

Introduction to Osteopathic Manipulative Medicine Research

Michael A. Seffinger, DO, FAAFP

Vice-Chair, American Osteopathic Association Bureau of Osteopathic Clinical
Education and Research

Associate Professor and Chair

Department of Neuromusculoskeletal Medicine/Osteopathic Manipulative
Medicine

College of Osteopathic Medicine of the Pacific

Western University of Health Sciences

Pomona, CA

Objectives

Participants will learn:

- Definitions of Osteopathic Research
- Research Contributions from Drs. Burns, Denslow, Korr and Johnston
- DO vs. MD outcomes studies from the 20th Century
- Five Clinical Trials evaluating efficacy of OMT on metabolic processes
- Resources for more information

Definitions of OMM Research

- Institutional
- Autonomics and Immune Functions
- Spinal Cord Facilitation
- OMT efficacy
- Whole patient care
- Any and all research at a COM?

Definitions of OMM Research

AOA Bureau of Research:

- “Investigator has to state relevance of proposed project to Osteopathic philosophy and principles, theories, mechanisms or practice.”

Contributions

- Louisa Burns, DO
- J. Stedman Denslow, DO
- Irvin M. Korr, PhD
- William L. Johnston, DO

Louisa Burns,
DO

50 years
devoted to
osteopathic
research

Louisa Burns DO, 1870-1958

- Pioneer career osteopathic researcher
- Director, AT Still Research Institute 1917-1935
- Paid as AOA researcher until 1950
- Experimentally induced spinal fixations in animals & then noted the effects of these lesions on brain, heart, GI, reproductive organs, lungs, kidneys (S-V Reflexes)
- V-S Reflexes

Wilbur Cole, DO

- Studied with Dr. Burns 1948-50
- Reproduced her experiments and data
- Internal Validation

Faculty and National Leaders

J.S. Denslow, DO (1906-?)

- Did numerous studies documenting & quantifying muscle, muscle reflex & autonomic changes in areas of somatic dysfunction (“osteopathic lesion”).
- “Reflex Activity in the Spinal Extensors”, utilized EMG/palpation correlation: documented spinal muscle reflex changes in areas of osteopathic lesions.
- Standard Terminology Proponent
- Facilitation of spinal cord

J. S. Denslow, DO

I.M. Korr, Ph.D. (1909-2004)

- Performed studies documenting changes in galvanic skin resistance as a result of disturbances in autonomic function, in areas of skin of subjects associated with palpatory findings of somatic dysfunction
- Axoplasmic flow & the trophic function of nerves
- Facilitation of spinal cord (with Denslow)
- Sympatheticotonia

Bringing modern peer reviewed research into the scientific literature
from the osteopathic perspective

Measurement of Electrical Skin Resistance

Korr IM, Wright HM, Thomas PE. Effects of experimental myofascial insults on cutaneous patterns of sympathetic activity in man. *J Neural Transmission* 1962;23:330-355.

Korr IM. The spinal cord as organizer of disease processes: the peripheral autonomic nervous system. *JAOA* 1979;79:82-90.

I.M. Korr, Ph.D (1909-2004)

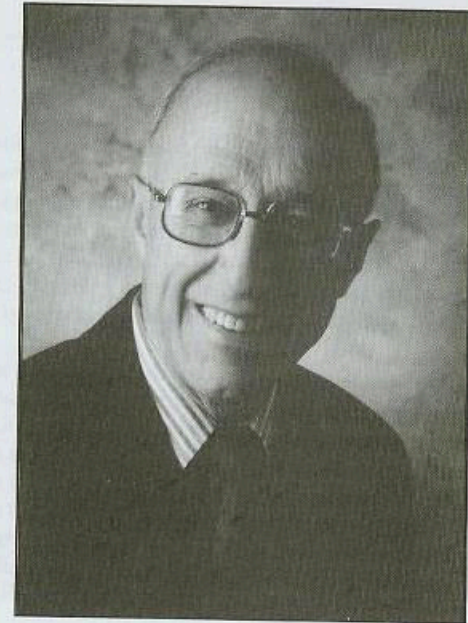
- Promoted entire DO – patient interaction as research paradigm, not just OMT
- “The Second Great Philosopher of Osteopathic Medicine”
- Took Still’s anatomical foundation and added physiological function to it.

