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METANALYSIS

Comparison of the Fisher Anatomical Subunit and Modified Millard Rotation-Advancement Cleft Lip Repairs (Systematic Review)

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Abstract

Background: Among the most prevalent types of craniofacial congenital disabilities is cleft lip and palate (CLP). Cleft lip and palate (CL/P) occur in 1 in 1,000 live births.

Objective: A systematic review aimed to compare the functional and cosmetic results of the Fisher Anatomical Subunit method to the restoration of the unilateral Cleft Lip with those of the Modified Millard Rotation-Advancement strategy.

Materials and Methods: After removing the duplicates, the search returned 186 results. The titles and abstracts of 173 papers were discarded as irrelevant. Two research were disqualified owing to linguistic barriers, while eight were discarded after a full-length paper review. As a result, we combined data from three investigations.

Results: The anthropometric parameters of the two methods for treating unilateral cleft lips were not statistically significant. However, the Steffensen grading criteria comparison found that Fisher's method was superior to Millard's.

Conclusions: In cases of unilateral cleft lip repair, the Fisher Anatomical Subunit approach yielded more favorable outcomes and fewer adverse ones, as judged by the Steffensen criteria. However, there was no discernible variation in the general appearance of scars.

Keywords: Systematic Review; Unilateral cleft lip; Fisher; Millard

1. Introduction

T he craniofacial malformation known as a

cleft lip and palate (CLP) is surprisingly common. About 1% of all live births involve a cleft lip and cleft palate (CL/P).¹ When compared to other birth abnormalities or genetic illnesses, CL/P have a rather high prevalence (61.6%) when they occur alone. clefts often occur Orofacial due to а combination of environmental and genetic factors. There are around 200 genetic diseases associated with CL, such as Apert syndrome (FGFR2), VELOCORTOFAcial syndrome (TBX1, COMT), and CHARGE syndrome (CHD7).²

Several factors in the surrounding environment have been linked to CLP. Smoking cigarettes, having prediabetes or gestational diabetes, drinking excessively, and using some anticonvulsants all increase your risk. An increased risk of clefting has been associated with a lack of certain nutrients in the diet, such as folate and vitamins B6 and B12.³

Around week 6 of gestation, the two medial nasal processes fuse to form the major palate,

philtrum, incisor teeth, and midline of the nose. The lateral nasal process gives rise to the alae and alar base of the nose. Week 6 is crucial for the development of the lateral upper lip, the bulk of the maxilla, and the secondary palate because this is when the maxillary processes on each side of the mouth grow forward and fuse with the medial nasal processes. Facial swellings start to fuse between weeks 4 and 6. Clefts of the face occur when the swellings of the face do not join together properly. ^{4.5}

Paring the cleft borders and rounding off the incised edges was the standard method of repair up until the 1930s. Unlike in most partial clefts, the normal and cleft sides of a full cleft lip do not have identical vertical heights. Although clever cleft lip treatments have restored vertical height and leveled the Cupid's bow, scars often severely diminish the philtral column's inherent attractiveness. The current benchmark for cleft lip surgery was created by Millard in 1955 and is known as the rotation-advancement technique. To make the scar more symmetrical, Mohler proposed an adjustment to the rotationadvancement correction in 1987.6

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When asked how to address these problems in 2005, Fisher proposed the anatomic subunit approximation. On the "ideal line of repair," Fisher fixes wounds that have formed at the junction of different parts of the body. There is a scar along the nasal sill from rotationadvancement restorations. То alter the prominence of the medial lip, sew a cutaneous triangle over the white roll. This method is better than adjusting Noordhoff's point, which could reduce the transverse length of the lateral lip. However, some surgeons prefer temporary vented stents in each nostril during the early postoperative phase. The objective here is to improve nasal breathing by avoiding the obstruction caused by bloody nasal discharges. Attempts to "mould" the nose by wearing a nasal stent for an extended length of time have been proposed, although this strategy has been received with significant criticism. 6,7,8

This study aimed to evaluate the aesthetics and efficacy of cleft lip restoration using a hybrid strategy combining the Fisher Anatomical Subunit method and the Modified Millard Rotation-Advancement technique.

