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Correspondence and Communications

Combined local semi-elliptical full-thickness skin graft for the closure of the free flap donor site

Dear Sir,

In the free radial forearm flap (FRFF) and free fibula osteofasciocutaneous flap (FFOF) cases, skin grafts are often required for the donor site defects. Several methods for repairing such defects have been reported,[1] most of which were achieved using split-thickness skin graft and full-thickness skin graft (FTSG). However, regardless of the skin graft type harvested from the distant sites, these may lead to further complications and aesthetic damages. Local FTSG methods involving harvesting from the ipsilateral forearm or lower leg to avoid a second donor site have been reported.[2-5] These methods may be the most useful solution not only as minimally invasive procedures but also for inconspicuous aesthetic results. However, previous local FTSG methods were limited to a relatively small size. Therefore, we devised the design along the vascular pedicle, which is harvested more frequently than previous local FTSG methods.

With flap length larger than the width, two semi-elliptical FTSGs were outlined from the proximal portion of the flap to the proximal forearm or lower leg along the vascular pedicle (Figures 1 and 2). The concept of our method is based on six components and similarly adjusted to FRFF and FFOF. First, the maximum flap width must not exceed one-third of the circumference of the forearm or lower leg around the flap. Second, the maximum flap length should not be >2 cm plus one-third of the length from the distal end of the flap to the elbow crease or the proximal end of the fibula. Third, the width of the proximal semi-elliptical FTSG must be larger than that of the distal one. Fourth, an overlap of the proximal and distal ends of the semi-elliptical FTSG is required; the distal portion of the semi-elliptical FTSG should also be overlapping the flap. Depending on the flap length, the degree of overlap must be appropriately modified; the width of overlapping region should not exceed 3 cm. Fifth, compared with the flap width, both widths of the semi-elliptical FTSGs must be smaller. Sixth, the maximum width of the distal semi-elliptical FTSG should not be >3 cm. Two semi-elliptical FTSGs were harvested in conjunction with the flap elevation. After FRFF or FFOF had been harvested and transferred for reconstruction, the FTSG donor site was closed by direct suture. The remaining skin defect was covered using the combined semi-elliptical FTSGs with a tie-over dressing.

This procedure was performed on 10 patients with FRFF ($n=5$) and FFOF ($n=5$). The average flap defect size was $5.2 \times 7.8\,cm^2$ (FRFF, $5.1 \times 7.3\,cm^2$; FFOF, $5.2 \times 8.3\,cm^2$), ranging from 4×6 to $6 \times 9\,cm^2$. The flap donor sites in seven patients healed without any complication; however, three patients (1 FRFF, 2 FFOFs) developed partial necrosis that was successfully healed by secondary intention. Neither of them developed compartment syndrome nor complained of a feeling of tension in the forearm or lower leg. All patients ultimately expressed satisfaction with the functional outcome and cosmetic appearance.

The major types of local FTSG methods have been described as both a separately combined method[2,3] and a method based on a V-Y fashion.[4,5] There was rarely any difference in the adaptable flap size between the two methods. We used the separately combined method but with the following different key features. First, the width of the proximal semi-elliptical FTSG was larger than that of the distal one because of the sufficient skin laxity toward the proximal site. In addition, both widths of the semi-elliptical FTSGs were smaller than that of the flap. The width of the proximal semi-elliptical FTSG was 0.5–0.8 cm larger than that of the distal one; compared with the flap width, both widths of the semi-elliptical FTSGs were 0.5–0.8 cm smaller. The large width of the flap defect is possible to intervene with this procedure. Second, the proximal and distal ends of the semi-elliptical FTSG were overlapping; the distal portion of the semi-elliptical FTSG was overlapping the flap depending on its length. The intervention of the large length of the flap defect is achievable using this procedure. This is particularly beneficial because of the possibility to add 2 cm to one-third of the length from the distal end of the flap to the elbow crease or the proximal end of the fibula for the maximum flap length. Our method can be sufficiently adaptable for a larger flap defect compared with the conventional separately combined method with these features.

Therefore, the combined local semi-elliptical FTSG is considered the most applicable method for flaps with width ranging from 4 to 7 cm but not for any flap defect. This method is still useful for closing FRFF or FFOF donor site defects because it prevents the need for a second donor site, provides excellent color match, and can shorten the surgical time.

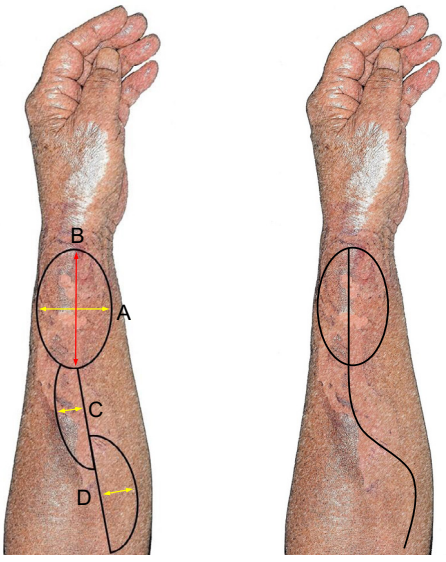

Figure 1 Schemas of the combined local semi-elliptical full-thickness skin graft (FTSG) for free radial forearm flap. (Left) Preoperative schema. A: Flap width. B: Flap length. C: Width of the distal semi-elliptical FTSG. D: Width of the proximal semi-elliptical FTSG. In our method, $A > C + D$ and $C < D$. (Right) Postoperative schema.

