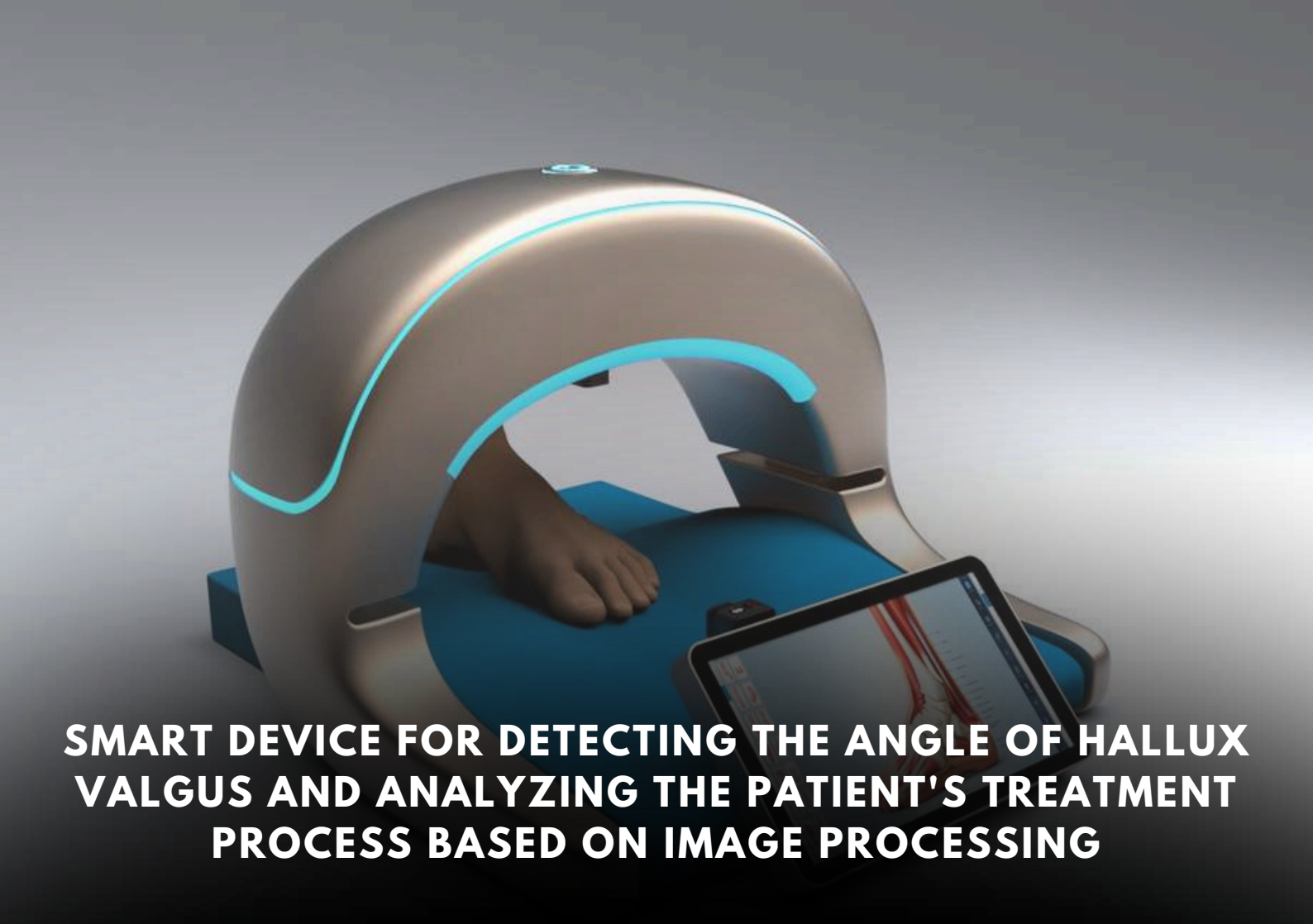


SMART DEVICE FOR DETECTING THE ANGLE OF HALLUX VALGUS AND ANALYZING THE PATIENT'S TREATMENT PROCESS BASED ON IMAGE PROCESSING

About Hallux Valgus

- Its a type of deformity in the big toe!
- Also called a Bunion.
- Occurs when the first metatarsal bone (MTP) of the foot turns outward and the big toe bends inward (towards the other toes), resulting in a joint protrusion.

