Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Correspondence and Communications

Plastic surgery training in Europe

Dear Sir,

Plastic surgery training in Europe differs considerably. The aim of this study was to provide an overview of training programs across Europe and to evaluate whether strengths of individual programs are implementable internationally.

In the academic year 2019–2020, national delegates of 30 countries - the 27 member countries of the EU, and Norway, Switzerland, and the UK - were invited to complete a questionnaire on plastic surgery training, covering demographics, curriculums, theoretical courses, and examinations.

Representatives of sixteen countries (Austria, Belgium, Bulgaria, Czech Republic, Finland, France, Greece, Italy, Luxemburg, Malta, the Netherlands, Poland, Slovenia, Sweden, Switzerland, and the UK) completed the questionnaire. In the literature and on national board websites, detailed information on training in four additional countries (Germany, Norway, Portugal, and Spain) was found. A summary of the results is shown in Table 1.

Fifteen countries (75%) have a centralised organisation of training, which may either be coordinated by the government, a medical chamber, or an independent council. In most countries with a decentralised organisation, training is organised by university hospitals. A decentralised organisation may impose imparity amongst trainees from different training centres and a good cooperation between training centres must avoid differences in candidate selection, scope of the training scheme and career opportunities.

Certification criteria for training centres may include an agreement between training centre and government and/or a university, the ability to provide a certain percentage of the training, and the ability to provide certain numbers and types of procedures. It is important that each training centre covers a population large enough to allow both adequate numbers of procedures and variety in pathology. Trainees must be provided the ability to actively participate in all fields to maximise their progress.[1]

The average number of trainees per 100,000 inhabitants is 0.4 (range: 0.1–0.7). Slovenia has noticed that many plastic surgeons have left the public health system to pursue a career in private practices, leaving plastic surgery units understaffed. As a result, more training positions have become vacant in Slovenia over the past few years.

Training in private practices is allowed in ten countries (50%). Private practices are foremost useful in providing aesthetic surgery training. Off all subspecialties, 53.7% of trainees feel the least trained in aesthetic surgery [2], and the average trainee in the UK could certify in cosmetic breast and body contouring surgery but no other areas of aesthetic surgery.[3] As a rapidly growing part of our speciality, each trainee should get the opportunity to be trained appropriately in aesthetic surgery.

Nineteen countries (95%) have a surgical core training with an average duration of 22 months (range: 12–30). speciality training in plastic surgery has a mean duration of 49 months (range: 30–72) (Figure 1). Six countries (30%) have a rotation system. Training in Czech Republic includes two months of burns and two months of hand surgery. In Bulgaria, Italy, the Netherlands, Poland, Slovenia, and the UK trainees are subjected to strict rotations as well.

The domain of the speciality defines the scope of the training scheme in each country. Subspecialties, such as hand surgery and craniofacial surgery, are covered by plastic surgeons in some countries, but are outsourced to other specialties (e.g. orthopaedics and maxillofacial surgery) in others.[4]

The amount of theoretical courses varies from 0 to 480 h. The German Association of Plastic, Reconstructive and Aesthetic Surgeons (DGPRÄC) offers almost 100 courses per year.[5] Scandinavian trainees must attend at least five courses that rotate between Finland, Sweden, Norway, and Denmark, or replace it with another suitable European course. Malta has no purely theoretically courses.

All countries use continuous evaluation. Logbook-based evaluations are used in 17 countries (85%). Fifteen countries (75%) have a numerical benchmarked system in place, with indicative numbers of procedures that must be met. The mean number of exams during and/or at the end of training is three (range: 0–22). Three countries (15%) organise no examinations at the end of training. Only the UK organises practical exams (three sets of vivas), which are part of the intercollegiate speciality examination. Some countries have adopted the EBOPRAS exam as the standard for granting specialist status in plastic surgery and/or as an alternative to the national exam.

The five-year success rates of candidates are shown in Table 1 when data was available.

