



A Case Report: Musculoskeletal Injuries Among Unaccompanied Migrant Youth: Lateral Bucket Handle Meniscal Tear

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Introduction

- ▶ The primary function of the meniscus is to distribute the load, absorb shock, provide lubrication and nutrition to the knee joint
- ▶ With injury, normal knee function is compromised, and if left untreated, there is a risk of early development of osteoarthritis, impacting quality of life in many aspects
- ▶ Bucket handle meniscal tears (BHMTs) are vertical longitudinal tears of the meniscus with displacement of the torn inner fragment toward the intercondylar notch region; they make up 14% of meniscal injuries in the pediatric and adolescent population

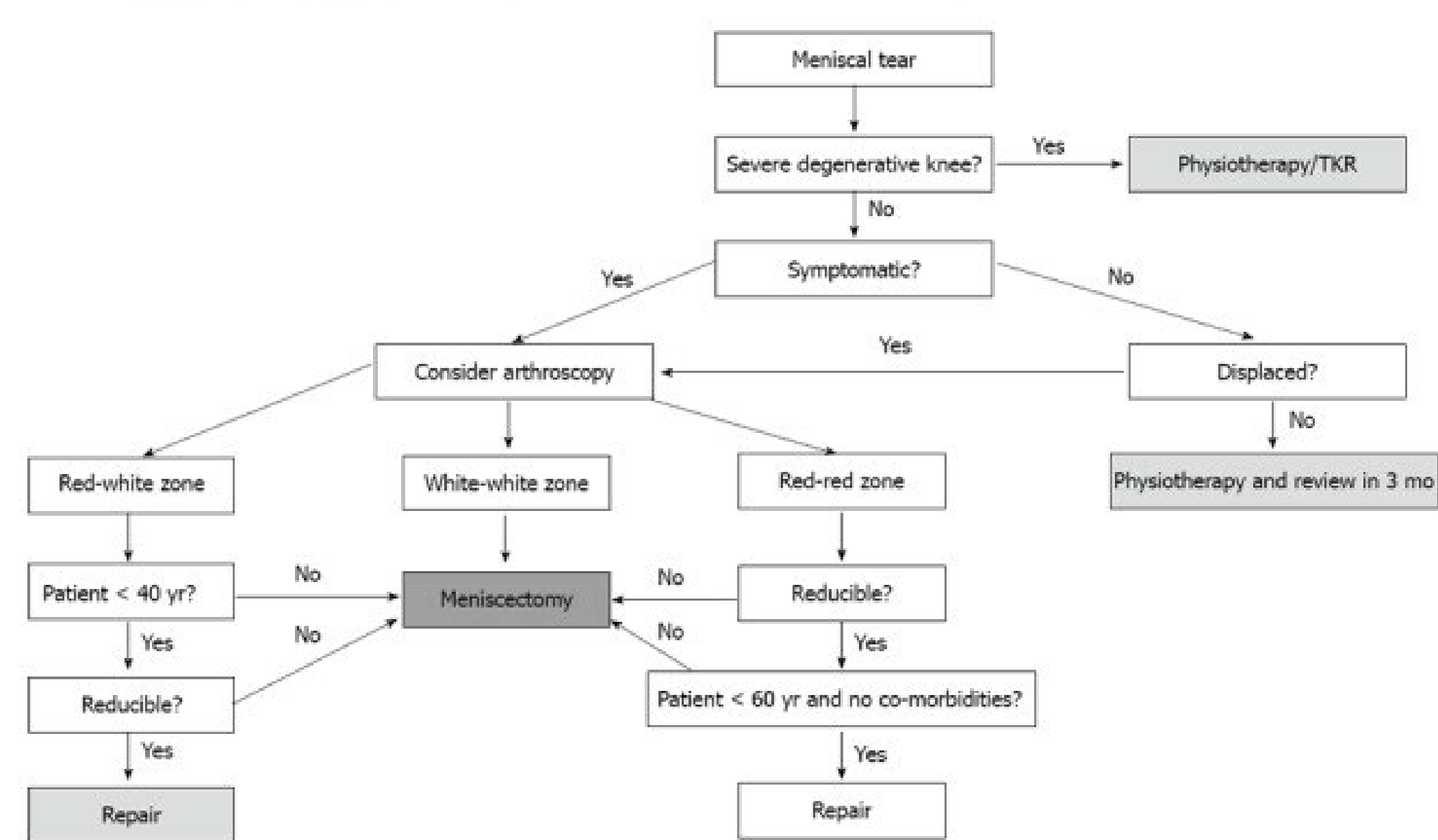
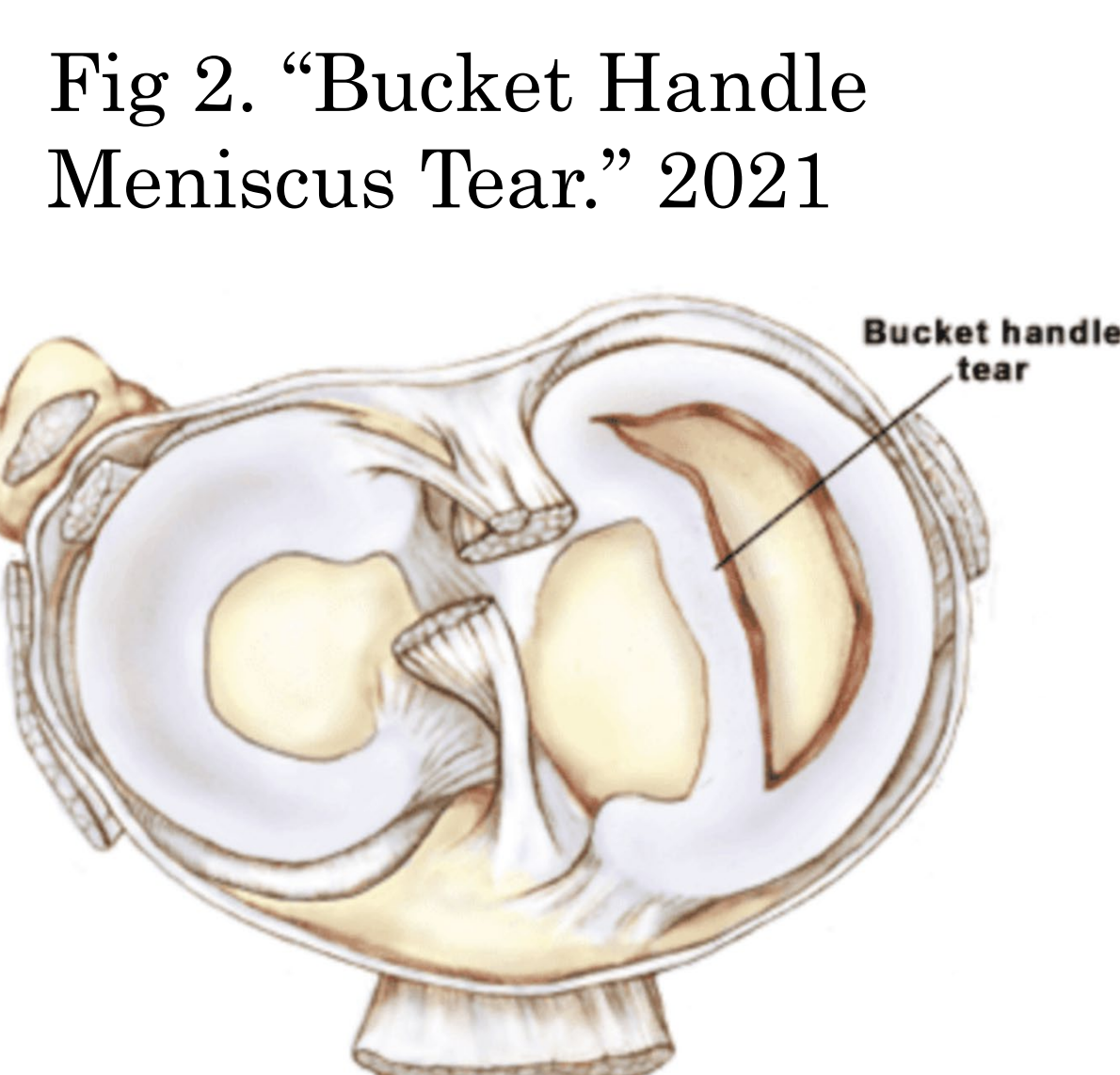
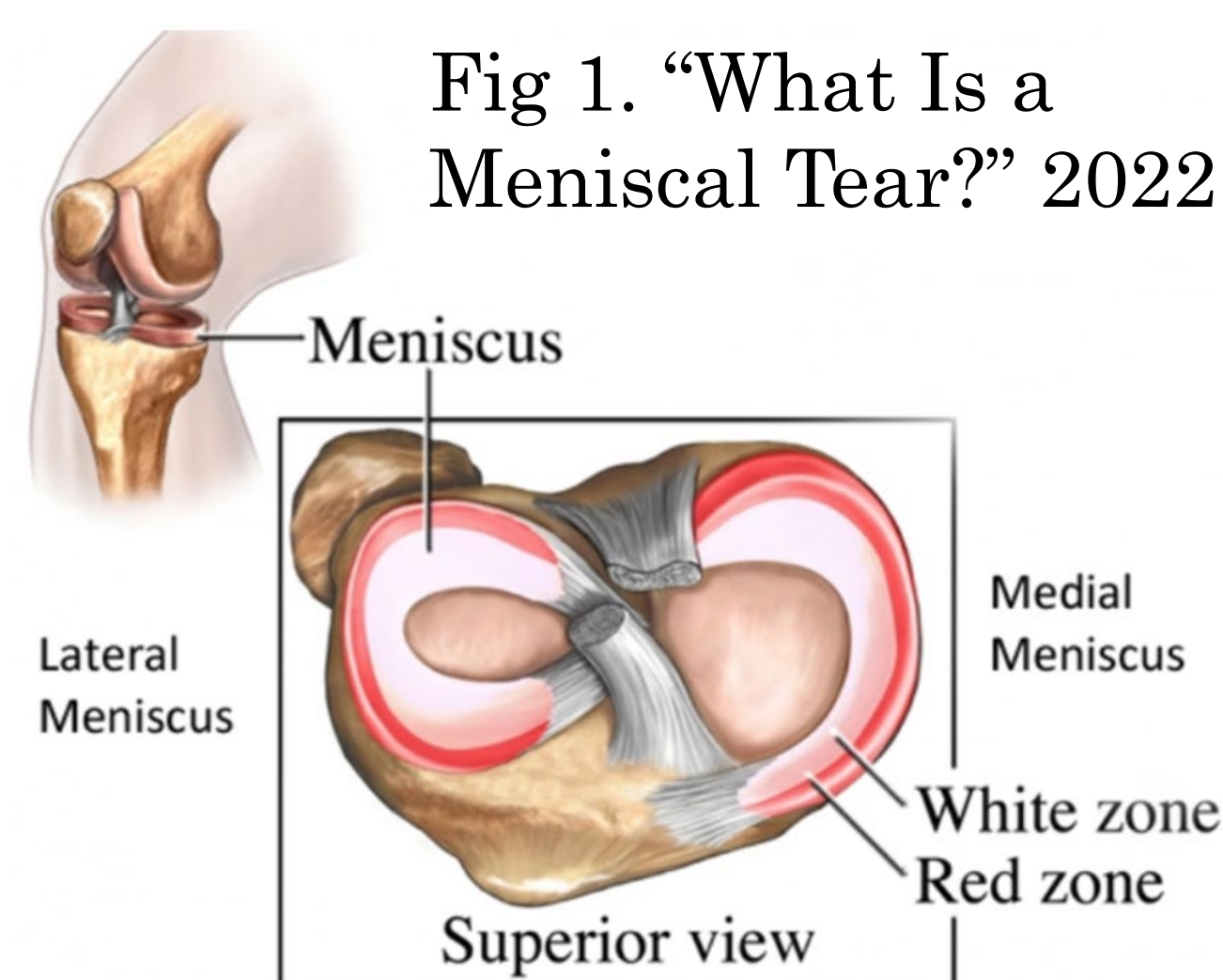


