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Prosthetic knees

Table S1. Grouping of prosthetic knee models according to knee category and frequency on the included hospital stays. Code from the manufacturer, commercial name and model, and name of the manufacturer or assembler are taken from the database of medical devices of the Italian Ministry of Health¹

Knee category	Code from the manufacturer	Commercial name and model	Manufacturer/Assembler	Frequency (%)
LK	3R32	Ginocchio per moncone lungo - titanio - policentrico, con bloccaggio	Otto Bock Healthcare GmbH	1 (0.07%)
	3R33	3R33 Ginocchio monocentrico in titanio con bloccaggio e deambulante	Otto Bock Healthcare GmbH	219 (15.16%)
	3R40	Ginocchio in lega leggera, monocentrico, con bloccaggio	Otto Bock Healthcare GmbH	18 (1.25%)
	3R62	Pheon	Otto Bock Healthcare GmbH	1 (0.07%)
	3R93	Ginocchio modulare con freno e bloccaggio	Otto Bock Healthcare GmbH	6 (0.42%)
	UNDEFINED CATEGORY LK			
AMK	3P23	Prefabbricato di ginocchio - polpaccio Jupa	Otto Bock Healthcare GmbH	24 (1.66%)
	3R36	Ginocchio policentrico Otto Bock Habermann -- Titanio-, con deambulante integrato	Otto Bock Healthcare GmbH	38 (2.63%)
	3R49	Ginocchio con freno automatico - titanio - monocentrico, con deambulante	Otto Bock Healthcare GmbH	49 (3.39%)
	3S80	Modular Sports knee joint	Otto Bock Healthcare GmbH	2 (0.14%)
FK	3R31	Prosedo	Otto Bock Healthcare GmbH	3 (0.21%)
	3R46	Ginocchio per moncone lungo - Titanio -, policentrico, con comando idraulico della fase	Otto Bock Healthcare GmbH	2 (0.14%)

¹ http://www.salute.gov.it/interrogazioneDispositivi/RicercaDispositiviServlet?action=ACTION_MASCHERA

		dinamica		
	3R60	Ginocchio modulare con EBS, policentrico	Otto Bock Healthcare GmbH	63 (4.36%)
	3R60 PRO	Ginocchio polifunzionale con EBS	Otto Bock Healthcare GmbH	
	3R80	Ginocchio monocentrico con idraulica a rotazione e freno automatico	Otto Bock Healthcare GmbH	69 (4.78%)
	3R90	Ginocchio modulare con freno, monocentrico, con deambulante	Otto Bock Healthcare GmbH	1 (0.07%)
	3R92	Ginocchio modulare con freno, monocentrico, con regolazione pneumatica della fase dinamica	Otto Bock Healthcare GmbH	19 (1.31%)
	3R95	Ginocchio monocentrico con comando idraulico della fase dinamica - lega leggera	Otto Bock Healthcare GmbH	2 (0.14%)
	3R106	Ginocchio policentrico con comando pneumatico della fase dinamica	Otto Bock Healthcare GmbH	43 (2.98%)
	N-NK6	Ginocchio idraulico policentrico a 6 assi	Nabco Company Welfare Products DPT	112 (7.75%)
	N-NK6B	Ginocchio idraulico policentrico a 6 assi con bloccaggio selettivo	Nabco Company Welfare Products DPT	
	MKN01360	Mauch Knee SNS	Ossur	29 (2.01%)
	MKN01361	Mauch Knee SNS Low Res	Ossur	
	MKN01362	Mauch Knee Swing Only	Ossur	
	MKN01660	Mauch Knee Plus SNS	Ossur	
	MKN01661	Mauch Knee Plus SNS Low Res	Ossur	
	MKN01662	Mauch Knee Plus Swing	Ossur	
	MKN01665	Mauch Knee Plus SNS Through Hole	Ossur	
	MKN01666	Mauch Knee Plus SNS Low Res Through Hole	Ossur	
	MKN01667	Mauch Knee Plus Swing only Through Hole	Ossur	
	MKN01663	Mauch Knee Plus con cilindro a	Ossur	