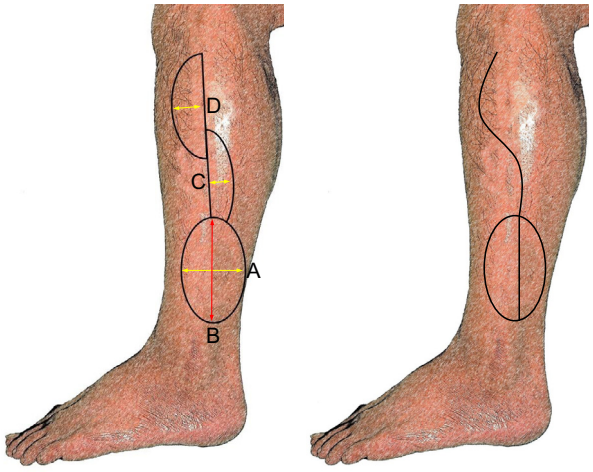

Figure 2 Schemas of the combined local semi-elliptical full-thickness skin graft (FTSG) for free fibula osteofasciocutaneous flap. (Left) Preoperative schema. A: Flap width. B: Flap length. C: Width of the distal semi-elliptical FTSG. D: Width of the proximal semi-elliptical FTSG. In our method, $A > C + D$ and $C < D$. (Right) Postoperative schema.

Declaration of Competing Interest

There are no conflicts of interest to declare.

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A novel technique for repair of large spinal dysraphisms using the sac membrane

Dear Sir,

Bozkurt et al. firstdescribed the utilization of sac membrane for closure of donor sites after transposition flaps for the repair of large spinal dysraphisms.[1] The disadvantage of this technique is the creation of an additional wound at the donor site, requiring excision of the sac to repair that site. Quong et al. also described a technique in which the sac of myelocystocele was partially resected, reshaped and used to provide a midline inverted T shaped closure of defect.[2] Here, we describe a modified technique for closure of large spinal dysraphisms in which the entire sac membrane is incorporated in the reconstruction and used to provide an off-midline tension-free, watertight closure of the defect. The redundant cutaneous tissue of the sac is divided into two flaps: one side of sac is de-epithelialized, creating a dermal fat flap. Sometimes when there is a large excess of skin/cyst, the dermal flap can be created and folded more than once. The de-epithelialized flap is then sutured to the edges of the paraspinal contra-lateral muscle with interrupted sutures. A fasciocutaneous flap is then fashioned from the contralateral side with the remaining excess tissue. The edges of the two flaps (non-de-epithelialized and de-epithelialized) are then folded on each other off-midline, giving at least a two-layered tension-free, durable, water-tight covering consisting of at least one layer of dermis and a layer of epidermis. We predict this modification, which utilizes an off-midline curvilinear incision, to afford more biomechanical stability given that Langer's cutaneous tension lines emanate transversely from the midline on the back,[3] making the midline the line of maximum tension for an incision. Our series of 3 patients and illustrative diagram of the technique and intra-operative photos are presented in Table 1 and Figure 1, respectively. This technique adds to the alternatives available to the plastic surgeon for the repair of large spinal dysraphisms.

Table 1 Patient demographics, presentation and post-operative follow up.

Case	Sex (M/F) and age (days)	Dysraphism	Neurological deficits	Complications	Follow up
1	1, F	4 cm × 4 cm ruptured lumbar myelomeningocele	Lower extremity areflexia and weakness	None	8 months, good wound healing
2	4, F	8 cm × 8 cm lumbar myelocystocele	Neurogenic bladder	None	12 months, good wound healing
3	2, M	5 cm × 5 cm lumbar meningocele	None	None	2 months, good wound healing

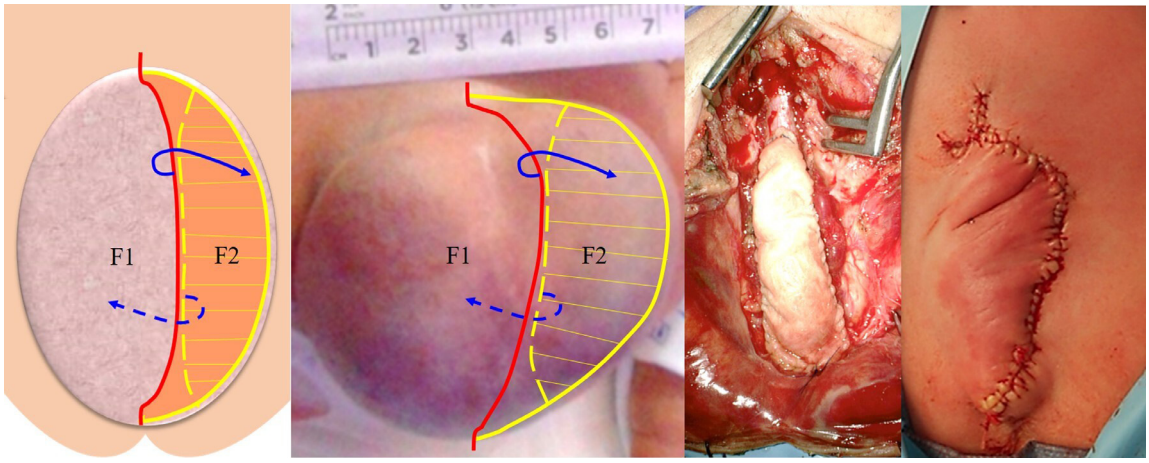

Figure 1 Composite figure of flap design and intra-operative photos of myelocystocele repair using sac membrane. **From left to right:** *First*, design of off-midline curvilinear incision and flaps for the closure of spinal dysraphism. An off-midline curvilinear incision (red line) is made from the top of the dysraphism to the bottom, dividing the sac into two. The part of the sac crossing the midline is maintained as a non-de-epithelialized flap, F1. The remaining part of the sac is de-epithelialized (orange area) and a flap, F2, fashioned out (orange area with yellow hash lines). After water-tight closure of the neural elements, F1 is then draped over F2 and sutured (curved, blue, solid and broken arrows) to the edge of de-epithelialization (yellow line). *Second*, preoperative image of 8 cm × 8 cm terminal myelocystocele, with superimposed off-midline curvilinear incision (red line), and the future flaps, F1 (non-de-epithelialized) and F2 (de-epithelialized, yellow hash lines) which would be draped over each other (curved, blue, solid and broken arrows). *Third*, water-tight duraplasty using dural substitute, duramatrix. *Fourth*, closure of off-midline curvilinear incision, with non-de-epithelialized flap draped over de-epithelialized flap.

