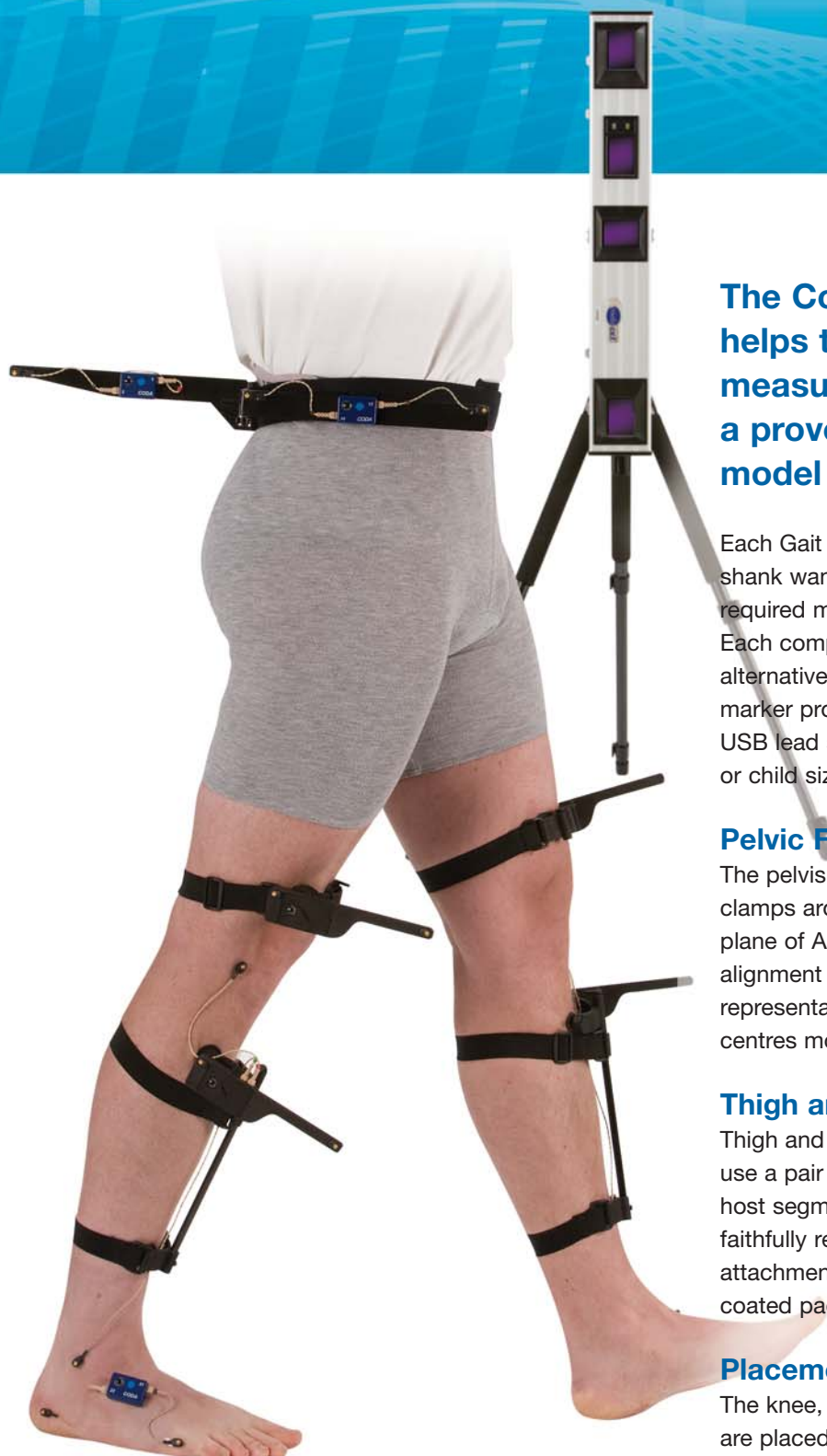


The Gait Wand Set



The Codamotion Gait Wand Set helps to provide fast, accurate measurements of human gait, using a proven derivative of the Helen Hayes model as its basis.

Each Gait Wand Set includes a pelvic frame, thigh wands, shank wands, an ankle alignment jig, and – optionally – the required markers and marker drive boxes for feet and knees. Each component can be charged and/or reprogrammed to alternative marker ID numbers to suit the user's customized marker protocol through an integral mini USB port (with USB lead supplied). Gait Wand Sets come in either adult or child sizes.

Pelvic Frame

The pelvis is represented by markers on a frame which clamps around the pelvis. The sides of the frame lie in the plane of ASIS & PSIS pelvic landmarks. The physical alignment of the PSIS markers ensure a faithful representation of the pelvis segment and its hip-joint centres modelled according to Bell's method.

