Activity – Analyzing the Erector Spinae

In this activity we will use the "3 Rules of Muscles" to determine the joint actions of the erector spinae. Answer the questions below.

Spine Joint Actions Word Bank

<table>
<thead>
<tr>
<th>Action</th>
<th>Plane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexion</td>
<td>Sagittal</td>
</tr>
<tr>
<td>Extension</td>
<td>Sagittal</td>
</tr>
<tr>
<td>Lateral Flexion</td>
<td>Frontal</td>
</tr>
<tr>
<td>Rotation</td>
<td>Transverse</td>
</tr>
</tbody>
</table>
1. The erector spinae runs up and down on the back of the spine. What joint action will the erector spinae contribute to?

   **Extension**

   A. To ask the same question a different way - What does it mean to "erect" something? If you were hunched-over and somebody, or some-muscle, "erected" your trunk - what joint action would have occurred?

   **Extension**

2. If only the erector spinae muscles on the right side of your spine contracted, what joint action would occur?

    **Frontal plane, lateral flexion (ipsilateral flexion)**

3. Would the erector spinae contribute to an anterior pelvic tilt or posterior pelvic tilt?

   **Anterior Pelvic Tilt**

4. Critical Thinking: If an individual had an anterior pelvic tilt and complained of low back soreness, would you stretch or strengthen the erector spinae to return these muscles to optimal length?

   **In anterior pelvic tilt the erector spinae are “short”, stretching would be likely be a better choice for returning these muscles to their optimal length.**

5. Re-write your answers into one succinct table?

   **Erector Spinae:**
   - Joints crossed: Spine
   - Actions: **Extension and lateral flexion**

*Check your answers!*