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1. **Use of mulligan concept in spine condition**

 Mulligan concept can be applied for a number of mobilizing techniques one of that condition is management of spine mobilization which include NAGs (natural apophyseal glides) SNAGs (sustained natural apophyseal glides) and SMWLMs (spinal mobilization with limb movements). This all is ministry of the mulligan concept. These techniques are applied under the general principles of examination and treatment. Clinical examples and clinical trials prove the mulligan concept for the condition of spine. One of the integral components of manual therapy in clinical practices is mulligan concept., mulligan present this concept in 1970s in \New Zealand. The concept was built in 1989 on kaltenborn’s under the principal of restoring the accessory component of the physiological joint movement. Mulligan says that injuries or sprain can cause positional fault in the physiological joint movement. Mobilization of the spine in weight bearing positing is parallel to facet of spine. According to mulligan increase in pain free range of movements occur with a SNAGs is primarily the correction of the positional fault zygapophyseal joint. SNAGs also effect and influence the spinal function unit. This concept recently supported the use of transverse glide that applied t0 spinous process with active spinal movement. In 1990s further development was spinal mobilization with limbs movement. (SMWLMs) in this concept the sustained transvers glide applied to the spinous process of vertebra while the peripheral joint movement performed passively or actively (Mulligan 1999) but the mobilization must be pain free or without any other symptoms that’s cause other medical problem. According to Mulligan concept that their application was appropriate when the peripheral joint movement limitation could be spinal in origin.

(Midland 1986) performed lying or weight bearing when the concept is need to be use in this way. But mulligan concept was on the basis of articular techniques this principal can be applied on the myofascial system. Fascial system can be altered or pressure applied on muscle trigger point which show the response to the restriction movement noted. Strength of this concept have ability to adopt and integrate with most commonly used musculoskeletal concept.

(Mulligan 1999) explain the use of NAGs for the cervical and upper thoracic spine. NAGs is performed parallel to the facet joint plane NAGs is applied passively the two upper cervical spine necessitate glide in a horizontal plane. Its performed with patient passively seated.

A pillow fixed under the arm supporting and reduce tension in the neural tissue and myofascial at the neck and scapula region.

SNAGs can be applied all over on spinal joint as a treatment modality. Also SNAGs is performed in weight bearing position and can be adopted not weight bearing position. For example, they can apply this in laying position to McKenzie lumber spine extension or it can be applied to the lumber spine joint in a four- point kneel position (Exelby 2001).

SNAGs and NAGs can be applying centrally on spine by physiotherapist uncles noted otherwise or documentation must stipulate where it can be apply left or right spinal segment. The transvers SNAGs is also primarily called positional SNAGs like spinal mobilization with arm movement and spinal mobilization with leg movement. If the pressure by therapist to the left TI spinous process and applies a transvers glide towards right spinous process so this is called LTI. Over pressure must be considered patient generated. If more corrective glide applied, then it’s should be notice and listed in order of magnitude. According to mulligan concept that clinical reasoning recommended three-time repetition if the patient condition is acute or highly irritable. If the condition become chronic of sub-acute then six to ten repetition maybe used in a three to five sets.

According to mulligan concept that the lumber spine SNAGs had a short term effects on positional pain and function of spine with no specific low back pain.

The strength of this mulligan concept lie in the founder philosophy of encouraging integration of this all techniques into the individual physical therapy clinical practice it is already rustled in a continuous evaluating concept that have stood with the passage of time. Clinical example explains and showed already the use of this mulligan concept and the techniques involved. Clinical example put the principal of this concept to asses and incorporated the activity and function of joint mobilization.

