Appendix 1

Static parameter values obtained from 100 nailfold capillaries by applying the proposed algorithm to a digital image processing-based method for measuring the static nailfold capillary parameters versus a manual approach.

Count	Apical diameter (μm)			Arterial limb diameter (μm)			Venous limb diameter (μm)		
	Proposed	Manual	Error	Proposed	Manual	Error	Proposed	Manual	Error
1	14.687	14.494	0.193	10.525	9.709	0.816	11.182	10.041	1.141
2	21.087	19.894	1.193	11.958	10.860	1.098	13.897	12.848	1.049
3	21.909	20.92	0.989	12.478	10.867	1.611	17.606	16.647	0.959
4	20.071	20.332	0.261	10.265	9.145	1.12	11.935	11.365	0.57
5	33.709	33.645	0.064	17.336	15.955	1.381	19.341	18.984	0.357
6	17.645	16.531	1.114	8.474	7.277	1.197	12.741	11.899	0.842
7	19.744	19.032	0.712	14.565	13.963	0.602	15.693	14.876	0.817
8	20.074	19.281	0.793	14.986	14.028	0.958	16.601	15.811	0.79
9	18.406	17.197	1.209	13.33	14.438	1.108	14.874	14.451	0.423
10	27.798	26.941	0.857	16.01	15.195	0.815	22.235	21.408	0.827
11	18.401	17.891	0.51	10.937	10.358	0.579	12.708	12.752	0.044
12	23.675	22.699	0.976	13.565	13.987	0.422	15.699	15.082	0.617
13	26.738	25.278	1.46	12.25	11.754	0.496	13.21	13.444	0.234
14	20.959	20.402	0.557	18.093	17.11	0.983	19.215	18.844	0.371
15	23.811	22.574	1.237	10.761	10.102	0.659	16.048	15.116	0.932
16	15.532	14.851	0.681	11.65	10.398	1.252	13.315	13.136	0.179
17	23.91	25.26	1.35	14.615	14.092	0.523	20.214	19.14	1.074
18	13.296	13.138	0.158	10.982	10.158	0.824	15.437	14.164	1.273
19	16.063	15.261	0.802	10.561	10.696	0.135	15.25	15.232	0.018
20	19.821	19.178	0.643	12.489	12.996	0.507	13.812	12.316	1.496
21	18.891	17.387	1.504	11.823	11.815	0.008	16.008	15.64	0.368
22	10.738	10.175	0.563	8.192	7.913	0.279	12.515	11.148	1.367
23	19.393	18.57	0.823	17.358	16.595	0.763	19.748	18.579	1.169
24	19.21	18.206	1.004	13.834	13.13	0.704	16.961	15.916	1.045
25	22.255	21.37	0.885	15.857	15.518	0.339	16.724	15.528	1.196
26	25.267	24.811	0.456	16.142	15.246	0.896	19.267	18.175	1.092
27	14.357	14.135	0.222	8.508	7.657	0.851	11.499	10.541	0.958
28	21.817	21.212	0.605	13.043	12.488	0.555	18.756	18.219	0.537
29	16.504	16.337	0.167	11.629	10.395	1.234	13.63	12.44	1.19
30	20.059	20.074	0.015	11.904	11.297	0.607	15.466	14.002	1.464
31	16.747	15.857	0.89	10.662	10.503	0.159	18.088	16.945	1.143
32	16.365	15.536	0.829	15.551	14.914	0.637	22.072	20.897	1.175
33	19.2	18.675	0.525	11.995	11.399	0.596	20.897	20.101	0.796
34	23.119	22.805	0.314	12.314	12.53	0.216	20.456	19.704	0.752
35	16.995	17.079	0.084	11.027	10.143	0.884	17.252	15.99	1.262
36	18.791	17.915	0.876	12.02	11.399	0.621	16.97	16.811	0.159
37	13.709	12.954	0.755	10.262	8.98	1.282	13.374	12.361	1.013
38	24.534	23.625	0.909	16.14	15.871	0.269	17.079	16.843	0.236
39	32.491	31.115	1.376	18.4	17.722	0.678	24.299	23.015	1.284
40	20.5	20.692	0.192	10.013	9.436	0.577	11.995	11.038	0.957
