

ABSTRACT

Passive dynamic ankle-foot orthoses (AFO's) are used to improve gait performance in those with various neuromuscular disorders. An important design characteristic of passive dynamic AFOs is the storage and release of elastic energy within its structure to help satisfy the energetic demands of walking. An ankle-foot orthosis (AFO) is worn on the lower part of the leg to help control the ankle and foot. It holds your foot and ankle in a straightened position to improve your walking because it will help you walk more efficiently and keep you stable.

This study investigated the field of and technology relating to 3D scanning, 3D printing and CAD designing for the manufacture of a customized AFO.



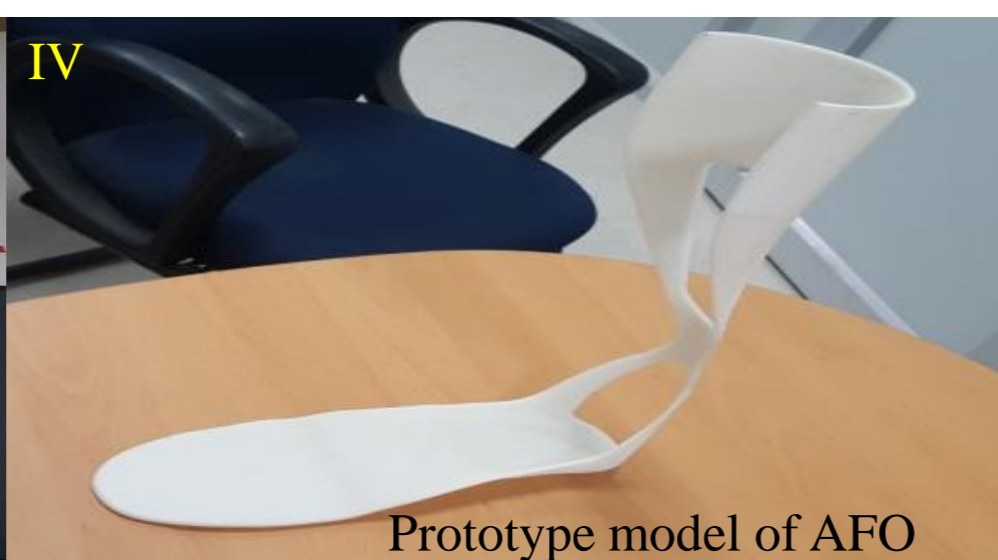
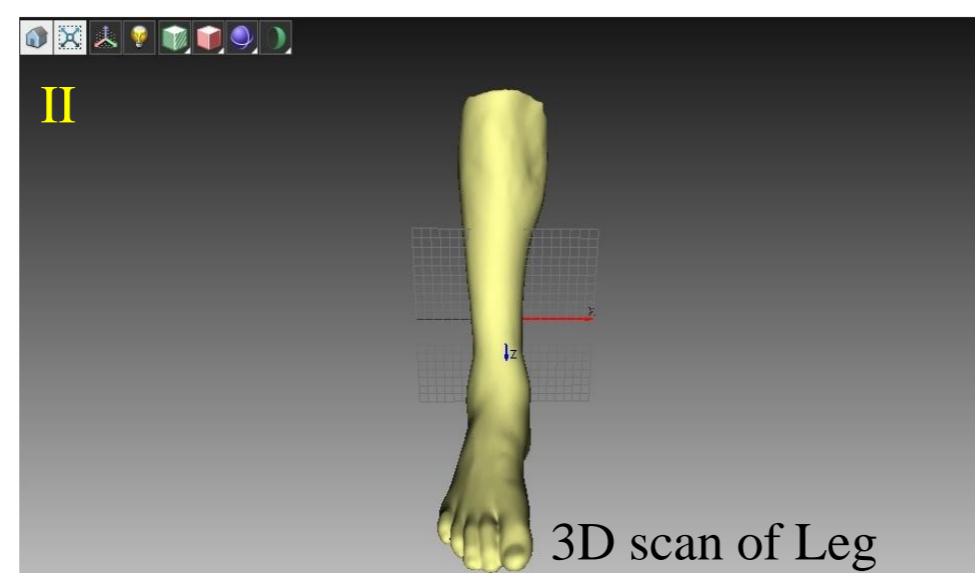
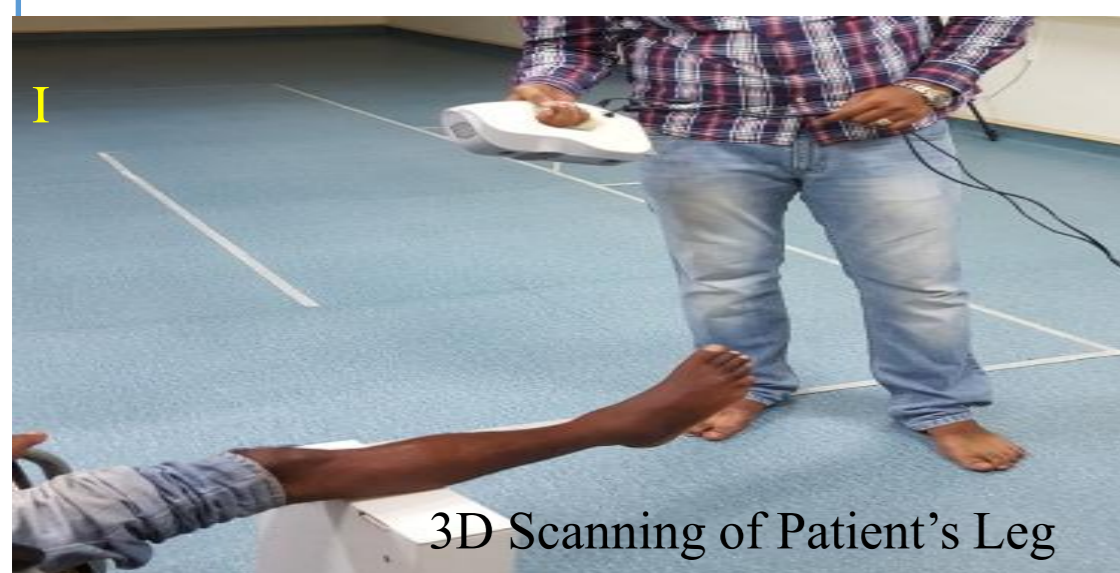
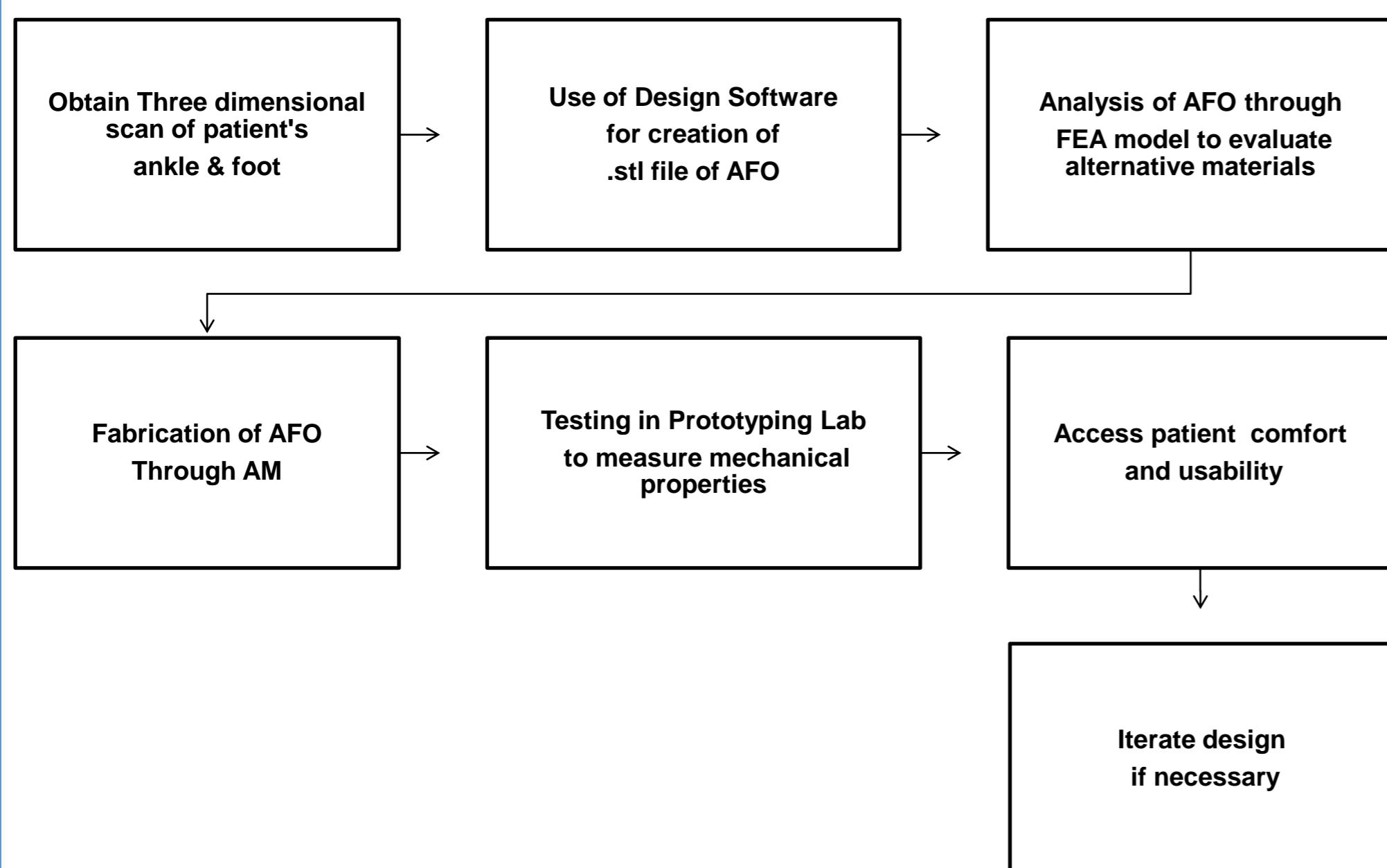
TARGET CUSTOMER

- General public
- Hospitals/doctors
- Government
- Investors



METHODOLOGY

Figure : Flow diagram of AFO prototype development



PROBLEM DEFINITION

Foot drop is a muscular weakness or paralysis that makes it difficult to lift the front part of your foot and toes. It's also sometimes called drop foot, and can cause you to drag your foot on the ground when you walk. Foot drop makes it difficult to lift the front part of your foot, so it might drag on the floor when you walk.



UNIQUE INSIGHTS/BENIFITS

1. Customized AFO
2. Fast Recovery (Time)
3. More comfortable



KEY IMPLEMENTATION CHALLENGES

1. Finding Foot Drop Patient within Chandigarh Circle
2. Need to tie up with Orthotics firm

PROJECT POTENTIALS

- Customized design and product of the AFO device in terms of functionality, aesthetics, rigidity and cost.
- Improved Human comfort Level and Gait Parameters of Foot Drop Patients



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