The differences in plastic surgery training across Europe are mainly due to variances in healthcare system and the domain of the speciality. Addressing these differences to create more uniformity might be hard. Theoretical courses in preparation of a validated European accreditation (e.g. EBOPRAS exam) can be harmonised internationally regardless of these differences. Additionally, trainees should be given the opportunity to use the unique characteristics of

Table 1 Characteristics of plastic surgery training in Europe.

	Austria	Belgium	Bulgaria	Czech Republic	Finland	France	Germany	Greece	Italy	Luxembourg	Malta	The Netherlands	Norway	Poland	Portugal	Slovenia	Spain	Sweden	Switzerland	United Kingdom
Inhabitants ($x10^6$)	9.0	11.5	7.0	10.7	5.5	67.0	83.0	10.7	60.4	0.6	0.5	17.3	5.4	38.0	10.3	2.1	46.9	10.2	8.6	66.7
Level of organisation	Central	Central	Central	Central	Decentral	Central	Decentral	Decentral	Central	Central	Central	Central	Decentral	Central	Central	Central	Central	Decentral	Central	Central
Number of training centers	11	8	5	8	5	22		15	20	1	1	16	7	12		2		7	10	50
Training in private practices	Yes	No	Yes	Yes	Yes	No	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes	No	Yes	Yes
Number of trainees	50-55	40	14	20-30	15-20	162		60	200	1	1	100		80	60	15	200	10-15	30	325
Number of trainees per 100,000 inhabitants	0.6	0.3	0.2	0.3	0.4	0.2		0.6	0.3	0.2	0.2	0.6		0.2	0.6	0.7	0.4	0.1	0.4	0.5
Annual positions	10	8	3-5	5-10	4-6	27		10-15	40	0-1	0-1	14-17		8-10	10	1-5	37-41	5	10	30-50
Duration of medical school† (months)	72	72	72	72	72	72	72	72	72	72	60	72	72	72	72	72	72	66	72	60
Duration of foundation training† (months)	9	N/a	N/a	N/a	6	N/a	N/a	N/a	N/a	N/a	24	N/a	18	N/a	12	6	N/a	18	N/a	24
Duration of surgical core training† (months)	15	24	24	30	18	12	24	24	24	24	24	21**	24	24	N/a	24	24	12	27	24
Duration of speciality training† (months)	57	48	36	30	60	60	48	48	36	48	60	41**	48	48	60	48	36	48	45	72
Numerical benchmarked system	Yes	Yes*	Yes	Yes	Yes	No	Yes	No	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Number of exams	1	4	8	1	2	1	1	4	6	4	1	9	0	22	6	2	0	0	2	1
Five-year success rate of candidates	95%	95%		99%	90%	96%			100%	95%	100%	95%		90%		100%			90%	66-73%

* There is a numerical benchmarked system in place for Flanders, not for Wallonia.

** Currently, training takes longer, but this will be gradually reduced to 21 months of surgical core training and 41 months of plastic surgery training by 2023.

† The shortest possible curriculum; does not consider possible extensions or variances between training centers within one country.