41	19.615	20.734	1.119	11.986	12.184	0.198	12.957	12.432	0.525
42	20.328	19.511	0.817	12.593	11.686	0.907	12.794	11.873	0.921
43	17.345	18.266	0.921	11.758	11.219	0.539	15.028	14.268	0.76
44	24.977	24.122	0.855	11.721	11.586	0.135	15.839	15.49	0.349
45	21.988	21.881	0.107	12.994	12.608	0.386	15.538	15.148	0.39
46	31.455	30.157	1.298	14.971	14.75	0.221	17.485	17.314	0.171
47	19.269	19.748	0.479	11.376	11.145	0.231	13.23	13.061	0.169
48	16.726	16.603	0.123	9.742	9.759	0.017	12.3	11.753	0.547
49	18.504	19.896	1.392	11.557	11.051	0.506	13.323	12.712	0.611
50	19.959	19.192	0.767	12.31	12.093	0.217	13.88	14.063	0.183
51	14.677	14.111	0.566	8.156	7.902	0.254	10.747	9.651	1.096
52	18.251	18.009	0.242	12.05	11.92	0.13	15.844	15.561	0.283
53	17.319	17.166	0.153	10.824	10.504	0.32	13.984	14.007	0.023
54	19.936	19.722	0.214	13.857	13.268	0.589	15.212	14.843	0.369
55	13.987	13.655	0.332	9.805	9.231	0.574	13.455	12.637	0.818
56	19.521	19.123	0.398	12.009	10.976	1.033	12.634	11.526	1.108
57	18.937	18.047	0.89	12.173	11.856	0.317	13.789	13.303	0.486
58	13.224	12.85	0.374	9.982	9.687	0.295	10.037	9.954	0.083
59	15.642	14.885	0.757	12.286	11.998	0.288	17.546	16.949	0.597
60	18.912	19.36	0.448	12.544	12.244	0.3	12.632	12.934	0.302
61	16.455	16.402	0.053	10.931	10.845	0.086	12.686	11.721	0.965
62	21.071	20.336	0.735	13.759	13.142	0.617	16.35	15.385	0.965
63	22.333	21.625	0.708	15.453	15.245	0.208	19.901	19.7	0.201
64	23.506	22.558	0.948	14.575	13.39	1.185	17.662	16.831	0.831
65	21.604	21.646	0.042	9.587	9.167	0.42	13.698	13.348	0.35
66	19.631	19.176	0.455	7.977	7.953	0.024	11.075	10.267	0.808
67	24.205	24.409	0.204	9.977	9.997	0.02	12.208	11.753	0.455
68	20.075	19.186	0.889	12.216	11.613	0.603	12.22	12.156	0.064
69	22.9	23.031	0.131	12.829	12.856	0.027	18.363	17.091	1.272
70	12.563	11.798	0.765	8.031	7.285	0.746	9.588	8.69	0.898
71	18.484	18.164	0.32	15.497	14.12	1.377	20.709	19.331	1.378
72	22.764	23	0.236	13.264	12.478	0.786	15.768	15.443	0.325
73	14.154	13.629	0.525	11.386	10.224	1.162	13.208	11.517	1.691
74	25.332	24.849	0.483	12.334	13.167	0.833	18.454	17.342	1.112
75	14.598	14.867	0.269	8.207	7.355	0.852	11.556	10.692	0.864
76	24.257	22.969	1.288	11.027	9.869	1.158	12.247	11.103	1.144
77	20.015	19.437	0.578	13.731	12.283	1.448	14.473	13.602	0.871
78	25.3	23.908	1.392	12.601	12.284	0.317	13.909	13.698	0.211
79	17.482	17.128	0.354	8.908	9.091	0.183	12.416	11.88	0.536
80	18.882	17.947	0.935	16.073	15.058	1.015	16.869	15.575	1.294
81	22.979	22.017	0.962	16.106	15.39	0.716	23.097	21.793	1.304
82	21.563	20.626	0.937	13.135	11.653	1.482	15.372	14.864	0.508
83	25.005	23.895	1.11	14.507	13.541	0.966	15.718	15.235	0.483
84	19.615	18.633	0.982	9.987	10.085	0.098	12.458	12.093	0.365
85	28.875	29.268	0.393	13.402	12.76	0.642	15.56	14.939	0.621
86	29.464	28.853	0.611	15.557	14.461	1.096	17.368	17.038	0.33
87	21.035	19.946	1.089	13.487	11.981	1.506	16.89	15.677	1.213