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Declaration of Competing Interest

None.

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Keystone island flaps for reconstruction following lower leg skin cancer resection: A comparison with split-thickness skin grafts

Dear Sir,

We were very interested to read the correspondence by Sorooshian et al. in the March 2019 edition of JPRAS, comparing the use of keystone flaps and skin grafts for lower limb skin cancer reconstruction.[1] The keystone perforator flap is widely reported as a robust and versatile local fasciocutaneous flap, with applications in the reconstruction of defects in the head and neck, within burns and over joints.[5] Despite consensus that local flaps provide superior cosmetic and functional outcomes compared to split thickness skin grafts, we concur that there exists a relative sparsity of literature comparing objective and subjective outcomes in the reconstruction of skin cancer defects. We would like to direct the authors and readers to our own cohort study of 38 patients (21 being lower limb reconstructions): Objective and Patient Reported Assessments of Skin grafts and Keystone flaps (OPRASK) – A Pilot Retrospective Cohort Study[4] (submitted and accepted September 2018; published November 2018). We agree with the authors that comparisons based on patient experiences complement conventional clinical measures of reconstruction, such as healing time or complication rate, and are essential considerations in an era of shared decision making. More recently a study of 34 patients by Darrach et al. has also been published (February 2019) in which healing time, infection rate and hospital stay in these patient cohorts have been compared.[3] In our cohort study we obtained robust qualitative and quantitative data through the use of a validated patient reported outcome measures (PROMs), objective measures of skin quality and in light of the increasing focus on prudent healthcare,[2] a cost analysis was also performed.

PROMs are standardised, validated questionnaires that are completed by patients to capture one or more aspects of their health and wellbeing. In our study we found that both general health related quality of life, as measured using the EuroQol 5 dimension scale (EQ-5D-5L), and disease-specific quality of life, measured using the Patient and Observer Scar Assessment Scale (POSAS), were higher in those who underwent keystone flap reconstruction compared to skin grafting. In addition to using a validated PROM, we also objectively measured sensation (significantly higher in keystone flaps ($p = 0.006$)), elasticity, pliability, pigmentation, moisture and trans-epidermal water loss alongside complications such as reconstruction failure, hypertophic scarring and infection (10% in keystone flap versus 39% in skin graft group). A cost analysis was also undertaken in which an average cost saving of £208 (19.7%) was noted in favour of keystone flaps compared to split thickness skin grafts.[4]

We thank the authors for their contribution to the comparisons of skin cancer reconstruction and would advocate further studies in which PROMs, objective skin measurements and cost analyses are also performed as primary outcome measures to strengthen the evidence base of NHS treatments.

Conflict of interest

None.

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The "Bat Flap": A flap for reconstruction of large skull skin defects

Dear Sir,

Scalp reconstruction following wide, non-melanoma skin cancer resection remains very challenging due to the anatomy of the area and the nature of the disease. Local, regional, and free tissue transfers, with or without placement of artificial dermis, have been described for reconstruction of such complex full-thickness defects.[1-5] Herein, we present a new reconstructive proposal for full-thickness and wide scalp defects; we term our new flap the "bat flap".

From January 2013 to January 2017, seven patients with large squamous cell carcinomas of the scalp underwent local excision of the neoplastic lesions and defect reconstruction using bat flaps (Table 1). The average defect size was 15×12 cm^2. All patients underwent general anaesthesia. The depth of the excision depends on the involvement of the various anatomical structures in the non melanoma skin cancers. In four patients, the cancers involved only soft tissues and were excised with full-thickness scalps including the pericrania. In two patients, bony involvement was shown both clinically and radiologically, rendering necessary both wide local skin excision and osteotomy. In one case, the dura mater was also involved and included in resection. After dura mater resection, the defect was reconstructed using a dura mater graft (LIODura®). When the calvarian bone was involved, the bone defect following osteotomy was reconstructed with the aid of titanium mesh. In all cases, the soft tissue defects were reconstructed using "bat flaps". The bat flap is a local advancement flap created by sliding forwards the occipital part of the scalp (Figure 1), or backwards the anterior parietal part of the scalp, depending on the position and the size of the defect. The dimension of the flap depends on the area of the surgical defect, that is increased 3–4 cm in antero-posterior direction. The bat flap is a bilaterally based temporalis fasciocutaneus flap supplied by the anterior and/or posterior superficial temporal arteries/artery. The flap is raised on the loose areolar plane above the pericranium. Dissection is particularly difficult in the occipital area because various muscles are inserted in this region (including the mm. sternocleidomastoideus, splenius capitis, trapezius, and epicranius). Conversely, the parietal and forehead portions of the flap are easily elevated by cutting the loose areolar connective tissue overlying the pericranium. The silvery white temporalis fascia is gently exposed over the temporalis muscles with sharp dissection, but taking care that the temporalis fascia fuses with the pericranium at the superior temporal line. Finally, the flap is slided forward or backward to completely cover the surgical defect. Such movement creates two "bat ears" located bilaterally in the temporoparietal area, from which the flap derives its name (Figure 1). The surgical defect in the donor area, created by the galea-pericranial surgery, is repaired by placing split-thickness skin grafts from the upper leg or the back (Figure 1), or alternatively by placing an artificial dermis graft (INTEGRA®). Later surgery after 3 weeks is mandatory using an artificial dermis graft; a split-thickness skin graft from a donor region (usually the upper leg) is then placed. This procedure is quick and relatively simple, and requires only local anaesthesia. The redundant bat ears of the advancement flap were surgically removed in four cases during the second procedures. In the other cases, surgical remodelling was unnecessary due to flap self-flattening associated with the use of compressive dressings, and wound remodelling.