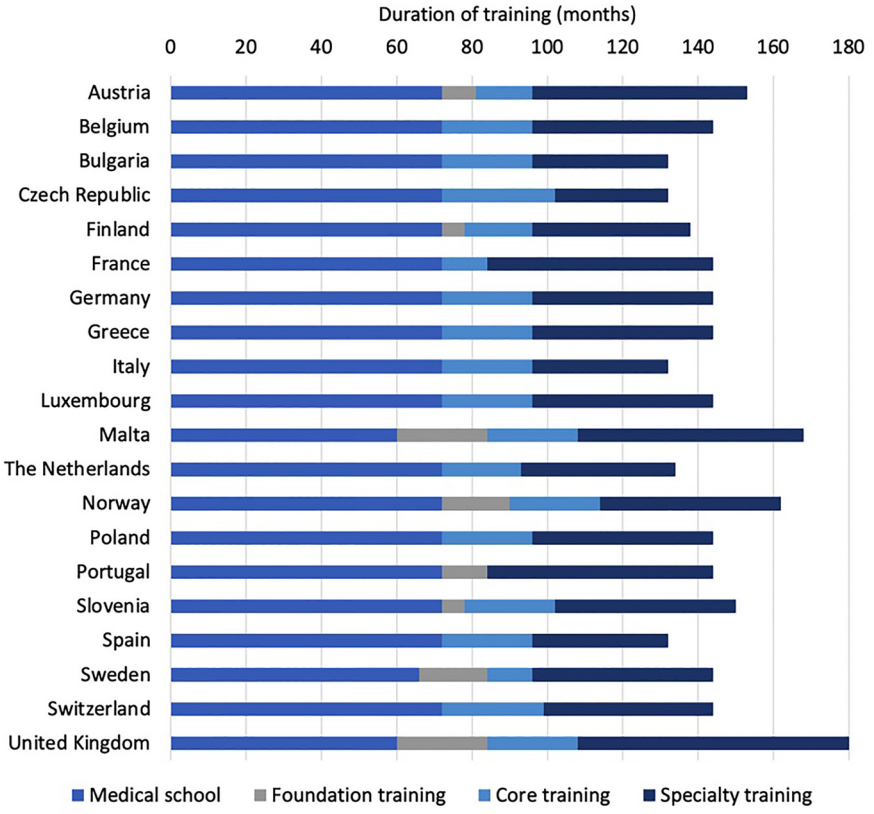

Fig. 1 Duration of training in European countries. Medical school has a mean duration of 71 months (range: 60–72 months). Eight countries have a foundation program with a mean duration of 15 months (range: 6–24 months). Nineteen countries have a surgical core training with a mean duration of 22 months (range: 12–30 months). speciality training has a mean duration of 49 months (range: 30–72 months).

training programs to maximise their development. The variance may provide an opportunity to learn from one another and to grow as a speciality on an international level.

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Declaration of Competing Interest

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What about the mothers of plastic surgery?

Dear Sir,

We could not help but notice that amongst previous plastic surgery literature, numerous colleagues have been heralded as “fathers of plastic surgery”. We certainly concur that their contribution to the advancement of our specialty is indeed indisputable. Every discipline needs role models and divergent thinkers. A simple query on Pubmed and Google scholar using keywords “father of AND plastic surgery” resulted in a myriad of fathers. Several examples of the latter are presented in Supplemental Table 1; however, the list is not exhaustive and some of the fathers may not have been identified by our query.

We started brainstorming to identify female colleagues who have also made major contributions to our specialty. Our inclusion criteria consisted of female plastic surgeons who have invented a concept or surgical method and significantly contributed to the evolution of plastic surgery. Due to reference limitations, we present five esteemed female plastic surgeons who should in our opinion, be heralded as Mothers of plastic surgery. It must be noted that we identified many more names than this current listing.

In burn surgery we highlight Zora Janzekovic, *Mother of burn surgery*. Due to unfortunate political polarization, it took her several decades until her life-saving technique of early tangential excision and grafting was introduced to the world.[1]

The pioneer of lymphoedema surgery, *Mother of lymph node transfer*, Corinne Becker, published her first studies already in the 1980s.[2] Her concept of lymph node transplantation advanced the methods to treat lymphedema by addressing the etiology of lymphedema. Her research in the laboratory and her clinical work has led to a subspecialty of lymphoedema surgery.

A prolific Finnish plastic surgeon, Sirpa Asko-Seljavaara already in 1983 presented a paper at the 7th Congress of the International Society of Reconstructive Microsurgery titled *Freestyle free flaps*.[3] This paper provided the concept for perforator flap surgery; any skin island can be harvested when a supplying vessel is identified and dissected. Therefore, she is the *Mother of Perforator flaps*.

Julia Terzis is well-known for her research and clinical work concerning peripheral nerves and regeneration.[4] Her work in the field of restorative microsurgery and especially her work and innovations in the treatment of facial paralysis have inspired generations of plastic surgeons. Hence, we herald her as the *Mother of Peripheral Nerve Microsurgery*.