2. Materials and Methods

When describing the results of this study, we adhered strictly to the PRISMA (preferred reporting standards for meta-analyses and systematic reviews) criteria.

A research plan was developed by searching -PubMed, PLOS, CENTRAL, Scopus, and Clarivate. This investigation aimed to compare the results of cleft lip restorations utilizing the modified Millard rotation-advancement procedures with those using the Fisher anatomical component. The last five years are the only ones that count. Reference lists were reviewed for each search result, and all published systematic reviews. Two of our graduating seniors decided on the article themes and collaborated to settle any disagreements that arose among them. The potential for bias in the included studies (Selection, Attrition, Detection, and Performance bias) was evaluated using the Cochrane risk of bias technique. In the end, data is extracted and reviewed with a particular emphasis on statistics, journal titles, populations served, patient characteristics, and outcomes for both approaches.

In this study, researchers compared the Fisher Anatomical Subunit Method and the Modified Millard Rotation-Advancement Method for cleft lip restoration in terms of their aesthetic and functional effects.

Database searches based on abstracts generated 186 distinct articles after deleting duplicates. We eliminated the need to read the abstracts or titles of 173 articles. After careful consideration, eight articles were rejected, and two were ignored because of language issues. As a result, we combined information from three separate studies. Figure 1 is a flowchart illustrating the methodology used in selecting articles.

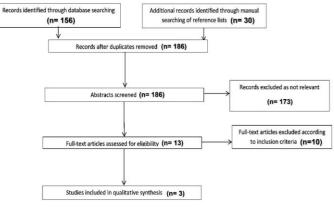


Figure 1. PRISMA flow chart

3. Results

Fisher Anatomical Subunit repair and Modified Millard Rotation-Advancement for the treatment of cleft lips were compared in three studies involving a total of 82 individuals. Table 1 provides a summary of the research.

Table 1. Included studies with total number of included patients

STUDY	COUNTRY	STUDY DESIGN	TOTAL NUMBER OF PATIENTS	FISHER ANATOMICAL SUBUNIT	MODIFIED MILLARD ROTATION- ADVANCE MENT
KWONG ET AL, 2019 ¹⁴	USA	RCT	20		
PATEL ET AL, 2019 ¹³	USA	RCT	22	10	12
ELMAGHRABY ET AL, 2021 ¹⁵	Egypt	RCT	40	20	20

Research using the Fisher Anatomical Subunit approach (9.17 \pm 7.49) and studies using the Modified Millard Rotation-Advancement technique (6.63 \pm 4.79) did not indicate a statistically significant difference in participant ages (p value > 0.05). Meanwhile, when it came to follow-up, the Fisher Anatomical Subunit method (mean followup 36.35 \pm 23.65 months) and the Modified Millard Rotation-Advancement technique (mean follow-up 42.21 \pm 17.79 months) did not vary statistically (p value > 0.05).

When comparing Likert scale means using the Fisher Anatomical Subunit Method, no statistically significant difference was found. The Anatomical Subunit Method by Fisher In the Likert Scale Modified Millard Rotation-Advancement Method, the values are 6.91 ± 0.13 and 5.60 ± 0.14 , respectively.

Regardless of the large effect size (1.38), high levels of heterogeneity (I2= 95%, p0.001), and lip height, there was no discernible difference between the two treatments. (I2=0%, p-value=0.68, total effect=0.55) Neither method significantly changed lip width. With an effect size of 0.98 and an I2 of 97% and a p-value of 0.001, there was no statistically significant difference in vermilion height between the two methods. With an overall effect size of 0.8 and an I2 of 97% and a p-value of 0.001, the two methods did not differ significantly with respect to alar base height. With a modest total effect size of 0.4, the two methods seem to produce similar results (Figure-2; I2= 94%, p0.001).