No case developed any serious post-operative complication. In one patient who was bedridden due to other medical complications, mild flap ischemia was evident because of prolonged local pressure application. The procedural time averaged 2 h (excluding anaesthesia induction). All patients were satisfied with their long-term postoperative outcomes.

All of our present patients were elderly, affected by comorbidities, and exhibited large surgical defects. In such cases, we usually reconstruct the surgical defects using an artificial dermal matrix. However, this option was not available for the seven cases because three had already expe-

Table 1 Clinical, anatomical, and surgical features of the cases subjected to the "bat flap".

Case	Gender	Age	Skin defect size	Anatomic involvement in addition to skin	Bone defect size	Number of surgical stages
1	F	79	15 × 12 cm	Bone/dura mater	11 × 9 cm	2
2	M	78	17 × 12 cm	Bone	10 × 9 cm	1
3	M	83	11 × 11 cm	Bone	7 × 7 cm	2
4	M	74	13 × 9 cm	Periosteum	/	1
5	F	79	15 × 15 cm	Periosteum	/	1
6	M	81	16 × 12 cm	Periosteum	/	1
7	M	81	18 × 15 cm	Periosteum	/	2

Figure 1 Patient n. 4.
From the left to the right in the upper line: clinical image of the surgical defect resulted from the failure of the prior dermal matrix placement (13 × 9 cm); surgical image showing the occipital defect deriving from the sliding forward of the flap; surgical image showing the "bat flap": a local advancement flap, based on the temporalis fasciocutaneus flap supplied by the anterior superficial temporal artery, created by sliding forward the occipital part of the scalp; surgical image of the donor site repaired by placing a mashed dermo-epidermal graft.
From the left to the right in the lower line: post-operative front image of the flap; post-operative back image showing the flap and the meshed dermo-epidermal graft; clinical front image showing the result after 6 months from surgical procedure: the two "bat ears" underwent self-flattening, making the consequent remodelling unnecessary; clinical image, from the side, after 6 months from the surgical procedure showing the relatively good esthetical and functional result.

rienced failure of dermal matrix placement, and the remaining four lacked the required bone/dura mater. Thus, we developed a novel technique allowing us to place a large vascularised free flap of healthy skin. The surgical procedure is relatively easy and the operative time short.

It is possible to perform the procedure in either one step, thus directly placing a split skin graft on the area of the surgical defect by moving the flap, or in two stages, first placing an artificial dermal matrix to repair the defect and substituting this with the skin graft 3 weeks later. We usually prefer the two-stage procedure because it yields better aesthetic results. Placement of an artificial dermal matrix reduces unsightly thickness disparities. We used the one-stage procedure to treat only elderly patients with severe comorbidities; we sought to minimise the surgical and post-operative durations. After surgery, such patients were hospitalised for an average of only 3 days.

The technique is oncologically safe and very feasible. We propose this surgical technique for full-thickness and wide scalp defects following local excision of neoplastic lesions in complex patients with pre-existing morbidity, prior radiation therapy, a distorted anatomy secondary to prior

surgery, or ongoing bacterial infection. We encountered no serious post-operative complication and achieved optimal aesthetic results. However, further evaluation and comparative studies are required.

Conflict of interest

The authors have no conflict of interest.

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Modification of jumping man flap

Dear Sir,

The jumping man flap combines a double opposing z-plasty with *Y-V* advancement. It is classically used for the release of contractures affecting concave regions such as interdigital web space and the medial canthus. There is an imprecise, sometimes frustrating nature to the flap which necessitates trimming the 3-sided 'arm flaps' to enable fit in the apices. We designed a modification which pre-excises tissue in a more precise manner to triangulate the flaps. In the images shown (Figure 1), drawn on AutoCAD, a 4 cm simulated scar was lengthened to 6 cm. The central 'head' of the jumping man was one quarter the scar length, and each z-plasty limb was equal to the hypotenuse of the resulting triangle (can be pre-calculated by Pythagorean theorem). The arms of the jumping man were angled from the scar at double the scar-hypotenuse angle. For the sake of simplicity, the leg-scar angle was equivalent. With a relatively acute angle of 35°, the scar was lengthened to 150% of original, and the height of the jumping man was halved, resulting in a longer, neater scar complex. Of course, increasing the angle of the arm and leg limbs from the scar would increase the scar lengthening favourably.

Most surgeons do not bring a protractor to theatre but it was interesting to do this precisely, producing lengthening to 150% of original.

Conflict of interest

None.

