

Comparing Long-term Patient-reported Outcomes after Cranial Vault Remodeling and Strip Craniectomies with the FACE-Q Craniofacial Module—a Retrospective Study

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Craniosynostosis (premature suture fusion)



Sagittal



Coronal



Metopic

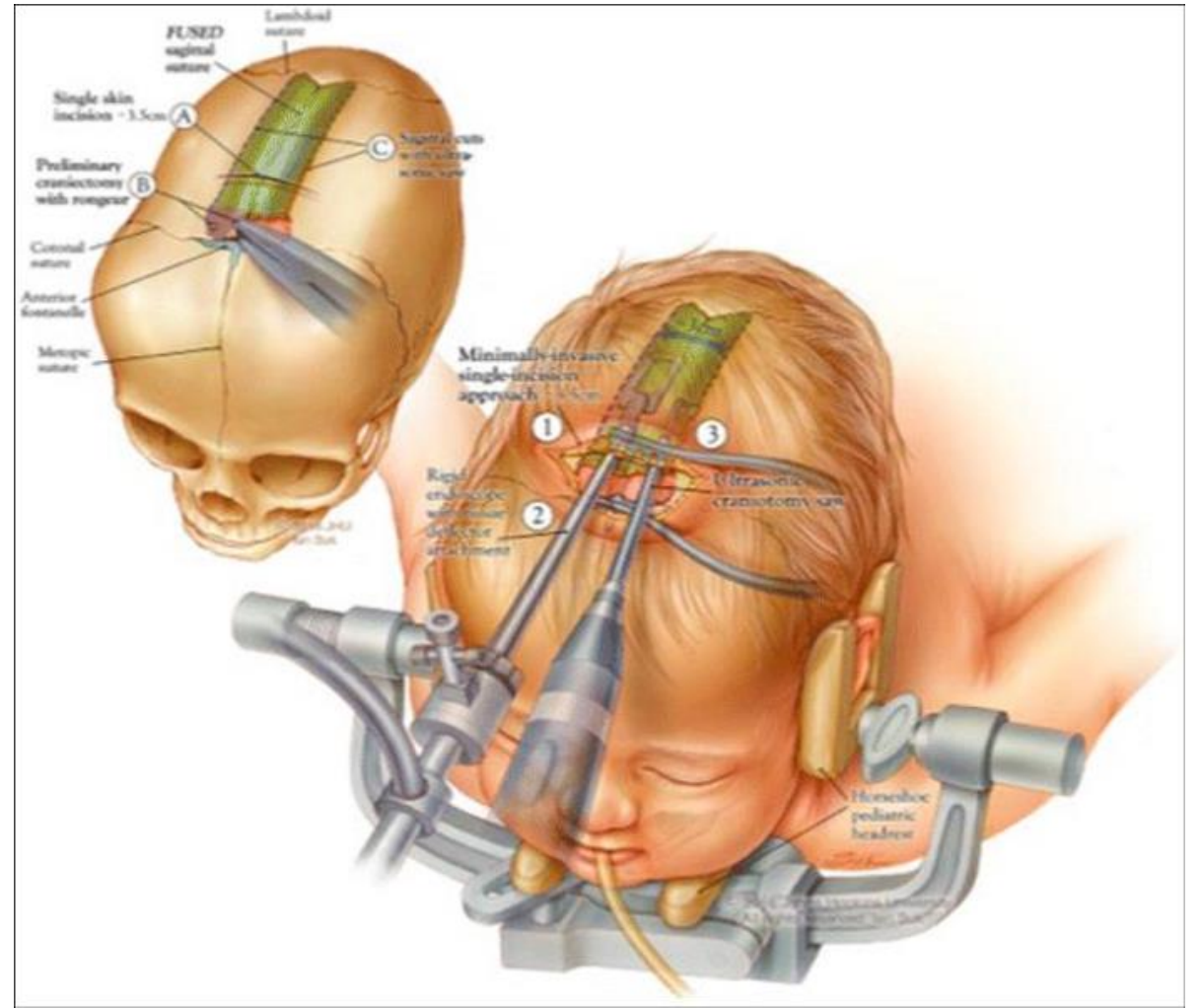


Lambdoidal

Two operations are used to correct craniosynostosis

Total Cranial Vault Remodeling

Strip Craniectomy SC



Are parents and patients equally satisfied with outcomes in Total Cranial Vault Remodeling vs Strip Craniectomy?