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1. **Use of mulligan concept in meniscal tears**

The knee contains 2 joints: the tibiofemoral joint, wherever the shinbone (shin bone) and femoris (thigh bone) meet, and also the patellofemoral joint, wherever the patella (knee cap) and femoris meet. The tibiofemoral joint, that is that the main weight bearing joint, is split into the medial (inner) and lateral (outer) compartments. every compartment contains a semi‐circular structure product of animal tissue referred to as the gristle, that sits between the femoris and shinbone. The menisci have many roles, as well as helping with shock absorption, limiting excessive knee movement and providing nutrition for the body part animal tissue. Meniscal tears square measure the second most typical knee injury in sport, conducive to vital time loss for athletes. Common symptoms of meniscal tears include: clicking, catching or lockup, joint line tenderness, a sense of “giving out” or instability, pain with squatting or pivoting motions, pain at finish vary of flexion and/or extension, and a loss of vary of motion Sustaining a meniscal tear is assumed to guide to knee house narrowing and altered joint biomechanics, that if not self-addressed, might result in degenerative joint disease. Meniscal is one the common knee injuries. Meniscal injury can be traumatic or can be degenerative in organs. Acute traumatic meniscal injury most common occur in young population we should be careful if we apply conservative therapy or surgical intervention.

The mulligan thought (MC) “Squeeze” technique could be a manual medical care intervention designed to treat restricted vary of motion and localized joint line pain, that are symptoms typically found within the presence of meniscal tears Despite the theorized good thing about this system in patients with meniscal tears symptoms, restricted formal investigations of the efficaciousness of this treatment exist and therefore the mechanism of action is unknown. so, the aim of this case series was to look at the impact of the rate “Squeeze” technique in symptomatic, physically active patients United Nations agency met the factors for a clinical identification of a meniscal tear.

One of the therapeutic intervention strategy for meniscal injury is mulligan concept which include different techniques like SNAGs, NAGs and mobilization with movement (MWM) which sustained active and passive glides to asses’ function and movements the intervention isn’t  indicated, and therefore the clinician should seek
an alternate appropriate intervention strategy.
There are several different proposed hypotheses about
possible mechanisms of actions associated with  the mulligan concept . No
single mechanism has been definitively supported. It is
likely that a multifaceted explanation exists for the
effectiveness of the Mulligan concept.
The main idea and purpose of this case report is to present the
effectiveness of the Mulligan concept within the  treatment of a compressible
meniscal injury that demonstrated a PILL response upon
evaluation using the mulligan concept. Patient-rated outcomes (PRO)
associated to pain, function, and disability were show and evaluated to
assess the effectiveness of the intervention strategy.

According to a case study the patient bestowed with right knee stiffness, swelling, and a sound sensation of insidious onset. Clinical examination disclosed pain with terminal knee extension and flexion, joint line tenderness, a positive Paley’s compression takes a look at, and a positive Thessaly’s take a look at at 20° of knee flexion. An operating diagnosing was established of a meniscal pathology with the differential diagnoses of meniscal derangement and secretion structure.
The patient received three total treatments victimization the stew conception over the course of eleven days. The treatments enclosed the applying of a leg bone internal rotation mobilization with movement and therefore the “squeeze” technique to the affected knee. Patient outcomes, together with the handicap within the Physically Active Scale, the Patient-Specific Useful Scale, and therefore the Numeric Rating Scale for pain, were collected throughout the course of treatment. The patient according a borderline clinically vital distinction on the Numeric Rating Scale for pain once every treatment and on all outcomes once the third treatment. The patient according improvement on her follow-up visit four days once the third treatment; the results of a clinical test and patient outcomes supported an entire discharge once three treatments.

The patient response for mulligan concept that’s mulligan concept is favorable for manual therapy techniques for the treatment of the symptom that belongs to meniscal tears.

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1. **use of mulligan concept in tennis elbow condition**

This experimental style study investigated the result of a mix of mulligan concept techniques and ancient treatment compared thereupon of ancient treatment alone in patients with lateral humeral epicondylitis. The applied mulligan concept techniques enclosed mobilization with movement and recording, and were aimed to scale back pain, increase grip strength, and improve activities of daily living. a complete of thirty-four patients aged between sixteen and sixty-nine years underwent eleven sessions of a mix of mulligan concept techniques and ancient treatment (experimental cluster, n = 17) or ancient treatment solely (control cluster, n = 17). They were evaluated before the treatment, and when four weeks, victimization visual analogue scale, most grip strength, and Patient-Rated lateral epicondylitis analysis. Analysis showed statistically vital improvement altogether outcomes in each the experimental and therefore the management teams. additionally, the mean improvement in visual analogue scale and most grip strength was considerably bigger within the experimental cluster than that within the management cluster. This study showed that the mixture of mulligan concept techniques with ancient treatment results in higher outcomes in treatment of lateral humeral epicondylitis than ancient treatment alone.

