#SPIDI: a novel teaching approach to implement the biopsychosocial model into osteopathic practice

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Conflicts of interest

• Registered osteopath in France (ARS d’Île-de-France) and UK (#3418)
• A.T. Still Research Institute (USA), research affiliate
• DO-Touch.NET (USA), member of the executive committee
• International Journal of Osteopathic Medicine (UK), associate editor
• BMS Formation (France), cofounder & director, lecturer
• Lecturer at CEESO Paris (France), EOTS (Spain), HES-SO (Switzerland), and Université Paris-Saclay (France)
• AP-HP (France), co-supervision of LC-OSTEO practitioners
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• BMS Formation, lecturer
• French Navy, reserve officer
• Rugby Medical Commission (Southern France), member
• Emerging Countries, Humans & Osteopaths (ECHO) Association, honorary member
By the end of this webinar you should be able to

1. Critically appraise traditional, body-centered models for osteopathic care

2. Critically reflect on opportunities to develop evidence-informed, person-centered models for osteopathic care

3. Critically appraise the relevance of the body-mind-spirit osteopathic tenet in contemporary care given current neuroscience models of bodily perceptions and pain

4. Critically reflect on your own osteopathic practice with evidence-informed clinical simulation scenarios on biopsychosocial-spiritual approaches to musculoskeletal pain
Outline

1. Context in osteopathic medicine and osteopathy
   1.1. Traditional, body-centered models for osteopathic care
   1.2. Evidence-informed, person-centered models for osteopathic care
   1.3. Different conceptions of professional practices
   1.4. Evolution of osteopathic principles (1953 vs 2002)
   1.5. Revolution of osteopathic principles (back to the start: the Dr. A.T. Still, MD, DO legacy)?

2. Biopsychosocial-spiritual approaches in osteopathic care

3. Evidence-informed clinical simulation scenarios

4. Open discussion
“Once a patient with low back pain is diagnosed with somatic dysfunction as the cause of, or contributing factor to, low back pain, OMT should be utilized by the osteopathic physician.

The diagnosis of somatic dysfunction entails a focal or complete history and physical examination, including an osteopathic structural examination that provides evidence of asymmetrical anatomical landmarks, restriction or altered range of joint motion, and palpatory abnormalities of soft tissues.

Osteopathic manipulative treatment is used to manage somatic dysfunction after other potential causes of low back pain are ruled out or considered improbable by the treating physician.”
(Snow et al., 2016)
• **Profession:** “The osteopath, in a systemic approach, after osteopathic diagnosis, performs mobilizations and manipulations for the management of osteopathic dysfunctions in the human body. These manipulations and mobilizations aim to prevent or remedy dysfunctions in order to maintain or improve the state of health of people.”

• **Osteopathic technique:** “set of gestures based on osteopathic principles”

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**Legal definitions in France**

Arrêté du 12 décembre 2014
relatif à la formation en ostéopathie (JORF n°0289 du 14 décembre 2014)
NOR : AFSH1420478A
Osteopathic principles (Evans, 2013)

Educational recommendations in France

“Osteopathic principles and foundations will be critically appraised and updated based on the best available evidence.”
You must be able to conduct an osteopathic patient evaluation and deliver safe, competent and appropriate osteopathic care to your patients.

1. This should include the ability to:
   1.1 take and record the patient’s case history, adapting your communication style to take account of the patient’s individual needs and sensitivities
   1.2 select and undertake appropriate clinical assessment of your patient, taking into account the nature of their presentation and their case history
   1.3 formulate an appropriate working diagnosis or rationale for care and explain this clearly to the patient
   1.4 develop and apply an appropriate plan of treatment and care; this should be based on:
      1.4.1 the working diagnosis
      1.4.2 the best available evidence
      1.4.3 the patient’s values and preferences
      1.4.4 your own skills, experience and competence
   1.5 adapt an osteopathic technique or treatment approach in response to findings from the examination of your patient
   1.6 evaluate post-treatment response and justify the decision to continue, modify or cease osteopathic treatment as appropriate
   1.7 recognise adverse reactions to treatment, and take appropriate action
   1.8 monitor the effects of your care, and keep this under review; you should cease care if requested to do so by the patient or if you judge that care is likely to be ineffective or not in the patient’s best interests
   1.9 recognise when errors have been made, and take appropriate action to remedy these, taking account of the patient’s best interests under your duty of candour (see standard D3)
   1.10 where appropriate, refer the patient to another healthcare professional, following appropriate referral procedures.
Current limits of describing the specificities of a profession through its manual techniques

