Qualisys PAF package: Instituti Ortopedici Rizzoli (IOR) upper body marker set ¹



_	Name	Ref. ²	Location	Static (23)	Dyn. (23)
R_HEAD L_HEAD R_SAE L_SAE	L_HEAD		Just above the ear	Х	X
	R_HEAD		Just above the ear	Х	Х
	SGL	SGL	Glabella	Х	Х
	SJN	SJN	Sternum - Jugular Notch	Х	Х
	SXS	sxs	Sternum - Xiphisternal joint	Х	Х
R_HUM ● L_HUM	CV7	CV7	7 th Cervical Vertebrae	Х	X
R_HLE ● L_HLE	TV2	TV2	2 nd Thoracic Vertebrae	Х	Х
1	MAI	MAI	Midpoint between inferior angles of most caudal points of the scapulae	Х	X
	LV1	LV1	1 st Lumbar Vertebrae	Х	Х
R_RSP R_USP L_USP L_USP	LV3	LV3	3 rd Lumbar Vertebrae	Х	X
	LV5	LV5	5 th Lumbar Vertebrae	Х	X
///	L_SAE	SAE	Scapula - Acromial Edge	Х	X
	L_HUM			X	X
	L_HLE	HLE	Humerus - Lateral Epicondyle	X	X
	L_RSP	RSP	Radius - Styloid Process	Х	X
CV7 TV2	L_USP	UPS	Ulna - Styloid Process	X	X
	L_HM2	HM2	Basis of Forefinger	Х	X
LV1 LV3	R_SAE	SAE	Scapula - Acromial Edge	Х	X
	R_HUM			Х	Х
	R_HLE	HLE	Humerus - Lateral Epicondyle	Х	Х
	R_RSP	RSP	Radius - Styloid Process	Х	Х
L HM2	R_USP	USP	Ulna - Styloid Process	Х	Х
	R_HM2	HM2	Basis of Forefinger	Х	Х

Leardini, A., Biagi, F., Merlo, A., Belvedere, C., & Benedetti, M.G. (2011). Multi-segment trunk kinematics during locomotion and elementary exercises. Clinical Biomechanics, 26, 562-571. doi: 10.1016/j.clinbiomech.2011.01.015

² Sint Jan, S. Van (2007). Color Atlas of Skeletal Landmark Definitions. Guidelines for Reproducible Manual and Virtual Palpations. Edinburgh: Churchill Livingstone.

Qualisys PAF package: Istituti Ortopedici Rizzoli (IOR) lower body marker set ¹



N 3/8	Name	Ref. ²	Location	Static (26)	Dyn. (20)
R_IAS L_IAS	L_IAS	IAS	Anterior superior iliac spine	Х	Х
100	L_IPS	IPS	Posterior superior iliac spine	Х	Х
R_FTC● L_FTC	R_IPS	IPS	Posterior superior iliac spine	X	Х
R FME L FME	R_IAS	IAS	Anterior superior iliac spine	X	Х
	L_FTC	FTC	Lateral side of greater trochanter, 1/3 from proximal end	Х	Х
R_FLE L_FLE	L_FLE	FLE	Femur lateral epicondyle	Х	Х
R_FAX	L_FME	FME	Femur medial epicondyle	X	
K_HC L HC	L_FAX	FAX	Proximal tip of the head of the fibula	X	Х
R TAM	L_TTC	TTC	Most anterior border of the tibial tuberosity	X	Х
R FAL ● ■ L FAL	L_FAL	FAL	Lateral prominence of the lateral malleolus	X	Х
L_TAM -	L_TAM	TAM	Medial prominence of the medial malleolus	X	
4000	L_FCC	FCC	Aspect of the Achilles tendon insertion on the calcaneus	X	Х
R_FM5 R_FM2 R_FM1L_FM1 L_FM5	L_FM1	FM1	Dorsal margin of the first metatarsal head	X	Х
	L_FM2	FM2	Dorsal margin of the second metatarsal head	Х	
I IDC COMP D IDC	L_FM5	FM5	Dorsal margin of the fifth metatarsal head	X	Х
	R_FTC	FTC	Lateral side of greater trochanter, 1/3 from proximal end	X	Х
	R_FLE	FLE	Femur lateral epicondyle	X	Х
	R_FME	FME	Femur medial epicondyle	X	
	R_FAX	FAX	Proximal tip of the head of the fibula	X	Х
A A	R_TTC	TTC	Most anterior border of the tibial tuberosity	X	Х
in in	R_FAL	FAL	Lateral prominence of the lateral malleolus	X	Х
	R_TAM	TAM	Medial prominence of the medial malleolus	Х	
(1) (1)	R_FCC	FCC	Aspect of the Achilles tendon insertion on the calcaneus	X	Х
W W	R_FM1	FM1	Dorsal margin of the first metatarsal head	X	Х
VA 2V	R_FM2	FM2	Dorsal margin of the second metatarsal head	X	
L_FCC R_FCC	R_FM5	FM5	Dorsal margin of the fifth metatarsal head	Х	Х