Another pioneer in peripheral nerve research is Susan MacKinnon. She has focused her work on nerve allotransplantation and nerve regeneration[5] which has had an enormous impact on our knowledge of nerve transfers in distal nerve injuries. We would call her the *Mother of Limb Nerve Repair*.

Although single parent families can do well, we feel that the acknowledgment of both parents in plastic surgery can help our community thrive. The recognition of pioneering female plastic surgeons would also provide good role models for both the modern-day male and female residents. And moreover, perhaps we should just forget gender and describe these pioneering plastic surgeons - both fathers and mothers – simply as the innovators of plastic surgery.

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Ethical approval

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Declaration of Competing Interest

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.ejps.2020.105216.

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The role of biofilm production in *Cutibacterium acnes* strains isolated from breast implants

Dear Sir,

It has been well established that bacterial biofilm causes chronic inflammation on breast implants. *Cutibacterium acnes* is a Gram-positive, anaerobic/airtolerant rod that can generate biofilm, being one of the microorganisms causing prosthetic-related infections, such as breast implants.[1,2]

Capsular contracture (CC) is a known local complication and is reported in 5.2% to 30% of patients with breast implants.[3] However, although it is well established that bacterial biofilm has a role in capsular contracture (CC), few studies investigate specifically biofilm production of *C. acnes* in breast implants.[4]

Therefore, our objective was to compare the behavior in terms of biofilm production between *C. acnes* strains isolated from breast implants and from other sites.

We prospectively collected (from 2017 to 2019) 72 *C. acnes* strains isolated from two different origins, 40 from breast implants in patients whose implant was removed or replaced (22.5% causing CC) and 32 from other locations (abscess, wound exudate, biopsy, blood, sterile liquid, catheter) and tested them by terms of biomass (using the crystal violet staining assay) and metabolic activity (using the XTT [2,3-bis-(2-methoxy-4-nitro-5-sulfophenyl)−2H-tetrazolium-5-carboxanilide] tetrazolium salt assay).

Diagnosis of colonized breast implants were performed by culture of sonicate. From the patients who had their breast prostheses removed, we defined CC as those that met Baker III and IV criteria.

Optical density (OD) absorbance values of the strains obtained by CV and XTT were used to classify semi-quantitatively biofilm production according to the method described in Stepanovic et al.[5] Specifically, the cut-off OD (ODc) was defined as three standard deviations above the mean OD of the negative control and strains were classified as follows: $OD \leq 2 \times ODc$ = weak biofilm producer; $2 \times ODc < OD < 4 \times ODc$ = moderate biofilm producer; and $OD \geq 4 \times ODc$ = high biofilm producer, respectively.

Qualitative variables appear with their frequency of distribution, quantitative variables are expressed as the median and interquartile range (IQR). Categorical and continuous variables were compared using the Fisher exact test and Mann-Whitney test, respectively.

Statistical significance was set at $p < 0.05$ for all the tests. Statistical analysis was performed using IBM SPSS Statistics for Windows, Version 21.0 (IBM Corp, Armonk, New York, USA).

The median value for CV absorbance of strains isolated from breast implants and from other locations was 0.56 (IQR 0.35-0.82) and 0.76 (IQR 0.63-1.03), respectively ($p = 0.012$). The median value for XTT absorbance of strains isolated from breast implants and from other locations was 0.21 (IQR 0.18-0.29) and 0.17 (IQR 0.12-0.29), respectively ($p = 0.041$).

Analyzing only the strains classified as high biofilm producers ($n = 65$), statistical differences were found for both CV and XTT ($p = 0.04$ and $p = 0.04$, respectively). Moreover, differences between strains coming from CC ($n = 9$) and non-CC ($n = 31$) were found in terms of median absorbance values for XTT (CC, 0.32; and non-CC, 0.19; $p = 0.003$) (Figure 1).

We describe the association between biofilm production of *C. acnes* strains and breast implants infection. In particular, metabolic activity of *C. acnes* was higher among those strains isolated from breast implants and, in particular, from patients with CC.

