About the Plug-in Gait model

The Plug-in Gait model is Vicon’s implementation of the Conventional Gait Model, which provides widely used and reliable full body kinematic and kinetic modeling, without the need for any customizations. It is based on the Newington-Helen Hayes gait model and has been validated through its frequent citation in peer-reviewed publications (see Plug-in Gait references).

Vicon Nexus includes the required pre-defined Plug-in Gait marker set and pipelines to enable you to produce outputs of the joint kinematics and kinetics for gait analysis patients. Plug-in Gait enables you to examine full, upper, or lower body joint kinematics and kinetics of patients. When you have run the relevant pipeline operations on your trials, you can produce gait analysis reports that conform to established clinical practices and import the resulting kinematic model of your subject (patient) into another software application, such as Vicon Polygon, for gait analysis.

It is assumed that you are familiar with Plug-in Gait, including the way the model works, where the markers are placed, and what the subject parameters mean. For example, Plug-in Gait directly calculates the kinematic model’s joint centers from the measured XYZ marker positions on a frame-by-frame basis. Therefore, the lengths and orientations of the modeled segments are directly dependent on the marker positions. Accurate marker placement is therefore paramount. For guidance on marker placement, see Attach Plug-in Gait markers to a patient.

The model uses three or more points to define each segment. For all segments distal to the pelvis, one of the points used is the joint center that defines the proximal joint for the segment, for example, one of the three defining points for the tibia is the knee joint center.

Operations relating to modeling with Plug-in Gait are available in the Data Processing operations in the Pipeline Tools pane.

For in-depth descriptions of Plug-in Gait models and templates, and details of the calculations performed by Plug-in Gait, see the Plug-in Gait Reference Guide.

Before using Plug-in Gait, be sure to read the Plug-in Gait disclaimer.

Plug-in Gait references

The following research publications provide supporting information on the scientific basis and validation of Plug-in Gait:


Plug-in Gait disclaimer

You are entirely responsible for the use you make of the software. In particular, the software is not intended to replace the clinical skill of a medical practitioner or his/her independent professional judgment of individual clinical circumstances to make a diagnosis and/or determine a patient’s treatment.

The software should only be used by those who have been appropriately trained in its operation, functions, capabilities, and limitations, and in any event should not be relied upon, by itself, as the sole method of making any diagnosis or determining any treatment.