

## Definitions of local coordinate systems.

Segment	Origin	Base vector V	X-axis	Y-axis	Z-axis	
Pelvis		Midpoint between anterior superior iliac spines & posterior superior iliac spines centers ( $O_P$ )	$O_P$ to midpoint of left anterior superior iliac spines-posterior superior iliac spine	Cross product of V & Z	Cross product of X & Z	$O_P$ to midpoint of posterior superior iliac spines
Trunk		Midpoint between M1 (8th thoracic vertebra-xiphoid process) & $O_p$ ( $O_{Tr}$ )	8th thoracic vertebra to xiphoid process	M1 to $O_{Tr}$	Cross product of X & V	Cross product of X & Y
Right thigh		Midpoint between center of the hip joint & knee center ( $O_{Th}$ )	lateral femoral epicondyle to medial femoral epicondyle	$O_{Th}$ to center of the hip joint	Cross product of X & Z	Cross product of X & V
Right shank		Midpoint between knee & ankle centers ( $O_S$ )	Medial malleolus to lateral malleolus	$O_S$ to knee center	Cross product of X & Z	Cross product of X & V
Right foot		Midpoint between toe center & calcaneus ( $O_F$ )	$O_F$ to ankle center	Cross product of Y & Z	Cross product of V & Z	$O_F$ to calcaneus