¹ Leardini, A., Sawacha, Z., Paolini, G., Ingrosso, S., Nativo, R., & Benedetti, M.G. (2007). A new anatomically based protocol for gait analysis in children. *Gait & Posture, 26*, 560-571. doi: 10.1016/j.gaitpost.2006.12.018 http://www.c-motion.com/v3dwiki/index.php?title=Tutorial:_Building_the_IOR_Gait_Model

² Sint Jan, S. Van (2007). Color Atlas of Skeletal Landmark Definitions. Guidelines for Reproducible Manual and Virtual Palpations. Edinburgh: Churchill Livingstone.

Qualisys PAF package: Istituti Ortopedici Rizzoli (IOR) lower body marker set ¹ (including Oxford foot model ³)



11.000	Name	Ref. ²	Location	Static (20)	Dyn. (16)
R_FMT R_P1MT L_P1MT R_FM5 R_FM1 R_FM2 R_PM6 R_PM6 L_FM5 L_FM2	L_FCC2		Proximal end of posterior aspect of calcaneus	Х	Х
	L_FCC	FCC	Distal end of posterior aspect of calcaneus	Х	Х
	L_LCAL		Lateral calcaneus (placed on lateral aspect of the calcaneus, at the same distance to the most posterior point of calcaneus as L_MCAL) ³	Х	Х
	L_FMT	FMT	Tuberosity of the fifth metatarsal bone	Х	Х
	L_FM5	FM5	Base of fifth metatarsal (along the line through the distal heads of the first and fifth metatarsal heads) ³	X	Х
	L_FM2	FM2	Dorsal margin of the second metatarsal head	Х	Х
	L_PM6	PM6	Proximal medial phalanx of the big toe	Х	Х
L_FCC2 R_MCAL R_FCC2 L_LCAL L_MCAL R_FCC2	L_FM1	FM1	Base of first metatarsal (along the line through the distal heads of the first and fifth metatarsal heads) ³	Х	
L_FCC R_FCC	L_P1MT		Base of the first metatarsal bone	Х	Х
R_FAL	L_MCAL		Medial calcaneus (placed on Sustentaculum tali, at the same distance to the most posterior point of calcaneus as L_LCAL) ³	X	
	R_FCC2		Proximal end of posterior aspect of calcaneus	Х	Х
	R_FCC	FCC	Distal end of posterior aspect of calcaneus	Х	Х
R_FM2 R FMT R_FCC2 R LCAL R_FCC	R_LCAL		Lateral calcaneus (placed on the lateral aspect of calcaneus, at the same distance to the most posterior point of calcaneus as R_MCAL) ³	X	Х
R FM5	R_FMT	FMT	Tuberosity of the fifth metatarsal bone	Х	Х
	R_FM5	FM5	Base of fifth metatarsal (along the line through the distal heads of the first and fifth metatarsal heads) ³	X	Х
R_TAM R_P1MT	R_FM2	FM2	Dorsal margin of the second metatarsal head	Х	Х
	R_PM6	PM6	Proximal medial phalanx of the big toe	Х	Х
	R_FM1	FM1	Base of first metatarsal (along the line through the distal heads of the first and fifth metatarsal heads) ³	X	
R MCAL P EM1	R_P1MT		Base of the first metatarsal bone	Х	Х
R_MCAL R_FM1	R_MCAL		Medial calcaneus (placed on Sustentaculum tali, at the same distance to the most posterior point of calcaneus as R_LCAL) ³	X	

¹ Leardini, A., Sawacha, Z., Paolini, G., Ingrosso, S., Nativo, R., & Benedetti, M.G. (2007). A new anatomically based protocol for gait analysis in children. *Gait & Posture, 26*, 560-571. doi: 10.1016/j.gaitpost.2006.12.018 http://www.c-motion.com/v3dwiki/index.php?title=Tutorial:_Building_the_IOR_Gait_Model

² Sint Jan, S. Van (2007). Color Atlas of Skeletal Landmark Definitions. Guidelines for Reproducible Manual and Virtual Palpations. Edinburgh: Churchill Livingstone.