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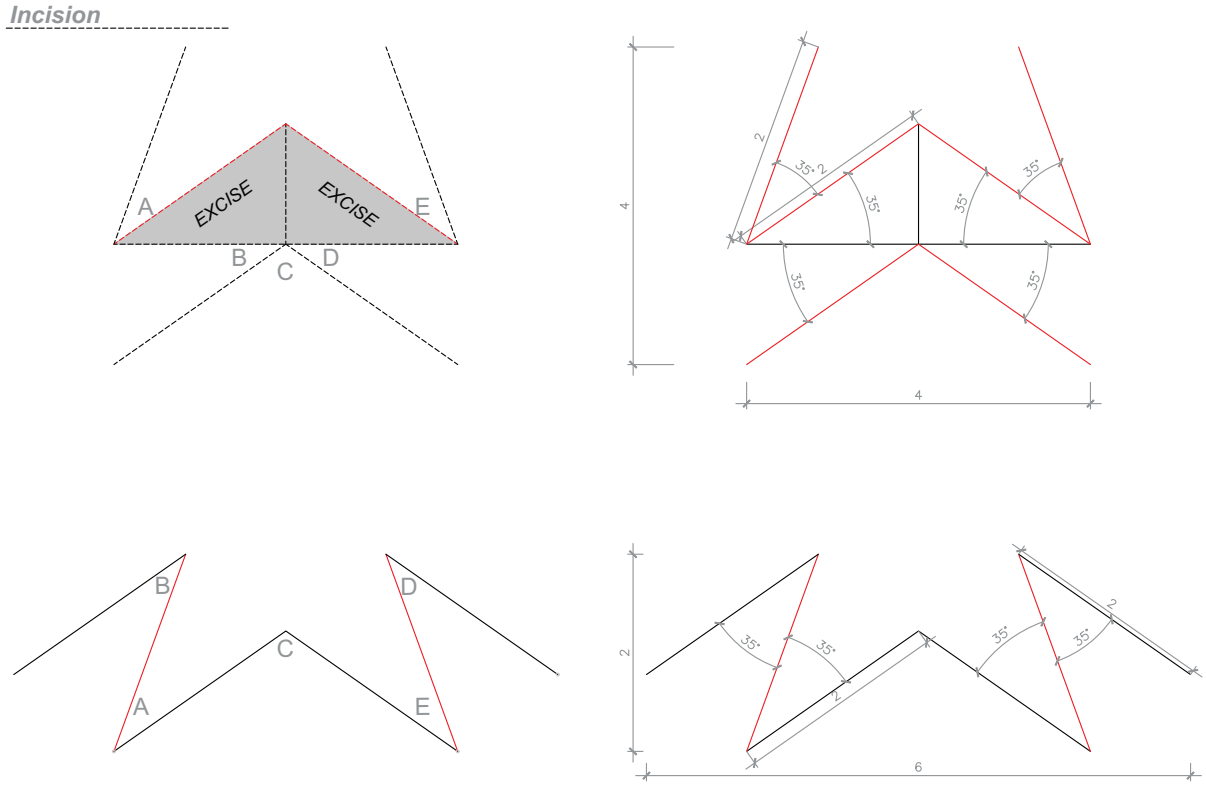

Figure 1 Flap design before and after, including measurements.

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Letter comments on: Head bandage after otoplasty: How long should it be worn?

Dear Sir,

We read with interest the article on "Head bandage after otoplasty: How long should it be worn?".[1] The authors discuss there is lack of consensus as to the appropriate duration of bandaging following pinnaplasty. They suggest that based on their results of 62 patients head bandage is not required for more than 48 h.[1]

We would like to highlight an article published in the Journal of Plastic, Reconstructive & Aesthetic Surgery in 2010 by Self et al.[2] regarding dressings post pinnaplasty. The authors carried out two audits of 147 pinnaplasties and found that the incidence of bandage re-dressing and slippage correlated heavily to a higher complication rate, with 27% complications in group with slippage and 8% complication rate if the dressings did not slip. They also found that 50% of those bandaged returned for re-application at least once during their post-operative recovery. Also, 33% of those bandaged experienced complications compared to 17% of those without bandage.

In a review by Norris et al.[3] of 5 studies with total of 121 patients, they found no advantage in operative outcome and patient satisfaction with using head bandage post pinnaplasty.

Despite these studies, many centres still insist on dressing patients' ears, which is a demonstration of the engrained nature of traditional and non-evidence based techniques.

Patients who do not wear head bandages have less problems stemming from bandage slippage and reapplication, pressure necrosis, masking of infection, itching, conductive hearing loss and hidden haematomas.[3] Furthermore, considering the anxiety caused to patients and parents who need to return for bandage reapplication the increased in-

put from the plastic surgery services and lack of evidence for any benefit of a head bandage,[2] we recommend that patients need not have post-pinnaplasty bandaging.

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None.

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Letter responds to comments on: Head bandage after otoplasty: How long should it be worn?

Dear Sir,

We read with a lot of interest the comment provided by Sepehripour and Dheansa[1] to our paper "Head bandage after otoplasty: How long should it be worn?"

Authors, supported by some published articles, recommend that patients need not have post-pinnaplasty bandaging.

However, comparing the statement "not to bandage" to the literature pointed out there are some lacks.

Self et al.[2] reported, over a three-year period, 147 operations for correction of prominent ears. Fifty-nine of these patients had slippage of their dressing and sixteen presented with further complications, such as haematoma, infection and necrosis. This correlated to a 27% complication rate compared to 8% in the non-slippage group. The incidence of bandage re-dressing correlated heavily to a higher complication rate. It was however difficult at this point to ascertain whether the increase in slippage rates was due to the presence of complications in the first place, resulting in patients manipulating their bandages causing more slipping. Also of interest in this audit was the fact that dressing the ears overnight for one night only with tubigrip did not lead to an increase in complication rate, 14% versus 16%, compared to those bandaged normally. However Self et al. did not claimed head bandage is not required, and moreover they noted that having a tubigrip for one night was not associated to a higher complication rate.

Norris et al.,[3] in their paper stated that despite several studies demonstrating the advantages of not providing head bandaging (or ensuring duration of use is less than 24 h) compared with providing head bandaging, many centers still insist on dressing patients ears after their operation. However they did not affirmed that head bandaging for a short time (24 h) is useless.

In our experience[4] we noted that head bandaging worn for more than 48 h postoperatively does not have any advantages, but at the same time we think it is really useful to have it for the first 48 h, first of all to avoid patient's anxiety that could be caused to a dirty dressing or, moreover, we know how important is the compression of the operatory field after general plastic surgery procedures to avoid post-operative bleeding and to reduce swelling development; a short stay of the head bandage after otoplasty can help a lot with these issues.

We thanks a lot Sepehripour and Dheansa for their comment, however we think, as latin stated, "in medio stat virtus" (the justice is in the middle), therefore we think, and our long case series described support this hypothesis, that head bandage after otoplasty is useless for more than 48 h, however, on the other hand, a short time wearing it can be really useful to reduce patient's distress in case of dirty dressing, post-operative swelling and, moreover, reduce the risk of hematoma that can be developed in the first 24 h postoperatively.

Moreover, in our published paper we described a different bandage compared to conventional ones; at the end of the surgical procedure, 2 pieces of gauzes fixed percutaneously in the areas surgically undermined, are placed before to perform the head bandage and are removed after 48 h, with the head bandage removal; the role of percutaneously fixed gauzes is to further reduce the risk of bleeding.

