FUNCTIONAL METHODS
IN OSTEOPATHIC
MANIPULATIVE MEDICINE

The Legacy of William L Johnston DO FAAO
Functional Methods

When a force enters the body it does not only create a disturbance at the point of contact, but because the entire body responds to the impact, disturbances occur in other. These faulty mechanics create changes in motor programing that over time lead to postural and movement disorders that can be treated by addressing the underlying disturbance in the relationship between body regions caused by the original injury.
Dr. Johnston thought our focus on the idea of a joint fixation had programmed us to see and feel only this, when actually the joint is only one part of a larger motor feedback system. “What we expect to find has limited what we actually do find and even influences what we are able to feel by forcing us to interpret palpable findings in a manner consistent with our conceptual bias.”

In fact, the neuromusculoskeletal system is not a joint specific mechanism but rather a mobile system with mobile segments organized to meet and respond to the demands placed on the body as a whole...
Motion (movement) is the organized output of the system and all the segments within that system follow the law of functional expression. “Tissues about a moving part constantly reflect mobile behavior as they comply with the demand for movement and positioning of the whole system.” All the parts have to be in the right place at the right time to effect optimal behavioral performance. Position and structure are secondary aspects because they do not serve to describe primary behaviors within this dynamic functional system. “Position follows motion like a shadow. Motion is position on the run.”
PRINCIPLES OF A FUNCTIONAL APPROACH

- Functional principles focus on a data-gathering system that identifies actual behavior (motor responses).
- Motion testing is passive, and is carried out by introducing physiologic regional motions, not by testing a segmental response directly.
- Mobile responses reflect disturbances in the relationship between body regions not merely misalignment of a single segment.
- All of the tissues surrounding the vertebral body comprise a unit that actively and passively influences the unique response of this patient, which can only be palpated.
This sense of dysfunction is palpated as an initial asymmetry in the compliance/noncompliance (ease/bind) of a segmental response to motion; it is not the range of motion or the endpoint of motion that we are assessing. See graphs 1 and 2.
Functional Treatment Principles

-Rotary tests: flexion/extension, side-bending left/right, rotation left/right

-Translatory tests: anterior/posterior, lateral left/right, axial distraction/compression

-Motion tests are introduced and the operator assesses with the listening hand the responses of increasing and decreasing tension over an area of increased tissue tension

-Adjacent levels above and below the central segment exhibit compensatory responses
Monitoring Segmental Responses

• Therapeutic motions can be applied to the central segment identified by either applying an indirect or direct principle. Consistent with the concept of afferent reduction, an indirect approach is primarily applied.

• Motions that produce a sense of ease or compliance in the listening hand are introduced and stacked one on the other until a sense of total tissue release occurs.

• Introduction of motions in each direction is small.

• Final step is introduction of respiratory motion, during which fine tuning of the other motions can occur.

• Retesting is essential. All findings should be completely resolved with symmetrical responses to motions introduced in both directions at all three segments.

• Rotation introduced in one region positions the adjacent region relatively rotated in the opposite direction.
Thoracic cage dysfunctions occur in the left or right lateral columns with mirror images occurring above and below the central segment. Additionally, for inhalation restrictions, mirror images can be found in the midline thoracic spine column as well.
Costal Cage Responses to Motion

Testing

1. Exhalation Restriction
   - Free Motions Introduced Through Upper Extremity
     Internal Rotation
     Adduction
     Caudad Traction*
   - Free Motions Introduced Through Trunk
     Ipsilateral Rotation and Side-bending
     Extension (Backward Bending)
     Lateral Translation to Same Side
     Anterior Translation
2. Inhalation Restriction

-Free Motions Introduced Through Upper Extremity
  External Rotation
  Abduction
  Cephalad Compression*

-Free Motions Introduced Through Trunk
  Contralateral Rotation and Side-bending
  Flexion (Forward Bending)
  Lateral Translation to Same Side
  Posterior Translation
  Cephalad Distraction*
Costovertebral Linkage

- Viscerosomatic or somatovisceral reflex changes exhibit a linkage phenomenon between the lateral and midline columns. Motion responses palpated in either column exhibit identical response characteristics (See Figure 12.); however, side-bending introduced through the head and neck will exhibit mirror-image findings when compared to the side-bending response introduced through the thorax (lack of accord).
Costovertebral Linkage

- Treatment can be carried out by introducing cervical and ipsilateral lower extremity motions responding with ease at the dysfunctional rib. The operator stands on ipsilateral side introducing motions through the patient’s lower extremity which respond with ease at the dysfunctional rib (flexion/extension, abduction/adduction, internal/external rotation, cephalad/caudad translation, inhalation/exhalation).
Clinical Research Activities

- Hypertensive Pattern (C6T2T6)
- Passive Gross Motion Testing (Descriptive)
- Kinematic Studies (Surface EMG)
- Inter-Examiner Reliability Studies
- Standardized Records (Multi-site data collection)
Publications

- www.academyofosteopathy.org
- www.sfimms.com