In accordance with the Steffensen criteria, as shown in table (2) below. In terms of the excellent criteria, there was a statistically significant difference between the two approaches, with a total effect size of 2.93 (Figure-3), and no heterogeneity (I2= 0%, p-value= 0.95). According to the mean criteria, there was no significant difference between the two approaches (Figure-4; I2= 0%, p-value= 0.91, total effect = 0.62). The Fisher Anatomical Subunit technique had a bigger overall impact (2.53) and no heterogeneity (I2= 0%, p-value= 1) than the other approach (Figure-5), concerning the subpar criteria, there was a statistically significant distinction between the two methods.

Table 2. Steffensen criteria of the included studies

STUDY	FISHER SUBUN	ANATOMICA IT	AL	ROTAT	MODIFIED MILLARD ROTATION- ADVANCEMENT									
	Good	Average	Poor	Good	Average	Poor								
PATEL ET AL, 20	PATEL ET AL, 2019													
	10			12										
WHITE ROLL	10	0	0	11	1	0								
VERMILION ROLL	0	5	5	1	4	7								
SCAR HYPERTROPHY	7	3	0	8	3	1								
CUPID'S BOW	6	3	1	4	5	3								
LIP LENGTH	4	5	1	2	4	6								
NOSTRIL SYMMETRY	2	4	4	2	3	7								
ALAR DOME	2	0	8	1	0	11								
ALAR BASE	3	5	2	5	5	2								
ELMAGHRABY E	T AL, 2021													
	20			20										
WHITE ROLL	18	2	0	17	2	1								
VERMILION ROLL	14	3	3	9	6	5								
SCAR HYPERTROPHY	18	2	0	13	4	2								
CUPID'S BOW	16	3	1	11	7	2								
LIP LENGTH	12	5	3	12	4	4								
NOSTRIL SYMMETRY	11	5	4	10	5	5								
ALAR DOME	12	5	3	8	8	4								
ALAR BASE	10	5	5	7	5	8								

		fisher			fied mil			Std. Mean Difference		Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% Cl	Year	IV, Random, 95% Cl
1.1.1 lip height										
Patel et al, 2019		0.013	10		0.001	12	10.7%	6.60 [4.29, 8.90]		
ElMaghraby et al, 2021	1.1	0.13	20	0.97	0.09	20	15.3%	1.14 [0.47, 1.81]	2021	+
Subtotal (95% CI)			30			32	26.1%	3.75 [-1.59, 9.09]		
Heterogeneity: Tau ² = 14				(P < 0.	00001);	² = 95	%			
Test for overall effect: Z =	: 1.38 (P	= 0.17)								
1.1.2 lip width										
Patel et al, 2019	1.02	0.703	10	1.02	0.787	12	15.0%	0.00 [-0.84, 0.84]	2019	+
ElMaghraby et al, 2021	1	0.08	20	1.02	0.1	20	15.4%	-0.22 [-0.84, 0.41]	2021	+
Subtotal (95% CI)			30			32	30.4%	-0.14 [-0.64, 0.36]		•
Heterogeneity: Tau ² = 0.0				° = 0.68); I² = 09	6				
Test for overall effect: Z =	: 0.55 (P	= 0.58)								
1.1.3 vermilion height										
Patel et al, 2019	1.31	0.01	10	1.51	0.001	12	1.8%	-28.51 [-37.84, -19.17]	2019	(
ElMaghraby et al, 2021	1.03	1.41	20	1.08	0.12	20	15.4%		2021	+
Subtotal (95% CI)			30			32	17.2%	-13.88 [-41.76, 14.00]		
Heterogeneity: Tau ² = 39				1 (P < (0.00001); P= 9	7%			
Test for overall effect: Z =	: 0.98 (P	= 0.33)								
1.1.4 alar base length										
Patel et al, 2019	1.05	0.102	10	1.67	0.085	12	10.9%	-6.41 [-8.66, -4.16]	2019	
ElMaghraby et al, 2021	1.05	0.08	20	0.99	0.11	20	15.4%	0.61 [-0.02, 1.25]	2021	-
Subtotal (95% CI)			30			32	26.3%	-2.81 [-9.69, 4.07]		
Heterogeneity: Tau ² = 23	.94; Chi	°= 34.5	7, df = 1	(P < 0.	00001);	2 = 97	%			
Test for overall effect Z =	: 0.80 (P	= 0.42)								
Total (95% CI)			120			128	100.0%	-0.27 [-1.60, 1.05]		•
Heterogeneity: Tau ² = 2.8	36: Chi ²∶	= 110.4	0. df = 3	' (P < 0.	00001):	² = 94	%			<u> </u>
Test for overall effect Z =						21				-10 -5 0 5 10 fisher modified mila
Test for subaroup differe				3 (P = 0	31) F=	15.4%				tisher modified mila