Fig 3. "Treatment of meniscal tears: An evidence-based approach." 2014

Migrant Journey to America

- ▶ Economic insecurity, violence, and political unrest in Central and South America force many people to migrate to the U.S
- ▶ Many people ride "The Beast" to cross the border
 - Network of freight trains that run from the border of Guatemala, through Mexico, and into the U.S.
 - Risk of injury with climbing aboard and jumping off the moving train, falling asleep and falling off
 - Many have to walk hundreds of miles to reach the train
- ▶ Those migrating from South America must travel through the Darien Gap to reach Central America
 - Border between Colombia and Panama consisting of 60 miles of dense rainforest, mountains, and swamps



Fig. 4 "Riding 'the Beast' across Mexico to the U.S. Border." 2014.

Fig. 5 "Central American Corridor a Dangerous Route for Migrants Heading to Canada." 2017.



Fig. 6 "Crossing the Darién Gap." 2022.



Case Summary

- ▶ 17-year-old male migrant from Honduras with no past medical or family history presents for U.S. domestic clearance
- ▶ Chief complaint: 4 days of right knee pain that began after jumping off a moving train also known as "The Beast"
- ▶ Initial physical exam showed right knee tenderness without swelling and full range of motion
- ▶ Two months later patient returns with worsened right knee pain, limited/painful range of motion, and a limp
- ▶ MRI revealed a bucket handle tear of the lateral meniscus with the bucket handle fragment flipped centrally along the intercondylar notch, involving approximately 30% of the meniscal substance
- ▶ Treatment routes depends on factors such a location of tear, presence of symptoms, and cause of tear
 - Treatments = physical therapy, meniscal repair, or partial meniscectomy

Meniscal Injury and Articular Damage

- ▶ Flipped meniscal fragment sits on articular surface and abrades it, accelerating the development of arthritis
- ▶ Lose opportunity to repair meniscus if tear is through the red-red or possibly the red-white zone when evaluation and treatment is delayed

Osteopathic Significance

- ▶ As per the osteopathic tenants, structure and function are reciprocally interrelated.
- ▶ By obtaining an early diagnosis, restoration of normal structure and function in the knee joint sooner can prevent further joint-related issues in the future.

Discussion

- ▶ Migrant youth endure a significant amount of physical strain on their journey, and as a physician, it is essential to be astute and not delay the workup of musculoskeletal complaints
- ▶ Meniscal injuries such as (BHMTs), compromise shock and load absorption, increasing the chance of articular damage and subsequent development of osteoarthritis, later limiting them in functional capacity and decreasing their quality of life
- ▶ There is a strong association between a low level of education and low perception of quality of life due to less information on the prevention and treatment of osteoarthritis as well as the lack of regular medical follow-up in this population

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