Learning Engagements with FSTT™

Enthusiastic learner engagement with FSTT™ is demonstrated by the sharp increase in voluntary student time committed to practicing treatment techniques.

Students having difficulty developing skills who use reflection time with FSTT™ have been shown to raise their skill levels with less than one hour of dedicated time in our simulation lab (HEQCO report).

The FSTT™ system is intended to be used for teaching and learning, assessment and research purposes.

For more information, contact:
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Force Sensing Table Technology™ (FSTT)*

as a Learning Assessment Tool

Patent pending

The combination of the force plate tables and adjusting mannequins should be a gold standard in educating students in our profession. It is extremely effective and makes learning fun. The use of the mannequin allows students to deliver as many thrusts on a “person” as they wish without causing harm. I would have loved the opportunity to learn on something like this as a student.

Kathleen (Kat) Linaker, DC, DACBR, PhD
Executive Director Chiropractic Programs, D’Youville College

To enhance the development of motor skills used to deliver spinal manipulation, the Canadian Memorial Chiropractic College integrated force plate technology into therapeutic tables. These force sensing tables provide instantaneous data on loads transmitted by the manual therapist and offer both students and their mentors immediate objective feedback of results of their performance through a display of their force-time profile. The skills of students can be directly quantified and compared to expert force-time profiles and students can then use this objective feedback to model the desired behavior rather than rely on observational and intrinsic feedback alone.

FSTT™ Features
• Displays visual “knowledge-of-results” output
  - Baseline pre-load values
  - Force amplitude
  - Rate-of-rise in force
  - Moment loads (may require user input of patient configuration and location of load application site)
  - Direction of impulse
  - Digitizing function
• Saves results for reflective practice and contrasting with new efforts

High velocity, low amplitude (HVLA), mobilization and continuous recording emulation modes

FSTT™ Benefits
• High student engagement and enhanced confidence and competence with manual skills
• Documents student progress in the learning of adjusting and other manual treatment methods
• Enhances tutor coaching of methods
• Enables standards for performance defined by faculty or based on the literature
• Allows evaluation of procedures to all spinal regions
• Evaluation of many extremity procedures (may require accessories)
• Effective with mannequins or live volunteers as surrogate patients.

A typical force-time profile for a manipulation procedure includes:
1. Pre-load force applied during the initial positioning and control of the patient’s posture
2. Rate of rise or “speed” of force production
3. Peak amplitude of force
4. Duration of the impulse component of the procedure
5. Direction of the applied force

Sample screen display in single HVLA capture mode

Functionality
• Relative performance comparison (force and moment) – standard
• Accurate force measures – standard
• Operational for some extremity manipulation
• Procedures – standard
• User-definable gold standards vs literature-based gold standards

Optional functionality available by quote
• Customized screen capture with user preferred technique/procedure names
• Customized screen capture with user institutional logo
• Transmitted spine load computations
  - Accurate Moment measure – (requires user measured geometry)
• Toggle recoil headpiece
• Custom extremity procedure accessories

Standard all-in-one FSTT™ Package

• Turnkey operation
• Pre-loaded user manual
• Computer/monitor controller and digital display
• Pre-programmed software
  - Continuous recording for repeated measure rehearsals
  - Freeze frame mode for quantification and saving data for future reflection/reference
  - Single procedure (HVLA or mobilization) data capture, digitization and save
  - User selectable, drop down menus
    - Cervical procedures by name
    - Thoracic procedures by name
    - Lumbar procedures by name
• Treatment table with embedded force plate system
  - Drop head piece
  - Motorized flexion/distraction/continuous passive motion tail piece

One manipulation training mannequin (quantity 1)
• Flexible neck for cervical procedures
• Compliant superficial tissue simulation
• Compliant thoracic compression simulation
• Anatomically correct body landmarks

Footnotes:
*Force Sensing Table Technology™ and FSTT™ are trade-marks of the Canadian Memorial Chiropractic College