Figure 2. Forest plot for anthropometric measurements of the included studies

	fisher					Odds Ratio		Orbite District
Study or Subgroup	Events		modified n Events		Weight	M-H, Random, 95% Cl	Year	Odds Ratio M-H. Random, 95% Cl
2.1.1 White roll	LVOIRD	Total	Liono	Total	Trongin	in the transformed and the	Tour	
Patel et al. 2019	10	10	11	12	1.5%	2.74 [0.10, 74.87]	2019	· · · ·
ElMaghraby et al. 2021	18	20	17	20	4.6%	1.59 [0.24, 10.70]	2021	
Subtotal (95% CI)		30		32	6.1%	1.82 [0.35, 9.50]		
Total events	28		28					
Heterogeneity: Tau ² = 0.0			= 1 (P = 0.7	'8); I# = 0	1%			
Test for overall effect: Z =	0.71 (P = I	J.48)						
2.1.2 Vermilion roll								
Patel et al. 2019	0	10	1	12	1.5%	0.07 /0.04 0.000	204.0	
ElMaghraby et al. 2021	14	20	9	20	9.9%	0.37 [0.01, 9.98] 2.85 [0.78, 10.47]	2019	
Subtotal (95% CI)	1.4	30	9	32	11.4%	1.83 [0.34, 9.67]	2021	
Total events	14		10					
Heterogeneity: Tau ² = 0.4		.29. df :		(6): I ^a = 2	3%			
Test for overall effect: Z =								
2.1.2 Coor Immortronius								
2.1.3 Scar hypertrophy	7	10	8	12	5.1%	4 47 10 40 7 401	204.0	
Patel et al, 2019 ElMaghraby et al, 2021	18	1U 20	13	12	5.6%	1.17 [0.19, 7.12] 4.85 [0.86, 27.22]		
Subtotal (95% CI)	10	30	13	32	10.7%	2.44 [0.60, 9.86]	2021	
Total events	25		21	υL	1011 /4	2111 [0100] 0100]		
Heterogeneity: Tau ² = 0.2		.25. df:		(6): I ² = 2	0%			
Test for overall effect Z =								
2.1.4 Cupid's bow								
Patel et al, 2019	6	10	4	12	5.5%	3.00 [0.52, 17,16]	2010	
ElMaghraby et al. 2021	16	20	11	20	5.5% 8.5%	3.27 [0.80, 13.35]	2019	
Subtotal (95% CI)	10	30		32	8.5%	3.16 [1.06, 9.45]	2021	
Total events	22		15					
Heterogeneity: Tau ² = 0.0		.01. df:		(4); (* = 0	1%			
Test for overall effect Z =								
