

**Table S1** Demographic characteristics and CT-DCG parameters in the training cohort and validation cohort

Characteristic	Training cohort			Internal test cohort		
	En-DCR without septoplasty (N=122)	En-DCR with septoplasty (N=35)	P value	En-DCR without septoplasty (N=50)	En-DCR with septoplasty (N=18)	P value
Sex, n (%)			0.393			0.323
Female	108 (88.5)	29 (82.9)		38 (76.0)	16 (88.9)	
Male	14 (11.5)	6 (17.1)		12 (24.0)	2 (11.1)	
Age (years), mean ± SD	57±13	56±12	0.601	56±12	56±14	0.916
Surgery eye, n (%)			0.360			0.029*
Right eye	59 (48.4)	20 (57.1)		24 (48.0)	14 (77.8)	
Left eye	63 (51.6)	15 (42.9)		26 (52.0)	4 (22.2)	
Symptom duration (month), median (IQR)	24 (12, 60)	14 (8, 42)	0.340	12 (12, 36)	30 (12, 69)	0.137
Eye surgery and medication history, n (%)			0.413			>0.999
Absent	104 (85.2)	32 (91.4)		44 (88.0)	16 (88.9)	
Lacrimal duct recanalization	18 (14.8)	3 (8.6)		6 (12.0)	2 (11.1)	
Systemic conditions, n (%)			0.310			0.160
Absent	95 (77.9)	30 (85.7)		39 (78.0)	17 (94.4)	
Present	27 (22.1)	5 (14.3)		11 (22.0)	1 (5.6)	
Vertical size of lacrimal sac (mm), n (%)			0.172			0.090
≥5	100 (82.0)	25 (71.4)		43 (86.0)	12 (66.7)	
<5	22 (18.0)	10 (28.6)		7 (14.0)	6 (33.3)	
NSD type, n (%)			0.152			0.455
C-shaped deviation	47 (38.5)	20 (57.1)		17 (34.0)	7 (38.9)	
Localized deviation	58 (47.5)	11 (31.4)		27 (54.0)	7 (38.9)	
S-shaped deviation	17 (13.9)	4 (11.4)		6 (12.0)	4 (22.2)	
NSD angle (degree), mean ± SD	9.3±3.4	14.4±3.6	<0.001 <sup>a</sup>	10.0±3.7	13.9±4.3	0.002*
NSD height (mm), mean ± SD	17.2±5.0	18.0±4.0	0.334	17.2±5.0	16.8±2.8	0.693
NSD location, n (%)			0.052			0.123
Nonsurgical approach area	61 (50.0)	11 (31.4)		30 (60.0)	7 (38.9)	
Surgical approach area	61 (50.0)	24 (68.6)		20 (40.0)	11 (61.1)	
Minimal CANCA in the surgical region (mm <sup>2</sup> ), mean ± SD	157±25	138±24	<0.001 <sup>a</sup>	160±26	147±24	0.058
MNPW at the surgical side (mm), mean ± SD	9.6±2.0	7.3±1.9	<0.001 <sup>a</sup>	9.8±1.8	7.6±1.7	<0.001*
NSD direction, n (%)			0.152			0.029*
Opposite side	69 (56.6)	15 (42.9)		26 (52.0)	4 (22.2)	
Surgical side	53 (43.4)	20 (57.1)		24 (48.0)	14 (77.8)	
Variations in nasal anatomy, n (%)			0.197			0.227
Absent	84 (68.9)	20 (57.1)		38 (76.0)	11 (61.1)	
Present	38 (31.1)	15 (42.9)		12 (24.0)	7 (38.9)	

\*, significant P value <0.05. CT-DCG, computed tomography dacryocystography; En-DCR, endonasal endoscopic dacryocystorhinostomy; SD, standard deviation; IQR, interquartile range; NSD, nasal septal deviation; CANCA, cross-sectional area of the nasal cavity airway at surgical region; MNPW, middle nasal passage width.

## ZOC EN-DCR with septoplasty risk



**Figure S1** A dynamic nomogram is accessible online (<https://zocdcrs.shinyapps.io/dynnomapp/>). En-DCR, endonasal endoscopic dacryocystorhinostomy; NSD, nasal septal deviation; MNPW, middle nasal passage width.