- Best available evidence
- Manipulation-induced hypoalgesia of musculoskeletal pain
- No differences between manipulations and placebo

- Additional studies required with appropriate methodology:
  - Specificities of nonpharmacological interventions
  - Specificities of osteopathic principles and practices
Clinical relevance of body-centered osteopathic models (somatic dysfunction)

**POPULATION**
159 Men, 235 Women
Adults with nonspecific subacute and chronic low back pain (LBP)
Median (range) age, 49.8 (40.7-55.8) y

**INTERVENTION**
400 Participants randomized
394 Participants analyzed
197 Standard osteopathic manipulative treatment (OMT)
6 sessions (1 every 2 wk) of standard OMT
197 Sham OMT
6 sessions (1 every 2 wk) of sham OMT

**FINDINGS**
At 3 mo, mean reduction in LBP-specific activity limitations via QBPI score was statistically higher in the standard OMT group vs the sham OMT group; however, the clinical relevance of this effect is questionable

**SETTINGS / LOCATIONS**
1 Tertiary care hospital in Paris, France

**PRIMARY OUTCOME**
Mean reduction in LBP-specific activity limitations at 3 mo via the self-administered Quebec Back Pain Disability Index (QBPI), with scores ranging from 0 (no limitations) to 100 (maximum limitations)

**Mean Reduction in LBP-Specific Activity Limitations**
- Standard OMT: -4.7 (95% CI, -6.6 to -2.8)
- Sham OMT: -1.3 (95% CI, -3.3 to 0.6)
- Difference: 3.4 (95% CI, -6.0 to -0.7); P = .01

*(Nguyen et al., 2021)*
So, this is a revolution?

“The structure of scientific revolutions” (Thomas Kuhn, 1962)
Clinical relevance of body-centered osteopathic models (somatic dysfunction)

Models and theoretical frameworks for osteopathic care – A critical view and call for updates and research

COME Collaboration Evidence Scale for guiding confidence in theoretical models used in care.

<table>
<thead>
<tr>
<th>Level of evidence</th>
<th>Name</th>
<th>Criteria</th>
<th>Examples¹</th>
<th>Expected practical attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Generalized theory</td>
<td>Theory resistant to falsification in different settings and with different populations. Consistent over time.</td>
<td>Person-centered theory, health hygiene theory, vaccine immunisation theory</td>
<td>Can be fully trusted without however excluding potential exceptions</td>
</tr>
<tr>
<td>B</td>
<td>Explanatory theory</td>
<td>Practical application tested and validated for specific populations or settings. Theory capable of explicating and predicting useful observed phenomena.</td>
<td>Phenomenological models of the body, nutritional theory, cognitive behavioral therapy, goal setting theory, causational model of change</td>
<td>Can be trusted in known explored settings at specific analytical levels</td>
</tr>
<tr>
<td>C</td>
<td>Model with empirical support</td>
<td>Tentable relationships or construct confirmed and supported by empirical observations. Findings support plausibility, consistency and construct of the model.</td>
<td>Neurophysiological mechanisms for spinal manipulation, neurosensory allostatic model, motor energetics model, predictive processing theory, psychosomatic dimension of health models, health literacy models</td>
<td>Can be used to explain some clinical or public health observations</td>
</tr>
<tr>
<td>D</td>
<td>Models with expert consensus</td>
<td>Consensus on construct with explicit explanation on causal relationship. Consistent, plausible and useful in providing guidance on the process of care.</td>
<td>&quot;Five osteopathic models&quot; approach <em>Five osteopathic models</em> approach</td>
<td>Can be used cautiously in practice in absence of a better model</td>
</tr>
<tr>
<td>E</td>
<td>Untested hypothetical model without broad consensus</td>
<td>Testable, plausible model with apparent internal consistency.</td>
<td>Osteopathic somatic dysfunction, the bienergetic model, the mobility model, chiropractic subluxation model, Mayan's cranial model, homeopathic dilution theory, meridian traditional theory in acupuncture</td>
<td>Only rely on such models with much scepticism</td>
</tr>
<tr>
<td>F</td>
<td>Unsupporting evidence against model</td>
<td>Internal inconsistency, major inconsistencies with existing models of high level of evidence, or model repeatedly contradicted by empirical observations.</td>
<td></td>
<td>Model not to be used as they are known to mislead and can generate misinformation</td>
</tr>
</tbody>
</table>

