practitioners

Comprehensive Evidence-Based Resources for Continued Professional Education

Clinical Research Library

doterra.com/US/en/research



doTERRA Lead Science Team

doterra.com/US/en/scientific-advisors



PubMed – Essential Oil Search

pubmed.ncbi.nlm.nih.gov



ICSB 2024 Conference

news.doterra.com



Source to You – Practitioners

sourcetoyou.com/en/practitioners



CPTG Testing Process

doterra.com/US/en/cptg-testing-process



Scientific & Medical Education Committee

doterra.com/US/en/scientific-and-medical-education-committee



University of Mississippi Partnership

olemiss.edu



ClinicalTrials.gov

clinicaltrials.gov



EVIDENCE-BASED ESSENTIAL OILS FOR MODERN HEALTHCARE

Advancing the Legitimate Medical Use of Essential Oils

doTERRA's commitment to scientific integrity, rigorous testing, and peer-reviewed research establishes essential oils as a credible, evidence-supported tool in modern integrative healthcare. With **113 active research partnerships**, **175+ hospital partnerships**, and **30+ in-house scientists**, doTERRA leads the industry.

Access the full Clinical Research Library and explore the science behind essential oil applications in your practice.