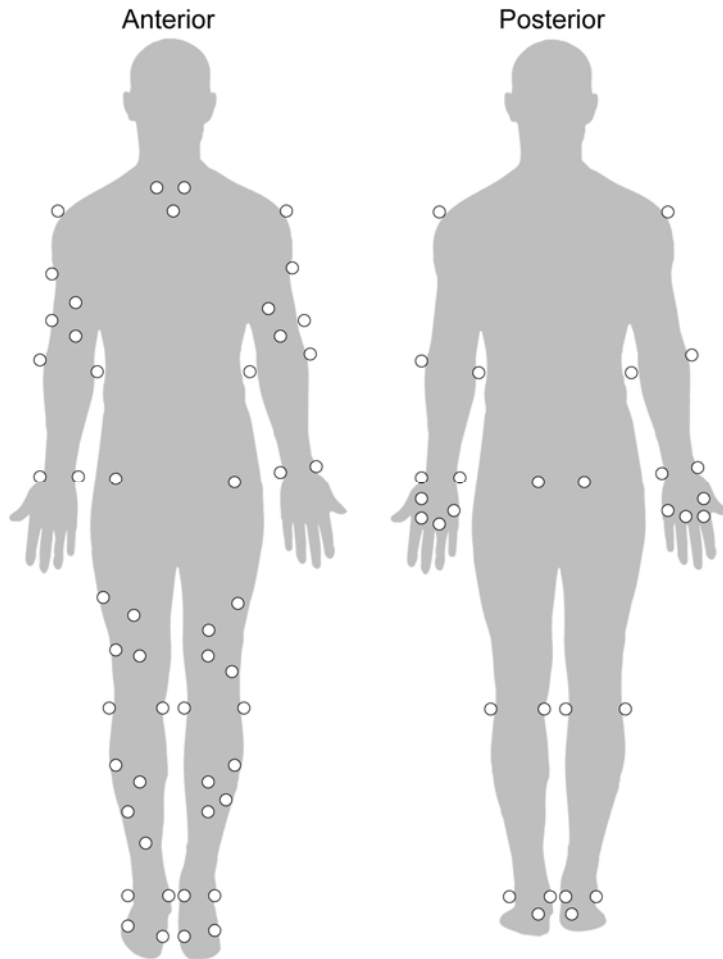


## 1 Appendix A: Marker and Segment Definitions



2

3 Figure A1: Full-body marker scheme. Each segment tracked had at least four markers tracking the motion.

4

5 Seventy six passive reflective markers were used to define the motion of the upper and lower-  
6 limbs along with the pelvis and trunk. Two markers were placed on the wrists, elbows, knees and  
7 ankles to help define joint centers. Four tracking markers were attached to each of the following  
8 segments: forearm, upper arms, thighs and shanks. An additional tracking marker was placed on  
9 the scapula acromium tip for the upper arm. Four tracking markers on each hand were placed on  
10 the following landmarks: 2<sup>nd</sup>, 3<sup>rd</sup> and 5<sup>th</sup> metacarpal head and base of the 2<sup>nd</sup> metacarpal. Markers  
11 placed on the trunk were: right and left clavicle anterior sternoclavicular joints and sternal  
12 manubriosternal edge. The pelvis was defined by the right and left anterior and posterior iliac  
13 crests. The following markers that were placed on the exterior of the shoes: calcaneus, 1<sup>st</sup> and 5<sup>th</sup>  
14 metatarsal heads and the base of the 1<sup>st</sup> metatarsal. Each joint center was defined using a  
15 functional joint algorithm applied to movements that spanned the range of motion that occurs

1 during walking (Ehrig et al., 2006; Taylor et al., 2010).

2