Introduction to Osteopathic Manipulative Medicine Research

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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”).


– Standard Terminology Proponent

– Facilitation of spinal cord
J. S. Denslow, DO

– 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. 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
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

- “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

<table>
<thead>
<tr>
<th>Treatment</th>
<th>OMT+PT+Meds</th>
<th>MD+PT+Meds</th>
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</thead>
<tbody>
<tr>
<td>n</td>
<td>83</td>
<td>72</td>
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<tr>
<td>NSAIDS</td>
<td>24%</td>
<td>54%</td>
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<tr>
<td>M. Relax.</td>
<td>6%</td>
<td>25%</td>
</tr>
<tr>
<td>PT</td>
<td>0.2%</td>
<td>2.6%</td>
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</table>
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
Radjieski, 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.

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

Oral Abx  IV Abx  All Abx  LOS

P=.005  P=.003  P=.014

P=.014

OMT  Touch

Oral Abx  IV Abx  All Abx  LOS
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

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.academyofosteo.org “research” and “manual”

• ORC Research Manual
OMT Research Literature Resources

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