Clean Foot Strike

Introduction

A “clean” foot strike indicates that measurements from the force platform can be used for analysis.

This is very important because “bad” forces can cause:

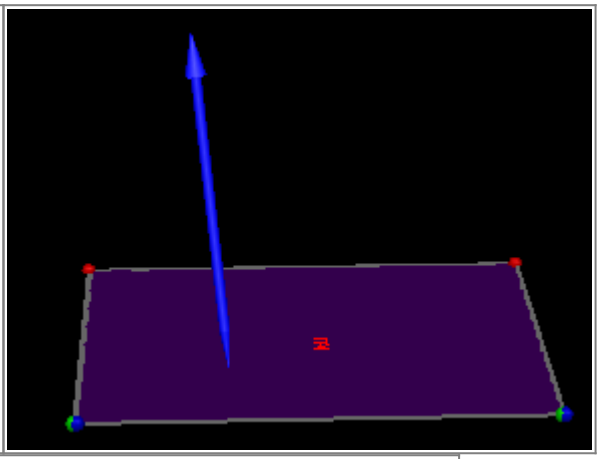
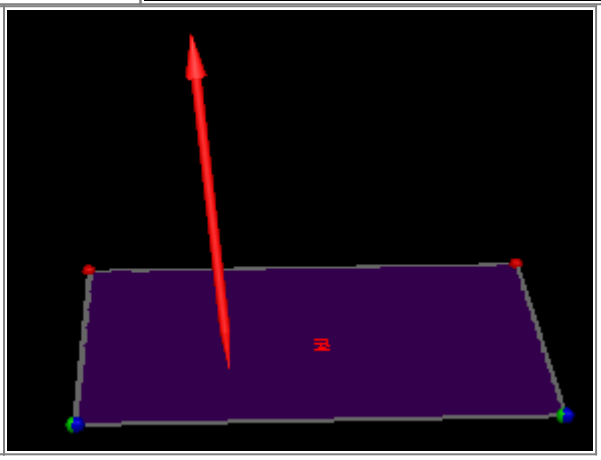
1. Bad footstrike events to be created
2. Bad kinetic (ground reaction force, joint moments, etc.) calculations

NOTE: It is OK to collect “bad” forces, but it is necessary to tell the software to ignore these bad assignments, but we need at least a few good forces to complete our analysis.

During data collection, clean strikes should be checked visually as the subject steps on the force platform. The user should position the subject so that they will step on the plate, the subject should not aim to step on the plate since this will change their gait.