Bacteria growing on the surface of breast implants may cause persistent inflammation because of its capacity to form biofilm.[1,2] Thus, the formation of fibrosis can lead to CC. CC is a common complication after esthetic and reconstructive breast prosthesis implantation, which can occur up to 30% of the patients.[3]

However, despite *C. acnes* described as being one of the most frequent microorganisms causing CC, information about the role of its biofilm in breast implants is scarce. Rieger et al. found an association between higher rates of positivity in cultures from breast implants and higher degrees of CC, suggesting the potential causative role of bacterial biofilms in the pathogenesis of CC.[1] Del Pozo et al. also demonstrated that breast implants removed due to CC (degrees III-IV Baker) showed higher bacterial counts, with *C. acnes* the predominant isolate (77.8%) followed by coagulase negative Staphylococci (44.4%), which is also well-known to be biofilm producer.[4] Thus, we demonstrate in our study that, in particular, strains of *C. acnes* isolated from breast implants were associated with higher metabolic activity values than strains isolated from other locations. And, moreover, despite we only had 9 cases of CC, *C. acnes* strains in this group showed significantly higher metabolic activity values than those isolated from the non-CC group. As we were not able to demonstrate this behavior regarding biomass production, this suggests that maybe measuring

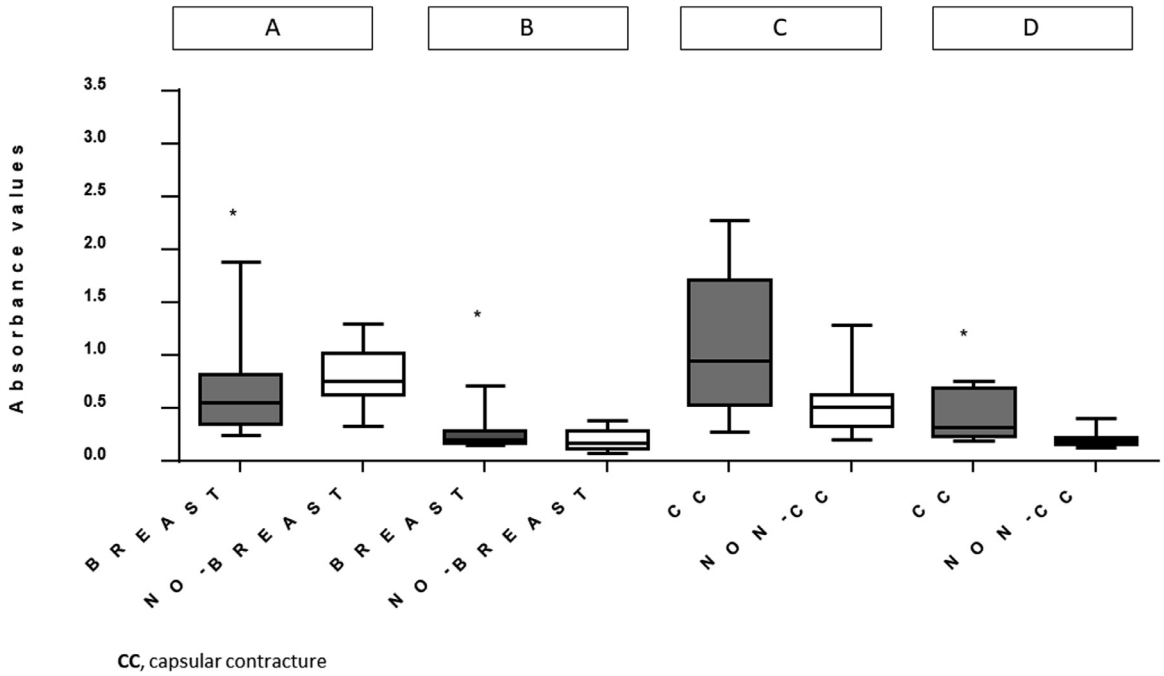

Figure 1 Biomass and metabolic activity values of *C. acnes* strains
Box and whiskers represent 10–90 percentil.
A) Median values for crystal violet absorbance of strains from breast implants and from other locations. B) Median values for XTT absorbance of strains from breast implants and from other locations. C) Median values for crystal violet absorbance of strains from capsular contracture and from non-capsular contracture. D) Median values for XTT absorbance of strains from capsular contracture and from non-capsular contracture.
* Represents statistical significance ($p < 0.05$). *C. acnes* strains isolated from breast implants had significantly lower CV values than those isolated from other locations. *C. acnes* strains isolated from breast implants had significantly higher XTT values than those isolated from other locations. *C. acnes* strains isolated from breast implants with CC had significantly higher XTT values than those isolated from breast implants without CC.

metabolic activity represents better the capacity of *C. acnes* to invade surfaces and could be a reliable method to assess biofilm production.

The main limitation of the study is that we only assessed biofilm production by terms of biomass and metabolic activity, which requires further studies to evaluate other test to confirm our data.

Thus, we showed the importance of biofilm activity in breast implants as one aspect of the pathogenesis of its colonization. We considered that the role of biofilm production in breast implants could elucidate a better response to antibiotic therapies in CC.

