



國立成功大學醫學院附設醫院  
National Cheng Kung University Hospital  
生命 · 愛心 · 卓越 · 創新



# Analysis of risks and outcomes by different reconstructive designs in tongue cancer patients

**Chien-Liang Ho**<sup>1</sup>, Shyh-Jou Shieh<sup>1</sup>, Jenn-Ren Hsiao<sup>2</sup>, Li-Chieh Kuo<sup>3</sup>

Division of Plastic and Reconstructive Surgery, Department of Surgery<sup>1</sup>, Department of Otolaryngology<sup>2</sup>, Department of Occupational Therapy<sup>3</sup>, National Cheng Kung University Medical Center, Tainan, Taiwan

“Nothing to disclose.”

# Background

- More than one-third of tongue defect needed to reconstruct to prevent functional deficits.
- Adequate volume and possible mobility of reconstructed tongue were necessary for better functional outcomes.
- Anterolateral thigh ( fasciocutaneous ) flap was applied with variable design for tongue cancer reconstruction.

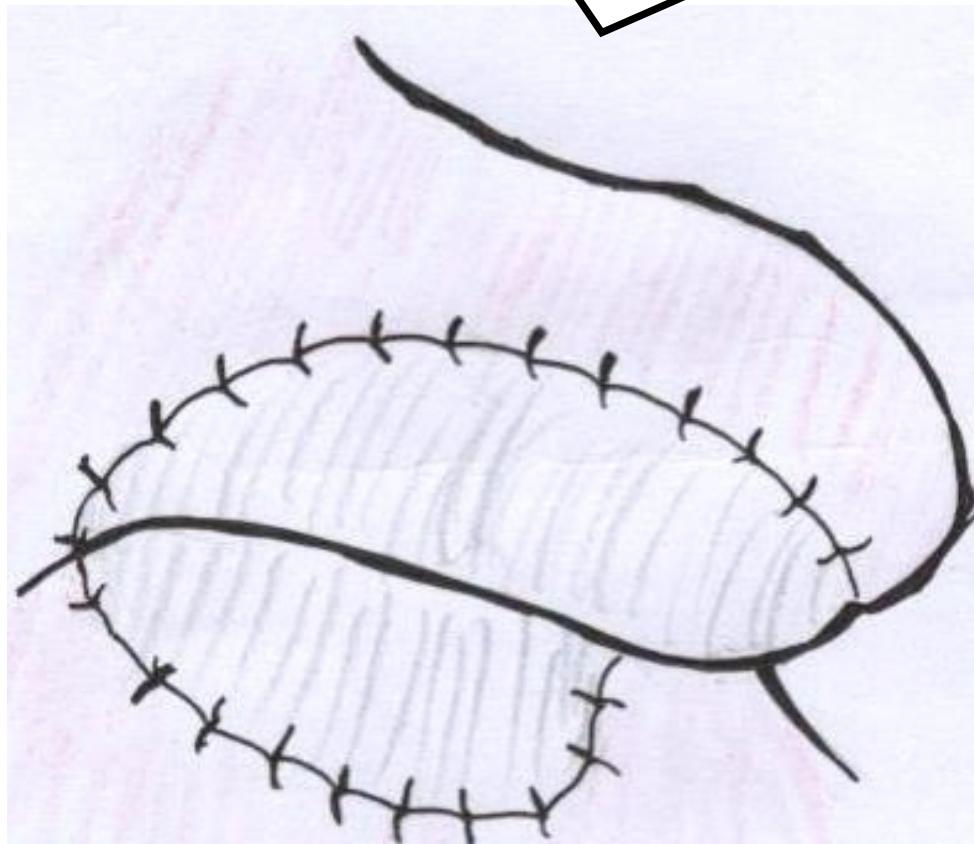
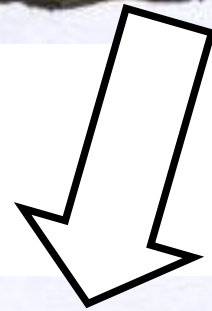
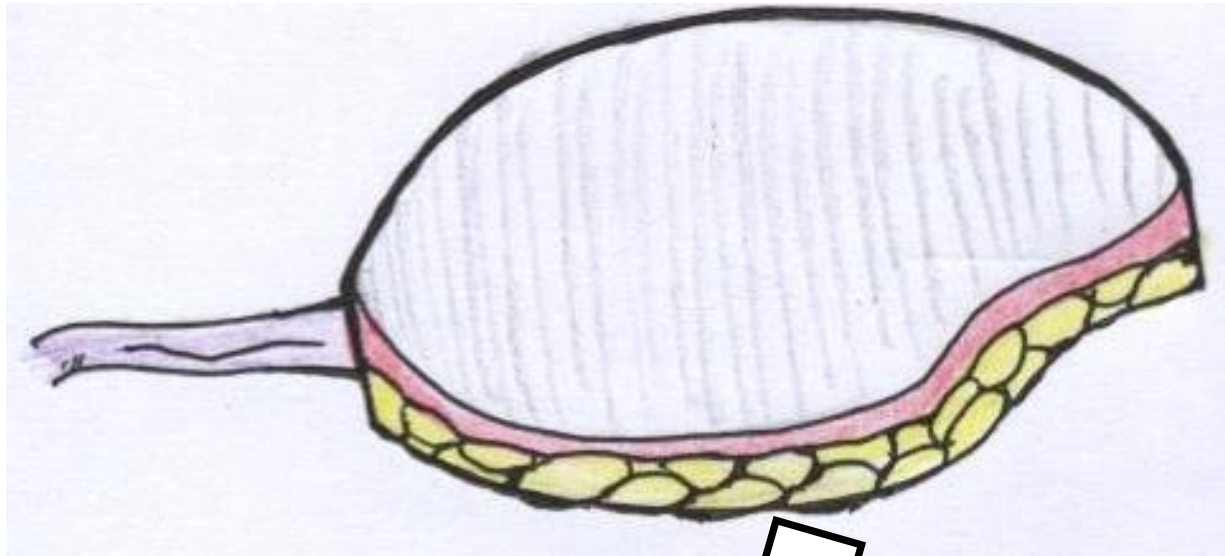
# Objectives