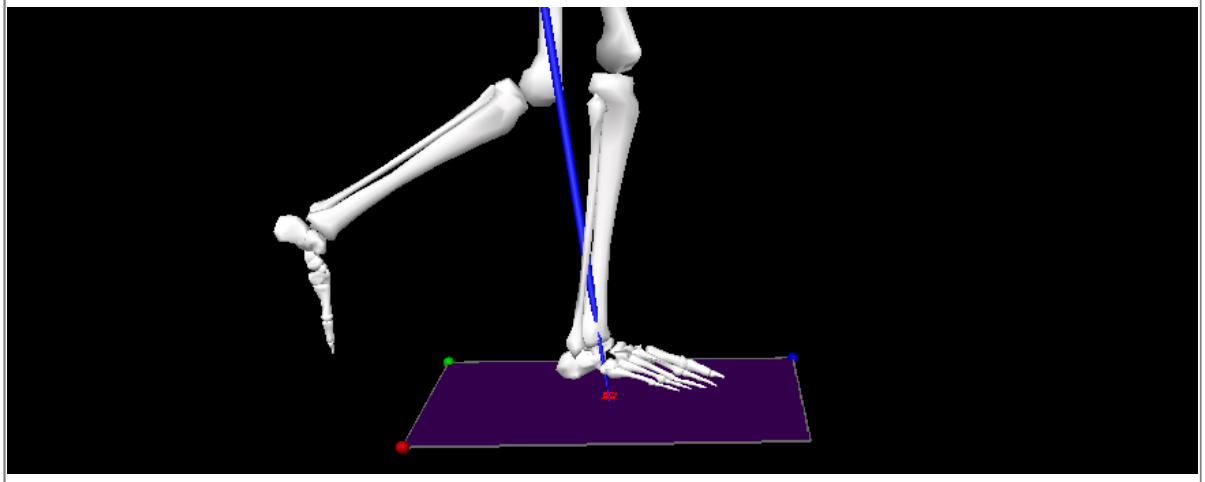
Force Assignments

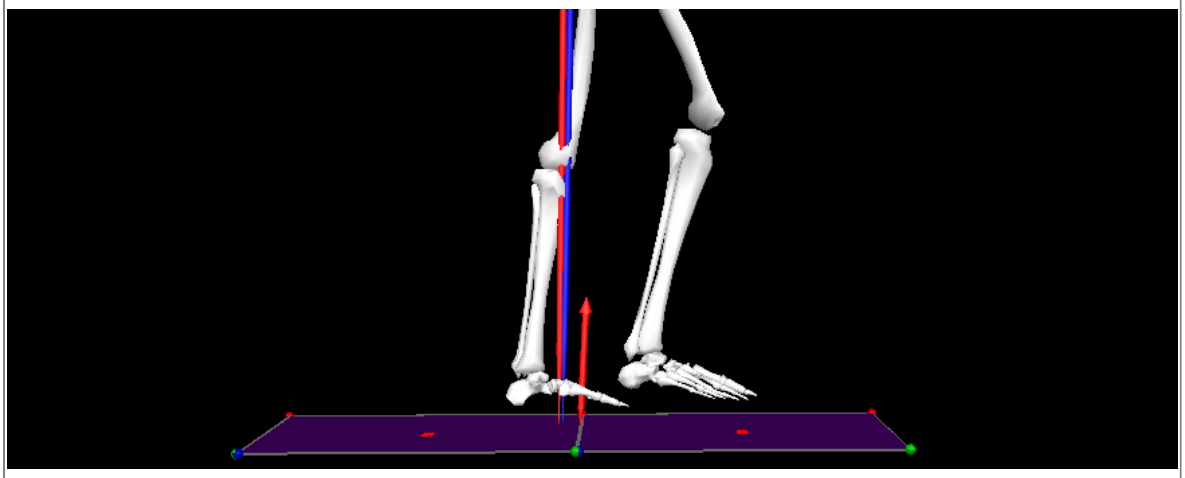
How to determine a “good” vs. “bad” assignment:

A good assignment: A “good” assignment will be shown in blue A “good” assignment will be used to create force assignments and gait events (foot strike and foot off)	
A bad assignment: A “bad” assignment will be shown in red A “bad” assignment will be completely ignored	

Examples of GOOD Footstrikes

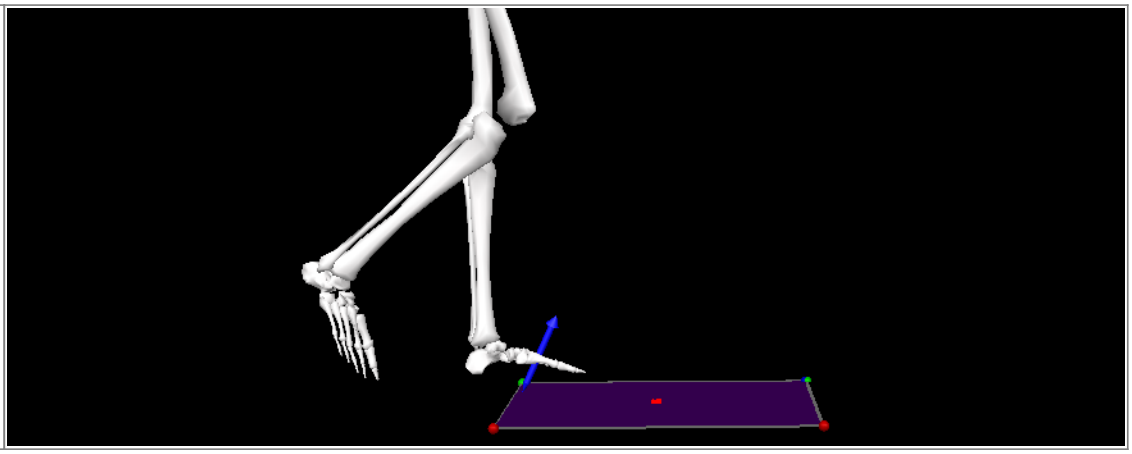
These are just some examples of “clean” foot strikes. The biggest thing to remember, is that if only one foot comes in to contact with a force platform, the force may be considered good. If anything else (other foot, walker, cane, etc.) comes into contact with the plate during stance, the force assignment should be removed.