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Ethics approval and consent to participate

The study was approved by the Local Ethics Committee of the Hospital general Universitario Gregorio Marañón (MICRO.HGUGM.2016-027).

Conflicts of interests

The authors declare that they have no conflicts of interest.

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After freedom comes pain: Increasing firework injuries at a regional burns centre following the lifting of COVID-19 restrictions

Dear Sir,

Our regional burns service always has cause to "remember, remember the 5th of November" with both adults and children commonly sustaining firework-related injuries around bonfire night. This year, however, our unit saw a large increase in patients sustaining firework-related injuries compared to previous years, placing a greater burden on our regional service. To assess this, we compared the data for 2021 to the two previous years.

Our study included all patients who attended our unit with a firework-related burn in the 4-week period surrounding bonfire night (5th November) in 2021, comparing both outpatients and admissions to our service to the same period in 2020 and 2019.

Our unit saw a 160% increase in firework-related injuries in 2021 as compared to 2020; whilst that year's figure was likely affected by lockdowns, 2021 still represented a 116.7% increase from pre-COVID numbers in 2019. 2021 saw 26 patients, 20 of which (77%) were referred on 5th or 6th November (see Table 1). In the same period last year we saw a total of 10 patients with firework-related burns, and 12 patients in 2019 before the start of the COVID-19 pandemic and any associated restrictions.

The demographic of our patients sustaining firework-related injuries has remained largely similar across the last three years. In line with other larger studies,[1] the majority of this cohort were young males. This year, 2021, 18/26 (69%) were male with an average age of 17 years. This is similar to 2020, where 10/12 (83%) patients were male with an average age of 21 years and in 2019, where 9/12 (75%) patients were male with an average age of 17 years.

In 2021, the most common areas burnt were the hands (38%), followed by face and neck (26%) with 4 patients (15%) sustaining burns to both areas, a total of 21/26 (80%) of patients. This trend was seen across the previous years, with patients sustaining a hand, face or neck burn in all patients in 2020, and in 75% of patients in 2019. The majority of burns in 2021 were superficial partial thickness burns (22/26) which were treated with dressings and outpatient physiotherapy in our unit. However, one patient sustained a 24% flame burn which required multiple trips to theatre for escharotomies, debridement and skin grafting with ongoing inpatient care. Another patient required digit re-vascularisation and ongoing MDT input as an outpatient. Previous years saw a similar trend, with 9/10 (90%) and

Table 1 Summary of firework-related injuries at our unit from 2021, 2020 and 2019.