		resistenza regolare, foro passante			
	MKN01664	Mauch Knee Plus con cilindro a bassa resistenza foro passante	Ossur		
	2000	Total Knee 2000	Ossur	96 (6.64%)	
	2000-KE	Total Knee 2000 disarticolazione del ginocchio con giunto per invasature	Ossur		
	2000-OS	Total Knee 2000 transfemorale con giunto piramidale maschio	Ossur		
	2100	Total Knee 2100	Ossur		
	2100-KE	Total Knee 2100 disarticolazione del ginocchio con giunto per invasature	Ossur	22 (1.52%)	
	TGK 5PS10	Ginocchio carbonio policentrico pneumatico	Teh Lin Prosthetic & Orthopaedic Inc.	8 (0.55%)	
	MK30, MHPYR	Mercury Hi Activity	Blatchford Products LTD	3 (0.21%)	
	KX06	KX06	Blatchford Products LTD	17 (1.18%)	
	CKN10000	Cheetah Knee	Ossur	1 (0.07%)	
	UNDEFINED CATEGORY FK			8 (0.55%)	
MPK	3C88-3	C-Leg 4	Otto Bock Healthcare GmbH	388 (26.85%)	
	3C88-1	C-Leg	Otto Bock Healthcare GmbH		
	3R80	Tube modulare C-Leg	Otto Bock Healthcare GmbH		
	3C98-1	C-Leg	Otto Bock Healthcare GmbH		
	3C86-1	C-Leg compact	Otto Bock Healthcare GmbH		
	3C96-1	C-Leg Compact	Otto Bock Healthcare GmbH		
	3C98-2	Ginocchio elettronico C-Leg	Otto Bock Healthcare GmbH		
	3R82	Tube modulare C-Leg	Otto Bock Healthcare GmbH		
	3C88-2	C-Leg	Otto Bock Healthcare GmbH		
	3C98-3	Ginocchio elettronico C-Leg	Otto Bock Healthcare GmbH		
	3B1	Ginocchio elettronico Genium Bionic	Otto Bock Healthcare GmbH		77 (5.3%)
	3B5	Genium X3	Otto Bock Healthcare GmbH		13 (0.9%)
	3C60	Kenevo	Otto Bock Healthcare GmbH	6 (0.42%)	

	RKN100003; RKN100103; RKN1XXXX; RKN3XXXX	Rheo Knee Kit	Ossur	23 (1.59%)
	RKN12000; RKN120003; RKN120101; RKN120103	Rheo Knee II	Ossur	
	N-NIC311	Hybrid - Ginocchio elettronico idraulico/pneumatico	Nabtesco Corporation	23 (1.59%)
	UNDEFINED CATEGORY MPK			53 (3.67%)

LK= locked knee; AMK= articulating mechanical knee; FK= fluid-controlled knee; MPK= microprocessor-controlled knee.

Propensity score


Table S2. Patients' characteristics before and after PS-weighting. Population mean and standard deviation (sd); unweighted mean per prosthetic knee category; unweighted MES; PS-weighted mean per prosthetic knee category; PS-weighted MES. Patients' risk factors for falls are highlighted in grey.

variable	Mean	Sd	Unweighted mean				MES	PS-weighted mean				MES
	Population		LK	AMK	FK	MPK		LK	AMK	FK	MPK	
Age	58.159	14.695	70.854	60.723	54.822	55.346	0.364	70.48	60.24	58.14	53.37	0.327
Sex (Female)	0.090	0.286	0.235	0.124	0.098	0.014	0.230	0.19	0.11	0.1	0.01	0.173
Weight (kg)	77.313	14.314	72.007	74.476	78.094	79.222	0.189	72.49	75.45	78.65	78.83	0.167
Height (m)	1.711	0.078	1.670	1.705	1.718	1.723	0.212	1.67	1.7	1.71	1.73	0.218
Reason for rehabilitation training (first prosthetic provision)	0.222	0.415	0.454	0.205	0.338	0.028	0.337	0.24	0.22	0.22	0.08	0.102
Goal of the rehabilitation training												
Walking with one cane or crutch	0.338	0.473	0.427	0.518	0.420	0.187	0.265	0.44	0.57	0.41	0.18	0.298
Walking with two crutches	0.101	0.301	0.294	0.064	0.099	0.014	0.266	0.3	0.07	0.09	0.02	0.267
Unassisted gait	0.521	0.500	0.097	0.418	0.466	0.797	0.430	0.13	0.36	0.49	0.8	0.434
Walking with a walker	0.039	0.194	0.181	0.000	0.015	0.002	0.313	0.14	0	0.01	0	0.258
Length of stay (days)	21.71	17.38	26.93	20.64	23.87	17.93	0.176	25.98	22.59	21.99	18.45	0.125
Third-party payer												
ASL	0.216	0.412	0.446	0.407	0.279	0.017	0.415	0.27	0.43	0.23	0.05	0.265
INAIL	0.739	0.439	0.438	0.558	0.667	0.971	0.447	0.65	0.51	0.74	0.93	0.290
Private	0.045	0.208	0.116	0.035	0.054	0.012	0.147	0.08	0.06	0.04	0.02	0.101