¹ Examples are for illustration purposes only and are not exhaustive. Level of evidence of each example is subject to changes depending on cumulated evidence.
CONTEXTUAL FACTORS (CFs)

1) CLINICIAN CHARACTERISTICS

2) PATIENT CHARACTERISTICS

3) RELATIONSHIP

4) HEALTHCARE SETTING

5) TREATMENT

NOCEBO
Cholecystokinin (CCK)
Dopamine/Opioid deactivation
Cyclooxygenase-Prostaglandins

PLACEBO
Opioid system
Endocannabinoids
Dopamine
Oxytocin/Vasopressin

rACC
DLPFC
PAG

THERAPEUTIC OUTCOME
Musculoskeletal Pain

(Rosettini et al., 2018)
Specific vs contextual effects in manual therapy

- 66% of variation for chronic pain
- 81% of variation for acute pain

(Testa and Rossettini, 2016)

(Menke, 2014)
Specific vs contextual effects: pain in osteoarthritis
(Zou et al., 2016)
3 Different conceptions of osteopathic care & osteopathic principles
(Adapted from Thomson et al., 2014 and Fryer, 2017)

- **PSYCHOSOCIAL FACTORS**
- **NEUROLOGICAL FACTORS**
- **TISSULAR FACTORS**
- **BIOLGICAL FACTORS**

**PATIENT MANAGEMENT**

- OMT

**Osteopathic practitioner as a communicator or an educator (2002 principles)**

- Osteopathic practitioner as a treater (1953 principles)
Conclusion

Participants affirm that osteopathy is a path of awareness that starts from an experience of pain; leads them to contact an osteopath; and ends with their experience of the unity of body, mind, and spirit.
The 2002 body-mind-spirit osteopathic tenet
Historical perspectives with Dr. A.T. Still, MD, DO

The Native American heritage of the body-mind-spirit paradigm in osteopathic principles and practices

Rafael Zegarra-Parodi, Jerry Draper-Rodi, Jason Haxton, Francesco Cerritelli

Abstract
The purpose of the current commentary was to document how Native American healing traditions may have influenced A.T. Still in the development of osteopathic principles and how current neuroscience models describing somatic healing practices of Native American healers may have applicability for osteopathic manipulative practice. Recent materials from the Museum of Osteopathic Medicine documents when Still was living among the Shawnee and suggests he was familiar with their healing traditions. Although he introduced the body-mind-spirit paradigm, derived from a key Native American healing concept, into Western medicine, this paradigm still lacks scientific grounding. Neuroscience models may offer a theoretical framework for the spiritual component of the body-mind-spirit paradigm with brain predictive processing models that describe spiritual experiences of patients in altered states of consciousness. With its traditional medicine heritage and current evidence-based approach, the osteopathic profession is in a unique position to present the scientific model of holistic care.
Key Native American healing principles

