

Extremity Drop Uses

excerpt from

Warren Hammer's textbook:

Functional Soft Tissue Examination and Treatment by Manual Methods

SECTIONAL DROP UNIT MANIPULATION

Extremity joint manipulation can be rigorous work for the chiropractor. Large athletes with chronically restricted peripheral joints are very difficult to maneuver manually, especially if the operator's hands are small. Therefore sectional drop units have been used for the delivery of high-velocity adjustive thrusts. One advantage to the operator is the ability to vary the tension mechanism, allowing variable force to be used and, at the same time, maximizing velocity.

Not all practitioners of manipulative therapy master the ability to palpate joint dysfunction diagnostically and then manually bring that dysfunctional joint to premanipulative tension. One of the advantages of using the drop mechanism is that the operator does not have to find the specific prestressed point, which is mandatory for a comfortable and efficient joint cavitation (joint manipulation and the hydraulic phenomenon). Once the joint dysfunction is identified through patient history and tests of provocation, the operator merely positions the joint into the drop mechanism and applies a quick, short thrust into the fixated joint. This requires much less strength, balance, and motor skill than the more traditional manipulative techniques. In the past this practitioner has found that teaching peripheral joint manipulation to a physically small practitioner who, for example, is interested in mastering long-axis extension of the hip joint in side posture is particularly frustrating. The drop mechanism can, in many instances, afford the practitioner adequate mechanical advantage regardless of patient/practitioner size difference.

Following are a few examples of some of the common uses of the drop piece in a variety of peripheral joints. The device used by this practitioner is made by the Thuli Corporation, Dodgeville, Wisconsin (Fig. 10-49). This portable device is extremely useful because the operator can place and angle the drop piece to suit the operator and the fixated joint. An important rule to remember is that the joint to be manipulated should always be placed as close to the front of the device as possible (Fig. 10-50). The tension can be regulated by a small knob at the side so as to vary the tension needed to adjust a large hip joint or a smaller joint such as an AP glide of the radial/humeral joint.

AP Glide of the Metatarsals on the Cuneiforms (Fig. 10-51)

Patient: The patient's metatarsal/cuneiform articulations are placed as close to the front of the device as possible.

Examiner: The examiner stands laterally to the patient. He or she contacts the cuneiforms with the superior web contact and the metatarsals with an inferior web contact.

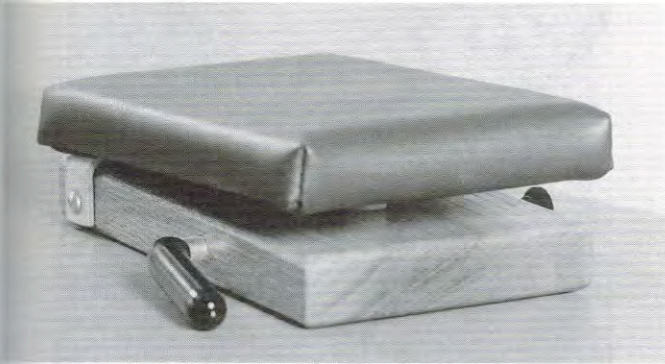


Figure 10-49 Portable drop adjusting device made by the Thuli Corporation, Dodgeville, Wisconsin. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

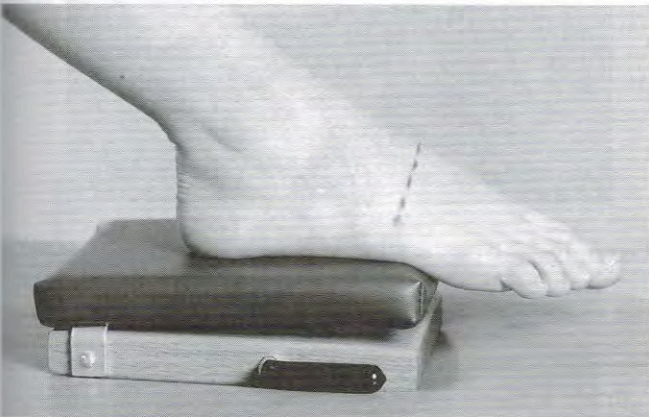


Figure 10-50 The proper positioning for AP glide of the metatarsals on the cuneiforms. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

Action: The cuneiforms are stabilized, and a quick, short thrust is delivered through the joint.