In conclusion, we really appreciated the comment of Sepehripour and Dheansa, but how already stated, we think the truth is in the middle, not to wear for a too long time head bandage but also not to not bandage at all.

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Declaration of Competing Interest

The authors declared no potential conflicts of interest with respect to publication of this article.

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Can philosophical aesthetics be useful for plastic surgery? The subjective, objective and relational view of beauty

Dear Sir,

Evidence-based medicine is grounded on a strong philosophical assumption, i.e. that reality is objective. However, in everyday clinical practice, aesthetic and plastic surgeons have to manage the combination of objective and subjective factors, with the risk of weakening the realist assumption. In this letter, we present a theoretical framework that could provide the basis for an evidence-based approach to aesthetic surgery. The framework is based on the general idea that complex reality, as medical diagnosis, emerges from isolated components that independently produce global effects on the whole. For aesthetic surgery, for example, physical structure, physiological function, self-perception and social relationship differently determine the decision for the intervention.[5] We believe that distinguishing among different levels of analysis, i.e. subjective, objective and relational, should help surgeons in their clinical practice, described in this letter as subjectivism (how do I see myself?), objectivism (how am I?), and relatedness (how do others see me?). Subjectivism holds that the experience of beauty is linked to the subject itself and not to the characteristics of the object. Beauty in this case is not a property found in the object.[1,2] Objectivism, on the other hand, believes that beauty can be found in the material properties of the object. Why should this object be beautiful? By saying "this house is beautiful", or, "this square is beautiful", we correctly indicate the reference to the object as to what causes our aesthetic judgement. Objectivism does not guarantee the universality of aesthetic appreciation, in fact not everyone likes the same things, because pleasure and the taste could be dissociated from beauty. Objectivism therefore believes that the experience of beauty arises from one of the objectively evaluable properties of the object, such as the proportion, the harmony of the parts or the symmetry of the elements. For example, a person with an ugly nose decides to undergo rhinoplasty surgery. According to the objectivism, the nose is the object judged ugly and after it will be surgically changed, the subject's judgment can change. According to subjectivism, on the other hand, it is not the nose that is actually considered ugly, but it is in the perception of the subject that we find the volition to want to modify it surgically to make it more beautiful. In fact, many other people with an equally ugly nose do not feel the need to change it. The solution for subjectivism is not to surgically change the nose, but to change one's perception of oneself. Finally, according to the relational point of view, the experience of beauty comes from how others see and perceive the subject's nose. From the encounter between the two components (subjectivism and objectivism), beauty emerges as a correlation of the qualities of the individual on one hand, and the qualities of the object on the other.[3,4]

Reporting what we have explained up to now in the field of cosmetic surgery used for the research of beauty, the plastic surgeon should always follow the objective vision precisely because plastic surgery must comply with evidence-based medicine. However, subjective vision has an objective component in which it can sometimes be linked to a psychopathological profile. The relational vision also has an objective component as it can be linked to pathological relationships. In these last two visions plastic surgery must be part of a multidisciplinary approach that suggests the importance of psychological support as well as social assistance.

To measure the significance of this tripartite, we naturally tend to put it to the test in the vast artistic repertoire. We will ask ourselves whether "The Lady with an Ermine" (Figure 1) is a beautiful work of art because it is beautiful in and of itself, or because an individual perceives it as beautiful, or if beauty resides only in the relationship between

Figure 1 "The Lady with an Ermine", Leonardo Da Vinci, 1489–1490.

the individual and the object. According to the relational approach, it is in the relationship between the object and individual that the experience of beauty is born.

Declaration of Competing Interest

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Comment on: If it ain't broke, don't fix it: Ethics of splinting deformed newborn ears

Dear Sir,

I read the article entitled "If it ain't broke don't fix it? Ethics of splinting deformed newborn ears" by van Wijk et al.[1] with great interest and would like to congratulate them for the publication. The article argues the ethical and so-

cial aspects of ear splinting of neonatal ear deformity, by listing the benefits and socio-ethical risks of the treatment. The authors conclude that splinting of neonatal ear deformity is ethically acceptable at an individual level because it prevents future surgical treatment to overcome the physical risk of splinting such as skin irritation. I agree with their conclusion and appreciate their keen viewpoint.

However, their argument remains vulnerable because they have not taken into consideration other drawbacks of ear splinting they listed. In order to make their theory robust, they need to discuss why the benefits of treatment could surpass the drawbacks such as overtreatment, pressure to parents, and social burden.

The specific ethical issue for the treatment of neonates is difficulty in surrogate decision-making. Different from other kinds of surrogate decision-making on incompetent patients like children and patients with dementia, professionals and parents cannot assume neonates' thoughts nor feelings. Therefore, the established models of decision-making process such as informed assent and shared decision-making cannot be used on neonatal patients.[2]

Instead, the best interest principle is employed in neonatal care decision-making.[2] In this principle, maximizing children's human experience is essential,[3] although its definition remains unclear. The best interest principle is realized by allowing neonates to enjoy good familial relationship.[2]

Providing family-centered care is one way to establish a good familial relationship by sufficiently involving the family into the care of their child and its related decision-making. In family-centered care practice, information and perspectives should be shared among the family and professionals, which can promote good familial relationship, improving not only their acceptance but also the well-being of the child.[4]

Turning to the discussion on splinting the ear deformity, the drawbacks that van Wijk et al.[1] indicated could be overcome. Given the benefit of family-centered care and its requirement, information on ear splinting should be provided to the parents for the best interests of the child with ear deformity. Parents' surrogate decision-making by sharing information and perspectives with professionals would promote acceptance of the deformity and treatment, even if the treatment was unnecessary, ineffective, or with old-fashioned results. Therefore, in addition to physical risk the authors suggested, concerns on overtreatment mentioned in the argument[1] could also be dismissed.