William L. Johnston, DO, FAAO (1921-2003)

- Reliability Studies
- Validity Studies
- Viscerosomatic Reflexes

1998 Yearbook

*Scientific contributions
of William L. Johnston, DO, FAAO*



EDITED BY:

Myron C. Beal, DO, FAAO

DO vs. MD
Patient Care
Research
from the
20th Century

DO vs. MD Care

- 1918 - Spanish Influenza Epidemic
- 1932 - Unit II L.A. County Osteopathic Hospital
- 1999 - NEJM- LBP RCT

Influenza epidemic 1918

n=110,120; 2445 DOs

Unit II L.A. County Hospital 1928

LA County Osteopathic Hospital ("Unit II")

- MD unit ("Unit I") had 3574 beds
- DO "Unit II" had only 196 beds (1928)
- Every 10th patient was assigned to Unit II
- But DOs saw one-seventh of total # patients (many pts. transferred over)
- DOs Delivered 1/3 of the OB patients

LA County “Unit II” 1928

- 6,000 inpatients per year
- 200 outpatients per day

LA County Osteopathic Hospital 1933

LA County Hospital DO vs. MD care 1930-32

MD + DO

- 9.7% mortality
- 16 days average
LOS
- 14% coroner's
cases

DO only

- 5.53% mortality
- 9.7 days average
LOS
- 14% coroner's
cases

**A Comparison of Osteopathic Spinal Manipulation with
Standard Care for Patients with Low Back Pain, 1999,
Andersson G, et al.**

- “at least 3 weeks but less than 6 months”
- 20-59 years old, 155 patients
- variety of techniques, including thrust, muscle energy, counterstrain, articulation, and myofascial release
- Standard care vs. osteopathic manipulation plus standard care

Osteopathic Spinal Manipulation + Standard care for Subacute LBP -Andersson NEJM 11/4/99

