Foot Collection

Introduction

Each lab has a different data collection protocol, however, there are some important data collection requirements to use the IORGait protocol. This section describes requirements such as the marker set specific to the foot analysis. The requirements for completing the gait analysis can be found here.	

Lab Setup - Before the Patient Arrives

1. Calibrate you capture volume as recommended by your camera's manufacturer.

2. Zero your force plates.

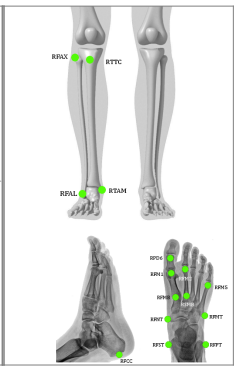
3. Set up all materials that you will need for the capture including, but not limited to: at least 36 markers, with adhesives attached; scale; and measuring tape for height. The referring physician may request other measurements, so you should discuss these prior to the subject's visit.

Subject Setup - Marker Placement

The anatomical location of each target is referenced to the description in the Color Atlas of Skeletal Landmark Definitions. This text is useful for further description of target location as well as recommendations for palpation.

The FMB and SMB target locations are not described in the Color Atlas, but are described in the Leardini multi-segment foot paper.

Marker Placement - Listed by from knees to toes	Marker Name	Description	Reference Page	LRFAX	Proximal tip of the head of the fibula	LRTTC	Most anterior border of the tibial tuberosity	LRFAL	Lateral prominence of the lateral malleolus	LRTAM	Most medial prominence of the medial malleolus	LRFCC	Aspect of the achilles tendon insertion on the calcaneous	LRFST	Sustentaculum Tali of Calcaneus	LRFPT	Lateral apex of the peroneal tubercle	LRFNT	Navicular tuberosity	LRFMT	Tuberosity of 5th Metatarsal	LRFMB	Base of First Metatarsal	LRSMB	Base of Second Metatarsal	LRFM1	Dorsal margin of the first metatarsal head	LRFM2	Dorsal aspect of the second metatarsal head	LRFM5	Dorsal margin of the fifth metatarsal head	LRPD6	Distal epiphysis, midpoint between PL6 and PM6	



References

1. ↑ 1.00 1.01 1.02 1.03 1.04 1.05 1.06 1.07 1.08 1.09 1.10 1.11 1.12 Serge van Sint Jan “Color Atlas of Skeletal Landmark Definitions: Guidelines for Reproducible Manual and Virtual Palpations” 2007 - Churchill Livingstone
2. ↑ 2.0 2.1 Leardini, A., M.G. Benedetti, L. Berti, D. Bettinelli, R. Nativo, and S. Giannini. “Rear-foot, Mid-foot and Fore-foot Motion during the Stance Phase of Gait.” Gait & Posture 25 (2007): 453-55

Data Collection

Static Trial

During the static trial, the subject should:

1. Stand stationary 2. Feet on one or two of the force platforms 3. Comfortable stance 4. Feet shoulder width apart 5. Arms out to so that markers are not occluded During the static trial, the user should:

1. Instruct the subject where to stand and in what posture 2. Collect approximately a three second trial using the motion capture software while the subject is stationary 3. Instruct the subject to relax 4. Label the static trial to ensure all targets appear If all targets have been placed on the subject, if not, collect a new static trial, or overwrite the original static trial

Dynamic Gait Trials

Collect dynamic trials:

1. Have the patient start at one end of the capture volume and have them walk across the force plates at a self selected normal speed. 2. Collect at least one good foot strike per gait trial. Click here to find out more information about a "good" foot strike 2. Make sure: 1. No targets fall off the subject during data collection 2. Targets do not become occluded due to clothing, etc. To complete the IORgait analysis, at least two clean foot strikes (one right, one left) must be collected. However, the

total number of trials collected is an individual lab decision. Many users collect at least five clean foot strikes for the left and five for the right. The amount of trials this requires may depend on the number of force platforms in your lab.

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