2.1.5 Lip length								
Patel et al, 2019	4	10	2	12	4.3%	3.33 [0.46, 24.05]		
ElMaghraby et al, 2021 Subtotal (95% CI)	12	20	12	20 32	10.4% 14.7%	1.00 [0.28, 3.54] 1.42 [0.49, 4.17]	2021	
Total events	16	50	14	52	14.776	1.42 [0.43, 4.17]		
Heterogeneity: Tau ² = 0.0		01 df		(1): P = 1	%			
Test for overall effect Z =			0.0	.,,				
		,						
2.1.6 Nostril symmetry								
Patel et al, 2019	2	10	2	12	3.6%	1.25 [0.14, 10.94]		
ElMaghraby et al, 2021	11	20	10	20	10.8%	1.22 [0.35, 4.24]	2021	
Subtotal (95% CI)	40	30	4.2	32	14.4%	1.23 [0.42, 3.61]		
Total events Heterogeneity: Tau ² = 0.0	13 ID: Chi8= 0	00	12 - 1 /P = 0.0	0.8 - 0	106			
Heterogeneity: Tau* = U.U Test for overall effect: Z =			(# = 0.8	o), r = t	70			
restist overall ellett Z =	0.37 (F = 1							
2.1.7 Alar dome								
Patel et al, 2019	2	10	1	12	2.5%	2.75 [0.21, 35.84]		
ElMaghraby et al, 2021	12	20	8	20	10.4%	2.25 [0.63, 7.97]	2021	
Subtotal (95% CI)		30		32	13.0%	2.34 [0.75, 7.28]		
Total events	14	00 .W	9	0.17				
Heterogeneity: Tau ² = 0.0 Test for overall effect: Z =			= 1 (P = 0.8	ia), i*= (176			
		2.147						
2.1.8 Alar base								
Patel et al, 2019	з	10	5	12	5.3%	0.60 [0.10, 3.54]		
ElMaghraby et al, 2021	10	20	7	20	10.4%	1.86 [0.52, 6.61]	2021	
Subtotal (95% CI)		30		32	15.7%	1.26 [0.44, 3.61]		
Total events	13	oo <i>«</i>	12	(). B	ar .			
Heterogeneity: Tau ² = 0.0 Test for overall effect: Z =			= 1 (P = 0.3	n); M= 3	170			
restion overall effect Z =	0.45 (P =)	J.07)						
Total (95% CI)		240		256	100.0%	1.84 [1.22, 2.77]		-
Total events	145		121	200				-
Heterogeneity: Tau ² = 0.0	10; Chi ² = 7	.34, df :	= 15 (P = 0	.95); I ² =	0%			
			= 15 (P = 0	.95); I² =	0%			0.1 0.2 0.5 1 2 5 fisher modified miliard