Amputation cause														
Cancer	0.034	0.180		0.051	0.043	0.053	0.003	0.106		0.04	0.03	0.04	0	0.061
Congenital	0.013	0.111		0.006	0.057	0.003	0.000	0.166		0.02	0.01	0	0	0.069
Infectious	0.026	0.160		0.034	0.057	0.036	0.003	0.112		0.02	0.02	0.03	0	0.047
Traumatic	0.774	0.418		0.382	0.714	0.794	0.988	0.410		0.73	0.75	0.78	0.94	0.146
Vascular	0.154	0.361		0.528	0.129	0.114	0.006	0.407		0.19	0.18	0.16	0.05	0.118
Amputation side (left)	0.528	0.499		0.432	0.482	0.551	0.565	0.101		0.43	0.48	0.56	0.55	0.107
Time from amputation (months)										207.54	225.04	204.33	242.37	0.073
Number of comorbidities	5.315	2.210		6.861	5.248	5.263	4.679	0.260		6.53	5.23	5.23	4.62	0.236
Number of drugs	3.519	4.011		6.625	3.708	3.323	2.403	0.287		5.54	3.91	3.32	2.23	0.243
Use of antipsychotics	0.022	0.145		0.032	0.009	0.038	0.007	0.094		0.03	0.01	0.04	0.01	0.095
Use of antidepressants	0.086	0.281		0.159	0.035	0.088	0.062	0.134		0.09	0.05	0.07	0.06	0.068
Use of benzodiazepines	0.030	0.171		0.048	0.035	0.028	0.024	0.045		0.03	0.06	0.02	0.03	0.064
Use of loop diuretics	0.058	0.234		0.203	0.035	0.036	0.019	0.245		0.16	0.03	0.04	0.02	0.214
Use of beta-blocking agents	0.157	0.364		0.295	0.133	0.133	0.129	0.148		0.26	0.11	0.14	0.12	0.142
Use of opioids	0.056	0.230		0.064	0.053	0.076	0.038	0.054		0.05	0.09	0.06	0.03	0.073
Use of antiepileptics	0.098	0.297		0.159	0.035	0.147	0.046	0.189		0.13	0.06	0.11	0.05	0.101
Morse Scale	39.132	14.359		47.365	40.309	38.964	36.005	0.221		45.25	38.95	38.76	36.03	0.170
Barthel Index	92.641	12.162		80.647	92.082	91.917	99.358	0.411		85.96	92.78	94.13	99.32	0.308

Sd= standard deviation; MES= mean effect size, i.e. mean of the absolute standardized difference between prosthetic group and population means;
PS=propensity score.

Figure S2. Form for reporting falls occurred at the Prosthesis Center– part B. Filled in by a member of the Clinical Risk Group.

	MODULO SEGNALAZIONE CADUTE PARTE B		rif. Mod. 125
			ver. 00
			del 01/08/11
Identificazione dell'evento			
Nome		Cognome	
Data Caduta _____		Ora caduta _____	
Fornitura <input type="checkbox"/> 1° fornitura <input type="checkbox"/> Successiva Tipo di protesi/ortesi.....			
Tipo di danno <input type="checkbox"/> Trauma cranico <input type="checkbox"/> Fratture <input type="checkbox"/> Distorsioni <input type="checkbox"/> Contusioni <input type="checkbox"/> Ferite <input type="checkbox"/> Escoriazioni <input type="checkbox"/> Ematomi <input type="checkbox"/> Nessun danno <input type="checkbox"/> Altro (specificare) _____			
Fattori che possono aver contribuito all'evento			
Condizioni del paziente	<input type="checkbox"/> Cadute pregresse	<input type="checkbox"/> Stato mentale	Note
	<input type="checkbox"/> Terapie farmacologiche <input type="checkbox"/> Condizioni cliniche <input type="checkbox"/> Alterazioni mobilità <input type="checkbox"/> Altro(specificare) _____	<input type="checkbox"/> Abbigliamento / calzature <input type="checkbox"/> Problema evacuazione / diuresi	
Condizioni organizzative	<input type="checkbox"/> Carenza personale	<input type="checkbox"/> Comunicazione difficoltosa	
	<input type="checkbox"/> Non corretta applicazione step addestrativo / riabilitativo <input type="checkbox"/> Altro (specificare).....		
Condizioni ambientali (pavimento bagnato ecc)			
Breve descrizione dell'accaduto			
Compilatore			
Nome		Cognome	Unità Rischio Clinico
Data		Firma	