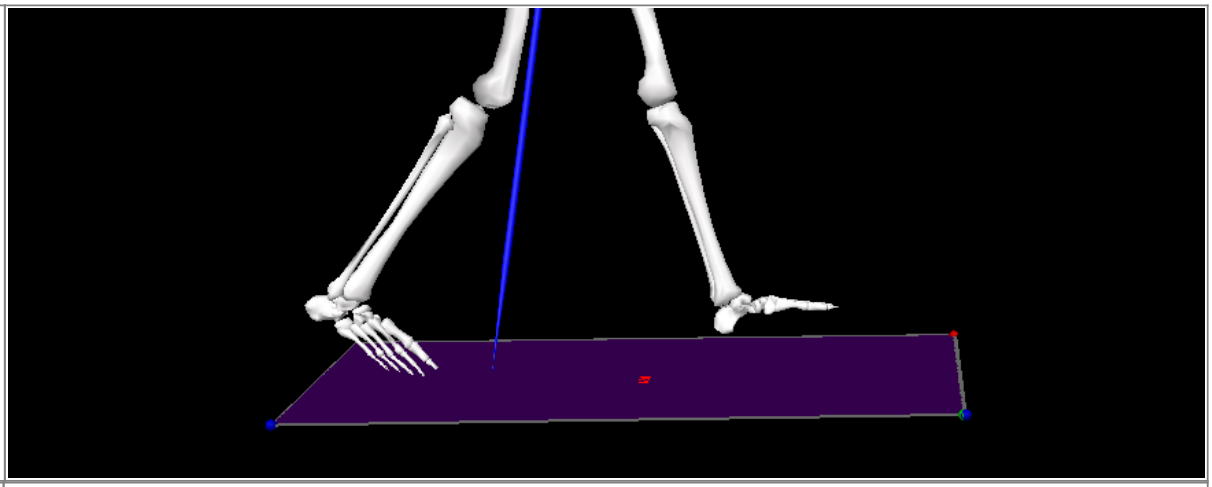
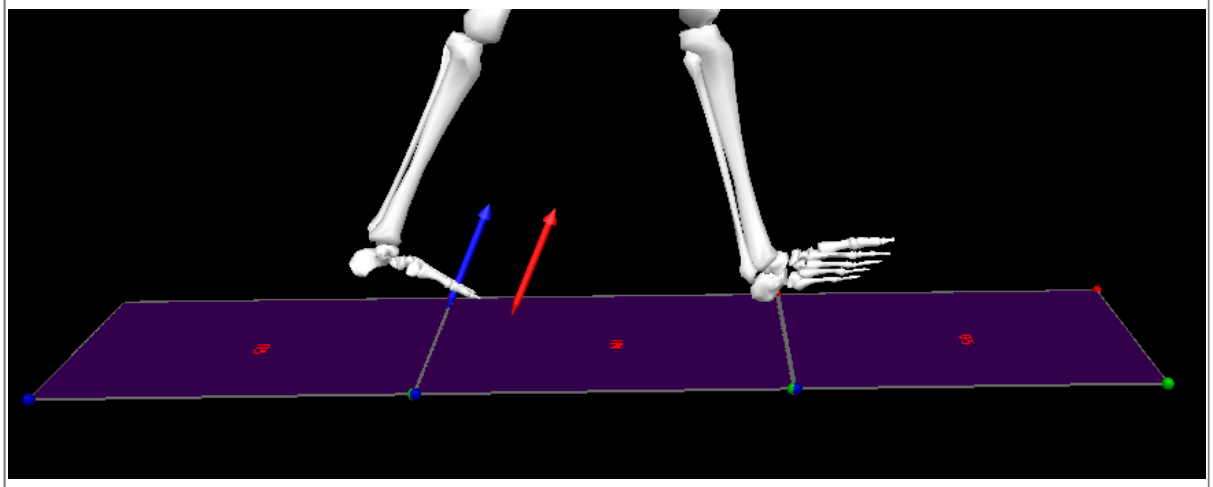
1. One foot on one pate In this example only the right foot is on the force platform, so the force data collected from this platform is assigned to the right foot. This force assignment is already created since the force is shown in blue, so it is not necessary to make any modifications	

2. One foot on two pates In this example only the right foot is on the two force platforms, the left foot never touches either plate. IORGait will automatically combine these two force into one, and this can be considered a good foot strike. If there is a gap between your forceplatforms, then this should be considered a bad assignment. This force assignment is already created since the force is shown in blue, so it is not necessary to make any modifications	

Examples of BAD Footstrikes

These are just some combinations of “bad” foot strikes to give you an idea of what you are looking for.

1. One foot half on the plate Since the subject is not stepping entirely on one plate, the force assignment must be removed.	

2. Two feet on one plate In this example, two feet are on one plate, so the force assignments must be removed.	
3. Two feet on three plates In this example, both feet are touching the middle force platform. So the force assignments from all three force platforms must be removed.	

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