AP Glide of the Mortise on the Talus (Fig. 10-52)

Patient: The patient's supine foot is placed so that the calcaneus is just off the adjusting pad.

Examiner: The calcaneus is stabilized with examiner's nondominant hand. The thrusting thumb web is placed over the anterior aspect of the talus.

Action: With the examiner's episternal notch directly over the thrusting hand, a short impulse is directed into the joint.

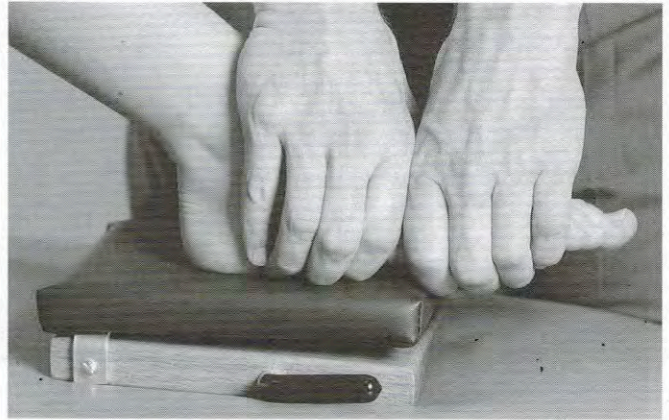


Figure 10-51 AP glide of the metatarsals on the cuneiforms. The cuneiforms are stabilized while the inferior hand delivers the thrust. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

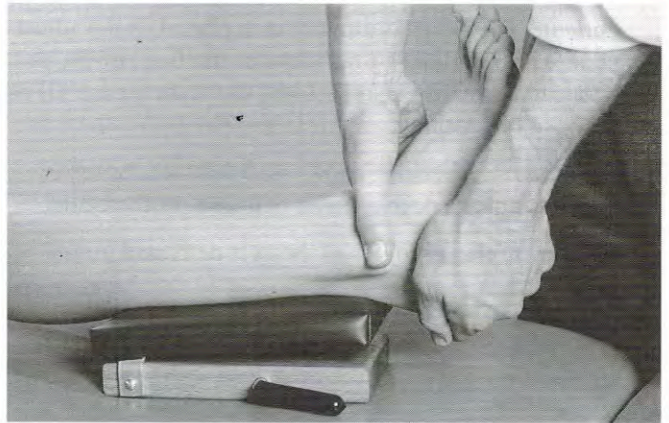


Figure 10-52 AP glide of the tibia and fibula on the talus. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

AP Glide of the Calcaneocuboid (Fig. 10-53)

Patient: The plantar surface of the patient's foot is placed on the adjusting pad so that the calcaneocuboid articulation is close to the front of the pad.

Examiner: The examiner stabilizes the medial forefoot with the nondominant hand and contacts the anterior aspect of the cuboid with the fleshy pisiform contact.

Action: The stabilizing hands finds tension by bringing the foot medial to lateral and the thrusting hand applies an AP force.



Figure 10-53 AP glide of the calcaneocuboid joint. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

Midtarsal AP Glide (Fig. 10-54)

Patient: The patient's prone foot is placed on the adjusting pad with the fixated joint close to the front of the pad. Metatarsals, cuneiforms, naviculars, and cuboids can all be adjusted in this fashion.

Examiner: Depending upon which joint is to be adjusted, the examiner uses a double thumb or thumb/pisiform contact.

Action: A plantar to dorsal thrust is delivered.

Posterior Shear of the Humerus in the Glenoid Cavity (Fig. 10-55)

Patient: The patient is supine with the drop piece supporting the glenoid cavity. The patient's elbow is fully flexed.



Figure 10-54 Plantar to dorsal glide of the cuneiform/navicular articulation. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.