88	20.362	19.069	1.293	14.771	13.679	1.092	15.159	14.582	0.577
89	12.993	13.182	0.189	10.344	9.897	0.447	11.147	10.274	0.873
90	19.13	18.354	0.776	12.274	12.021	0.253	14.951	14.033	0.918
91	20.424	19.507	0.917	14.31	13.607	0.703	18.804	18.143	0.661
92	21.93	20.8	1.13	16.435	15.178	1.257	18.171	17.539	0.632
93	21.366	20.546	0.82	13.165	12.75	0.415	16.89	16.092	0.798
94	21.015	19.648	1.367	11.76	11.131	0.629	13.536	12.862	0.674
95	18.237	17.919	0.318	9.999	9.707	0.292	15.388	15.205	0.183
96	21.207	20.782	0.425	14.037	13.547	0.49	15.797	15.777	0.02
97	19.092	18.707	0.385	12.94	13.176	0.236	18.496	17.592	0.904
98	30.69	30.333	0.357	21.906	21.009	0.897	22.243	21.648	0.595
99	23.056	21.577	1.479	13.676	12.986	0.69	15.279	14.185	1.094
100	15.958	16.735	0.777	11.284	10.669	0.615	14.624	13.939	0.685

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Vessel width (μm)	Vessel height (μm)	Vessel internal diameter (μm)
40.05	123.75	18.343
44.1	204.3	18.245
66.6	193.95	36.516
38.7	182.7	16.5
73.35	211.5	36.673
32.85	139.5	11.635
45	135	14.742
69.3	170.1	37.713
40.95	136.35	12.746
61.65	226.35	23.405
47.7	188.55	24.055
53.1	153	23.836
63	156.15	37.54
66.15	179.1	28.842
48.6	159.3	21.791
41.4	161.55	16.435
66.15	192.6	31.321
55.8	233.1	29.381
76.5	134.55	50.689
71.1	154.35	44.799
71.55	165.6	43.719
42.3	189.9	21.593
60.75	166.95	23.644
54.45	252.9	23.655
54	220.05	21.419
67.95	220.95	32.541
45.9	216	25.893
53.1	197.55	21.301
49.95	163.35	24.691
45.45	162.45	18.08
49.95	145.8	21.2
71.55	189.9	33.927
63.45	224.1	30.558
49.5	187.2	16.73
52.65	180.45	24.371
47.25	189	18.26
43.65	180.9	20.014
62.1	212.85	28.881
64.8	269.55	22.101
31.95	166.5	9.942
51.75	193.05	26.807
53.55	213.3	28.163
54.45	241.2	27.664
54	215.55	26.44
41.4	217.8	12.868
55.35	243.45	22.894
40.5	162.45	15.894
40.5	112.95	18.458
48.6	196.65	23.72
53.55	168.3	27.36
29.25	115.65	10.347
44.55	192.6	16.656
48.15	152.1	23.342
45	183.6	15.931
33.75	122.85	10.49
45.9	157.5	21.257
48.15	168.75	22.188
33.3	141.3	13.281
47.7	201.15	17.868
43.2	162.45	18.024
54	155.7	30.383
42.75	160.2	12.641
53.1	211.05	17.746
52.65	198	20.413
38.7	185.85	15.415
65.25	130.95	46.198
41.85	175.95	19.665
49.5	177.75	25.064
67.05	184.95	35.858
31.5	118.35	13.881
71.1	184.05	34.894
49.5	167.4	20.468
39.15	145.8	14.556
62.1	203.85	31.312
38.7	176.85	18.937
41.4	217.35	18.126
48.15	240.75	19.946
54.9	197.1	28.39
45.45	157.05	24.126
55.8	162.45	22.858
76.5	229.05	37.297
60.3	185.4	31.793
58.95	218.7	28.725
39.6	181.35	17.155
61.2	241.65	32.238
62.1	217.8	29.175
58.5	167.85	28.123
49.95	209.7	20.02
33.75	125.55	12.259
53.1	190.35	25.875
59.85	218.25	26.736
54.45	208.8	19.844
49.5	241.2	19.445
48.6	155.25	23.304
54.9	162.9	29.513
47.7	191.7	17.866
49.5	162.9	18.064
67.95	284.4	23.801
45.45	216	16.495
41.4	166.05	15.492

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