SUPPLEMENTARY

Appendixes I.

Main Anthropometric Measurements

Antropometric landmarks used in the project

Acromion	The most lateral point on the lateral edge of the acromial process of the scapula
Acropodion	The tip of the longest toe (the first or the second)
Bispinous Breadth	The distance between tip of the spine of the seventh cervical veterbra
Cervical	The superior tip of the spine of the seventh cervical vertebra
Dactylion	The tip of the middle finger
Gluteal Furrow Landmark	The most inferior pint of the gluteal furrow formed by the protrusion of the buttock beyond the back of the leg
Gonion	The most lateral point of the inferior posterior tip if the gonial angle formed by the intersection of the vertical and horizontal portion of the jawbone
Iliospinale	The interior point on the anterior superior iliac spine
Inguinal Ligament	The ligament that extends from the anterior superior iliac spine to the pubic tubercle and forms the groin crease
Malleoli	Lateral and medial bony protrusions of the ankle
Metacarpale	The juncture of a metacarpal with the first phalanz of a figure
Third Metacarpale	The distal palpable pint of the metacarpal of the third digit on the dorsal surface of the hand
Midginion, Midhip and Midshoulder	The pint midway between the goions, hip joint centers and shoulder joint center, respectively.
Omphalion	The central pint of the navel
Pternion	The rearmost pint of the heel
Radial	The lateral tip of the proximal head of the radius
Sphyrion	The distal tip of the tibia
Sphyrion Fibulare	The distal tip of the fibula
Stylion	The distal tip of the stylion process of the radius
Suprasternale	The most caudal pint of the jugular notch of the breast
Tibiale Mediale	The most proximal pint of the medial superior border of the head of the tibia
Tibiale Laterale	The most proximal pint of the lateral superior border of the head of the tibia

Triochanterion	The superior point of the greater trochanter of the femur
Vertex	The uppermost pint of the head, when the head is held in the Frankfort plane (looking directly forward with the gazing line parallel to the floor)
Xiphion	The low remost end of the sternum

Vote: The table is adopted form Zatsriorsky, V.M. (2002) kinematics of human motion: human kinetics.

Main anthropometric measurements

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Appendixes II.

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Coefficient of multiple
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The use of radius of gyration is helpful in calculation as once a segment mass is known. The radius of gyration can be used easily to calculate the moment of inertia of a segment without having to perform the larger number of calculations that would be required by equation.

Table I. Radii of gyration as percentages of segmental lengths.

Segment	From proximal end %	From distal end %
Head, neck, and trunk	83.0	60.7
Arm (upper)	54.2	64.5
Forearm	52.6	64.7
Hand	58.7	57.7
Upper limb	64.5	59.6
Forearm and hand	82.7	56.5
Thigh	54.0	65.3
Leg	52.8	64.3
Foot	69.0	69.0
Lower limb	56.0	65.0
Leg and foot	73.5	57.2

Note: The Table is Adopted from Grimshaw et al., (2007), sport and exercise biomechanics published by Taylor and Francis