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BACKGROUND INFORMATION:

Suction assisted lipectomy is the most common aesthetic surgery procedure requested in the United States and Europe. Recent liposuction technology has developed that prompted the aesthetic plastic surgeon to make considerations of techniques, indications and devices.¹⁻⁴

PURPOSE:

The main goal of this study was to evaluate technical considerations such as time, volume and number of strokes required between two hand held devices used for suction assisted lipectomy.

MATERIALS AND METHODS:

Two groups of twenty three patients each under went liposuctions with a hand held power assisted device (PAD) and with the traditional manual device (TMD). The right side of the patient was treated with PAD and the left side with TMD. All patients received the same type and amount of tumescent infiltration. The same type of cannula, a 5 mm Becker (basket) was used on both sides. Time, volume and number of strokes were carefully recorded. All the measurements were carried out in the same patient, by the same surgeon and under the same operative conditions.

The first data resulted from the fat aspiration volumes obtained by using each device for 5 minutes on alternate sides. The second data resulted from the fat aspiration volume obtained after performing 300 strokes with each device on alternate sides.



FIG. 1: PRE OPERATIVE MARKINGS OUTLINING AREAS TO BE TREATED USING ONE DEVICE ON EACH SIDE.

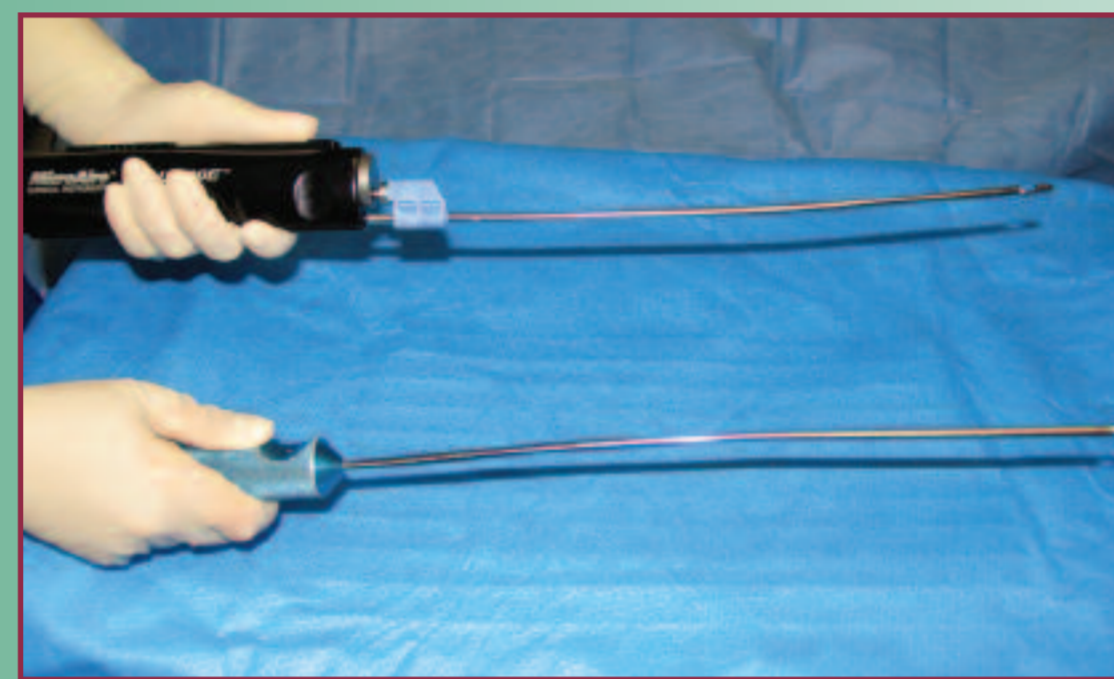


FIG. 2: THE TWO HAND HELD DEVICES



FIG. 3: FIG 3- RIGHT SIDE OUTLINED FOR POWER ASSISTED LIPECTOMY



FIG. 4: POWER ASSISTED HAND HELD DEVICE (PAD) WITH 5 MM CANNULA



FIG. 5: LEFT SIDE OUTLINED FOR TRADITIONAL SUCTION ASSISTED LIPECTOMY



FIG. 6: TRADITIONAL MANUAL DEVICE (TMD) WITH 5 MM CANNULA

RESULTS:

When fat aspirates were compared, the traditional manual device (TMD) produced an average of 728.57 cc while the power assisted device (PAD) produced 467.86 cc during five minutes of aspiration per side with identical type and amount of tumescent infiltration (See table 1). When an equal number of liposuction strokes were compared (300 strokes per side) both methods were comparable although PAD took 21.1% longer (See table 2). The TMD produced an average of 469 cc in 2:17 min and the PAD produced 437 cc in 2:46 min.