Figure 3. Forest plot for good Steffensen Criteria of the included studies

Study or Subgroup	fisher Events To	modified tal Events		Mainlet	Odds Ratio M-H, Random, 95% CI	Vear	Odds Ratio M-H. Random, 95% Cl
3.1.1 White roll	Events 10	tal Events	Total	weight	M-n, random, 95% Cr	real	Mi-ri, Random, 95% Ci
Patel et al, 2019	0	10 1	12	1.7%	0.37 [0.01, 9.98]	2019	·
ElMaghraby et al, 2021		20 2	20	4.4%	1.00 [0.13, 7.89]		
Subtotal (95% CI)	~	30	32	6.1%	0.75 [0.13, 4.35]	1011	
Total events	2	3					
Heterogeneity: Tau [*] = 0.0	00; Chi ² = 0.26	5, df = 1 (P = 0	0.61); I ^e = I	3%			
Test for overall effect: Z =	0.32 (P = 0.7	5)					
3.1.2 Vermilion roll							
Patel et al, 2019		10 4	12	6.3%	2.00 (0.36, 11.23)		
ElMaghraby et al, 2021 Subtotal (95% CI)		20 6 30	20 32	7.7% 14.0%	0.41 [0.09, 1.95] 0.87 [0.18, 4.07]	2021	
Total events	8	10	32	14.071	0.07 [0.10, 4.07]		
Heterogeneity: Tau ² = 0.5			1.0.1.18 =	1.4.95			
Test for overall effect: Z =			5.107,1 =				
3.1.3 Scar hypertrophy							
Patel et al, 2019		10 3	12	5.3%	1.29 [0.20, 8.43]	2019	
ElMaghraby et al, 2021	2	20 4	20	5.6%	0.44 [0.07, 2.76]		
Subtotal (95% CI)		30	32	10.9%	0.74 [0.20, 2.76]		
Total events	5	7					
Heterogeneity: Tau ^a = 0.0			0.43); I ^a = I	3%			
Test for overall effect: Z =	0.44 (P = 0.6	6)					
3.1.4 Cupid's bow							
3.1.4 Cupie's now Patel et al. 2019	3	10 5	12	5.9%	0.60 [0.10, 3.54]	2010	
ElMaghraby et al, 2021		20 7	20	7.9%	0.33 [0.07, 1.52]		
Subtotal (95% CI)		30	32	13.9%	0.42 [0.13, 1.35]	2021	
Total events	6	12					
Heterogeneity: Tau ^a = 0.0			0.61): I ^e = I	396			
Test for overall effect: Z =							
		-,					
3.1.5 Lip length							
Patel et al, 2019		10 4	12	6.3%	2.00 [0.36, 11.23]		
ElMaghraby et al, 2021		20 4	20	8.4%	1.33 [0.30, 5.93]	2021	
Subtotal (95% CI)		30	32	14.6%	1.59 [0.51, 4.90]		
Total events	10	8					
Heterogeneity: Tau# = 0.0			J.73); I*=1	1%			
Test for overall effect: Z =	0.80 (P = 0.4	2)					
3.1.6 Nostril symmetry							
Patel et al, 2019	4	10 3	12	5.6%	2.00 [0.32, 12.33]	2019	
ElMaghraby et al, 2021		20 5	20	9.1%	1.00 [0.24, 4.18]		
Subtotal (95% CI)		30	32	14.7%	1.30 [0.42, 4.01]		
Total events	9	8					
Heterogeneity: Tau [*] = 0.0			0.56); I ^z = I	3%			
Test for overall effect: Z =	0.46 (P = 0.6	4)					
3 4 7 Max down							
3.1.7 Alar dome							
Patel et al, 2019		10 0 20 8	12	10.2%	Not estimable		
ElMaghraby et al, 2021 Subtotal (95% CI)		20 8 30	20	10.2%	0.50 [0.13, 1.93] 0.50 [0.13, 1.93]	2021	
Total events	5	30 8	52	13.2.1	0.00 [0.10, 1.00]		
Heterogeneity: Not applic		•					
Test for overall effect: Z =		1)					
3.1.8 Alar base							
Patel et al, 2019		10 5	12	6.5%	1.40 [0.26, 7.58]		
ElMaghraby et al, 2021		20 5	20	9.1%	1.00 [0.24, 4.18]	2021	
Subtotal (95% CI)		30	32	15.6%	1.15 [0.39, 3.43]		
Total events	10	10					
Heterogeneity: Tau ² = 0.0			J.77); I≤≡	1%6			
Test for overall effect: Z =	u.25 (P = 0.8	0)					
Total (95% CI)	2	40	256	100.0%	0.87 [0.57, 1.35]		-
Total events	55	40 66	2.50		0.01 [0.01, 1.00]		
Heterogeneity: Tau# = 0.0			0.91): 12=	0%			
Test for overall effect: Z =							0.1 0.2 0.5 1 2 5 10
Test for subgroup differe			= 0.78), F	= 0%			fisher modified miliard