(Nauman, 2007; Vuckovic et al., 2012)
1. Past: one heritage

2. Present: models of practice

3. Future: scope of practice
**Osteopathic principles at the border of allopathic and traditional principles** *(Zegarra-Parodi et al., 2019)*

<table>
<thead>
<tr>
<th>Traditional Native American and Shamanic Healing Practices</th>
<th>Osteopathy and Osteopathic Medicine</th>
<th>Modern Western Allopathic Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sacred medicine</td>
<td>Secular medicine</td>
<td>Secular medicine</td>
</tr>
<tr>
<td>Spiritual framework</td>
<td>Systemic framework</td>
<td>Analytic framework</td>
</tr>
<tr>
<td>Dynamic interaction between body, mind, spirit, and emotions; holistic approach</td>
<td><strong>Dynamic interaction between body, mind, and spirit; holistic approach</strong></td>
<td>Reductionist approach</td>
</tr>
<tr>
<td>Emphasis on health and harmony</td>
<td>Emphasis on health with a focus on proper musculoskeletal system function to resist disease processes</td>
<td>Emphasis on disease and curing</td>
</tr>
<tr>
<td>Use of manual techniques within a body-mind-spirit-emotions framework * to improve overall well-being</td>
<td>Use of manual techniques within a body-mind-spirit framework * to improve range of motion and decrease pain and associated psychosocial components * patients treated in the ordinary reality * channel for therapeutic information: ‘direct-intuitive-nonlocal’</td>
<td>Use of manual techniques within a body-mind framework * to improve range of motion and decrease pain * patients treated in the ordinary reality * channel for therapeutic information: ‘perceptual-cognitive-symbolic’</td>
</tr>
<tr>
<td>* patients treated in the non-ordinary reality</td>
<td>* patients treated in the ordinary reality</td>
<td></td>
</tr>
<tr>
<td>* channel for therapeutic information: ‘direct-intuitive-nonlocal’</td>
<td>* channels for therapeutic information: ‘direct-intuitive-nonlocal’ or ‘perceptual-cognitive-symbolic’</td>
<td></td>
</tr>
</tbody>
</table>
So, this is another revolution?

Revolution (noun): one complete circular movement of something (Cambridge dictionary)
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2. Biopsychosocial-spiritual approaches in osteopathic care

3. Evidence-informed clinical simulation scenarios

4. Open discussion
Main secular and religious spiritual practices
(Culliford, 2007)

- Acts of compassion
- Deep reflection (contemplation)
- Yoga, Tai Chi
- Enjoyment of nature
- Contemplative reading (literature, poetry, philosophy, etc.)
- Artistic and creative activities (cooking, gardening)

- Belonging to a religious tradition, participating in community activities
- Ritual and symbolic practices
- Pilgrimage and retreat
- Meditation and prayer
- Scripture reading
- Sacred music (songs, hymns, psalms)
Defining the spiritual dimension in healthcare *(Reed, 1992)*

- Tendency to make sense of a relationship with dimensions that transcend the self: “oneness”

- Empowerment and non-devaluation of the individual

- Direct and indirect links with “physical” health
Theoretical model between the spiritual dimension and physical health

(Association for Clinical Pastoral Education Research Network, 2009)

Religion also affects Childhood Training, Adult Decisions, and Values & Character; which then in turn affect mental health, social support, and health behaviors.
A proposal for a biopsychosocial-spiritual model in osteopathic care (Smith, 2018)
Principle: 2
Adopting a Biopsychosocial approach

The Flags Model *

<table>
<thead>
<tr>
<th>Biological Factors</th>
<th>Red Flags</th>
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<tbody>
<tr>
<td>Mental Health factors</td>
<td>Orange Flags</td>
</tr>
<tr>
<td>Psychological Factors</td>
<td>Yellow Flags</td>
</tr>
<tr>
<td>Social Factors</td>
<td>Blue Flags</td>
</tr>
<tr>
<td>Other Factors</td>
<td>Black Flags</td>
</tr>
</tbody>
</table>

