

increased pain.^{9,10} This is important in view of the well-known toxicity issues associated. Wetting fluids should be warmed to room temperature and the patient should be maintained at normothermic temperatures to decrease post-operative complications.

New devices continue to emerge for use in this procedure, most of them with little evidence to support their claims of superiority. It is a formidable task for surgeons to stay abreast of all the latest techniques, technologies and, more importantly, evidence surrounding their uses. The common technologies in use are suction assisted liposuction (SAL), power assisted liposuction (PAL), ultrasound assisted liposuction (UAL), laser assisted liposuction (LAL) and the more recent radio frequency assisted liposuction (RFAL).

Though UAL and its current avatar VASER has been found to have some benefit in treating fibrotic areas and in limiting blood loss, larger incisions required, concerns with burns, cost, long learning curve and slow procedure times have seen its popularity on the decline, with erstwhile advocates now employing it in only 7 - 10% cases.^{11,23}

LAL has shown in a randomized, blinded study to result in up to 17% skin contraction and 25% improvement in skin elasticity.¹² On the contrary Prado et al. conducted a randomised, double-blind, controlled study examining LAL and SAL that showed no clinical difference in aesthetic outcomes between these techniques. Cost, slow operative time, multiple stages, potential for skin injury and the learning curve limits its usage.¹³

PAL fared well in a three-way comparison (SAL vs. UAL vs. PAL) for overall efficiency, reduced

vascular injury and most favourable cost-benefit ratio.¹⁴ More recently, PAL was quantified as being 17% more efficient than SAL and less influenced by the region of fat distribution, the reciprocating motion aiding cannula penetration into 'difficult' and fibrous areas.¹⁵ This technique has been found to cause less trauma, swelling and ecchymosis in addition to shorter recovery and diminished operator fatigue, particularly in large volume liposuction.¹⁶ The early drawbacks of machine noise and excessive vibrations to operator have been overcome with the newer devices. Currently PAL is the author's preferred technique.

RFAL is an emerging technology that produces a controlled thermal injury at the subdermal surface to enhance cutaneous contraction as it heals. There appears to be a biphasic skin contraction, with 14% and 24% noted at 6 and 12 weeks respectively; explained by a stimulation of neocollagenesis.¹⁷ This technique has to be used in conjunction with SAL and though increasing operative time, it has shown promise.

At the end of the day it's not the type of device used but the surgeon's skill and patient characteristics that determine the final result.

All plastic surgeons that perform liposuction should be familiar with the risks, untoward sequelae, and complications associated with the procedure. Fortunately, most complications of liposuction are minor in nature and tend to resolve spontaneously. Venous thromboembolism following surgical procedures, particularly liposuction continues to generate a great deal of attention in the professional and lay media.

A recent article cited the incidence of deep vein thrombosis to be less than 1% in liposuction.¹⁹ Newall et al. reported a 0% deep vein throm-

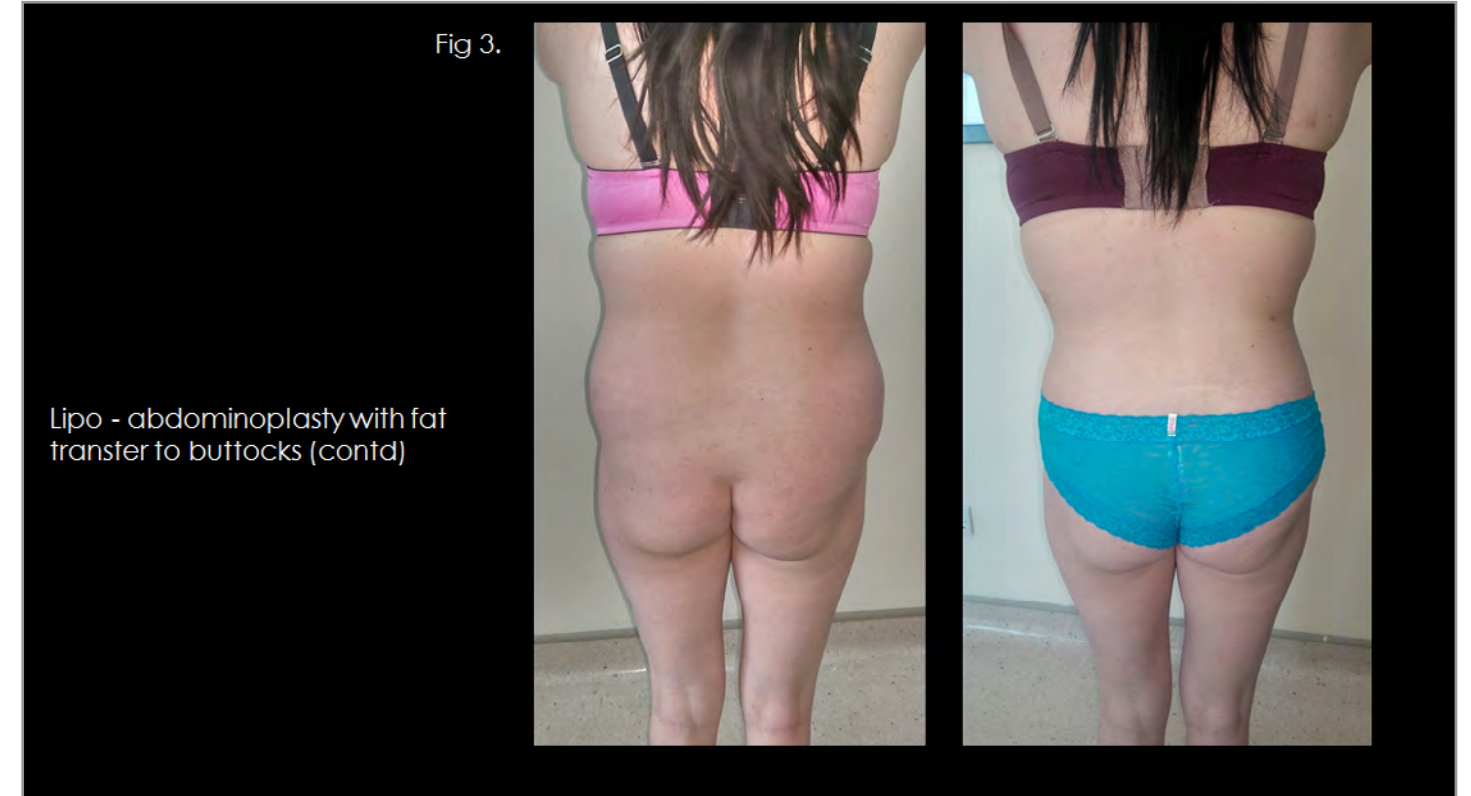


Fig 3.
Lipo - abdominoplasty with fat transfer to buttocks (contd)



Liposuction trunk and arms
Fig 1.