Figure 10-55 Posterior shear of the glenohumeral joint at 90° . The thrust is directed through the long axis of the humerus. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

Examiner: The examiner's indifferent hand stabilizes the anterior aspect of the shoulder. The thrusting hand cups the elbow.

Action: A quick AP thrust is given at 20° and 90° , depending upon the fixation.

External Rotation of the Head of the Humerus in the Glenoid Cavity (Fig. 10-56)

Patient: The patient is supine with the drop piece under the glenohumeral joint.

Examiner: The examiner uses both hands to cup the most proximal aspect of the humerus in external rotation.

Action: An AP thrust is delivered.

AP Glide of the Hip Joint (Fig. 10-57)

Patient: The patient is supine with the drop piece placed under the hip joint. A towel or a second drop piece should be placed under the opposite hip to level the hips.



Figure 10-56 External rotation of the head of the humerus in the glenoid cavity. Joint slack is taken up in external rotation and an AP thrust is delivered. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.



Figure 10-57 AP shear of the hip joint. The hip is flexed with slight adduction, and the thrust is delivered through the long axis of the femur. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

Examiner: The examiner places both palms over the patient's flexed knee and slightly adducts the femur.

Action: An AP drop is delivered.

AP Glide of the Radial/Humeral Joint (Fig. 10-58)

Patient: The patient is supine with the slightly flexed elbow on the drop piece.

Examiner: The examiner makes thumb contact over the radial head with the opposite hand's fleshy thenar over the thumb.

Action: An AP drop is delivered.

Upward Glide of the Head of the Radius on the Ulna (Fig. 10-59)

Patient: The patient is supine, with the posteriorly flexed elbow on the drop piece. The patient's wrist is extended.

Examiner: The examiner gently stabilizes the radial head and the elbow joint. The examiner places the external thenar over the patient's extended thenar.

Action: A short, quick, upward glide drop is delivered to the radius.

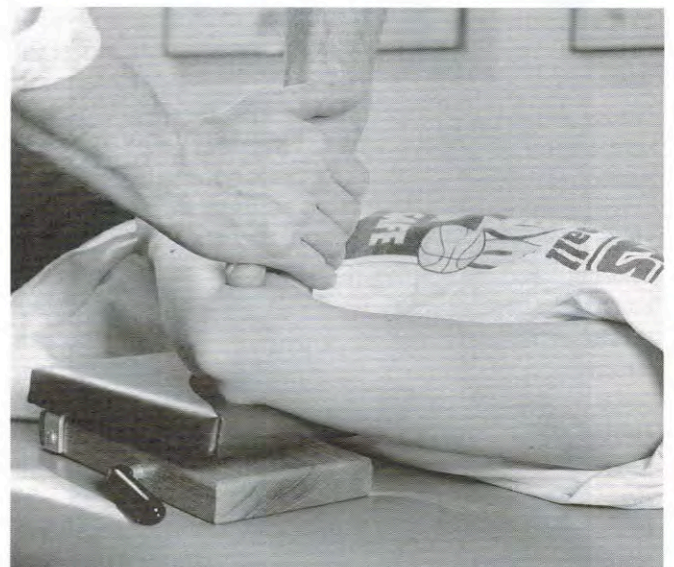


Figure 10-58 AP glide of the radial/humeral joint. The examiner makes thumb contact on the head of the radius. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.



Figure 10-59 Upward glide of the radius on the ulna. The patient's wrist must be in full extension before thrusting through the radius. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.

External/Internal Rotation of the Tibial Condyles on the Femoral Condyles (Fig. 10-60)

Patient: The patient sits at the end of the adjusting table with the knee flexed. The drop piece is placed 1 inch below the posterior knee joint.

Examiner: Depending on the fixation, the examiner medially rotates or externally rotates the tibia to end range.

Action: A quick AP thrust is delivered to the tibia.

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Figure 10-60A Proper placement of the drop adjusting device 1 inch below the posterior thigh. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.



Figure 10-60B External rotation of the tibial condyles on the femoral condyles. Tissue slack is taken up, and an AP thrust is delivered. Courtesy of Thuli Corporation, Dodgeville, Wisconsin.