

Table S1 Univariate logistic regression analysis for rash occurrence

Factor		Rash	Non-rash	Unadjusted OR (95% CI)	P value
Gender	male	309	1437	-	-
	female	144	1013	0.678 (0.546~0.837)	<0.001
Age(year)	0-3	162	636	-	-
	4-6	145	797	0.714 (0.558~0.914)	0.008
	7-10	91	650	0.55 (0.415~0.725)	<0.001
	11-18	55	403	0.536 (0.382~0.741)	<0.001
Insertion site	above the elbow	281	1179	-	-
	under the elbow	172	1307	0.552 (0.449~0.677)	<0.001
Operation season	spring	129	559	-	-
	summer	126	649	0.841 (0.642~1.103)	0.21
	autumn	104	661	0.682 (0.514~0.903)	0.008
	winter	94	617	0.66 (0.493~0.881)	0.005
Catheter type	3F	188	816	-	-
	4F	151	1410	0.465 (0.369~0.585)	<0.001
	power	114	260	1.903 (1.449~2.494)	<0.001

OR, odds ratio; CI, confidence interval; -, control group.

Table S2 Univariate logistic regression analysis for catheter occlusion.

Factor		Occlusion	Non-occlusion	Unadjusted OR (95% CI)	P value
Gender	male	252	1530	-	-
	female	181	976	1.126 (0.914~1.384)	0.262
Age(year)	0-3	123	675	-	-
	4-6	116	826	0.771 (0.586~1.013)	0.062
	7-10	104	637	0.896 (0.675~1.188)	0.446
	11-18	90	368	1.342 (0.992~1.81)	0.055
Insertion site	above the elbow	296	1164	-	-
	under the elbow	137	1342	0.401 (0.322~0.498)	<0.001
Operation season	spring	108	580	-	-
	summer	119	656	0.974 (0.734~1.294)	0.857
	autumn	106	659	0.864 (0.646~1.155)	0.323
	winter	100	611	0.879 (0.654~1.18)	0.391
Catheter type	3F	152	852	-	-
	4F	105	1456	0.404 (0.31~0.525)	<0.001
	power	176	198	4.982 (3.821~6.513)	<0.001

OR, odds ratio; CI, confidence interval; -, control group.

Table S3 Univariate logistic regression analysis for phlebitis.

Factor		Phlebitis	Non-phlebitis	Unadjusted OR (95% CI)	P value
Gender	male	175	1607	-	-
	female	107	1050	0.936 (0.725~1.203)	0.607
Age(year)	0-3	46	752	-	-
	4-6	87	855	1.663 (1.154~2.426)	0.007
	7-10	90	651	2.26 (1.569~3.297)	<0.001
	11-18	59	399	2.417 (1.617~3.636)	<0.001
Insertion site	above the elbow	62	1398	-	-
	under the elbow	220	1259	3.94 (2.962~5.315)	<0.001
Operation season	spring	65	623	-	-
	summer	66	709	0.892 (0.623~1.279)	0.534
	autumn	76	689	1.057 (0.747~1.501)	0.754
	winter	75	636	1.13 (0.797~1.607)	0.493
Catheter type	3F	63	941	-	-
	4F	209	1352	2.309 (1.732~3.119)	<0.001
	power	10	364	0.41 (0.196~0.772)	0.01

OR, odds ratio; CI, confidence interval; -, control group.

Table S4 Univariate logistic regression analysis for catheter fracture.

Factor		Catheter fracture	Non-catheter fracture	Unadjusted OR (95% CI)	P value
Gender	male	96	1686	-	-
	female	68	1089	1.097 (0.794~1.507)	0.572
Age(year)	0-3	63	735	-	-
	4-6	55	887	0.723 (0.496~1.052)	0.09
	7-10	31	710	0.509 (0.324~0.786)	0.003
	11-18	15	443	0.395 (0.214~0.683)	0.002
Insertion site	above the elbow	38	1422	-	-
	under the elbow	126	1353	3.485 (2.431~5.11)	<0.001
Operation season	spring	48	640	-	-
	summer	29	746	0.518 (0.32~0.826)	0.006
	autumn	55	710	1.033 (0.692~1.547)	0.875
	winter	32	679	0.628 (0.393~0.991)	0.048
Catheter type	3F	87	917	-	-
	4F	75	1486	0.532 (0.386~0.732)	<0.001
	power	2	372	0.057 (0.009~0.18)	<0.001

OR, odds ratio; CI, confidence interval; -, control group.

