Stretch mobilization

DR. ASIF ISLAM PT, SMC, UOS.

Stretch mobilization

Grade III

- Grade III stretch mobilizations are one of the most effective means for restoring normal joint play.
- Stretching shortened connective tissues in
- ✓ muscles, joint capsules and ligaments
- can increase and maintain mobility
- delay progressive stiffness and loss of range of movement in chronic musculoskeletal disorders.
- **Hypomobility presenting with a hard end-feel is characteristic of a bony limitation and should not be stretched.**

- Restricted range of movement presenting with a normal end-feel is a
- normal anatomical variation,

so rarely symptomatic, and is not stretched as a primary treatment.

- **However, such "normal" joints may be stretched in order to release stress to a vulnerable neighboring hypermobile joint.**

- *Sustain a stretch mobilization for a*
- ***minimum of seven seconds, up to a minute or longer, as long as the patient can comfortably tolerate the stretch***.
- In viscoelastic structures, the longer a stretch is sustained the greater and more lasting the mobility gain.
- ***apply at least 30 to 40 seconds of stretch with the assistance of a mobilization belt in the larger joints***.
- *For greatest effect, continue the treatment for 10-15 minutes in a cyclic manner.*
- *Fixation of one joint partner is absolutely essential for an effective stretch mobilization.*

- It is not necessary to release the joint completely between stretch mobilizations.
- A return to the end of the Grade II range, just easing off the stretch into the Transition Zone, is adequate before repeating the process.
- Normally ***the time a stretch is sustained is more critical than the amount of force*** used.
- ***Poor gains in range are more commonly due to insufficient duration of stretch, rather than insufficient force.***

- However, you must apply enough force to stretch the shortened tissue.
- To determine the most effective amount of force to use, begin with forces approaching, but not exceeding,
- In some larger joints, for example,

shoulder, elbow, hip and knee joints, lumbar spine,

- the force of Grade III stretch traction mobilizations can be significant.

Grade III stretch mobilizations should not

- produce or increase the patient's dominant symptoms (chief complaint).
- However, a sensation of stretching in the form of slight local discomfort is a normal response to stretch-mobilization.
- A Grade III stretch mobilization should be **discontinued**

if it produces

- Protective muscle spasm,
- severe pain,
- or symptoms at locations other than the site being treated.
- ***Such a response to treatment suggests the need to***
- ***reposition the joint,***
- ***alter the intensity***
- ***or direction of treatment,***
- ***or discontinue stretch-mobilization treatment.***

Preparation for stretch mobilization

- Soft tissue dysfunction can alter joint movement and decrease the effectiveness of joint stretch-mobilizations.
- That is why treatment often begins with procedures to
  - decrease pain
  - muscle spasm
  - or increase soft tissue mobility.
- These adjunct procedures may also make the joint mobilization easier to perform and produce a longer lasting effect.

Warming the tissues

- Treatment to improve circulation and thereby elevate soft tissue temperatures is useful preparation for Grade III stretch mobilizations.
- Warming tissues surrounding the joint prior to Grade III mobilizations makes them easier to stretch.

Effective warming can be achieved by

- surface heat application
- deep heat application (e.g., ultrasound, diathermy).
- ***<u>However, the most effective way to "warm-up" tissues is with exercise.</u>***

Cooling of tissues

Cooling tissues after stretch mobilization treatment often helps preserve mobility gains for a longer period of time.

- do not recommend cold application *prior to or during stretch technique,*
- since cooled tissues can be more easily injured from overstretching.
- ***So cold should be applied after mobilization procedure.***

Progression of stretch-mobilization treatments

- One of the most frequently asked questions, and also hardest to answer is, "How much treatment is enough?"

  The easiest answer is

- ***"As much as necessary and as little as possible."***
- I therefore provide the following general guidelines which are both conservative and safe.
- With experience, the nuances of clinical decision-making will become more apparent and you will find answers to these difficult questions.

If reassessment reveals

- increased range of movement
- or normalization of end-feel
- and decreased symptoms,
- then Grade III stretch-mobilization treatment may continue.
- If there is marked improvement in one treatment session, it is wise to discontinue additional treatments that day.
- **Chronic cases and significant hypomobilities may require several treatment sessions before a change is apparent.**

If reassessment indicates

- no change in mobility
- or symptoms,

- **reevaluate**

- joint positioning
- time and force and direction of treatment

or reconsider whether mobilization is indicated at all,

- perhaps by referring the patient for further medical diagnostic evaluation.

Discontinuation

- Discontinue stretch mobilization

  when gains in the patient's symptoms and range of movement plateau

  and the patient can perform **active movement throughout this range without pain.**

- It is important to stretch a joint in all restricted directions

  in which the joint would normally move.
- However, some stretch mobilizations into some movement patterns and directions are safer,

  while other stretch mobilizations have greater risk of patient injury
- so must be applied with skill and caution.

- In addition, a joint can be restricted in one direction (e.g., flexion) and hypermobile in another direction (e.g., extension).
  - In this case mobilization may be indicated for the restricted flexion and contraindicated for the hypermobile extension.

- Novice practitioners should begin stretch mobilization treatments with a sustained traction mobilization

  pre-positioned in the resting position (or actual resting position)
- progressively re-position nearer and nearer to the point of restriction, as tissue response tolerates and allows.
- If the mobility gains produced by stretch-traction mobilization plateau,
- the practitioner may progress to
- **stretch-glide mobilizations**,

  first with the joint pre-positioned in the resting position, then progressing toward the point of restriction,

  just as for stretch-traction mobilization treatment.

- Stretch mobilization is more effective and better controlled
- when joint stretching is carefully timed to occur during periods of maximum muscle relaxation.
- **Reflex inhibition relaxation techniques such as**
- **PNF contract-relax**
- **hold-relax techniques**
- (i.e., active relaxation, post-isometric relaxation) contraction of antagonists (i.e., reciprocal inhibition) can be very effective.