BEND-AND-LIFT ASSESSMENT PROTOCOL

Squat Pattern

Objective: To assess symmetrical lower-extremity mobility and stability and trunk mobility and stability during a bend-and-lift movement

Equipment:
- None

Instructions:
- Briefly discuss the protocol so the client understands what is required.
- Ask the client to stand with the feet shoulder-width apart with the arms hanging freely to the sides.
- Ask the client to perform five to 10 bend-and-lift movements (i.e., squats), lowering as deep as is comfortable. It is important not to cue the client to use good technique, but instead observe his or her natural movement.

Observations:
- Anterior view:
  - Feet: Is there evidence of pronation, supination, eversion, or inversion?
  - Knees: Do they move inward or outward?
  - Torso: How is the overall symmetry of the entire body over the base of support? Is there evidence of a lateral shift or rotation?
- Side view:
  - Feet: Do the heels remain in contact with the floor throughout the movement?
  - Hip and knee: Does the client exhibit “glute” or “quadriceps dominance” (i.e., is the descent initiated by driving the knees forward or by pushing the hips backward)?
  - Hip and knee: Does the client achieve a parallel position between the top of the thighs and the floor?
  - Knee: Does the client control the descent to avoid resting the hamstrings against the calves at the bottom of the squat?
  - Lumbar and thoracic spine: Does the client exhibit an exaggerated curve in the lumbar (i.e., “lumbar dominance”) or thoracic spine during the descent?
  - Head: Are any changes in the position of the head observed during the movement?

Interpretation:
- Identify origin(s) of movement limitation or compensation.
- Evaluate the impact on the entire kinetic chain.