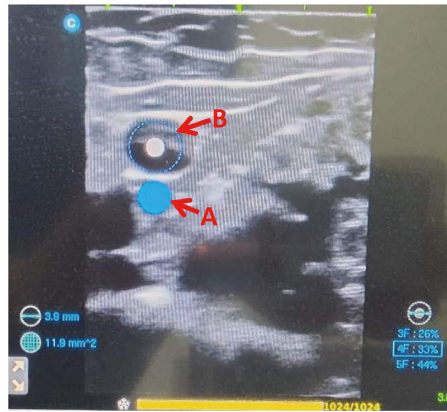


Figure S1 The ratio of catheter diameter to vessel diameter. (A) catheter diameter; (B) vessel diameter.

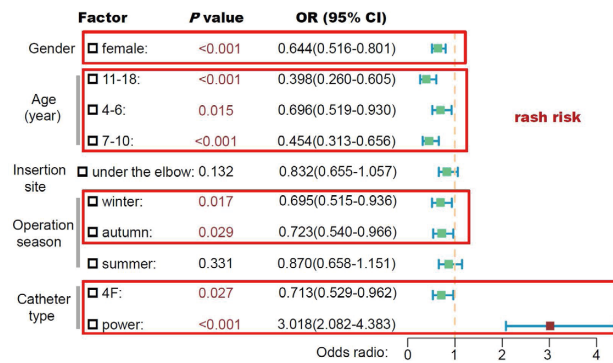


Figure S2 Forest plot of multivariate logistic regression analysis for rash.

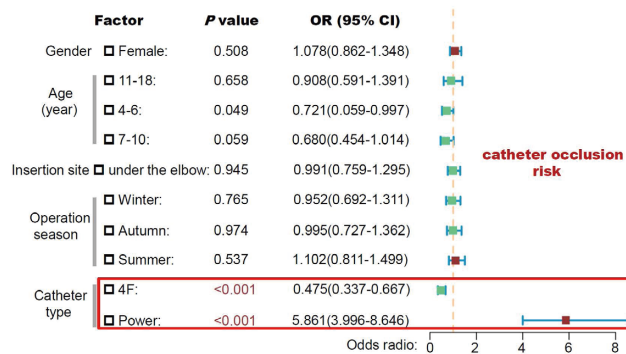


Figure S3 Forest plot of multivariate logistic regression analysis for catheter occlusion.

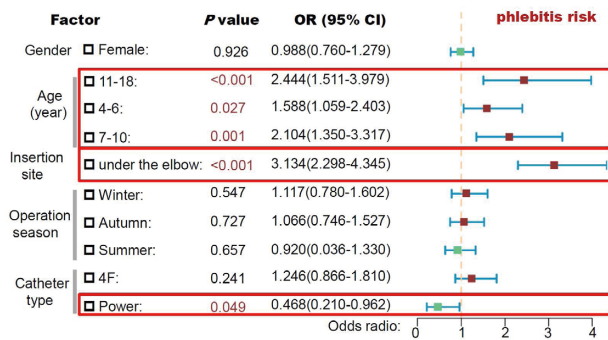


Figure S4 Forest plot of multivariate logistic regression analysis for phlebitis.

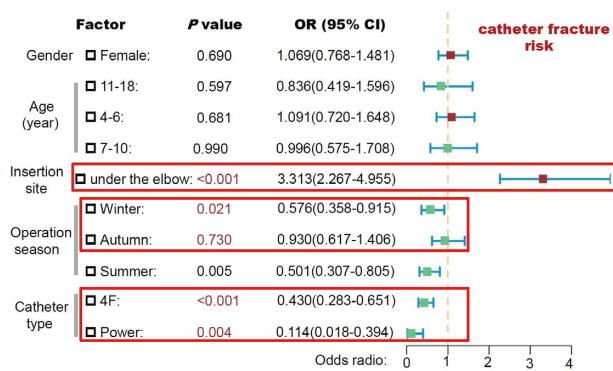


Figure S5 Forest plot of multivariate logistic regression analysis for catheter fracture.