Figure 4. Forest plot for Average Steffensen Criteria of the included studies

	fishe	r	modified n	nilard		Odds Ratio		Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl	Year	M-H, Random, 95% Cl
I.1.1 White roll								
atel et al, 2019	0	10	0	12		Not estimable	2019	
Maghraby et al, 2021	0	20	1	20	2.4%	0.32 [0.01, 8.26]	2021	·
Subtotal (95% CI)		30		32	2.4%	0.32 [0.01, 8.26]		
otal events	0		1					
leterogeneity: Not applic	able							
est for overall effect Z =	0.69 (P =	0.49)						
.1.2 Vermilion roll								
'atel et al, 2019	5	10	7	12	8.8%	0.71 [0.13, 3.87]	2019	
Maghraby et al, 2021	3	20	5	20	9.9%	0.53 [0.11, 2.60]	2021	
ubtotal (95% CI)		30		32	18.7%	0.61 [0.19, 1.94]		
otal events	8		12					
leterogeneity: Tau ² = 0.0			= 1 (P = 0.8	30); I# = 0	%			
est for overall effect Z =	0.84 (P =	0.40)						
.1.3 Scar hypertrophy								
atel et al, 2019	0	10	1	12	2.3%	0.37 [0.01, 9.98]		• • • • • • • • • • • • • • • • • • • •
Maghraby et al, 2021	0	20	2	20	2.6%	0.18 [0.01, 4.01]	2021	·
ubtotal (95% CI)		30		32	4.9%	0.25 [0.03, 2.41]		
otal events	0		3					
leterogeneity: Tau ² = 0.0	0; Chi#= 0	1.09, df	= 1 (P = 0.7	76); I ^a = 0	%			
est for overall effect: Z =								
.1.4 Cupid's bow								
atel et al, 2019	1	10	3	12	4.2%	0.33 (0.03, 3.84)	2019	
Maghraby et al, 2021	1	20	2	20	4.1%	0.47 [0.04, 5.69]	2021	
ubtotal (95% CI)		30		32	8.3%	0.40 [0.07, 2.26]		
otal events	2		5					
leterogeneity: Tau ^a = 0.0	0: Chi ² = 0	1.04. df	= 1 (P = 0.8	34): I ² = 0	%			
est for overall effect Z =								
.1.5 Lip length								
atel et al. 2019	1	10	6	12	4.5%	0.11 [0.01, 1.17]	2019	·
Maghraby et al. 2021	3	20	4	20	9.3%	0.71 [0.14, 3.66]		
ubtotal (95% CI)		30		32	13.8%	0.34 [0.06, 2.02]		
otal events	4		10					
-leterogeneity: Tau ² = 0.6	5: Chi ² = 1	.61. df	= 1 (P = 0.2	21): P= 3	8%			
est for overall effect Z =								
.1.6 Nostril symmetry								
Patel et al. 2019	4	10	7	12	8.6%	0.48 [0.09, 2.63]	2019	
Maghraby et al, 2021	4	20	5	20	11.3%	0.75 [0.17, 3.33]		
ubtotal (95% CI)		30		32	19.9%	0.62 [0.20, 1.90]		
otal events	8		12					-
leterogeneity: Tau ² = 0.0	0: Chi#=0	15. df		59): P* = 0	%			
est for overall effect Z =			- 10 - 0.0	,,, - 0				
.1.7 Alar dome								
Patel et al. 2019	8	10	11	12	3.8%	0.36 [0.03, 4.74]	2019	
ElMaghraby et al, 2021	3	20	4	20	9.3%	0.71 [0.14, 3.66]		
ubtotal (95% CI)	,	30	-	32	13.1%	0.58 [0.15, 2.33]	2021	
otal events	11		15			[, £]		
Heterogeneity: Tau ^a = 0.0		18.01		37): P= 0	%			
est for overall effect. Z =			y = 0.0	.,.=0	~			
could over an enett Z =	o.cr (r =	0.44)						
.1.8 Alar base								
atel et al. 2019	2	10	2	12	5.3%	1.25 [0.14, 10.94]	2010	
atel et al, 2019 Maghraby et al, 2021	5	20	2 8	20	5.3%	0.50 [0.13, 1.93]		
ubtotal (95% CI)	5	30	8	20	13.7%	0.65 [0.21, 2.03]	2021	
	7	30	10	32	19.1%	0.05 [0.21, 2.05]		
otal events		10.00		00.18- 0	e e			
Heterogeneity: Tau ^a = 0.0			= 1 (P = 0.4	+o); r= U	70			
est for overall effect Z =	u.75 (P=	U.45)						
atal (05% Cl)		240		250	100.0**	0 53 10 23 0 07		
otal (95% CI)		240		256	100.0%	0.52 [0.32, 0.87]		-
otal events	40		68					
leterogeneity: Tau ^a = 0.0			= 14 (P = 1	.00); I²=	0%			0.02 0.1 1 10
'est for overall effect: Z =								fisher modified miliard
est for subgroup differer	nces: Chi ^e	= 1.11	. df = 7 (P =	0.99), I ^a	= 0%			