The other drawback in relation to the pressure on parents is also eliminated by the same theory. It should be considered that parents are overwhelmed by the information and commonly get confused as regards their decision on the information provided. It is important to translate the information into a language understandable by the parents considering their knowledge and perspectives.[4] Thus, providing information under the family-centered care practice supports the parents's decision-making, not confusing them.

While the best interest principle and family-centered care justify informing the parents about ear splinting that overcomes the individual drawbacks, the social drawbacks discussed in their article are still controversial.

Considering the recently suggested definition of "health" that regards it as the capacity to manage changes in physical, mental, and social aspects instead of perfectionism,[5] the socio-cultural situation could influence screening and insurance coverage of ear deformity.

The extent of decreased well-being in patients with ear deformity could be different by country. If ear deformity quite impaired the well-being of patients in a certain country, it should be screened and covered with the healthcare insurance. This is because loss of well-being could not be managed without physical correction of the deformity and the patients need support in managing their impairment. In other countries where ear deformity does not affect the patient's social performance, it need not to be treated under public supports. The border between enhancement and treatment largely depends on the culture.

In conclusion, the difference in answers between the authors' and mine is subtle. We both conclude that ear splinting is ethically acceptable in individual level and controversial in the social aspect. However, my opinion is not the same in terms of reasoning. I emphasize the importance of sharing information and perspectives in the individual level and the viewpoint from socio-cultural diversity. When we discuss the ethical issues, the standpoint and reasoning of discussant should be specified.

Conflict of interest

None.

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Post-operative complication rates after gender-affirming surgery: Are they affected by human immunodeficiency virus (HIV) status?

Dear Sir,

The role of human immunodeficiency virus (HIV) on surgical outcomes has had a controversial past. Conflicting data on acute peri-operative complications, namely surgical site infection, have been published in the literature of several surgical subspecialties. Interestingly, the plastic surgery literature is particularly sparse on outcomes after elective surgery in the HIV positive population.[1]

In our practice, transgender individuals comprise the largest subset of HIV positive patients. This is consistent with epidemiological surveys suggesting a disproportionately higher rate of HIV infection (22% according to a recent meta-analysis) in the transgender population with multifactorial attribution such as barriers to preventative and gender-related health services.[2] Gender-affirming surgery (i.e. feminization or masculinization of features of the face, chest/breast, and genitalia) has been demonstrated to result in improved mental health and societal integration for individuals with gender dysphoria.

In order to elucidate the role of HIV on surgical outcomes after elective plastic surgical procedures, we evaluated our recent experience at a single, tertiary-care center in patients undergoing gender affirmation surgery. After obtaining IRB approval, we reviewed the rate of infectious complications in all patients undergoing gender affirmation surgery at our institution over a 3 year period (2015 through 2017). For patients with a concurrent diagnosis of HIV, preoperative CD4 count (cells/mm^3) and viral load (copies/mL) were also recorded. Odds ratios were calculated and data were analyzed for statistical significance using Student's t tests.

138 patients who underwent surgery for the treatment of gender dysphoria were identified during the study period who had a minimum 6 month follow up. 48 (34.8%) carried a diagnosis of HIV compared to 90 patients who did not (65.2%). Mean follow up was 26 months (range 6-45 months). Mean CD4 count was 784.9 cells/mm^3 (range 303-1804 cells/mm^3) in the HIV-positive cohort. Viral load was under 20 copies/mL in all HIV-positive patients. Male to female (MTF) surgery was performed in 101 patients (73.2%) consisting of 59 augmentation mammoplasties with implants (42.8%), eight mastopexies (5.8%), one autologous fat grafting procedure to the breast (0.7%), two truncal liposuction (1.4%), and 31 facial feminization procedures (22.5%). Female to male surgery was performed in 37 patients (26.8%), all of which were mastectomies.

Surgical site infection following augmentation mammoplasty was seen in 0% of patients in the HIV-positive cohort compared to 5.9% ($n=2$) in the HIV-negative cohort (OR 0.19; 95% CI, 0.009-3.910; $p=0.28$). The two cases of early cellulitis after breast augmentation were both successfully treated with a course of oral antibiotics. There were no other infectious complications noted in the other procedures in either the HIV positive and HIV negative cohorts.

Discussion

Early reports on surgical outcomes in HIV-positive patients began in the 1990s demonstrating increased postoperative morbidity and higher rates of wound healing complications in the HIV-positive population.[3,4] Other studies have been able to correlate worsened surgical outcomes in the HIV+ population with those with lower CD4 counts and/or AIDS diagnosis. This is intuitive, as HIV positivity in itself does not equate to AIDS nor compromised immunity. However, these data remain debated in certain sub-specialty literature with a recent meta-analysis demonstrating conflicting data on the influence of HIV on postoperative infections.[5] There is an unfortunate paucity of data presenting early post-operative outcomes after elective *plastic surgery* with relationship to HIV status.

In our practice, we have found no significantly higher risk for post-surgical infection in the well-controlled HIV-positive patient population undergoing gender affirming surgery of the chest or face. Patients should be managed in accordance with guidelines published by the World Professional Association for Transgender Health (WPATH), and not only should be optimized from an infectious disease perspective, but also a mental health perspective, prior to offering surgery.

As the availability of centers offering gender affirming surgery increases, plastic surgeons must become familiar with the specific health needs of this population. This is particularly pertinent with regard to HIV where some surgeons may be wary to perform elective aesthetic procedures secondary to a poorly substantiated belief that HIV-positivity equates with worse outcomes.

Conflict of interest

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Response to: 'Challenging Kanavel's cardinal signs of pyogenic flexor tenosynovitis of the hand.' by Clements et al. 2019

Dear Sir,

We read the recent article 'Challenging Kanavel's cardinal signs of pyogenic flexor tenosynovitis of the hand' with interest.[1]

The authors consider the diagnostic accuracy of Kanavel's cardinal signs (finger held in flexion, fusiform swelling of the digit, tenderness over the affected tendon and pain on passive extension of the affected digit) for identifying flexor sheath infections.

