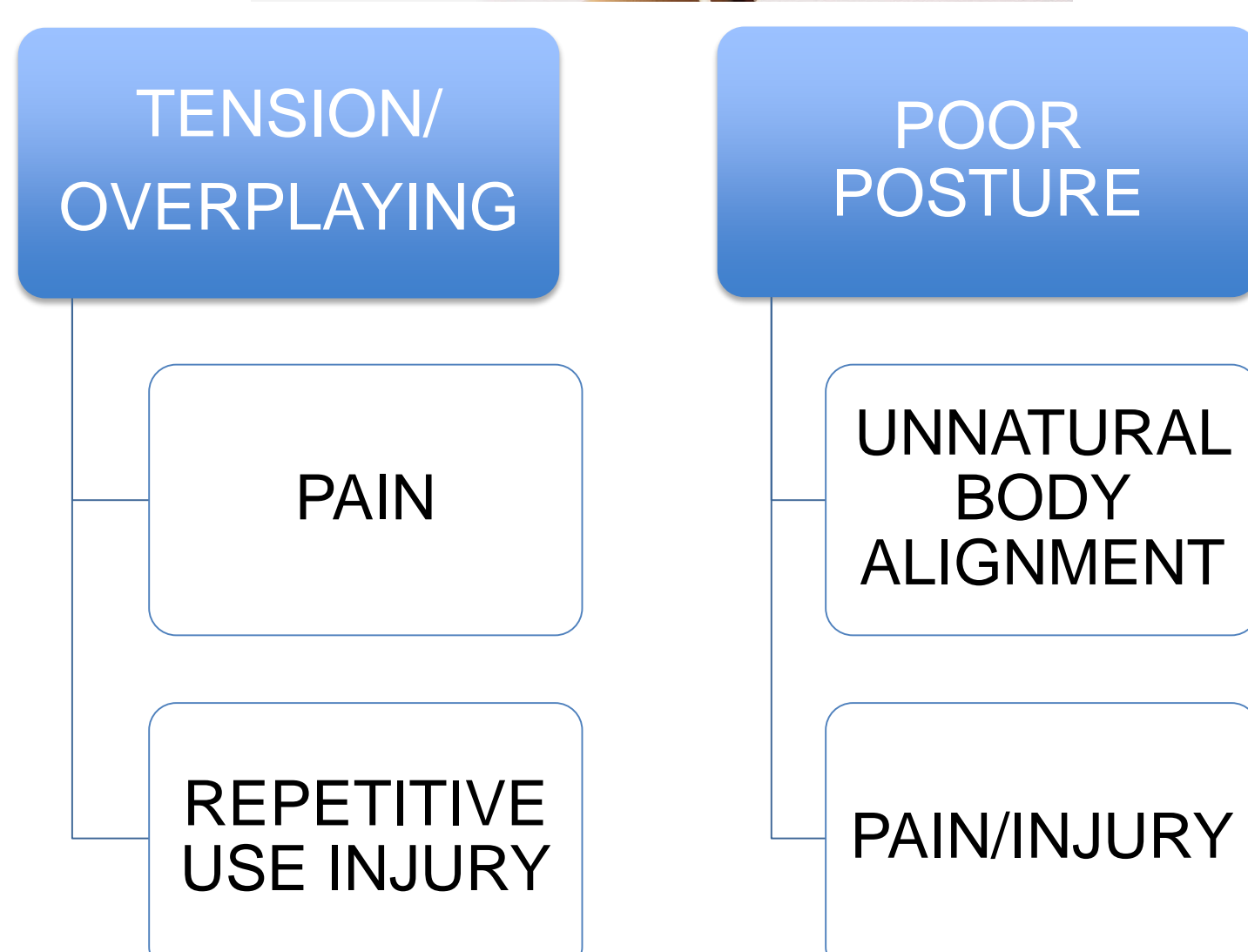
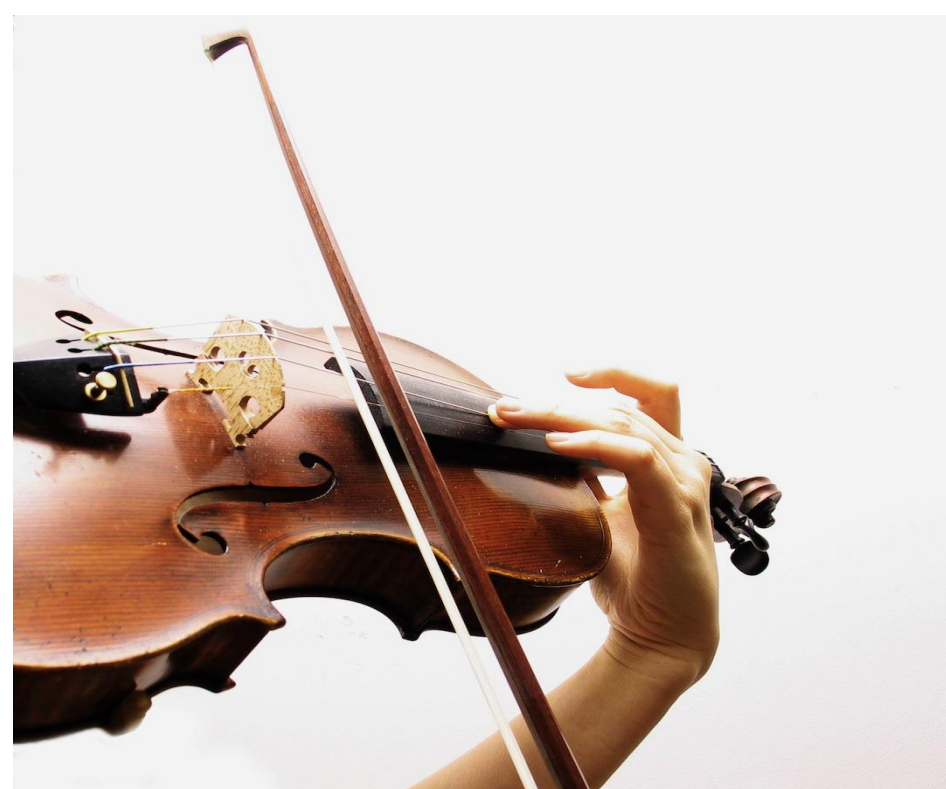