Figure 5. Forest plot for poor Steffensen Criteria of the included studies 4. Discussion Since its creation by Millard in 1964, the rotation advancement procedure has been the standard of care for correcting unilateral cleft lips.⁹ Millard's method allows for the rotation of the philtrum and Cupid's bow without risk of injury. The alar flare and nasal floor breadth are both diminished when the lateral lip moves medially to sustain this rotation. Careful scarring under the nasal rim and on the nasal floor conceals the interdigitations, and the oblique scar follows the philtrum's natural column.¹⁰

There is minimal tissue waste with the rotationadvancement flap, and it is simple to make secondary corrections if necessary.¹¹ Fisher introduced anatomical component approximation for unilateral cleft lips in 2005. The rotation incision across the philtral column on the cleft side is eliminated, allowing for a more exact approximation of the lateral and medial lip components at the junctions of the lip and nose anatomical subunits.¹²

Based on prior repairs, the anatomic subunit approximation repair is reliable. A Rose-Thompson lengthening involves angled incisions across the medial and lateral lip components' cutaneous roll, resulting in a smaller inferior triangle than necessary. Noordhoff says placing the inferior triangle over the cutaneous roll maintains roll continuity.¹³

The cutaneous scar on the nose is lessened, and the split side nostril sill is preserved. A symmetrical line should be followed for repair from the base of the nose to the philtral column on the noncleft side, then superolateral along the lip-columellar crease to the nostril sill, beginning at the tip of the cleft side 'Cupid's bow.¹³

Using a unilateral cleft lip as an example, this study compares the Fisher Anatomical Subunit technique to the Modified Millard Rotation-Advancement flap in terms of both aesthetic and functional results. The 82 cleft lip patients who participated in the three trials were given one of two options: the Fisher Anatomical Subunit or the Modified Millard Rotation-Advancement procedure.

The overall mean age for the Fisher Anatomical Subunit method was 9.17±7.49 months and 6.63±4.79 months for the Modified Millard Rotation-Advancement technique.

The overall mean for the Fisher Anatomical Subunit method was 36.35±23.65 months and 42.21±17.79 months for the Modified Millard Rotation-Advancement technique.

Fisher Anatomical Subunit method has a mean Likert scale of 4.99 ±1.92 and Modified Millard Rotation-Advancement technique 4.135±1.465.

The included studies showed no significant change in anthropometric measures between both methods with substantial-high heterogenicity (I2= 94%, p-value= <0.001) and an overall effect of 0.4.

In our assessment, Fisher Anatomical Subunit one performed better, with non-significant heterogenicity (I2= 0%, p-value= 0.95) and a total effect of 2.93. Poor criteria analysis showed a significant difference between both approaches, with Modified Millard having a greater incidence but no heterogenicity (I2= 0%, p-value= 1) and an overall effect of 2.53.

Kwong et al. used eye-tracking technology to compare the aesthetic outcomes of three different cleft lip repair techniques, concluding that Fisher fixes were the most appealing to the human eye.¹⁴

Patel et al. evaluated Fisher and Millard cleft lip restorations in 24 unilateral cleft lip patients using anthropometric data and the Steffensen Criteria. Qualitative findings were similar across techniques. Despite methodological variations, quantitative evidence reveals that Fisher anatomical subunit results are more reliable.¹³

ElMaghraby et al. found no significant variations in lip height, lip breadth, vermilion height, or alar base length using anthropometric methods.¹⁵ Fisher's group's nose scar is well disguised in the cleft-side nostril sill and does not extend into the philtral column, giving them Steffensen grade winners for scar look.

4. Conclusion

The Steffensen criteria showed that the Fisher Anatomical Subunit technique in unilateral cleft lip repair had more favorable outcomes than poor ones. However, the scar appearance did not vary.

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