

Supplementary Table S1 Demographics and clinical details of patients in the keel placement group

Patient	Gender	Age (year)	Diagnosis	Treatment	PSE	WP	REC	VSB	VSA
K1	M	53	Glottic carcinoma	Laser cordectomy	YES	NO	NO	27	25
K2	M	52	Glottic carcinoma	Laser cordectomy	YES	NO	NO	23	30
K3	F	22	Laryngeal papilloma	Laser stripping	NO	YES	NO	20	7
K4	M	28	Laryngeal papilloma	Laser stripping	NO	YES	NO	18	6
K5	F	45	Laryngeal papilloma	Laser stripping	NO	NO	YES	20	11
K6	M	35	Laryngeal papilloma	Laser stripping	NO	YES	NO	9	8
K7	M	57	Laryngeal papilloma	Laser stripping	YES	NO	NO	17	13
K8	M	40	Laryngeal papilloma	Laser stripping	NO	YES	NO	23	7
K9	F	25	Laryngeal papilloma	Laser stripping	NO	YES	NO	18	3
K10	M	55	Laryngeal papilloma	Laser stripping	NO	YES	NO	22	3
K11	M	38	Laryngeal papilloma	Laser stripping	NO	YES	NO	18	5
K12	M	36	Laryngeal papilloma	Laser stripping	NO	YES	NO	15	3
K13	M	70	Hypertrophic laryngitis	Laser stripping	NO	YES	NO	27	7
K14	M	35	Hypertrophic laryngitis	Laser stripping	NO	YES	NO	27	9
K15	M	65	Hypertrophic laryngitis	Laser stripping	NO	YES	YES	19	11
K16	M	80	Hypertrophic laryngitis	Laser stripping	NO	YES	NO	20	13
K17	M	50	Hypertrophic laryngitis	Laser stripping	YES	NO	NO	29	13
K18	M	70	Hypertrophic laryngitis	Laser stripping	NO	YES	YES	15	5
K19	M	68	Hypertrophic laryngitis	Laser stripping	NO	YES	NO	20	9
K20	M	71	Hypertrophic laryngitis	Laser stripping	NO	YES	NO	17	7
K21	M	53	Glottic leukoplakia	Laser stripping	NO	YES	NO	18	12
K22	M	64	Glottic leukoplakia	Laser stripping	YES	NO	YES	23	17
K23	M	57	Glottic leukoplakia	Laser stripping	NO	YES	NO	25	16
K24	M	35	Glottic leukoplakia	Laser stripping	NO	YES	NO	19	18
K25	M	62	Glottic leukoplakia	Laser stripping	YES	NO	NO	30	27
K26	M	40	Glottic leukoplakia	Laser stripping	NO	YES	NO	15	7
K27	M	50	Glottic leukoplakia	Laser stripping	NO	YES	NO	17	5
K28	M	73	Glottic leukoplakia	Laser stripping	NO	YES	NO	11	7
K29	M	52	Glottic leukoplakia	Laser stripping	NO	YES	NO	20	11
K30	M	50	Glottic leukoplakia	Laser stripping	NO	YES	YES	25	10
K31	M	66	Glottic leukoplakia	Laser stripping	NO	YES	NO	26	15
K32	M	68	Glottic leukoplakia	Laser stripping	NO	YES	NO	17	5
K33	M	53	Glottic leukoplakia	Laser stripping	NO	YES	NO	11	3
K34	M	49	Glottic leukoplakia	Laser stripping	NO	YES	NO	22	11
K35	M	79	Glottic leukoplakia	Laser stripping	NO	YES	NO	22	12
K36	M	56	Glottic leukoplakia	Laser stripping	NO	YES	NO	19	8
K37	M	77	Glottic leukoplakia	Laser stripping	NO	YES	NO	25	5
K38	M	52	Glottic leukoplakia	Laser stripping	YES	NO	NO	18	17
K39	M	61	Glottic leukoplakia	Laser stripping	NO	YES	NO	20	7
K40	M	54	Glottic leukoplakia	Laser stripping	NO	YES	NO	19	11
K41	M	55	Glottic leukoplakia	Laser stripping	NO	YES	NO	22	16

K42	M	78	Glottic leukoplakia	Laser stripping	NO	YES	NO	15	6
K43	M	59	Glottic leukoplakia	Laser stripping	NO	YES	YES	21	10

PSE = Pseudomembrane; WP = Web Prevented; REC = Recurrence; VSB = Voice Handicap Index-10 Score Before Surgery; VSA = Voice Handicap Index-10 Score After Surgery.

* Whether pseudomembrane was discovered at the time of keel removal.

Supplementary Table S2 Demographics and clinical details of patients in the control group

Patient	Gender	Age (year)	Diagnosis	Treatment	WP	REC	VSB	VSA
C1	M	47	Glottic leukoplakia	Laser stripping	YES	NO	21	8
C2	F	47	Glottic leukoplakia	Laser stripping	NO	NO	25	17
C3	M	56	Glottic leukoplakia	Laser stripping	NO	NO	20	11
C4	F	44	Glottic leukoplakia	Laser stripping	NO	NO	11	15
C5	M	60	Glottic leukoplakia	Laser stripping	NO	NO	28	20
C6	M	31	Glottic leukoplakia	Laser stripping	NO	NO	16	19
C7	M	55	Glottic leukoplakia	Laser stripping	YES	NO	23	9
C8	M	65	Glottic leukoplakia	Laser stripping	NO	NO	23	21
C9	M	65	Glottic leukoplakia	Laser stripping	YES	NO	20	11
C10	M	62	Glottic leukoplakia	Laser stripping	YES	NO	20	7
C11	M	33	Glottic leukoplakia	Laser stripping	YES	NO	15	13

WP = Web Prevented; REC = Recurrence; VSB = Voice Handicap Index-10 Score Before Surgery; VSA = Voice Handicap Index-10 Score After Surgery.