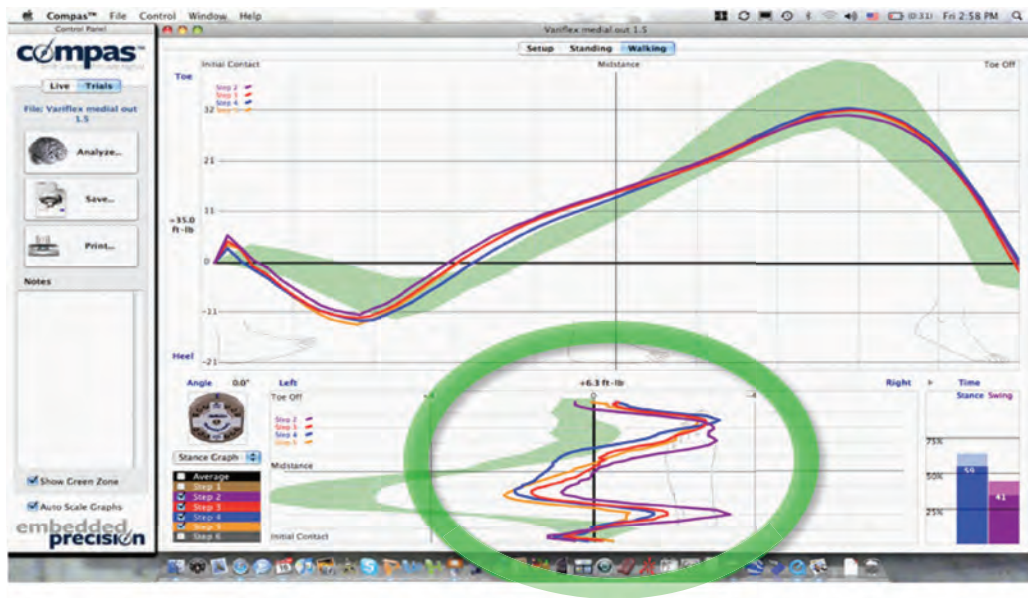


Lesson 2: Excessive Valgus

This lesson will help you recognize when the Smart Pyramid™ wearer's prosthesis creates excessive valgus.



In the above example, the foot is positioned too laterally, resulting in excessive valgus (knock-knee). This Compas data was taken from a trial in which the misalignment was not able to be seen visually, but rather could only be seen through the Compas trial. The prosthetist originally attributed the patient's instability and lack of confidence to balance impairment issues or a need for gait training. After implementation of the Compas' suggested alignment changes, the patient immediately presented with stable gait and expressed strong confidence in walking.

The knee muscles exert more control over anterior/posterior moments than do the medial/lateral ligaments, so incorrect medial/lateral (ML) torque moments create larger effects on the Compas' ML graph. Very small changes in the ML alignment can shift varus moments to valgus moments very quickly. In fact, it has been shown that a difference of just 5mm in translation of the foot medially and laterally can be as much as double torque moments imposed on the residual limb during stance. Research shows that good prosthetists typically cannot detect less than 5mm (1/4 in.) of alignment variation between the foot and socket.