- Analyze the differences between two different flap design groups.
- Hazard analysis for the factors between two different flap design groups.
- Factors affect outcome between two different flap design group.

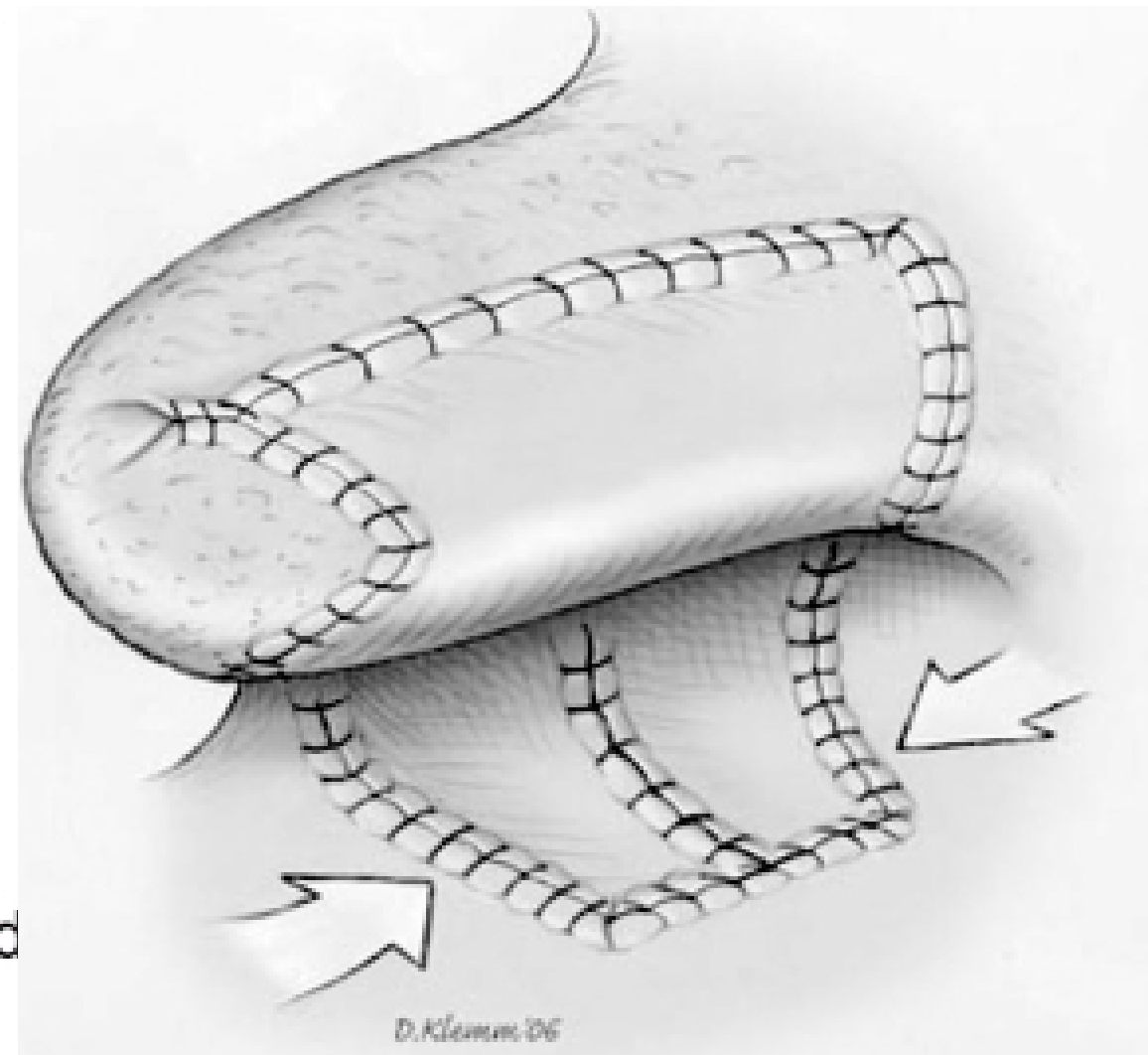
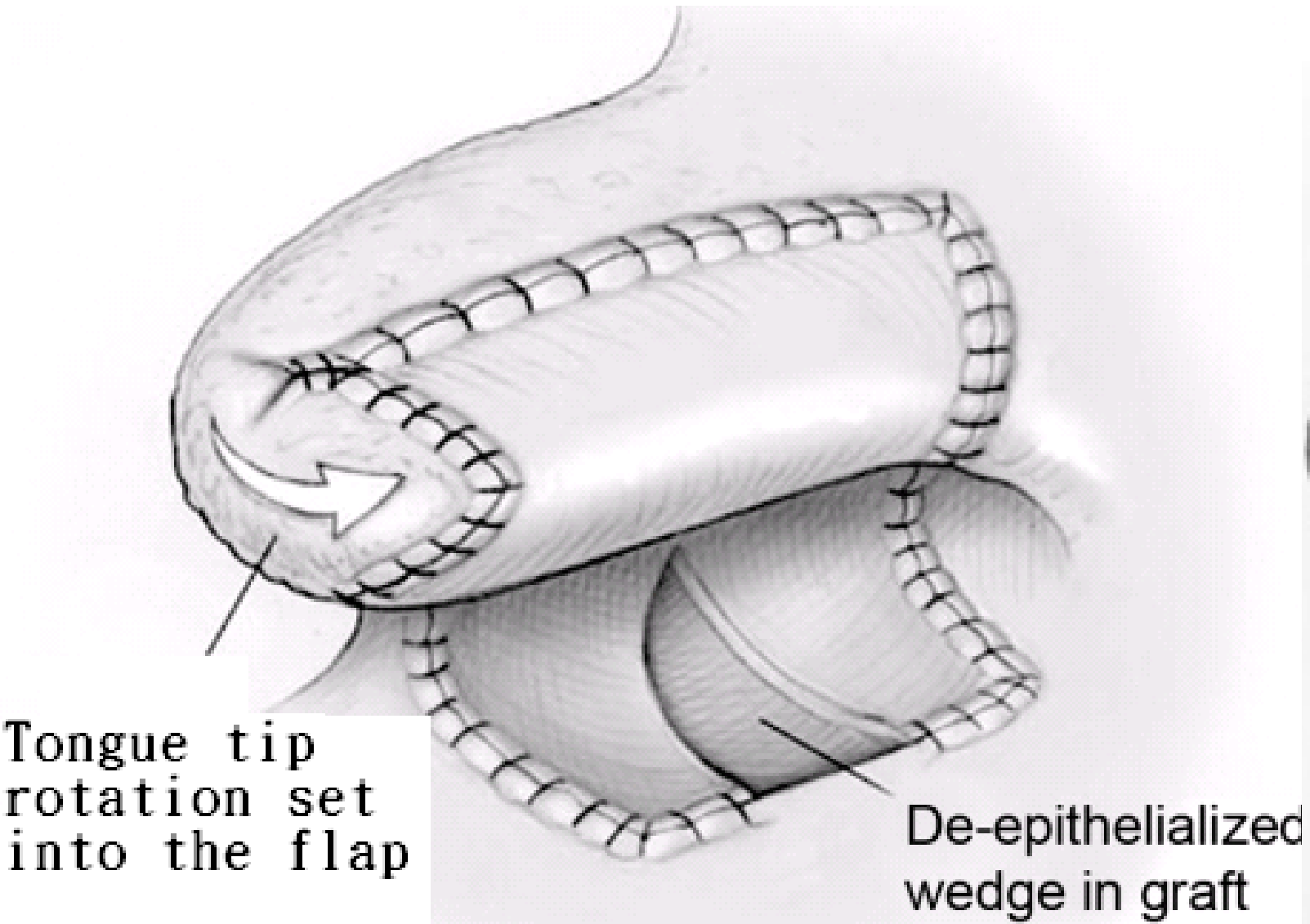
# Materials and Methods

- Total 69 tongue cancer patients were enrolled from 2009 to 2013.
- Randomized study was designed to separate two different groups, Davision's group and traditional group.
- Risk factors were analyzed and compared to post-operative quality of life.

