Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Movement Analysis Lab for the Spine

# A. Primary Spinal Muscles

List the *primary* muscles that produce the following movements (table 3.2, page 88).

|  |  |  |  |
| --- | --- | --- | --- |
| **Spinal flexion** | **Spinal extension** | **Spinal lateral flexion** | **Spinal rotation** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# B. Movement Phrase

*Working in groups of three to five, design a dance movement phrase that incorporates spinal flexion, spinal extension, spinal lateral flexion, and spinal rotation (figure 3.11, page 64). Say the name of each spinal movement as you practice it as a group. Next, practice saying the primary muscles that produce each spinal movement as you perform the phrase as a group. Perform the sequence for the class twice as practiced as a group.*

# C. Movement Analyses

*Perform a movement analysis for the following.*

**1. Curl-up**

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Spinal movement** | **Type of contraction** | **Functional spinal muscle group: primary muscle(s)** |
| Up phase |  |  |  |
| Down phase |  |  |  |

How would adding rotation to the curl-up influence muscle use and exercise challenge?

**2. Prone spine arch**

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Spinal movement** | **Type of contraction** | **Functional spinal muscle group: primary muscle(s)** |
| Up phase |  |  |  |
| Down phase |  |  |  |

How would adding rotation to the prone spine arch influence muscle use and exercise challenge?

**3. Side-up (lying on right side)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Spinal movement** | **Type of contraction** | **Functional spinal muscle group: primary muscle(s)** |
| Up phase |  |  |  |
| Down phase |  |  |  |

**4. Sitting spine twist**

|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Spinal movement** | **Type of contraction** | **Functional spinal muscle group: primary muscle(s)** |
| To the right |  |  |  |
| To the left |  |  |  |

# D. Strength Exercises and Stretches

*In groups of about five, take turns teaching the other members of the group the strength exercises in table 3.4, pages 91-92, and the stretches in table 3.5, page 95, while stating the muscle group challenged by each. Then review the exercises as a group by marking the exercises while stating the muscle groups they target. Finally, write the name of the exercise(s) provided in these tables for the following categories.*

**Spinal flexors**

Strength \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stretch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Spinal extensors**

Strength \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stretch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Spinal lateral flexors**

Strength \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stretch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Spinal rotators**

Strength \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stretch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_