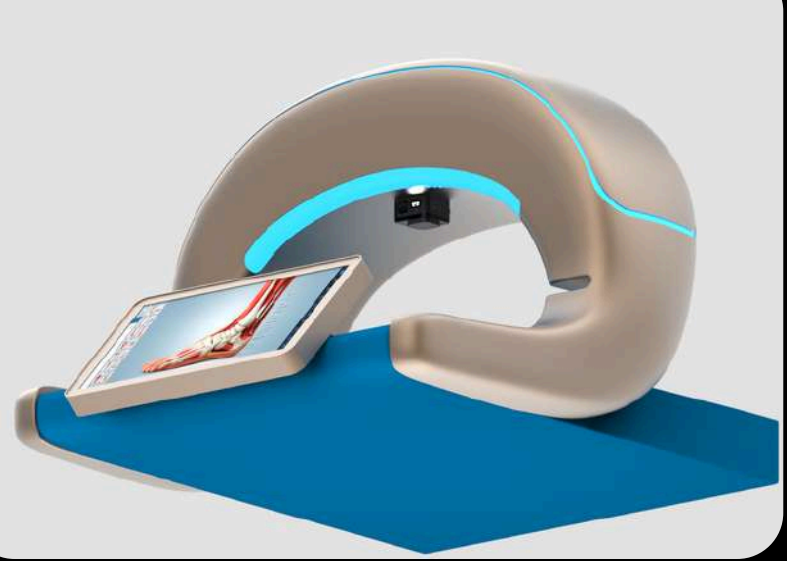
- As shown in the image on the left, the difference between a healthy foot and a foot with Hallux Valgus is the MTP joint alignment.
- An angle anywhere between 15-18 degrees is considered healthy and any higher than that is believed to be Hallux Valgus.