# Traditional Design



# Davision's design



*Plast Reconstr Surg. 2008; 121: 1982-1985*



# Table 1.

	Davision(n=43)	Traditional(n=26)	P
Age means	55.81 ± 11.43	53.88 ± 14.06	0.5637
BMI	24.11 ± 4.19	23.16 ± 3.29	0.3305
Flap Size (size_1)	77.86 ± 34.25	70.44 ± 45.60	0.5128
Volume	73.93 ± 25.63	84.00 ± 47.33	0.4612
CCRT yes n(%)	22(51.16)	10(40.00)	0.2086
Stage (p_Stage)	3 (6.98)	0	0.2415
1			
2	10 (23.26)	10(38.46)	
3	12(27.91)	7 (26.92)	
4	17(39.53)	9 (34.62)	
Lesion Size	3 (6.98)	0	0.3426
1			
2	26(60.47)	19(73.08)	
3	9(20.93)	3(11.54)	
4	3(6.98)	3(11.54)	
5	2(4.65)	1(3.85)	
Die	9(20.93)	6 (24.00)	0.2284

# Table 2 Simple Cox Proportional Hazard model or Simple Cox regression

variables		HR	95% CI	P
Age		1.01	0.98 1.04	0.6246
BMI		0.88	0.78 0.99	0.0333*
Flap design		1.02	0.36 2.87	0.9711
Flap Size		1.01	1.01 1.02	0.0003*
Volume		1.00	0.99 1.02	0.6283
CCRT	1 VS. 0	1.74	0.72 4.22	0.2222
Stage	2 VS. 1	3.13	0.92 10.64	0.0676
Lesion Size	2 VS. 1	3.22	1.35 7.69	0.0085*



# Table3 Multiple Cox Proportional Hazard model or Multiple Cox regression

variables		HR	95% CI		P
age		1.02	0.96	1.08	0.6076
BMI		0.97	0.81	1.17	0.7539
Flap design		0.29	0.04	1.93	0.2009
Flap Size		1.03	1.00	1.06	0.0413*
volume		0.99	0.97	1.02	0.7068
CCRT	1 VS. 0	1.11	0.24	5.06	0.8951
Stage	2 VS. 1	3.34	0.37	30.55	0.2848
Lesion Size	2 VS. 1	0.41	0.04	3.96	0.4368

# Table4. Mixed model -Outcome= physiology

variables	Estimate	Standard error	t value	P
Age	-0.03	0.16	-0.17	0.8647
BMI	-0.16	0.54	-0.29	0.7753
Flap design	-0.93	4.58	-0.20	0.8393
Flap Size	-0.21	0.07	-3.04	0.0029*
Volume	0.07	0.08	0.87	0.3873
CCRT	1.22	4.58	0.27	0.7913
Stage	3.95	4.87	0.81	0.4198
Lesion Size	4.48	6.49	0.69	0.4911

# Outcome= psychology

variables	Estimate	Standard error	t value	P
Age	0.24	0.17	1.36	0.1766
BMI	0.03	0.58	0.04	0.9651
Flap design	-2.70	4.88	-0.55	0.5808
Flap Size	-0.20	0.07	-2.68	0.0083*
Volume	0.00	0.08	0.02	0.9864
CCRT	0.70	4.88	0.14	0.8860
Stage	5.43	5.20	1.04	0.2988
Lesion Size	2.70	6.91	0.39	0.6966

# Outcome= social

variables	Estimate	Standard error	t value	P
Age	0.04	0.15	0.24	0.8135
BMI	-0.19	0.51	-0.38	0.7050
Flap design	-4.63	4.31	-1.07	0.2856
Flap Size	-0.16	0.06	-2.51	0.0135*
Volume	0.03	0.07	0.36	0.7203
CCRT	0.21	4.31	0.05	0.9605
Stage	3.35	4.60	0.73	0.4678
Lesion Size	1.02	6.09	0.17	0.8671

# Outcome= environment

variables	Estimate	Standard error	t value	P
Age	0.23	0.15	1.54	0.1260
BMI	-0.04	0.51	-0.09	0.9320
Flap design	-6.51	4.31	-1.51	0.1329
Flap Size	-0.15	0.06	-2.31	0.0225*
Volume	-0.01	0.07	-0.14	0.8928
CCRT	1.64	4.31	0.38	0.704
Stage	4.06	4.59	0.88	0.3782
Lesion Size	2.16	6.09	0.35	0.7237

# Results and Conclusions

- There are no significant differences between Davision's or traditional groups.
- In simple Cox regression study, BMI, flap size, and lesion size are significant with mortality.
- The flap size become the only factor to influence mortality in multiple Cox regression test.
- Flap size also influences the quality of life among different domains.

# Thanks



成大醫院

生命 · 愛心 · 卓越 · 創新