

How to create a CODA pelvis relative to anatomical landmarks

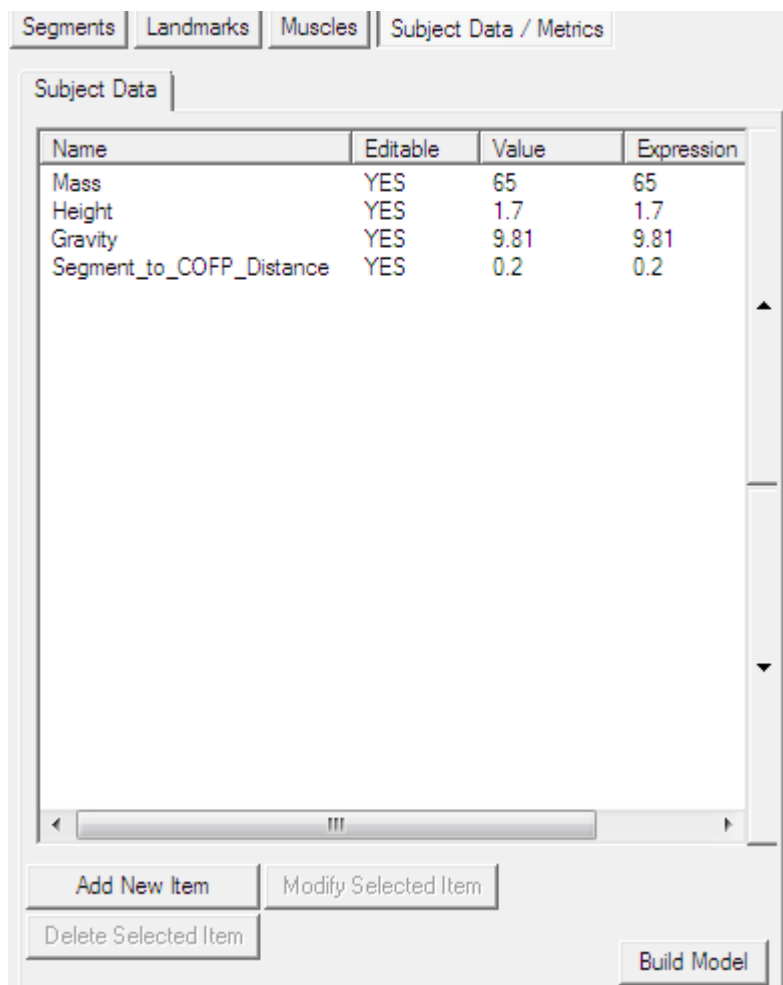
The [segment coordinate system](#) for the [CODA pelvis](#) is the mid-point between the ASIS markers. The anatomical landmarks are actually posterior to the ASIS markers because the motion capture system tracks the centre of the marker.

Correcting the CODA definition

This is a modest error, but it can be corrected by creating landmarks that are posterior to the ASIS markers by the radius of the motion capture marker.

Step 1. Confirm the subject metric containing the marker radius

If the metric doesn't exist, create a new metric. Switch to **Subject Data/Metrics** TAB.



Select **Add New Item** and enter in the name **Marker_Radius** and the value.

Enter New Value for Marker_Radius

Name

Marker_Radius

Value or Expression

0.006

OK

Cancel

In this example, the marker has a diameter of 1.2 cm. Visual3D uses [MKS units](#), so the value is 0.006 meters. **NOTE:** If the radius is not consistent with your marker radius, modify the value.

Step 2. Create landmarks for the ASIS markers

Landmarks | Functional | Digitizing | RT_ASIS

Landmark Name: RT_ASIS

Define Orientation Using:

Starting Point RASI (Reference)

☒ Targets and/or Landmarks:

Ending Point LASI (On a line)

*Lateral object SACR (On a plane)

*Project From (Projection onto a line or plane)

* = Optional

☐ Existing Segment

Landmark Offset from Start Point (Reference) or Segment Origin

☐ Offset to Existing Calibration Target or Landmark

☒ Offset Using the Following ML/AP/AXIAL Offsets

ML -MARKER_RADIUS

AP 0.0

AXIAL 0.0

☐ Offset by Percent (1.0 = 100%) (Meters when not checked)

☒ Calibration Only Landmark (Not generated for assigned motion file(s))

Undo Changes

Apply

Build Model

Close Tab

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Landmarks | Functional | Digitizing | **LT_ASIS**

Landmark Name: **LT_ASIS**

Define Orientation Using:

Starting Point: **LASI** (Reference)

Targets and/or Landmarks: Ending Point: **RASI** (On a line)

*Lateral object: **SACR** (On a plane)

*Project From: (Projection onto a line or plane)

* = Optional

Existing Segment:

Landmark Offset from Start Point (Reference) or Segment Origin:

Offset to Existing Calibration Target or Landmark:

Offset Using the Following ML/AP/AXIAL Offsets

ML: **-MARKER_RADIUS** AP: **0.0** AXIAL: **0.0**

☐ Offset by Percent (1.0 = 100%) (Meters when not checked)

☒ Calibration Only Landmark (Not generated for assigned motion file(s))

Undo Changes Apply Build Model Close Tab

NOTE: the Medial-Lateral (ML) Edit box contains the [expression](#) **-MARKER_RADIUS** to define the offset.