Methods: FACE-Q Craniofacial instrument

Domains

Aesthetics

- Face
- Eyes
- Forehead
- Head
- Nose

Health-related variables

- Appearance distress
- Psychological
- School
- Social

Table 1. Patient characteristics (abridged)

	Total (N = 62)	Strip craniectomy (n = 29)	Total cranial vault remodeling/fronto-orbital advancement (n = 33)	p value
Age at surgery, in years				< 0.01
Median (IQR)	0.48 (0.25–0.73)	0.25 (0.24–0.30)	0.72 (0.65–1.14)	
	N (%)	n (%)	n (%)	
Race				< 0.01
Black	9 (14.5%)	0 (0.0%)	9 (27.3%)	
Not answered/Unknown	1 (1.6%)	0 (0.0%)	1 (3.0%)	
White	52 (83.9%)	29 (100.0%)	23 (69.7%)	
Diagnosis				< 0.01
Unicoronal	8 (12.9%)	1 (3.4%)	7 (21.2%)	
Metopic	10 (16.1%)	1 (3.4%)	9 (27.3%)	
Sagittal	44 (71.0%)	27 (93.1%)	17 (51.5%)	
Re-operation required?				< 0.01
No	55 (88.7%)	29 (100.0%)	26 (78.8%)	
Yes	7 (11.3%)	0 (0.0%)	7 (21.2%)	
Length of follow-up (in years)				0.03
Median (IQR)	5.3 (3.5– 6.3)	4.4 (2.9–6.1)	5.6 (4.3–6.45)	

Table 3. Bivariate analysis: Eyes and forehead preferred in Strip Craniectomy vs Total cranial vault remodeling

FACE-Q domains	Total (N = 62)	Strip craniectomy (n = 29)	Total cranial vault remodeling/fronto- orbital advancement (n = 33)	p value
	Median (IQR)	Median (IQR)	Median (IQR)	
Eyes	91 (64–100)	100 (84–100)	79 (59.8–100)	0.03*
Face	100 (76–100)	100 (91–100)	95.5 (68.3–100)	0.15
Forehead	100 (60–100)	100 (80–100)	84 (58–100)	0.05*
Head	83 (63–100)	90 (72–100)	83 (59–100)	0.18
Nose	100 (81–100)	100 (78–100)	100 (81–100)	0.94
Appearance Distress	100 (91–100)	100 (100–100)	100 (91–100)	0.61
Psychological Function	100 (77–100)	100 (80–100)	100 (76–100)	0.81
School Function	100 (73–100)	100 (75.75–100)	100 (73–100)	0.72
Social Function	100 (76–100)	100 (76–100)	91 (76–100)	0.19

Table 5. Multiple linear regression results

PROs are not different between operation type, but they are for craniosynostosis type

FACE-Q domain and variables included in multiple linear regression	Estimates	95% CI Lower	95% CI Upper	p-value
EYES				
Unicoronal	Ref	Ref	Ref	
Metopic	17.61	0.11	35.11	0.05*
Sagittal	28.35	13.16	43.54	<0.001
HEAD				
Unicoronal	Ref	Ref	Ref	
Metopic	33.91	15.51	52.32	0.001*
Sagittal	38.06	22.31	53.81	<0.001*
FACE				
Unicoronal	Ref	Ref	Ref	
Metopic	13.39	-0.09	26.87	0.05
Sagittal	30.91	19.21	42.61	<0.001*
FOREHEAD				
Unicoronal	Ref	Ref	Ref	
Metopic	18.89	-1.49	39.27	0.07
Sagittal	43.97	26.53	61.41	<0.001*
NOSE				
Unicoronal	Ref	Ref	Ref	
Metopic	11.15	-2.48	24.78	0.11
Sagittal	19.28	7.61	30.94	0.002*

Take home message:

“PROs are not statistically significantly different between operation type (Total Cranial Vault Remodeling vs Strip Craniectomy) in aesthetics and health-related quality of life metrics using FACE-Q.”