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Effect of Stable and Unstable Surfaces on the Serratus Anterior Muscle Activation in a Kinetic-chain Exercise Among Healthy Adults

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Effect of Stable and Unstable Surfaces on the Serratus Anterior Muscle Activation in Kinetic Chain Exercises among Healthy Adults

Presented by
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MYOFASCIAL CONNECTIONS

PURPOSE

To determine if the serratus anterior (SA) muscle activity changes with kinetic chain recruitment on stable and unstable surfaces.

METHODS

Subjects
21 healthy males with mean age 26.7 ± 2.6 yrs.

Muscles Analyzed
SA, LD, and EO muscles on the dominant side, GM bilaterally, and FA of the contralateral side

Exercises Analyzed (Stable and Unstable)
FPP, Closed Chain Serape (CS), Open Chain Serape (OS)
RESULTS

(One-way repeated measures ANOVA)

SA Muscle Activation - STABLE

<table>
<thead>
<tr>
<th>Exercises</th>
<th>SFPP</th>
<th>SCS</th>
<th>SOS</th>
</tr>
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<tr>
<td>% MVIC</td>
<td>85%</td>
<td>115%</td>
<td>90%</td>
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</tbody>
</table>

* Statistically significant

RESULTS

(One-way Repeated measures ANOVA)

SA Muscle Activation - UNSTABLE

<table>
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<th>UOS</th>
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<td>% MVIC</td>
<td>85%</td>
<td>138%</td>
<td>157%</td>
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* Statistically significant

RESULTS

(Paired t-test: Stable Vs Unstable)

SA MUSCLE ACTIVATION

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* Statistically significant from FPP

TAKE HOME MESSAGE

• Our study strengthens the concept of recruitment of the kinetic chain during exercises for better muscle activation.

• Clinicians also need to be aware that adding an unstable surface to an exercise does not always imply higher activation of the involved muscles.

REFERENCES


QUESTIONS?