Step 3. Create a CODA Pelvis

Follow the usual steps to create a CODA pelvis segment.

Coda Segment Markers

RPV

R.ASIS: **RT_ASIS**

L.ASIS: **LT_ASIS**

R.PSIS: **SACR**

L.PSIS: **SACR**

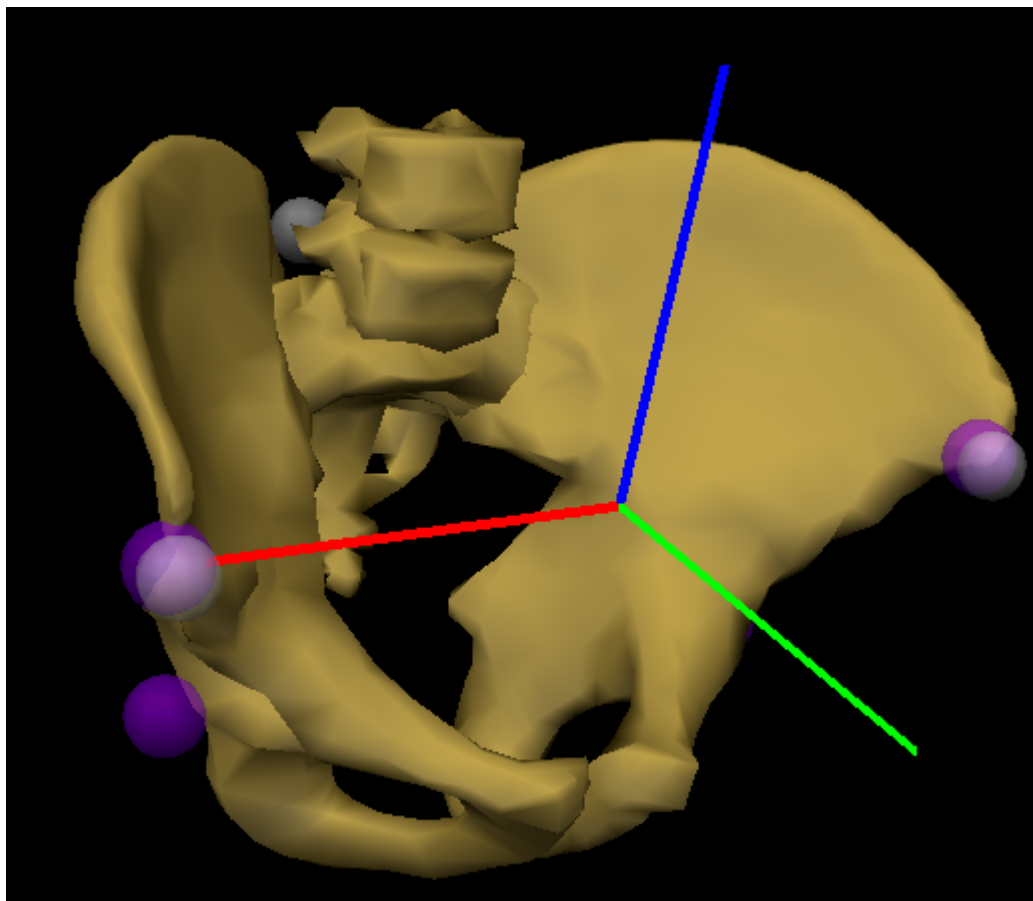
☐ Use Calibration Targets for Tracking

Tracking Targets/Landmarks (Ctrl-Click to select multiple items)

☐ HEAD	☐ CRN2	☐ CRN3
☒ LASI	☐ LEAR	☐ LEL2
☐ LELB	☐ LFA2	☐ LFA3
☐ LFIN	☐ LFRA	☐ LHEE
☐ LKN2	☐ LKNE	☐ LMP2
☐ LMP5	☐ LMT1	☐ LMT5
☐ LSH0	☐ LTHI	☐ LTIB
☐ LTOE	☐ LUA2	☐ LUA3

In this example, the locations defining the segment coordinate system for the pelvis are the landmarks **RT_ASIS** and **LT_ASIS**, and the marker **SACR** located at the midpoint of the PSIS markers.

The tracking markers are **RASI**, **LASI**, and **SACR**.



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