The pathology remains between a combination of two causes i.e. pain perception alteration and motor impairments. Extensor carpi radialis brevis (ECRB) is the most commonly affected muscle, but supinator and other wrist extensors such as extensor carpi radialis longus, extensor digitorum, extensor digiti minimi and extensor carpi ulnaris can also be involved. The major cause of LE is continuous and repeated strain on tendons attached near humeral distal segment.

Chief complaint in tennis elbow are decreased grip strength, decreased functional activities, and increased pain, which may have significant impact on activities of daily living. Pain can be reproduced with one of the following ways: (1) palpation on the facet of the lateral epicondyle; (2) with the elbow in extension, resisted wrist extension and/or resisted middle-finger extension; and (3) gripping activities. The study shall compare the effectiveness of Cyriax approach and mulligan approach in improving pain whereas Cyriax manual therapy improved grip strength better than mulligan technique. (Rawal Med J 202;46:733-735).

Keywords: Lateral epicondylitis, cyriax manual therapy, mulligan technique.
by physical therapist, any history of trauma to the elbow, any steroidal injections injected into the shoulder, hypersensitivity of skin, systematic diseases like rheumatoid arthritis or SLE and any infection of skin at elbow.

After concealment, patients were left blinded to which group they were included in. An assessor was responsible to assess and take measurements at various levels i.e. pre-treatment, mid treatment and at 8th week post treatment.

A self-designed questionnaire was administered which included demographical questions in the start. The questionnaire was based on two primary outcome measures i.e. Visual Analogue Scale for pain and Dynamometer for grip strength. Data was taken at three different levels as follows: Before treatment (t0), between treatment (t1) and after treatment (t2).

Statistical Analysis: SPSS 20 was used for statistical analysis. Independent Sample T test was used while p<0.05 were regarded as significant.

RESULTS
Mean age for patients in group A was 36.12±7.56 and 33.91±3.4 for group B (Table 1). Out of 66 patients, 46.97% were males and 53.03% females. Amongst 33 patients of group A, 21 were males and 12 were females whereas amongst Group B, 14 were males and 19 were females. Out of 66 patients, 51.52% had right elbows affected and 48.48% had their left elbows affected. Amongst 66 patients, 19.7% were chefs/cooks, 19.7% were tailors and 9.5% were professional chefs/cooks. Amongst males, 16.67% were mechanics, 7.58% were drivers and 21.21% were housewives.

There was no noteworthy distinction between the groups for age (p=1.30), Pre-Treatment NPRS and Pre-Treatment Grip Strength (p=0.07) (Table 2). Cyriax group and Mulligan Group did not vary significantly in expressions of Mid-Treatment pain 4.81±0.74 and 4.81±0.83, respectively (p=1.0 ). Pain after 8 weeks of treatment was found to be significantly decreased in both group A & B i.e. 1.93 .74 and 1.70 .79 respectively (p-value = 0.2 ).

Cyriax group and Mulligan group varied statistically significantly in expressions of Post-treatment grip strength 42.1±1.30 and 38.6±2.82, respectively (p=0.00) (Table 3). Grip strength results at post- treatment level for both groups were 53.5±2.13 and 42.3±1.97, respectively (p=0.00). These results indicate that Cyriax group had better grip strength as compared to those treated with Mulligan Mobilization.

DISCUSSION
Many studies have questioned the importance of Cyriax Mobilization in cases of acute LE. It was hypothesized that Cyriax and Mulligan have significant differences on pain and grip strength. Our results showed that Cyriax improved grip strength better than Mulligan Mobilizations.
However pain was equally improved in both groups. Cyriax approach is known to augment vasodilation thereby increasing blood flow to the painful area and removing pain causing chemicals and metabolites hence increased transport of endogenous opioids. Mill's manipulation introduced soon after deep transverse friction in order to stretch scar tissue and break adhesions makes the painful area mobile and thus lesser painful. One study was conducted in order to determine effectiveness of Cyriax and eccentric strengthening and stretching exercises. The study was based on 60 patients and they concluded that Cyriax was significantly effective in treating pain and grip strength of patients. Our results are similar in terms of treatment sessions provided and outcome. Vicenzino et al also conducted a randomized controlled trial and reported reduction in pain and mobility i.e. functional performances. Our study was similar to that in terms of reduction of pain i.e. Mulligan improved pain of patients significantly over the duration of 8 weeks.

CONCLUSION
Cyriax manual therapy and Mulligan both were equally effective in improving pain whereas Cyriax manual therapy improved grip strength better than mulligan technique.

REFERENCES


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