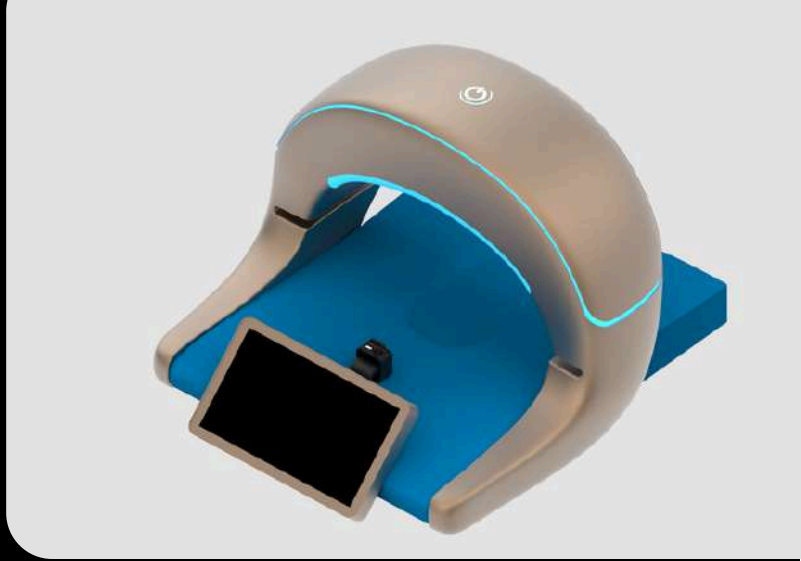
Diagnosis

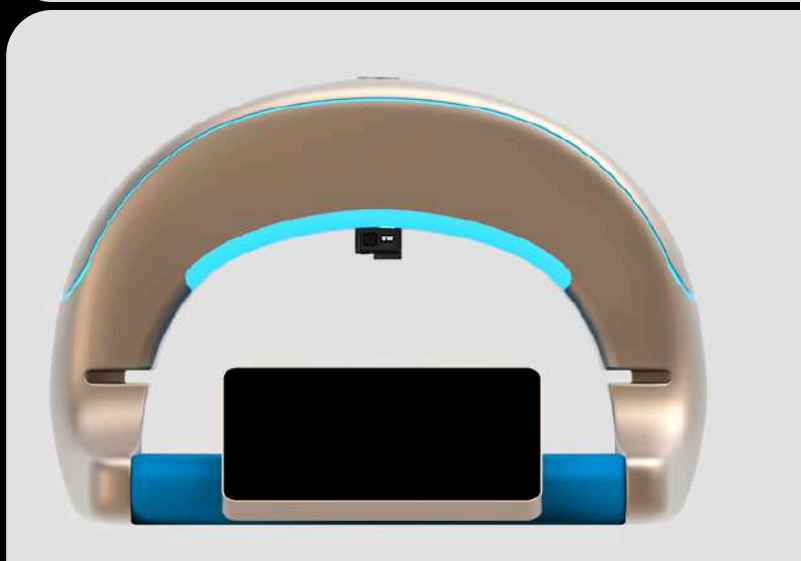
- **Based on the appearance of the foot**
- **Using an X-Ray, the doctor identifies the severity of the Hallux Valgus**

Innovative Solutions

- Utilizes image processing to determine the angle of the deformity
- Assists the doctor in making quicker decisions
- Cost-effective and reduces extra or potential costs for patients
- Monitoring the treatment process and examining the hallux valgus specifics in an individual
- Storing data which includes the exercises performed and the patient's recovery progress, allowing the doctor to modify or adjust their treatment techniques
- Providing a report of a patient's medical history to the treating physician



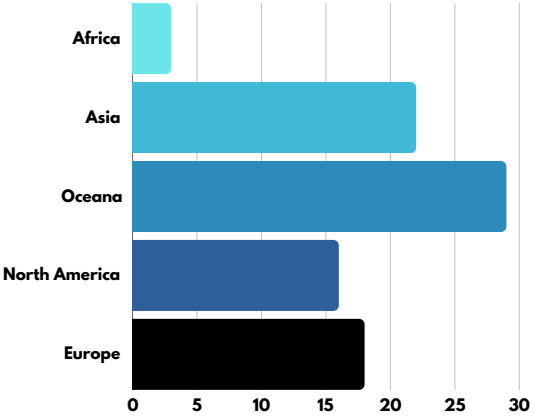




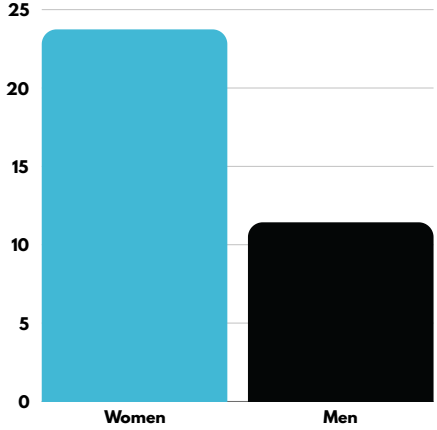
Advantages

- **Detecting the toe deviation angle (hallux valgus) using image processing**
- **Scheduling for treatment and improvement**
- **Measuring patient activity and reviewing performed therapeutic exercises**
- **Display screen showing the hallux valgus type and angle**
- **Monitoring deformity progression to adjust the individual's treatment plan**
- **An exclusive application for each individual to store measured data**

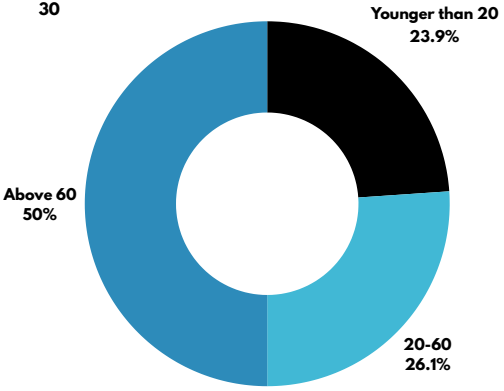
Statistics



Prevalence by continent



Prevalence by gender



Prevalence by age

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