This is discussed in the context of the case of a patient who had confirmed median nerve compression at the level of the carpal tunnel. In the presence of altered sensibility, only one of the four cardinal signs was present: fusiform swelling of the affected digit. They conclude that Kanavel's signs can only be relied upon to *exclude* flexor tenosynovitis once normal sensation in the affected digit has been formally established.

For this conclusion to be supported, the sensitivity of Kanavel's signs would need to be reduced when sensation is altered. If sensitivity fell with altered sensation, then the negative predictive value of "all four Kanavel's signs being absent" would fall.

However, fusiform swelling of the digit can still be assessed even when sensibility is compromised, as illustrated here. This is the most sensitive of Kanavel's signs, being present in 97–100% of flexor sheath infection cases.[2,3] Thus, "ruling out" flexor sheath infection in the absence of dactylitis should remain largely accurate, even when sensation is abnormal.

We agree with the authors that altered sensation is likely to affect the diagnostic accuracy of Kanavel's signs, but this affects the relatively specific signs, rather than sensitive (but non-specific) dactylitis sign.

While missing a diagnosis of flexor sheath infection may have serious consequences, this can still be largely avoided by considering further assessment of patients with dactylitis. Unnecessary treatment of patients who do not have a flexor sheath infection is also undesirable, and proceeding to invasive treatment on the basis of dactylitis alone may lead to overtreatment.

Therefore, we suggest that the final statement might be better worded as: "Kanavel's signs should only be relied upon to *positively diagnose* flexor tenosynovitis once normal sensation in the affected digit has been formally established".

Yours sincerely,
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Conflicts of interest

None declared.

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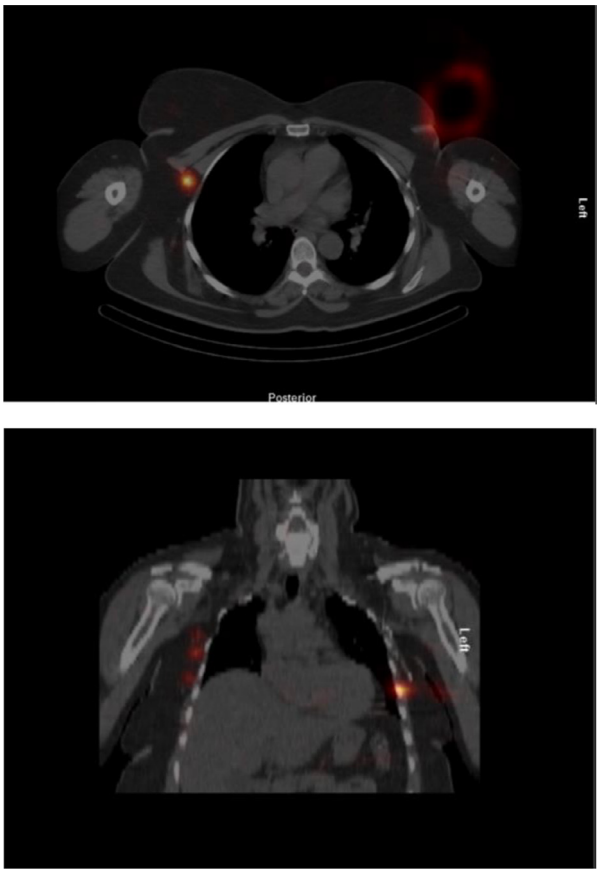

Figure 1 Pre-operative lymphoscintogram showing radioisotope injected into the left breast with recurrent cancer, identifying a sentinel node in the contralateral right axilla.

Reply to: "Altered lymphatic drainage in malignant melanoma after previous sentinel node biopsy in the same nodal drainage basin"

Dear Sir,

We read with great interest the letter by Ashley et al.[1] about altered lymphatic drainage after previous sentinel node biopsy in the same nodal drainage basin.

There is a substantial aggregate of publications within the breast cancer literature identifying the location of the sentinel lymph node (SLN) in the contralateral or alternate lymph node basin following previous breast cancer treatment. We also present a pre-operative lymphoscintogram showing radioisotope injected into the left breast with recurrent cancer, identifying a sentinel node in the contralateral right axilla (Figure 1).

This may be due to previous breast conserving surgery/mastectomy, axillary surgery, and breast and/or axillary radiotherapy. All scenarios result in a degree of damage to the usual draining lymphatics to the ipsilateral axilla. SLNs in patients with previously treated ipsilateral breast cancer have been identified in the ipsilateral interpectoral region, internal mammary chain, intramammary nodes, supra or infraclavicular nodes, or contralateral axilla.[2]

Breast surgery alone, without axillary surgery or radiotherapy, is less likely, though still possible, to result in lymphatic drainage outside the ipsilateral axilla.[2] As one would expect, axillary lymph node dissection (ALND) results in higher rates of aberrant lymphatic drainage or no apparent SLN when compared with axillary sentinel node biopsy, with only about 25% of ALND demonstrating subsequent SLN in the ipsilateral axilla.[2,3]

Radiotherapy has been shown to produce fibrosis of dermal capillary lymphatics, resulting in severe long term lymphatic dysfunction.[4] This may have the greatest impact on future SLN biopsies, as both the radioisotope and blue dye injections are usually given in the subdermal/intradermal planes. Breast cancer patients may have received intensity modulated radiotherapy (IMRT) to the breast (following breast conserving surgery), chest wall (following mastectomy), axilla, internal mammary chain, or supraclavicular nodes, all of which may affect subsequent SLN location.

As the authors identified, pre op lymphoscintigraphy is invaluable in identifying the new SLN locations. We would advise that surgeons undertaking SLNB in melanoma or breast cancer patients who have undergone previous ipsilateral breast cancer consider and council the patient about

the possible need for SLNB in contralateral or alternative lymph node basins.

Conflict of interest

None.

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