## The Effect of the Alexander Technique on Posture in Violinists Using Motion Capture Technology

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### Background

The purpose of this study is to offer correction for the postural imbalances that violinists and violists may experience throughout their lifetime. Using the instruction of the Alexander Technique (AT), a method of movement that focuses on lengthening the spine and moving the body in the most natural way possible, this study will track and analyze the posture of violinists and violists as they play. Music is a universal language across a group of diverse people, allowing individuals to express and develop artistic self expression that applies to multiple areas of life. However, musicians, much like athletes, experience overuse injuries due to the repetitive movements they perform while playing instruments. Additionally, a musician's posture during playing and performing may also cause pain that can be avoided. The AT may offer a chance to prevent common injuries in musicians.

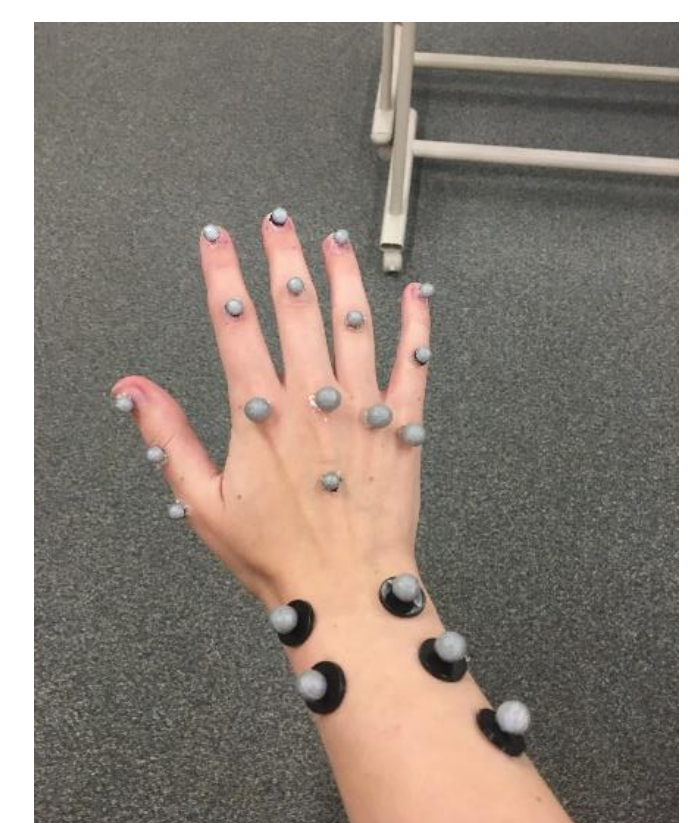
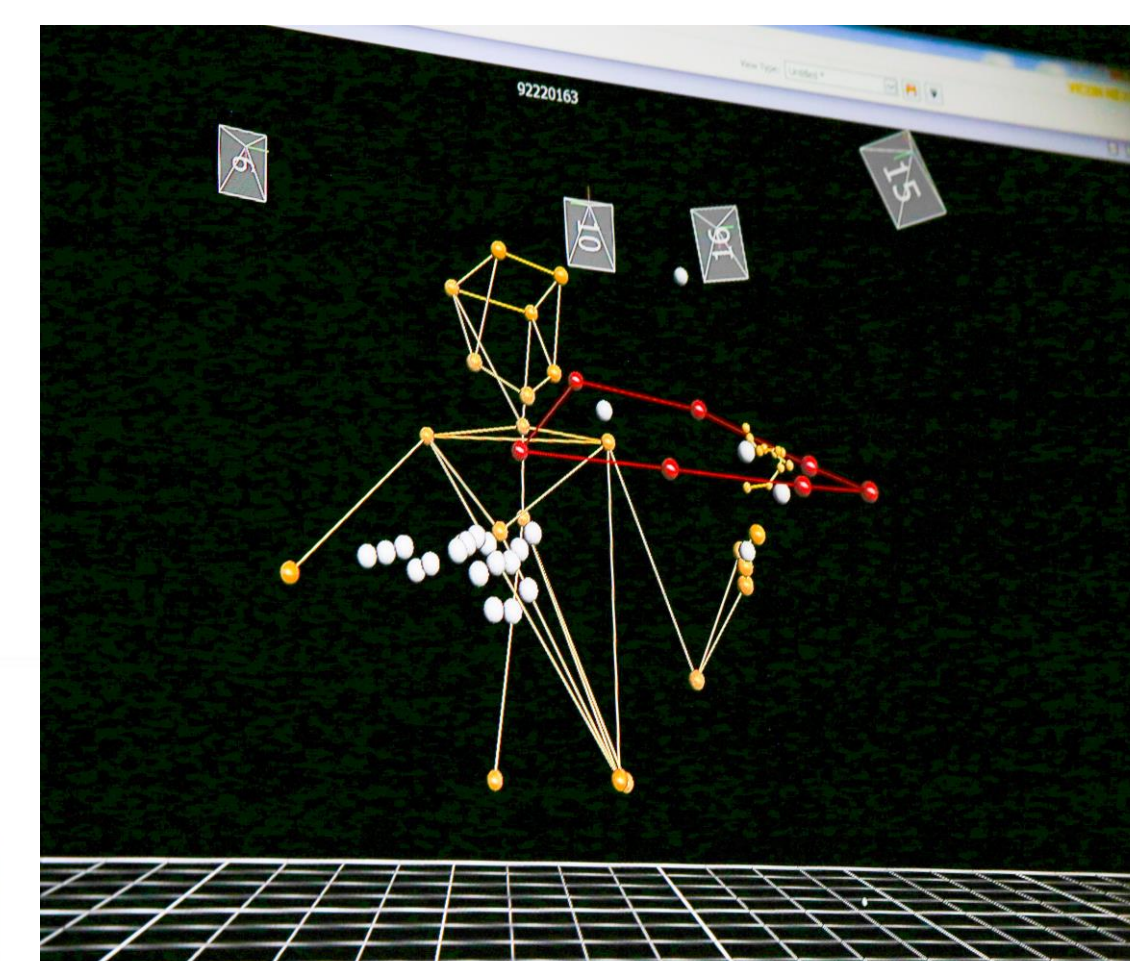
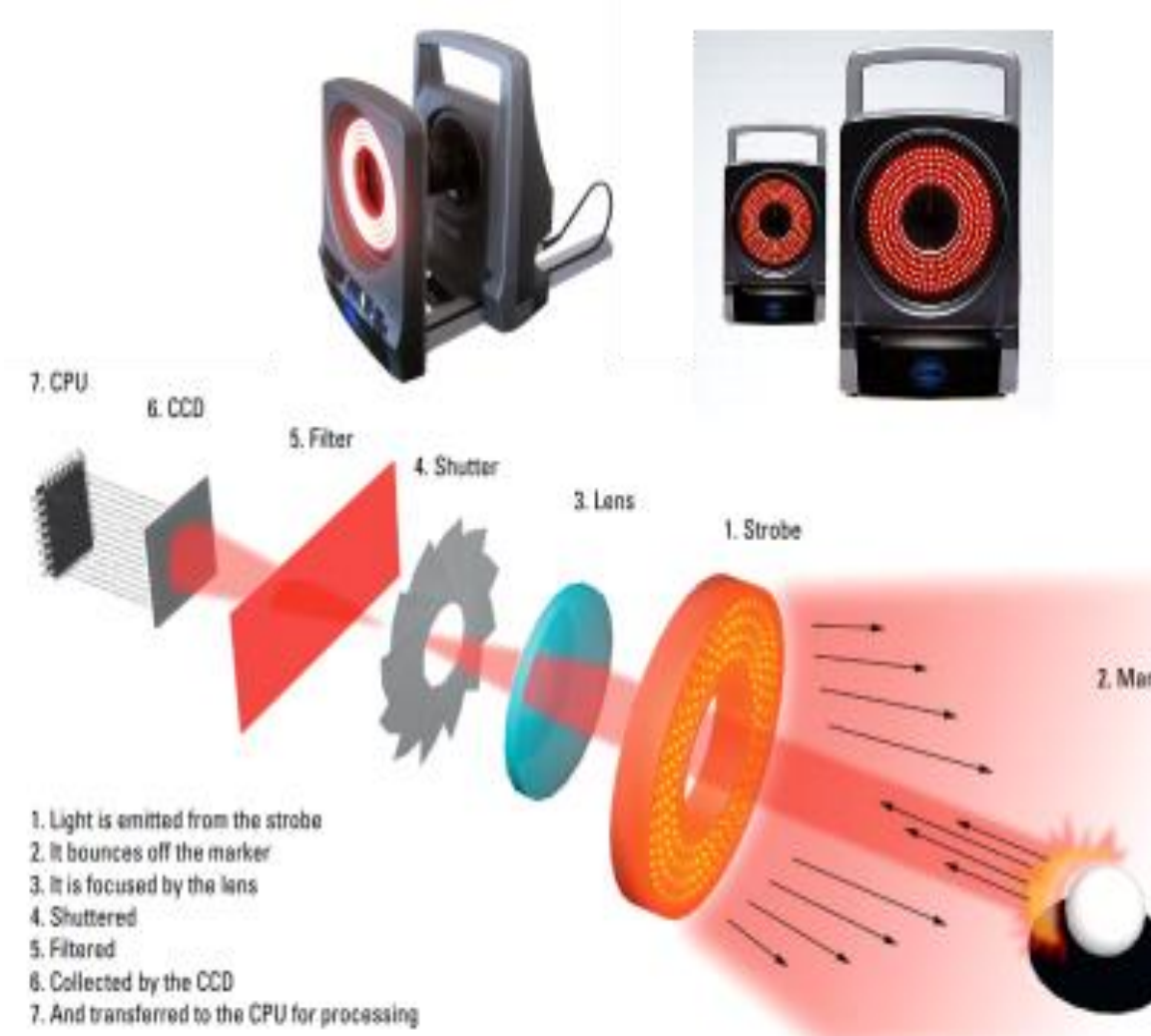


### Anticipated Results

The AT has not been performed as a preventative measure to improve musicians' posture in relationship to perceived pain. The expectation is that the AT will decrease muscular tension and improve the posture of the musician during practice and performance.

### Methods

Using motion capture technology in the Autonomous Tracking of Motion (ATOM) Lab, participants will be tracked by motion capture cameras like the ones used in movies for special effects that will record head, neck, and arm movements as participants play their instrument. Male and female participants with at least three years of instructional experience playing the violin or viola and who are at least 18 years of age will be recruited. Participants will play an excerpt of music, practice the Alexander Technique, then apply what they have learned from the AT while re-playing the same musical pieces. The cameras will track shoulder movement and neck rotation, and perceived pain will also be measured before and after practicing the AT with a written questionnaire.



### Conclusion

In musicians, injury can seriously affect not only the ability to continue playing their instrument, but also their overall health. Using motion capture technology offers a novel approach to observe the effects of the AT on musicians. The goal of the research is to show that the AT can lead to a decrease of muscular tension and pain in violinists and violists, thus reducing the incidence of overuse injuries and increasing postural awareness as a part of a health-focused playing method.