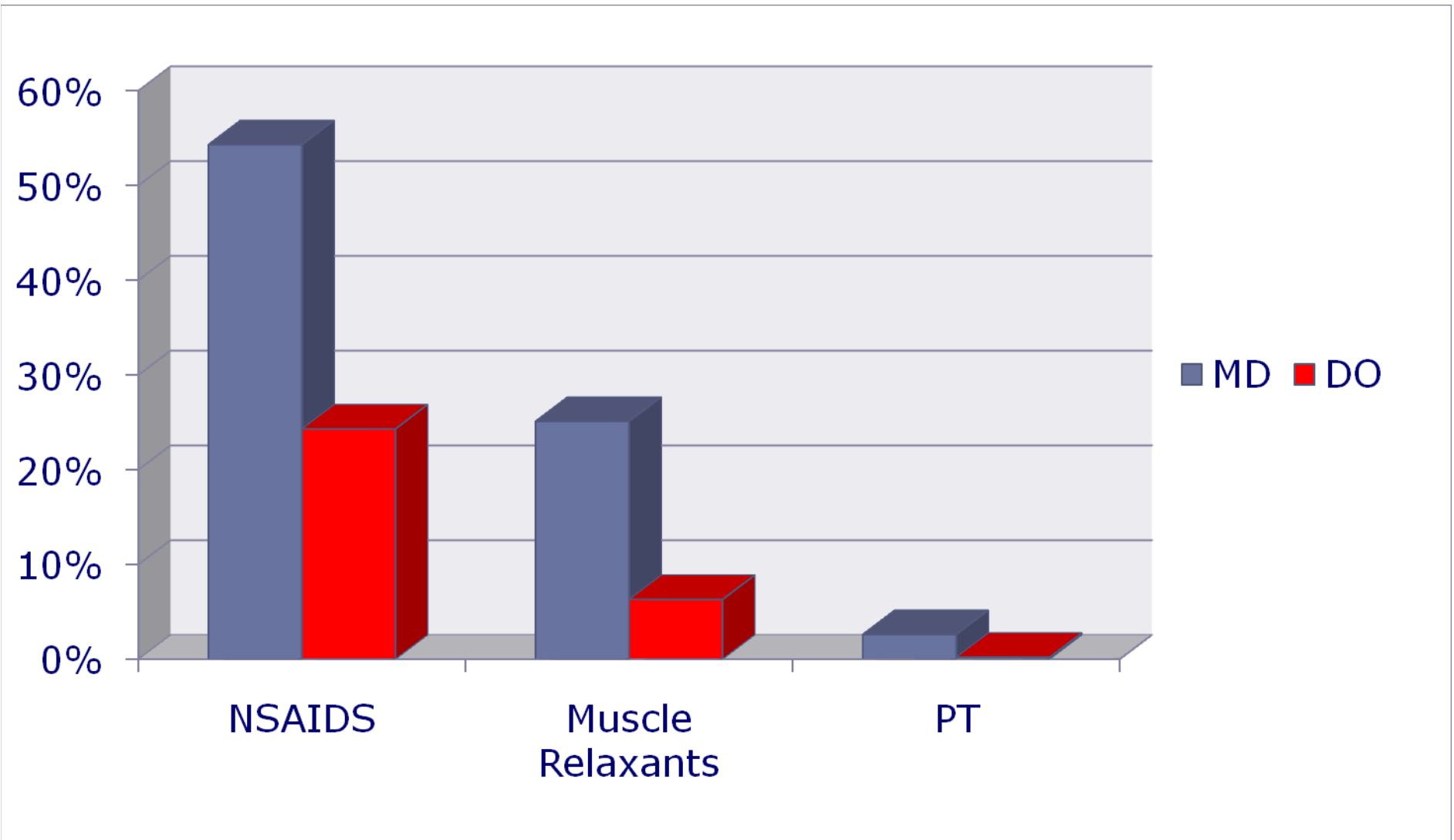
OMT+PT+Meds

<u>n</u>	83
<u>NSAIDS</u>	24%
<u>M. Relax.</u>	6%
<u>PT</u>	0.2%

MD+PT+Meds

72
54%
25%
2.6%

OMT + Standard Care vs. Standard Care of Subacute LBP



OMT + Standard Care vs. Standard Care of Subacute LBP

- Results
 - Outcomes for patients were no different, except that the osteopathic group required less medication and less PT
 - About 90% of the patients were satisfied with the care they received in both groups

5 Clinical Trials - Metabolic Perspective

- Inflammation
 - Pancreatitis
 - Ankle Sprain
- Infection
 - Pneumonia
 - Otitis Media
 - Spleen pump

Inflammation

OMT AND PANCREATITIS

Radjeski, JAOA 5/1998

- Pilot study: 30 patients
- Hospitalized patients
- Random assignment: ½ OMT
- General joint mobilization
 - Hips, shoulders
 - Sacrum, spine, ribs
- Decreased length of stay
- Decreased analgesic use
- Increased patient satisfaction

OMT for Ankle Sprain

- N= 55 adults with first or second degree acute ankle sprain presenting to the emergency department.
- Randomized to OMT or standard care.
- Results: OMT group had decreased edema, pain and increased range of motion.

Eisenhart et al. Osteopathic manipulative treatment in the emergency department for patients with acute ankle injuries. JAOA 2003;103:417-421.