- Red Flags: Serious pathology, Other serious medical conditions, Failure of treatment
- Orange Flags: Mental health disorders, Personality disorders
- Yellow Flags: Unhelpful beliefs about injury, Poor coping strategies, Passive role in recovery
- Blue Flags: Low social support, Unpleasant work, Low job satisfaction, Excessive work demands
- Black Flags: Threats to financial security, Litigation, Compensation thresholds

Therapeutic Alliance (Ardito and Rabellino, 2011)

- **Agreement on goals**
  - Explicit or implicit agreement between patient and therapist on treatment goals

- **Agreement on tasks**
  - Agreement on tasks to achieve objectives

- **Development of positive personal relationships**
  - Personal commitment of everyone, fostering trust and respect
Evidence-informed osteopathic care (*Fryer, 2017*)

- Reassurance to reduce fear & anxiety
- Address inappropriate beliefs & behaviors
- Pain education
- Promote confidence in movement
- Encourage increased activity
A biopsychosocial-spiritual approach in osteopathic care: a person-centered approach (Zegarra-Parodi et al., 2019)

Neuroscience models of pain
Outline

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3. Evidence-informed clinical simulation scenarios

4. Open discussion
Evidence-informed clinical simulation scenarios

- **Putting osteopaths in simulated clinical situations**
  - Difficulties & evaluation of lecture contents identified
  - Structuring diagnostic and/or therapeutic approaches evaluated

- **Evaluation of the osteopath’s ability to**
  - Adapt their knowledge to the specificities of osteopathic care
  - Link professional skills performed to validated references
Evidence-informed clinical simulation scenarios

- Instruction sheet to the “osteopath”
- Instructions sheet to the ”patient”
- 10’ duration for each simulation scenario
- 10’ duration for comments/discussion & filling the TACOs questionnaire
Evidence-informed clinical simulation scenarios

https://www.survio.com/survey/d/2021-osean-workshop-4-spidi-tacos
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Osteopathic professional identity challenged

- Orthopaedic Manual Physical Therapy (OMPT)
  - “A specialized area of physiotherapy/physical therapy for the management of neuromusculoskeletal conditions, based on clinical reasoning, using highly specific treatment approaches including manual techniques and therapeutic exercises
  - Encompasses, and is driven by, the available scientific and clinical evidence and the biopsychosocial framework of each individual patient”

- Contemporary osteopathic care?
A proposed roadmap to investigate the clinical relevance of the body-mind-spirit osteopathic tenet

<table>
<thead>
<tr>
<th>Steps</th>
<th>Possible Areas of Exploration</th>
<th>Research Topics</th>
<th>Suggested Methods</th>
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<tbody>
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<td></td>
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<td>Identifying the evidence base</td>
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<td></td>
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<td>Identifying current models of BMS approaches within Western secular medical practice</td>
<td>Systematic review</td>
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<td>BMS approaches used in other professions</td>
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<td>Identifying current models of osteopathic care where BMS approaches may fit</td>
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<td>Defining BMS approaches within non-Western secular practices</td>
<td>Medical anthropology</td>
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<td>Defining BMS approaches</td>
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<td>Current application of the BMS tenet in osteopathic care</td>
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<td>Defining BMS approaches within osteopathic scopes of practice (what changes are</td>
<td>Observational studies</td>
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<td>(MSK-related disorders, questionnaires)</td>
<td>Qualitative studies</td>
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The legacy and implications of the body-mind-spirit osteopathic tenet: A discussion paper evaluating its clinical relevance in contemporary osteopathic care

Rafael Zegarani-Ponzetti, Jorge E. Esteves, Christian Langhi, Francesca Baroni, Jerry Dreaper-Rodil, Francesco Gennetti

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• UCO (UK): Dr Jerry Draper-Rodi
• Traditional healers from the Lakota, Shawnee, and Shipibo tribes
• ATSU (USA): Dr Brian Degenhardt, Ms Deborah Goggin, and Mr Jason Haxton
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