

Anatomy For The Dancer

Hyper-Extended Knees: Genu Recurvatum

by

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Dance Educator's Question: What are things to consider when teaching a student with hyper-extended knees?

First of all, it is important to differentiate between hyper-extended knee injuries and hyper-extended knee congenital or structural deformities. Hyper-extended knee injuries occur when the knee is by some sort of trauma forced posteriorly (backward). Congenital or structural deformities are anatomical abnormalities that usually occur at birth. Dance Educators should be concerned about both, however, teaching a student that maintains a structural abnormality such as hyper-extended knees is probably the most perplexing, and raises the most questions. Hyper-extended knees indicate hyper-joint mobility or a tendency for increased joint range of motion from normal end ranges. The knee has the appearance of bending backwards (posteriorly). This would indicate an anatomical deviation from the normal range. Can this be a problem? Yes and No.

Students with hyper-extended knees may need special attention with regard to learning how to lessen the risk of injuries due to their inherent anatomical condition. Here are some things to consider. Students with hyper-extended knees often present less stability overall. Their knee joint ligaments are generally more lax which compromises the knee joint integrity. To help limit this laxity, the surrounding muscle groups need to be strengthened in order to compensate for the laxity of the ligaments. Remember, ligaments only hold bones together. Muscles hold bones together and move them. The quadriceps (front thigh muscles) and hamstrings (back thigh muscles) are often weak with hyper-extended knees. Why? When the student fully extends the leg when standing, they simply push the leg into a locked position, which somewhat lessens the muscle work the quads are intended to perform to maintain stability. In other words, the quads are doing less work, less work means weaker muscle. The hamstrings on the other hand, can be actively and passively stretched too much, which again leads to muscle weakness.

Important things to consider when working with a student with hyper-extended knees:

- Strengthen the Quadriceps by reminding the student not to push their knees into a backward locked position. This is not easy. Have the student perform good quality develops, especially devant and seconde. The slower the better to increase quad strength.
- Strengthen the student's hamstrings by having them do exercises that isolate the hamstring muscles i.e. standing up and slowly bending the knee, pulling the heel up toward the gluteal (buttock) muscle. Add light weights 1-3 pound ankle weights to challenge the hamstring muscles. Execute 10-15 repetitions up to three sets three times per day.
- Note that overall strengthening of the muscles surrounding the knee will help to provide greater stability for the student with hyper-extended knees.