³ Stebbins J, Harrington M, Thompson N, Zavatsky A, Theologis T. (2006) Repeatability of a model for measuring multi-segment foot kinematics in children. Gait Posture. 2006 Jun;23(4):401-10.



Qualisys PAF package: Istituti Ortopedici Rizzoli (IOR) lower body marker set ¹ (including Rizzoli foot model ³)

	Name	Ref. ²	Location	Static (24)	Dyn. (24)
	L_FCC2		Proximal end of posterior aspect of calcaneus	Χ	X
	L_FCC	FCC	Most distal point of the attachment area of the Achilles tendon on the calcaneus	Х	Х
R_P2MT L_P2MT R_FMT	L_FPT	FPT	Lateral apex of the peroneal tubercle	Χ	X
	L_FMT	FMT	Base of the fifth metatarsal, dorso-lateral aspect of the fifth metatarso-cuboid joint	Χ	Х
R_FM2 R_FM1 L_FM1 L_FM5 R_FM2 R_PM6 L_FM5	L_FM5	FM5	Head of the fifth metatarsal, dorso-lateral aspect of the fifth metatarso-phalangeal joint	Χ	Х
	L_FM2	FM2	Base of the second metatarsal, dorso-medial aspect of the second metatarso-cuneiform joint	Χ	Х
IIA AI	L_PM6	PM6	Most distal and dorsal point of the head of the proximal phalanx of the hallux	Χ	Х
L FCC2 R_FCC2	L_FM1	FM1	Head of the first metatarsal, dorso-medial aspect of the first metatarso-phalangeal joint	Χ	Х
L_FPT □ □ L_FST R FST □ R_FPT	L_P1MT		Base of the first metatarsal, dorso-medial aspect of the first metatarso-cuneiform joint	Χ	Х
L FCC R FCC	L_P2MT		Base of the second metatarsal, dorso-medial aspect of the second metatarso-cuneiform joint	Χ	Х
	L_FNT	FNT	Most medial apex of the tuberosity of the navicular	Χ	Х
	L_FST	FST	Most medial apex of the sustentaculum tali	Χ	Х
	R_FCC2		Proximal end of posterior aspect of calcaneus	Χ	Х
R FAL	R_FCC	FCC	Most distal point of the attachment area of the Achilles tendon on the calcaneus	Χ	Х
	R_FPT		Lateral apex of the peroneal tubercle	Χ	Х
R P2MT R_FM2 R_FMT	R_FMT	FMT	Base of the fifth metatarsal, dorso-lateral aspect of the fifth metatarso-cuboid joint	Χ	Х
R_FM5	R_FM5	FM5	Head of the fifth metatarsal, dorso-lateral aspect of the fifth metatarso-phalangeal joint	Χ	Х
	R_FM2	FM2	Base of the second metatarsal, dorso-medial aspect of the second metatarso-cuneiform joint	Χ	Х
70.0	R_PM6	PM6	Most distal and dorsal point of the head of the proximal phalanx of the hallux	Χ	Х
	R_FM1	FM1	Head of the first metatarsal, dorso-medial aspect of the first metatarso-phalangeal joint	Χ	Х
R_TAM R_P1MT	R_P1MT		Base of the first metatarsal, dorso-medial aspect of the first metatarso-cuneiform joint	Χ	Х
R_FST	R_P2MT		Base of the second metatarsal, dorso-medial aspect of the second metatarso-cuneiform joint	Χ	Х
R_FST R_FM1	R_FNT	FNT	Most medial apex of the tuberosity of the navicular	Χ	Х
0 - 00000 0	R_FST	FST	Most medial apex of the sustentaculum tali	Χ	X

¹ Leardini, A., Sawacha, Z., Paolini, G., Ingrosso, S., Nativo, R., & Benedetti, M.G. (2007). A new anatomically based protocol for gait analysis in children. *Gait & Posture, 26*, 560-571. doi: 10.1016/j.gaitpost.2006.12.018 http://www.c-motion.com/v3dwiki/index.php?title=Tutorial: Building_the_IOR_Gait_Model

² Sint Jan, S. Van (2007). Color Atlas of Skeletal Landmark Definitions. Guidelines for Reproducible Manual and Virtual Palpations. Edinburgh: Churchill Livingstone.

³ Nicola Portinaro, Alberto Leardini, Artemisia Panou, Valerio Monzani and Paolo Caravaggi. Modifying the Rizzoli foot model to improve the diagnosis of pes-planus: application to kinematics of feet in teenagers. Journal of Foot and Ankle Research 2014, 7:57.