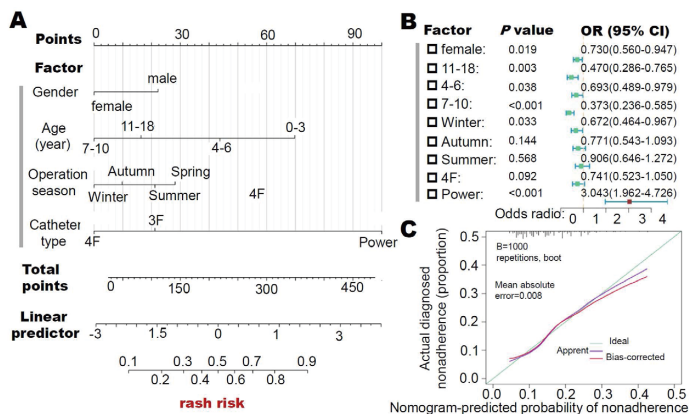


Figure S6 Modeling analysis based on the risk factors of rash. (A) Nomogram; (B) Forest plot; (C) Calibration curve.

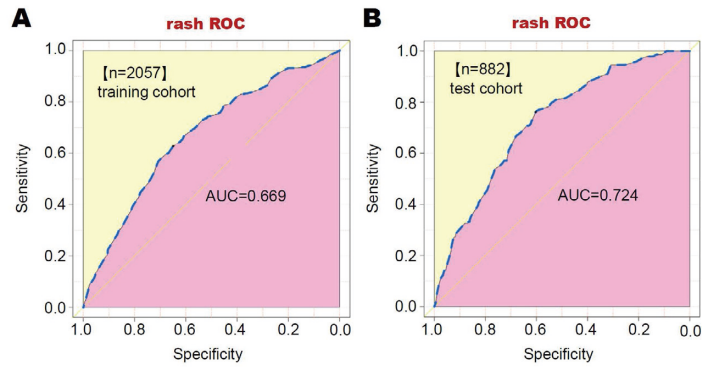


Figure S7 ROC data of rash. (A) training cohort. (B) test cohort.

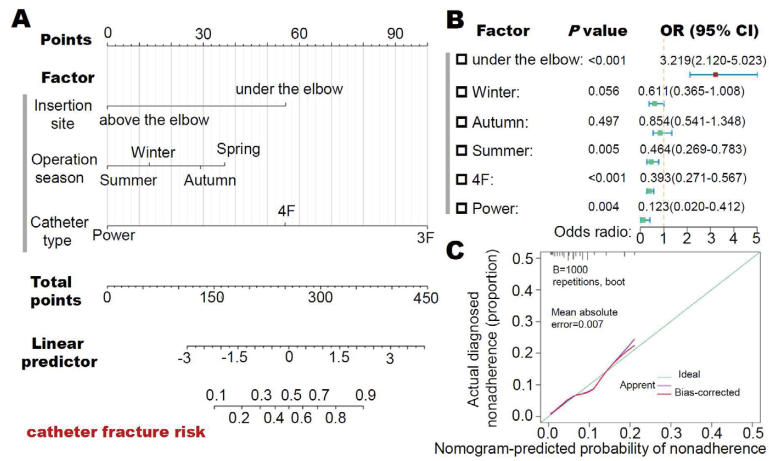


Figure S8 Modeling analysis based on the risk factors of catheter fracture. (A) Nomogram; (B) Forest plot; (C) Calibration curve.

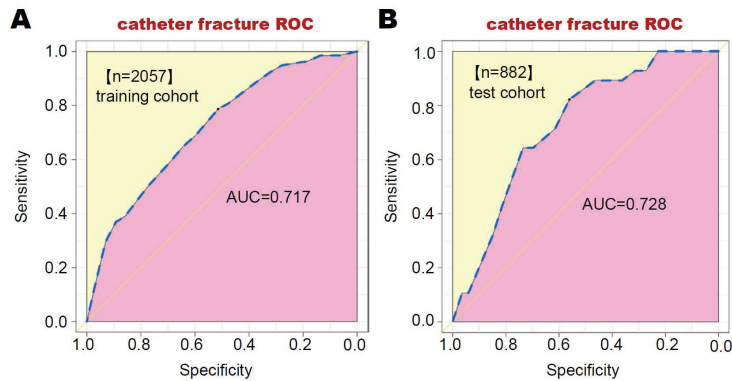


Figure S9 ROC data of catheter fracture. (A) training cohort; (B) test cohort.