	21/10/21-21/11/21	21/10/20-21/11/20	21/10/19-21/11/19
Total no. patients	26 patients (18 male)	10 patients (8 male)	12 patients (9 male)
Average% TBSA	1.41%	0.85%	0.39%
Average age (years)	17 years	21 years	17 years
Hand burns	10 patients (38%)	8 patients (80%)	3 patients (25%)
Face/neck burns	7 patients (26%)	2 patients (20%)	6 patients (50%)
Both hands and face	4 patients (15%)	0	1 patient
Depth of burn	SPT 22 FT 2 MIX 2	SPT 9 DD 1	SPT 10 DD 2

TBSA = total body surface area (of burn), SPT = superficial partial thickness, DD = deep dermal, FT = full thickness.

10/12 (83%) of patients sustaining superficial partial thickness burns in 2020 and 2019, respectively.

5th November 2020 marked the start of the second national coronavirus lockdown in the U.K. Prior to this, from 14th September 2020 the 'rule of six' banned all indoor and outdoor gatherings of over six people. For this reason, gatherings for firework night were far more limited and consequently we saw a limited number of firework-related injuries.

This year, 2021, the 'roadmap out of lockdown' saw an ease of restrictions, with larger gatherings gradually increasing again following the end of lockdown on 19th July 2021. This year, firework displays and gatherings were numerous. However, with this freedom comes pain. A 160% increase in patients referred into our service placed a greater burden on our burns service. Although the average burn size (TBSA) was small, the main areas of the body affected were the hands and face – both functionally and aesthetically important areas, and ones that require referral to a specialised burns service.[2]

As we regain access to cherished traditions, excitement around this may lead to more risky behaviours and less attention to safety. With easing of restrictions, it is important to be more vigilant around injuries associated with large gatherings such as fireworks night. Now is the time for visible safety campaigns targeting high-risk groups, particularly young males, about the dangers of fireworks.

Declaration of Competing Interest

None.

Ethical approval

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Potential explanations for the reported lack of improvement in chest lymph circulation after vascularized lymph node transfer

Dear Sir,

I read the article "Where does subcutaneous lymph from the chest wall flow into after mastectomy?" by Akita et al. (*J Plast Reconstr Aesthet Surg*. 2021 Nov;74(11):2856-2862.).[1] I strongly agree that subcutaneous lymph flow from the chest wall to the ipsilateral axilla following mastectomy was observed more frequently after sentinel lymph node biopsy than after axillary lymph nodes dissection (ALND). However, it seems strange that there was no significant difference in the frequency of ipsilateral axillary flow between the ALND group and ALND followed by vascularized lymph node transfer (VLNT) group (VLNT group), and there was more prevalence of no linear flow pattern in VLNT group than ALND group. It is important to clarify

lymph flows in the treatment of lymphedema, and medical staffs should understand what really goes on after interventions are done at lymph-abundant regions.[2-5] Of course, it is difficult to reveal the reason of them, I advocate hypotheses from our lymphatic reconstructive surgery experience.

First, there was no reference about the range of ALND. It would be better to evaluate the cases between ALND and VLNT groups according to ALND level I-III, because there are some lymph flows originating from a nipple and areolar region to the lymph nodes posterior to the pectoralis minor muscle or between the pectoralis minor and major muscles.[2] Second, there was no description regarding recipient sites of VLNT. As VLNT seemed to aim upper extremity lymphedema prevention/treatment and to be transferred to a recipient site where seemed to drain upper extremity lymph flows, there would be no or little effect on chest lymph flows by the VLNT. It would be of more impact on the chest lymph flow if VLNT was performed at a more anterior and superior region. Lastly, there was no consideration about concomitant lymph flow along the thoracoacromial artery and the lateral thoracic artery. Although the authors took the deep lymph flows into consideration, only deep lymph flows along the internal mammary artery in the thoracic cavity was mentioned. It is obvious that deep lymph flows outside the thoracic cavity play a more important role in lymph drainage of the chest wall than those in the thoracic cavity.

The above mentioned hypotheses may be the reasons why there was no significant difference in the frequency of ipsilateral axillary flow between ALND and VLNT groups, although further studies are required to prove the hypotheses.

Ethical approval

Not required.