Thigh and Shank Wands

Thigh and shank wands attached around the femur and tibia use a pair of markers to define the axial orientation of their host segment. These wands are a convenient solution for faithfully registering bone-pose whilst permitting rapid attachment to nonanatomical positions. Silicone rubber coated pads give high shear grip to skin.

Placement of Foot & Knee Markers

The knee, ankle, heel, toe and hip markers (optional) are placed directly on the skin.

Fitting of Thigh and Shank Wands

Both wands are hinged on the lateral aspect of the leg; the hinge allows for easy adjustment after the wand is fitted and both have locking mechanisms to prevent movement during trials.

The exact positioning is not critical except for the orientation of the wand which must be perpendicular to the knee-joint axis in the case of the thigh (femoral) wand and, for the shank (tibial) wand, perpendicular to the ankle-joint axis. The wands thereby define the orientations of the segment local embedded axes, but do not correspond to any particular anatomical landmarks.

- The thigh wand should be strapped to the thigh just above the knee but below the major bulk of thigh muscle.
- The shank wand incorporates extra bracing against the rigid, bony, middle region of the shank.

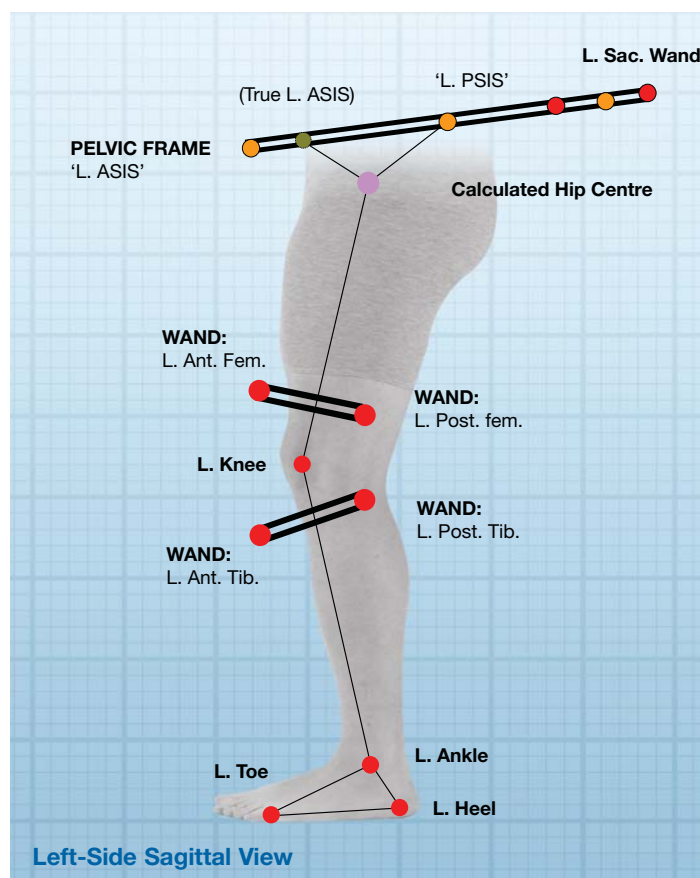
The critical factor is the internal/external rotational component which is adjustable at a hinge until anatomical alignment is achieved with the aid of the supplied ankle-alignment jig.

Collecting and Analysing Data

Data may be acquired using one or more Codamotion's CX1 units, and processed with simultaneous force-plate and EMG data using Codamotion standard software.

Typically, the data collected are used to calculate internal joint centres for the Hip, Knee, and Ankle joints as well as their 3D internal rotations, and the 3D orientations of the pelvis and foot.

Dimensions:
Adult Wand:
Shank: L165mm x H240mm, Weight 88g Thigh: L165mm, Weight 66g
Child Wand:
Shank: L125 x H30mm, Weight 84g Thigh: L125mm, Weight 64g
Pelvic Frame:
Side Frames: 173mm, 133mm, 83mm Belt Lengths: 24", 34", 48" (Adult only)



The ankle, heel and toe markers define the foot segment and are used to locate the axis of the ankle joint. Calculated data can be compared against a predefined normative dataset.

Both the kinematic and kinetic gait models employed make use of subject measurements taken statically. These measurements include the subject's age, height, mass, joint-widths, pelvic width and depth.

Ordering Information:
Adult Wand:
Part No: GAIT 2.0- FP-A (with all markers) Part No: GAIT 2.0- WS-A (without foot and knee markers)
Child Wand:
Part No: GAIT 2.0- FP-C (with all markers) Part No: GAIT 2.0- WS-C (without foot and knee markers)
Additional Accessories Available:
USB Programming device including software Carry case with integral charging