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Appendix 1. Complete list of variables considered for the predictive models.

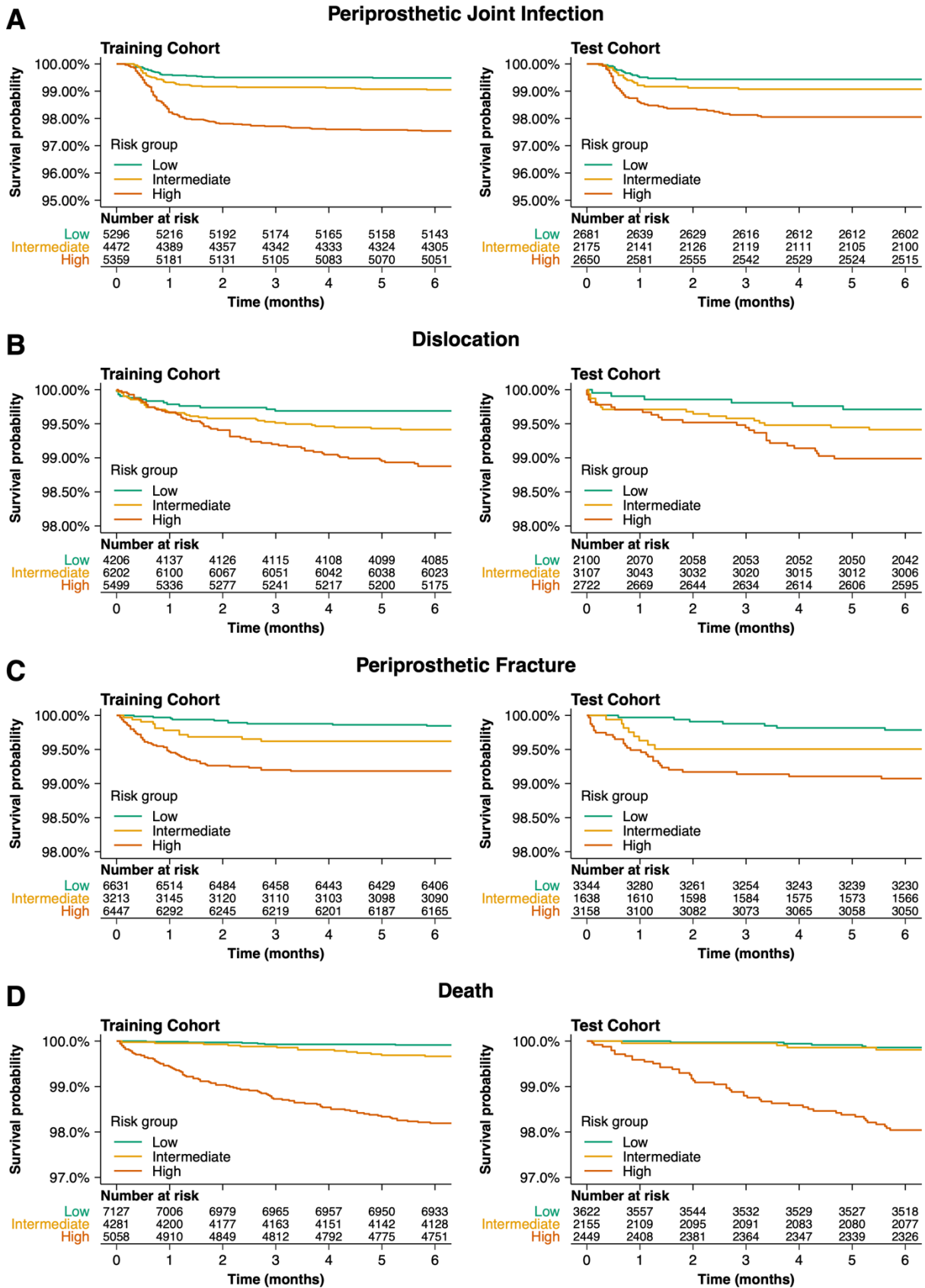
Characteristic	Training cohort (N=17,279)			Test cohort (N=8,640)		
	N available	N / mean	(% / SD)	N available	N / mean	(% / SD)
Age	17276	67.8	(10.8)	8637	67.6	(10.8)
Sex	17269			8633		
Female		9836	(57.0)		4967	(57.5)
Male		7433	(43.0)		3666	(42.5)
ASA physical status classification	16871			8436		
ASA I		1979	(11.7)		1014	(12.0)
ASA II		8191	(48.6)		4065	(48.2)
ASA III		6393	(37.9)		3220	(38.2)
ASA IV		308	(1.8)		137	(1.6)
Body mass index (kg/m ²)	15446	28.1	(4.8)	7669	28.1	(4.8)
Preoperative diagnosis	16622			8319		
Primary osteoarthritis		14281	(85.9)		7138	(85.8)
Fracture		1064	(6.4)		527	(6.4)
Inflammatory arthritis		293	(1.8)		144	(1.7)
Other		984	(5.9)		510	(6.1)
Surgical approach	16843			8419		
Anterolateral (modified Hardinge)		3403	(20.2)		1688	(20.0)
Posterior		13440	(79.8)		6731	(80.0)
Anesthesia	16835			8400		
Spinal		15592	(92.7)		7784	(92.7)
Epidural		407	(2.4)		195	(2.3)
General		1256	(7.5)		610	(7.3)
LIA		3214	(19.1)		1603	(19.1)
Previous contributing operations*	17279			8640		
No		16945	(98.1)		8473	(98.1)
Yes		334	(1.9)		167	(1.9)
Fixation	16669			8329		
Cemented		1247	(7.5)		676	(8.1)
Cementless		10850	(65.1)		5448	(65.4)
Hybrid		4416	(26.5)		2142	(25.7)
Reverse hybrid		156	(0.9)		63	(0.8)
Bearing	16553			8259		
Ceramic-on-ceramic		1717	(10.4)		905	(11.0)
Ceramic-on-UHXLPE		4701	(28.4)		2354	(28.5)
Metal-on-UHXLPE		8412	(50.8)		4133	(50.0)
Ceramicized metal-on-UHXLPE		965	(5.8)		469	(5.7)
Other		758	(4.6)		398	(4.8)

