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Biomechanical Therapy in Neck Pain Management

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We use this protocol and it's working

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Abstract

This multi-centre, double-blinded randomized controlled trial will evaluate the effectiveness of Function Induced Biomechanical Correction Therapy (FIBCT) compared to conventional physiotherapy for mechanical neck pain. Eighty patients aged 18–50 years who are diagnosed with mechanical neck pain, will be recruited from three hospitals in Bangladesh and randomly allocated (1:1) to either FIBCT or conventional physiotherapy (such as exercise therapy and electrotherapy). Both groups will receive treatment twice a week for six weeks (12 sessions each lasting for 30–40 min). Primary outcomes include pain intensity (Visual Analogue Scale) and pain sensitivity (Pressure Pain Threshold). Secondary outcomes include Cervical Range of Motion (digital inclinometer), functional disability (Neck Disability Index), and patient-specific functional status (Patient-Specific Functional Scale). Data will be assessed at baseline and post-intervention by blinded evaluators. This trial aims to generate evidence on the short-term efficacy of FIBCT, supporting evidence-based management of mechanical neck pain in diverse clinical settings.

Attachments



[protocol summary.doc...](#)

18KB



[Treatment Protocol.d...](#)

16KB

Guidelines

Guidelines for Protocol Execution

This multi-centre RCT will evaluate Function Induced Biomechanical Correction Therapy (FIBCT) versus conventional physiotherapy for mechanical neck pain.

- **Study Oversight:** Conduct at Jashore University of Science and Technology and three Dhaka hospitals. Use computer-generated randomization with sealed envelope allocation concealment.
- **Blinding:** Outcome assessors blinded; participants/therapists unblinded due to intervention nature.
- **Training:** Certified physiotherapists for FIBCT and conventional therapy; trained assessors for VAS, algometry, digital inclinometer, NDI, PSFS.
- **Screening:** Adults 18–50 with mechanical neck pain ≥ 4 weeks, VAS ≥ 3 , no neurological deficits or structural pathology.
- **Interventions:**

Control: 6-week conventional physiotherapy (heat, TENS, stretching, posture exercises), 12 sessions + daily home program.

Experimental: FIBCT with manual correction, proprioceptive retraining, strengthening; 12 sessions + daily home program.

- **Safety:** Certified delivery to prevent injury, monitor for adverse effects, and report events to trial safety officer.
- **Ethics:** Written consent, ICH-GCP adherence, confidentiality, voluntary participation, right to withdraw, emergency contact provided.

Materials

1. Biomechanical Therapy

- o **Equipment:** Treatment plinth, pillows/bolsters, resistance bands, posture grid or plumb line, mobilization wedges (if applicable), mirror for visual feedback.
- o **Monitoring:** Timer, attendance log sheets.

2. Conventional Physiotherapy

- o **Heat Therapy:** Hot packs, hydrocollator unit, towels.
- o **Electrotherapy:** TENS unit, electrodes, conductive gel, alcohol swabs.
- o **Exercise:** Exercise mats, stretching straps/belts.

3. Outcome Assessments

- o **Pain:** Visual Analogue Scale (VAS) forms, pressure algometer.
- o **Range of Motion:** Digital inclinometer.
- o **Disability:** Neck Disability Index (NDI) forms, Patient-Specific Functional Scale (PSFS) forms.

4. Data Management

- o **Forms:** Data collection sheets (VAS, PPTs, ROM, NDI, PSFS), adverse event reporting forms.
- o **Storage:** Computer with database software, secure filing cabinet, external hard drive or secure cloud storage.

5. Safety/Emergency

- o Sharps container (for TENS electrodes), first aid kit, hand sanitizer, disinfectant wipes, emergency contact list.

6. Participant Materials

- o Consent forms, study information sheets (English/Bengali).



Before start

- Obtain ethical approval and trial registration.
- Train physiotherapists and assessors in intervention protocols and measurement tools (VAS, algometry, inclinometer, NDI, PSFS).
- Prepare randomization sequence and sealed opaque envelopes.
- Screen participants for eligibility (mechanical neck pain ≥ 4 weeks, VAS ≥ 3 , age 18–50, no neurological deficits/structural pathology).
- Obtain written informed consent and explain procedures, benefits, risks, and withdrawal rights.
- Set up treatment areas with required equipment (heat packs, TENS unit, FIBCT tools, exercise mats).
- Establish safety monitoring and adverse event reporting procedures.

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