Date of Surgery	Dr.	Procedures	Traditional Manual Device (TMD)				Power Assisted Device (PAD)			
			Tumescent (cc)	Fat (cc)	Supra Liquid (cc)	Side	Tumescent (cc)	Fat (cc)	Supra Liquid (cc)	Side
5/6/2004	HAM	Lipo - A, F, OT, SRP	500	1000	300	1st	500	400	400	2nd
5/7/2004	HAM	Lipo - A, F, B, P, Facelift w/ Neck, Brow & Lids	700	600	475	1st	700	400	300	2nd
5/7/2004	GN	Lipo - A, F, B, K, AR, AX	500	500	50	2nd	500	300	50	1st
5/11/2004	HAM	Lipo - A, F, IT, OT, K	500	425	425	2nd	500	250	350	1st
5/13/2004	HAM	Lipo - A, F, B, P	750	750	150	2nd	750	650	250	1st
5/14/2004	GN	BAM; Lipo- A, F, B, IT, OT	500	700	200	2nd	500	425	200	1st
5/15/2004	PF	Lipo - A, F, H, IT, OT, Abd Plasty	750	550	100	2nd	750	245	200	1st
5/18/2004	HAM	Lipo - A, F, P, AX, L, N	1500	900	500	1st	1500	500	275	2nd
5/20/2004	HAM	Lipo - A, F, IT, OT, AR, AX; Endo Brow + Lids	1000	1000	750	1st	1000	650	400	2nd
5/25/2004	HAM	Lipo - A, F, IT, OT, K, Abd Plasty; Face, Neck, Lids	1000	1200	400	2nd	1000	825	475	1st
5/27/2004	HAM	Lipo - A, F, IT, OT, K, AR, AX, SRP, Abd Plasty; Brow	700	800	300	2nd	700	575	225	1st
5/28/2004	GN	Lipo - A, F, B, IT, OT, AR, K, Breast Lift; BAM	600	525	275	2nd	600	300	275	1st
5/28/2004	HAM	Lipo - AR, IT, OT, K, AR, AX; Fat graft	1000	850	575		1000	700	450	
7/1/2004	HAM	SRP; BAM	1000	400	250	2nd	1000	275	275	1st
		TOTAL	11000.00	10200.00	4750.00		11000.00	6550.00	4125.00	
		AVERAGE	785.71	728.57	339.29		785.71	467.86	294.64	

Date of Surgery	Dr.	Procedures	Traditional Manual Device (TMD)					Power Assisted Device (PAD)				
			Tumescent (cc)	Fat (cc)	Time (min)	Supra Liquid (cc)	Side	Tumescent (cc)	Fat (cc)	Time (min)	Supra Liquid (cc)	Side
6/11/2004	HAM	Lipo X 8; Abd Plasty	1000	350	2:25	250	1st	1000	275	2:55	125	2nd
6/18/2004	HAM	Lipo X 7; Abd Plasty; Fat Graft X 4; Breast Lift; Endo Brow	1000	375	2:00	75	1st	1000	350	2:25	175	2nd
6/18/2004	HAM	Lipo X 3; BAM	1000	350	2:00	200	2nd	1000	310	2:35	225	1st
6/25/2004	HAM	Lipo X 5; Abd Plasty; Fat Graft Calf	1000	425	2:00	100	1st	1000	475	3:00	150	2nd
7/1/2004	HAM	Lipo X 6; SRP; BAM	1000	550	2:20	200	2nd	1000	525	2:50	350	1st
7/2/2004	HAM	Lipo X 6; Face, Neck, Brow, Lids	1000	575	2:35	300	2nd	1000	450	2:55	200	1st
7/6/2004	HAM	Lipo X 7; Abd Plasty	1000	575	2:25	175	1st	1000	600	2:50	200	2nd
7/13/2004	HAM	Lipo X 5	1000	450	2:30	350	2nd	1000	425	2:50	675	1st
7/20/2004	HAM	Lipo X 5; Face, Neck, Brow, Lids; Abd Plasty	1000	575	2:20	225	1st	1000	525	2:35	150	2nd
		TOTAL	9000.00	4225.00	20:35	1875.00		9000.00	3935.00	20:55	2250.00	
		AVERAGE	1000.00	469.44	2:17	208.33		1000.00	437.22	2:46	437.22	

CONCLUSION:

When comparing TMD to PAD, each pass produced a similar amount of fat aspirate. However, TMD provided more aspirate over a given period because stroke frequency was faster since the hand held device is smaller and lighter. PAD may have advantages of ease at each pass but is slower as a result of being a larger, heavier and bulkier handle. We believe volume is dependent of number of strokes and not the specific hand held device.

REFERENCES:

- Fodor, P.B, Vogt PA, Power-assisted lipoplasty (PAL): A clinical pilot study comparing PAL to traditional lipoplasty (TL) Aesth Plast Surg: 23:379, 1999.
- Scuderi N, Paolini G., Grippaudo FR, Tenna S: Comparative evaluation of traditional, ultrasonic and pneumatic assisted lipoplasty: Analysis of local and systemic effects, efficacy, and costs of these methods. Aesth Plast Surg 24:395-400, 2000.
- Young VL., Power Assisted lipoplasty. Plast Reconstr Surg 108:1429-1432, 2001.
- Scuderi N., Tenna S., Spalvieri C., De Gado F., Power Assisted Lipoplasty Versus Traditional Suction-Assisted Lipoplasty: Comparative Evaluation and Analysis of Output. Aesth Plast. Surg: 29:44-52, 2005



FIG. 7: FIVE MILLIMETER BECKER CANNULAS WITH A BASKET TIP UTILIZED WITH THE TMD AND PAD HAND HELD DEVICES



FIG. 8: FAT ASPIRATION VOLUME OBTAINED IN THE SAME PATIENT WITH THE USE OF PAD AND TMD

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