**Combined Corticosteroid Injection and Splinting in the Treatment of Trigger finger: A Randomized Controlled Trial**

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### Introduction

Trigger finger, a common disease of the hand, has a lifetime risk of 3%. There are several approaches to treating patients but there is a lack of empirical evidence of primary conservative treatment. Current conservative treatments for trigger finger are topical steroid injection, splinting and physiotherapy, however, there has not been enough research studied to compare them.

Our objectives are, comparing the effect of combined steroid injection with finger splinting, steroid injection and splinting alone with Disability of the Arm, Shoulder and Hand (DASH score), Green grade, and success rate.

### Methods

This study included patients who were isolated idiopathic trigger finger and Green grade 1, 2 and 3. All 60 participants were randomly assigned to the 3 treatment groups, by block-based randomization; group 1, was treated with steroid injection; group 2, received only splinting and group 3; had combined treatment, each group contained 20 participants. From reviewing the literature, the zero degree MCP joint blocking splint was proved as the best. The patient wore them at night for 6 weeks. Also, all participants were monitored, general practice advice and practice physiotherapy in the same way. DASH score and Green grade were assessed, before treatment and after treatment at the 3rd, 6th and 12th week, as well as the success rate at the 12th week.

### Results

Participants in the three groups had no significant different in gender, average age, dominant hand, affected hand and finger, duration of symptom, initial DASH score, and Green grade before admission. In the 12th week it was shown that the combined group, displayed higher ∆DASH scores than those of other groups (p = 0.01). Moreover, the splint group and steroid group were not significantly different at the 12th week either (p = 0.38).

![Primary Outcome: DASH Score, Repeated ANOVA](image)

**12th week Post Hoc Tests, Multiple comparisons**

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DASH Wk12</strong></td>
<td>Combined</td>
<td>Steriod</td>
<td>4.54</td>
<td>0.39</td>
<td>8.69</td>
</tr>
<tr>
<td></td>
<td>Splint</td>
<td>Steriod</td>
<td>6.36</td>
<td>2.21</td>
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<tr>
<td>Splint</td>
<td>Steriod</td>
<td>-1.82</td>
<td>-5.67</td>
<td>2.34</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Highest ∆DASH score = Combined
No different between splint and steroid in the final result

### Discussion

The best outcome is the combined group that might be as a result of we resolved both etiologies of the trigger finger, excessive force and inflammation. Moreover, there was no difference in steroid and splint groups, so a splint can be used as an alternative to avoid complications from steroids such as tendon rupture or atrophy. The strengths are the first study that compared in the three groups, randomization, and double-blinded study.

### Conclusion

The best conservative treatment of trigger finger, severity of the disease in Green grade 1, 2 and 3, should use a combination of steroid injection and splinting. Moreover, splinting and steroid injection have comparable outcomes. If patient declines an injection, splinting is an alternative choice that we suggest will help them.