

Introduction

Ultrasound imaging generates a depiction of anatomical structures through real-time visual feedback using tissue interface reflections (Henry & Westerveld, 2005). Diagnostic ultrasound (DUS) is increasingly

Methodology

Results

Introduction

This research aims to bridge the gap in our understanding by investigating the inter-rater reliability of both licensed physical therapists (PTs) and student physical therapists (SPTs) when employing diagnostic ultrasound to identify healthy soft tissue structures. By shedding light on the reliability of diagnostic ultrasound (DUS) in the hands of these healthcare professionals, this study seeks to contribute valuable insights that may enhance the diagnostic capabilities and confidence of physical therapists in assessing musculoskeletal tissues and ultimately improve patient care.

Methodology

22 healthy participants (9 females, 13 males, mean age of 26.6 years) with no recent right lower extremity injuries were included
4 participants were excluded for not meeting inclusion criteria
Measurements were taken with the patient in a supine position with the knee at 25° of flexion except calcaneus with the ankle in resting position in prone.
Percent agreement was calculated for each structure among experienced PTs, SPTs, and across all four raters.

Results

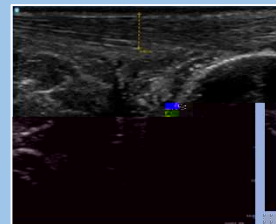
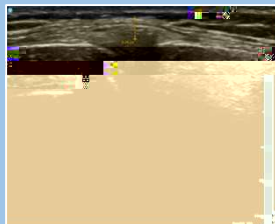
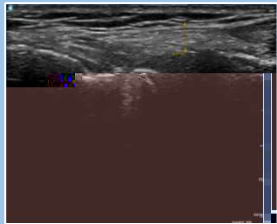
PTs and SPTs can use diagnostic ultrasound to identify anatomical structures.
Useful for identifying pathology and planning patient care.
More research needs to be conducted on interrater

PTs and SPTs are capable of using diagnostic ultrasound to identify anatomical structures. This can be used to identify pathologic tissue to help guide their treatment interventions and plan of care.

Introduction

Diagnostic ultrasound (DUS) has evolved into a versatile and indispensable resource for real-time visualization of nerves, muscles, joints, and various anatomical features [5]. It has found widespread applications across diverse medical specialties, including clinical gynecology, cardiology, rheumatology, and radiology [6].

This research aims to bridge this gap in our understanding by investigating the inter-rater reliability of both licensed physical therapists and SPTs when employing diagnostic ultrasound to identify healthy soft tissue structures. By shedding light on the reliability of DUS in the hands of these healthcare professionals, this study seeks to contribute valuable insights that may enhance the diagnostic capabilities and confidence of physical therapists in assessing musculoskeletal tissues and ultimately improve patient care.



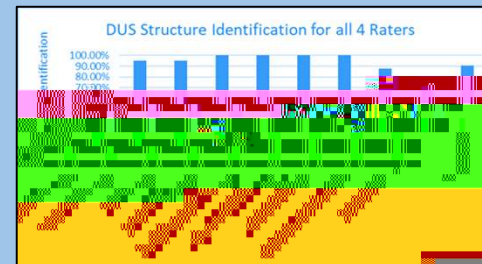
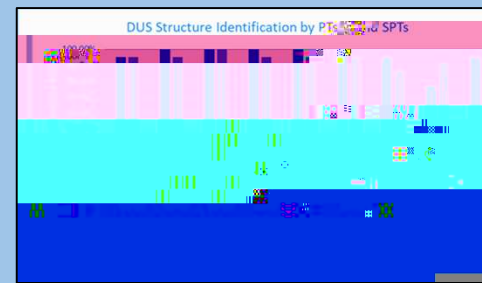
Methodology

22 healthy individuals (9 females, 13 males, mean age of 23.6 years) with no recent right lower extremity injuries were recruited. 4 participants were excluded due to not meeting inclusion criteria.

VScan Air Ultrasound probe used by raters to identify the 9 structures (the inferior pole of the patella, tibial tuberosity, calcaneus, medial and lateral knee joint lines, medial and lateral femoral condyles, the medial tibial plateau, and the fibular head).

Structures measured with the patient in supine and knee in 25° of flexion, except the calcaneus which was in prone with ankle in resting position. Percent agreement was calculated for each structure between the experienced PTs, the SPTs, and across all four raters.

Data



Results

The licensed PTs similarly identified the tibial tuberosity, medial joint line, medial femoral condyle, medial tibial plateau, and the calcaneus for all participants. Of the four remaining structures, the PTs identified the inferior pole of the patella, the fibular head, and the lateral joint line similarly in 95.2% of the participants, and the lateral femoral condyle in 77.3% of the participants. The SPTs agreed on all structures in more than 90% of the participants. The experienced PTs and the SPTs identified similar structures as being the calcaneus and the medial knee structures in 100% of the participants. The four raters similarly identified all remaining structures in greater than 85.0% of the participants, except for the lateral femoral condyle, 71.4%.

Conclusion

PTs and SPTs are capable of using diagnostic ultrasound to identify anatomical structures. This can be used to identify pathologic tissue to help guide their treatment interventions and plan of care for future patients. More research needs to be conducted on inter-rater reliability diagnostic ultrasound measurements between PTs and SPTs on different anatomical structures.

Physical Therapists and Student Physical Therapists' Ability to Identify Similar Structures using Diagnostic Ultrasound Imaging

Stephanie Deering, Corey Borromeo, Emilyn Angelica Simon, Darren Dinh, Glenn Manapat, Christina Gomez, Jeremiah Samson



Introduction

In the realm of medical diagnostics, the introduction of ultrasound as a tool for identifying anatomical structures marked a significant milestone in 1942 when a neurologist first employed it to detect brain tumors [3]. Since then, diagnostic ultrasound (DUS) has evolved into a versatile and indispensable resource for real-time visualization of nerves, muscles, joints, and various anatomical features [5]. It has found widespread applications across diverse medical specialties, including clinical gynecology, cardiology, rheumatology, and radiology [6].

In the context of military physical therapy, where practitioners

Methodology

Results