

# IMPACT OF EXTRACORPOREAL SHOCK WAVE THERAPY IN THE TREATMENT OF CHRONIC LATERAL EPICONDYLITIS

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## Background and aim

Radial shock wave therapy (RSWT) is a relatively new way to treat chronic tendinopathies, such as lateral epicondylitis. However, very few studies have been realized on this subject, and the results are very divergent. We aimed to observe the impact of this technique on chronic lateral elbow pain.

## Method

Fifteen subjects who had a lateral epicondylitis for at least 3 months were included in the study. Two groups were formed: experimental (10 subjects) who received 6 sessions of physiotherapy and RSWT (fig. 1 and 2), and the control group (5 subjects) who received exclusively physiotherapy. Physiotherapy sessions were composed of massage, stretching, diacutaneous fibrolysis (fig. 3), and a muscular eccentric program of the wrist extensor muscles. We evaluated the subjects before the first session, and after 6 weeks of treatment with a pain visual analog scale (VAS), the painless wrist flexion amplitude (fig. 4), and the "Patient-Rated Tennis Elbow Evaluation" (PRTEE) questionnaire.



Fig. 1: RSWT producing machine



Fig 2: use of RSWT



Fig. 3: diacutaneous fibrolysis



Fig. 4: wrist flexion amplitude measurement

## Results

The difference between initial and final evaluations was significant (regarding to the wilcoxon test) for all of the parameters studied ( $p=0,028$  for the VAS,  $p=0,005$  for the wrist flexion amplitude, and  $p=0,005$  for the PRTEE) in the experimental group. It wasn't significant in the control group (VAS  $p=0,144128$ , wrist flexion amplitude  $p=0,079617$ , and PRTEE  $p=0,067890$ ) (fig. 5). The comparison between the two groups was not significant, neither in the beginning, nor in the end of the treatment (regarding to the Umann and Whitney test).

	VAS	Wrist Flexion Amplitude	PRTEE
<b>Experimental group</b>	Significant	Very significant	Very significant
<b>Control group</b>	Not significant	Not significant	Not significant

Fig. 5: statistical results of the study

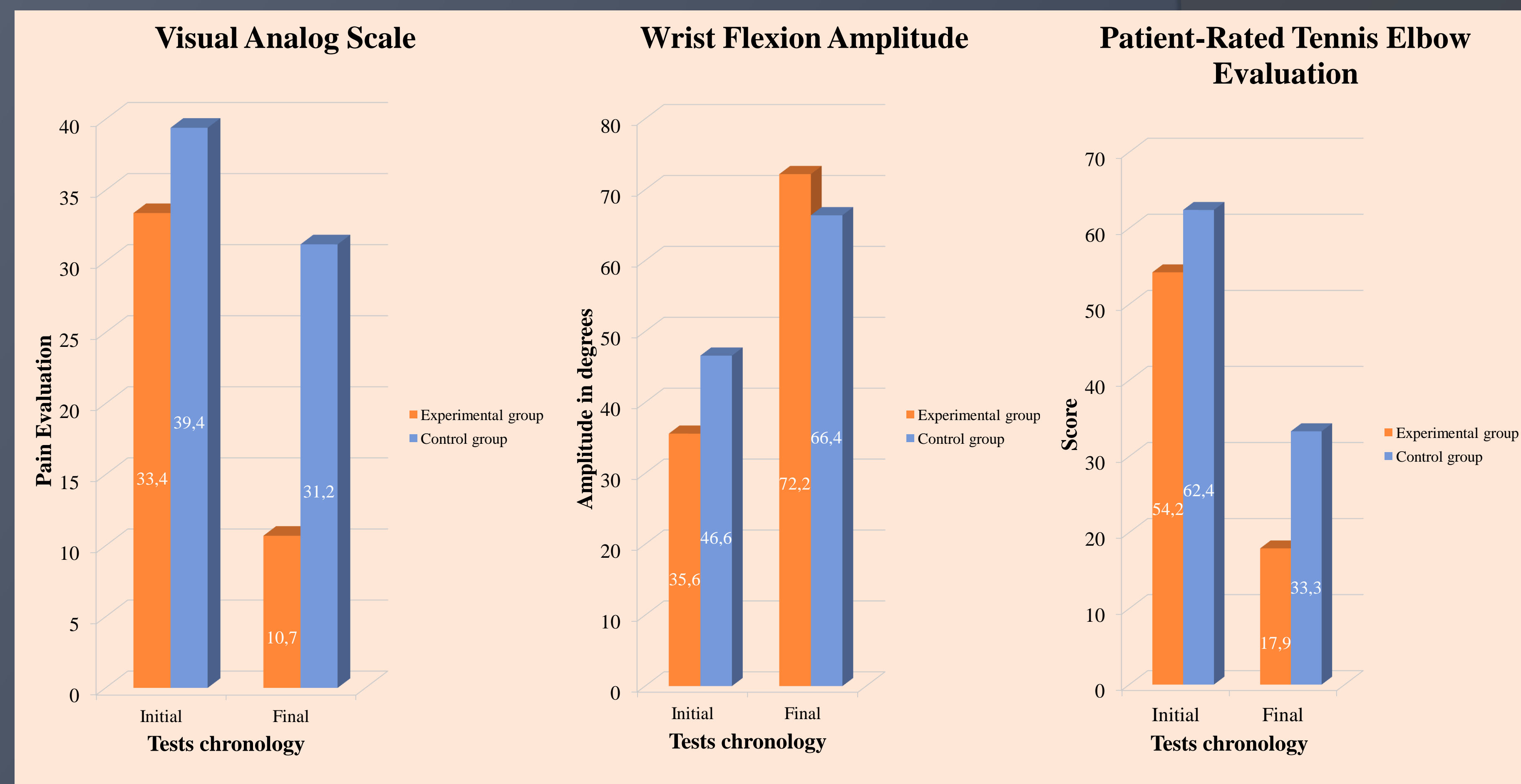


Fig. 6: diminution of pain

Fig. 7: improvement of the wrist flexion amplitude

Fig. 8: evolution of the PRTEE 's score

## Conclusion

RSWT associated to physiotherapy is a more effective treatment for lateral epicondylitis than physiotherapy alone.

## References

- Gündüz R, Malas F.U & al. "Physical therapy, corticosteroid injection, and Extracorporeal Shock Wave treatment in lateral epicondylitis: clinical and ultrasonographical comparison". Clinical rheumatology, January 2012.
- Chung B, Wiley P. "Effectiveness or Extracorporeal Shock Wave Therapy in the treatment of previously untreated lateral epicondylitis - a randomized controlled trial". Am. J. Sport Med. 2004; Vol. 32, No. 7: 1660- 1667.
- De Labareyre H. "Que penser des ondes de choc dans le traitement des lésions tendinomusculaires en 2011?". Journal de traumatologie du sport, 2011 ; 28 : 16-23