Infection

Hospitalized Elderly with Pneumonia

Stan. Care +/- OMM

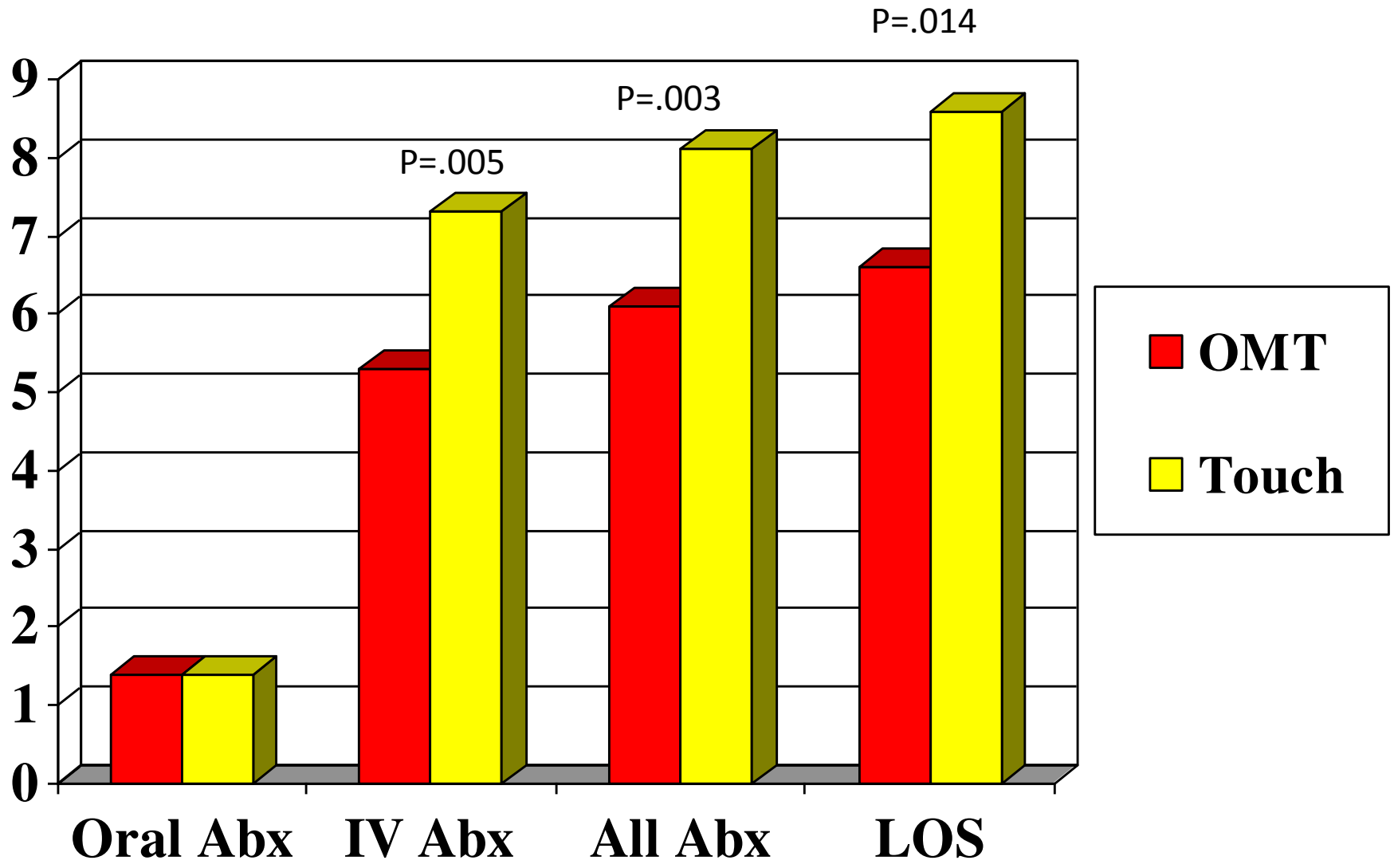
Experimental Group

- 28 patients OMT + OMM specialist OMT protocol

Control Group

- 30 patients light non-specific touch for equal length of time as OMT (sham)

OMT and the Hospitalized Elderly with Pneumonia -Noll et al



Otitis Media in Children

Subjects:

- 6 months – 6 yrs. old
- Recurrent Otitis Media
- 25 standard care plus OMT
- 32 control standard care only

Otitis Media in Children

- OMT group had
 - Fewer episodes of AOM
 - Fewer surgical procedures
 - More mean surgery-free months
 - Increased frequency of normal tympanograms

Spleen Pump

- 1934 study re-analyzed
- N= 100 infected patients
- OMT splenic pump increased immune cell counts.
- Current investigations are looking at cell labeling to identify immune activation from abdominal pump OMT

Noll et al. Revisiting Castlio and Ferris-Swift's Experiments on Direct Splenic Stimulation in Patients With Acute Infectious Disease. *J Am Osteopath Assoc.* 2008;108:71-79

Special Considerations in Osteopathic Manipulation Research

Blinding

Control

Placebo

Size – Power – Drop out control

Inclusion Criteria

Dependent Variables-Measures

OMM vs. OMT

- Series of OMT, duration, frequency, order vs.
- Just one maneuver (i.e., L-spine HVLA)

Where are the mentors?

- American Academy of Osteopathy
(www.academyofosteopathy.org) Louisa Burns
Osteopathic Research Committee
lborc@academyofosteopathy.org
- National Osteopathic Research Center in Fort
Worth, Texas; see web site at
<http://www.hsc.unt.edu/orc/>

OMM Research Manuals

- American Academy of Osteopathy at www.academyofosteopathy.org “research” and “manual”
- ORC Research Manual
<http://www.hsc.unt.edu/ORC/ResearchManual.pdf>

OMT Research Literature Resources

- OSTMED.DR database
- JAOA articles www.jaoa.org
- Pub Med search words “osteopathic”, “manual therapy”