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## Posture and Injury Prevention Program for High School Musicians

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# Posture and Injury Prevention Program for High School Musicians

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## BACKGROUND

Musicians suffer from a variety of musculoskeletal conditions resulting from overuse during asymmetrical postures in both static and playing positions (Ohlendorf et al., 2017; Rosseau et al., 2023; Yang et al., 2021). Musicians are predisposed to overuse injuries and are often unaware that the injuries they may be sustaining can be traced back to their postural habits (Ohlendorf et al., 2017).

## PROBLEM

There is decreased awareness and a lack of education among musicians regarding postural asymmetries and how repetitive motions contribute to the development of musculoskeletal injuries (Yang et al., 2021).

## PURPOSE

To provide musicians with information regarding postural health and how overuse contributes to the development of musculoskeletal injuries that put musicians at risk of occupational deprivation (AOTA, 2020).

### Outcome objectives:

- Conduct a needs assessment among high school musicians.
- Develop an interactive posture and injury prevention program for high school musicians.
- Develop and implement program components.
- Assess the efficacy of the program.

## METHODS

- Leander High School, Leander, TX
- 33 respondents to needs assessment survey
- 12 participants in program
- 12 respondents to pre- and post-program survey

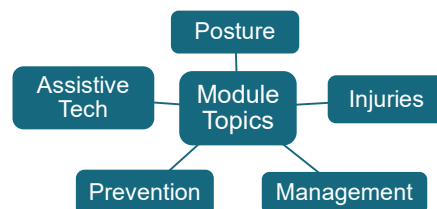
**Needs Assessment Survey & Postural Observation Chart:** A survey based on the frequency of playing/ practicing and symptoms of musculoskeletal injuries.

**Pre-Program Survey:** Assesses preliminary knowledge of posture and injuries before participating in the program.

**Post-Program Survey:** Assesses the knowledge gained throughout participating in the program.

### Development & Implementation:

- Development was guided by the literature review, needs assessment, and the biomechanical frame of reference, and altered based on post-program survey results.
- This program was implemented with music educators and music students.



## PROGRAM

### Program Goals:

1. Educate regarding the importance of postural health.
2. Educate on common musculoskeletal injuries that musicians may be at risk of developing.
3. Teach stretches and exercises to improve postural health and reduce the risk of developing musculoskeletal injuries.
4. Raise awareness regarding available assistive technology to help improve posture.
5. Educate on the importance of routine management when implementing a health routine.

### Theoretical Framework:

Biomechanical Frame of Reference

### Interventions:

1. Educational posture module with seated posture checklist.
2. Educational musculoskeletal injury module with common injuries musicians develop.
3. Preventative stretch and exercise module with hand-to-elbow warm-up routine containing links and QR codes to video demonstrations.
4. Purchasable assistive technology infographic containing QR code to list of purchasable equipment.
5. Educational routine management module with tips for achieving a routine and example planner page.

## CONCLUSION & FUTURE DIRECTION

Program results indicate improved awareness and familiarity among participants regarding healthy posture, musculoskeletal injuries that musicians may be at risk of, preventative stretches/exercises, available postural assistive technology, and routine management. Future programs and research would benefit from examining the long-term effects of implementing a stretch and exercise routine or program to help improve posture among high school musicians. Conducting this form of program or research would benefit from starting at the beginning of a school year in hopes of achieving greater participant consistency.

### Acknowledgment

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### Program



### References