Head diameter (mm)	16835		8400	
28		192 (1.2)		105 (1.2)
32		4125 (24.5)		2076 (24.7)
36		12363 (73.4)		6130 (73.0)
>36		155 (0.9)		89 (1.1)
Antibiotic prophylaxis	17003		8498	
Cefuroxime		16031 (94.3)		8016 (94.3)
Clindamycin		531 (3.1)		270 (3.2)
Vancomycin		41 (0.3)		26 (0.2)
Other antibiotic prophylaxis		359 (2.1)		171 (2.0)
Not used		41 (0.2)		15 (0.2)
Antithrombotic prophylaxis (medication)	16816		8429	
Enoxaparin		12109 (72.0)		6103 (72.4)
Apixaban		56 (0.3)		29 (0.4)
Dabigatran		25 (0.2)		6 (0.1)
Dalteparin		57 (0.3)		27 (0.3)
Fondaparinux		26 (0.2)		15 (0.2)
Rivaroxaban		3084 (18.3)		1536 (18.2)
Tinzaparin		675 (4.0)		339 (4.0)
Warfarin		47 (0.3)		35 (0.4)
Other		548 (3.3)		254 (3.0)
Not used		189 (1.1)		85 (1.0)
Anticoagulant medications**	16361		8162	
No		1573 (9.6)		770 (9.4)
Yes		14788 (90.4)		7392 (90.6)

* Includes the following operations: osteotomy of acetabulum or femur, osteosynthesis of tibia or femur, or other previous contributing surgery (e.g. arthrodesis)

** Tranexamic acid (99% of the medications administered) or other anticoagulant medication.

ASA = American Society of Anesthesiology physical status classification, LIA = local infiltrative anesthesia, SD = standard deviation, UHXLPE = ultra-highly crosslinked polyethylene



Appendix 2. Kaplan-Meier survival curves for low, intermediate and high-risk groups for A) periprosthetic joint infection, B) dislocation, C) periprosthetic fracture, and D) death. The risk groups were defined using tertiles of the risk score distributions in the training data.