Liquid Prophylactic Brace for Prevention of Ankle Sprains

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Technology description

Utilizes Liquid-filled Pouches to Protect Ankles from Excess Rotation Injuries During Physical Activity

This ankle brace allows free ankle movement at low speeds, while protecting ankles from injury due to excess rotation and strain in unsafe directions (known as shear stress). An important aspect of sports medicine, the global body support and recovery market is estimated to reach a value of $3.1 billion by 2019, with the U.S. market accounting for approximately 40 percent of this revenue. Lateral ankle sprains are common injuries that affect athletes and non-athletes in a wide range of activities. These injuries can be costly and often hinder athletic participation and daily physical activity of affected individuals. Researchers at the University of Florida have developed a brace design that secures liquid-filled pouches to both sides of an ankle, minimizing the threat of damage to previously injured ankles and promoting ankle safety for at-risk individuals. This may aid faster recovery from prior sprains and allow individuals to maintain regular physical activity, supporting global health efforts.

Technology

This ankle brace technology is capable of preventing common ankle injuries, such as medial and lateral sprains, by allowing the ankle to move freely at slow velocities while preventing excess rotation and shear stress damage. To support an ankle that has been injured, or is at risk of injury, two fluid-filled pouches are secured tightly around the ankle. When the ankle twists in an unsafe manner, the liquid-filled pouches prevent excess rotation and subsequent injury. This minimizes the possibility of damage to at-risk and previously injured ankles while allowing the wearer to maintain a moderate level of mobility, which supports continued physical activity during sports medicine recovery plans.

Application area

Liquid-filled ankle brace capable of preventing excess rotation and shear stress injuries during physical activity

Advantages

Provides stability to injured ankles, lowering risk of further damage during physical activity
Uses soft, liquid-filled pouches, allowing some regular mobility while providing ankle protection
Integrates with available ankle brace products, supporting easy adoption by consumers

Institution

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