Lateral epicondylitis (LE) of epicondylitis, involving epicondylitis and redness of the skeletal muscle extensor carpi radialis brevis is that the commonest lesion within the elbow region. In Canada, LE is that the most ordinarily diagnosed elbow condition and affects concerning 1–3% of the population at massive. The annual incidence of LE normally follow is four to seven cases per one thousand patients, with a peak in patients 35–54 years getting on. Dominant arm involvement is commonest. Men and ladies square measure equally affected. LE may be a variety of “repetitive strain injury” and is defined by pain at the lateral facet of the elbow, particularly in riveting activities and resistance application to skeletal muscle muscles of the forearm.

Many ancient interventions are wont to treat this condition, as well as non-steroidal medicinal drug drugs; sex hormone injection ; cryotherapy within the acute stage, followed by heat within the additional chronic stage friction massage ; rest; ultrasound (US); acupuncture; electrical stimulation optical device ; counterforce bracing blast wave medical aid ; lateral striated muscle unharness ; progressive strengthening; and stretching exercise medical aid . As attic et al. (2000) conclude that “the ancient modalities of physiatrist fail specifically to enhance the standard of albuminoid in tendons or herald new roundness to market tissue healing,” these measures should, therefore, be used solely as a part of a bigger treatment arrange, as well as mulligan concept mobilization with movement technique.

The impact of a mix of mulligan mobilization (a manual medical aid approach) and ultrasound medical aid is compared therewith of ultrasound medical aid alone. In each cases, a progressive exercise programmed followed 10 sessions of medical aid to boost strength and facilitate come to figure.

Sixty-six patients (male: female quantitative relation 6:5, mean age forty one years) were recruited. of those patients, forty-six were irregular into 2 treatment teams by a random draw of chits. The remaining twenty, World Health Organization couldn't be irregular, comprised the management cluster

The first (MM) group was treated with a mix of ultrasound medical aid and stew mobilization whereas the second cluster was treated with ultrasound medical aid alone for 10 sessions (completed among 3 weeks). each team then followed a progressive exercise regime for an extra 9 weeks. They were evaluated at weekly intervals from the time of choice till the third week and at last at the twelfth week with four outcome measures: visual analogue scale (VAS), isometric grip strength, weight take a look at and patient assessment take a look at. he first (MM) cluster was treated with a mix of ultrasound medical aid and mulligan mobilization whereas the second cluster was treated with ultrasound medical aid alone for 10 sessions (completed inside 3 weeks). each team then followed a progressive exercise regime for an extra 9 weeks. They were evaluated at weekly intervals from the time of choice till the third week and at last at the twelfth week with four outcome measures: visual analogue scale (VAS), isometric grip strength, weight check and patient assessment check.

In the follow-up visit when twelve weeks of medical aid, there was improvement in VAS, weight check and grip strength in each the metric linear unit (p < zero.01, 0.01, 0.01) and ultrasound teams (p < zero.01, 0.05, 0.05). The metric linear unit cluster showed a bigger improvement than each the ultrasound cluster and therefore the management cluster on VAS (p < zero.05, 0.05); weight check (p < zero.01, 0.001) and grip strength (NS, p < 0.05). The ultrasound cluster was superior to the management cluster on VAS (p < zero.05); weight check (p < zero.01), however the distinction from the management group in grip strength wasn't important. The metric linear unit group showed improvement on most parameters from the primary week forward whereas the ultrasound cluster improved solely from the second week. Additionally, the patient assessment score improved for the metric linear unit group (p < zero.05) and for the ultrasound cluster improvement was important at 3 weeks of therapy (p < zero.05), however the distinction wasn't statistically important at twelve weeks

The addition of mulligan mobilization to a programmed comprising ultrasound medical care and progressive exercises brings concerning redoubled and quicker recovery in patients with lateral humeral epicondylitis.

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