Declaration of Competing Interest

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Reachable range of superficial circumflex iliac artery perforator flap

Dear Sir,

We read an article entitled “Feasibility, indications and complications of SCIP flap for reconstruction after extirpative surgery for vulvar cancer” written by Gentileschi, et al. with great interest. (Gentileschi et al. J Plast Reconstr Aesthet Surg. 2021 Nov 13.).[1] We strongly agree with their opinion that SCIP flap is useful for soft tissue reconstruction of the ipsilateral perineal region. As they have demonstrated in their good case series, one of the major advantages of SCIP flap is wide mobility with a longer pedicle than conventional groin flap.[2-4] Based on our experience, we would like to emphasize the advantage of SCIP flap with wider indication than demonstrated by the authors.[3-5] To maximize utility of SCIP flap, preoperative localization of the terminal branch of a SCIP pedicle is important.

Preoperative color doppler ultrasound identified the most distal part of the superficial branch of the superficial circumflex iliac artery (SCIA), and a SCIP flap was designed and elevated based on the SCIA superficial branch with a skin island dimension of 25 × 12 cm. The flap showed good

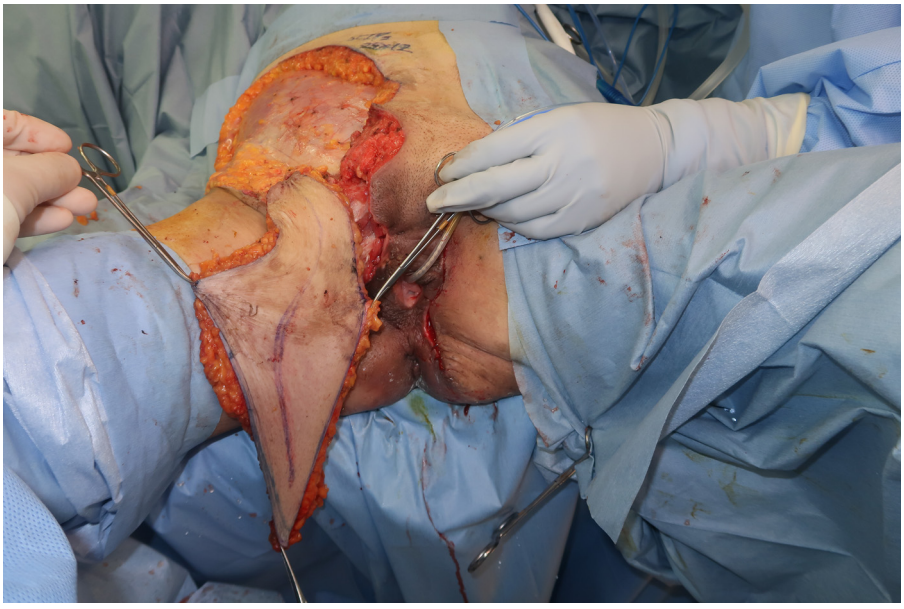

Figure 1 The SCIP flap could reach to the gluteal and proximal posterior thigh region.

vascularity at the most distal margin of the skin island, and could reach to the gluteal and proximal posterior thigh region (Figure 1).

Although it is usually recommended not to include the skin above the umbilical level in a SCIP flap, a longer SCIP flap can be safely elevated when the most distal part of the SCIA is visualized beyond the umbilical level on preoperative ultrasound. With appropriate preoperative localization of the SCIA branch, SCIP can be used to cover not only the inguinal, the perineal regions, but also the gluteal and the posterior proximal thigh regions.[2,3] We believe that indication of pedicled SCIP flap transfer is more wider than expected by most reconstructive microsurgeons.

Prior presentations

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Declaration of Competing Interest

None.

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Letter comments on: "The reverse flow extensor digitorum brevis flap for dorsal foot defects – A single center study"

Dear Sir,

We read with interest the article "The Reverse Flow Extensor Digitorum Brevis Flap for Dorsal Foot Defects-A Single Center Study" by Haq et al.[1] in your esteemed journal.

The reverse flow EDB flap as described by the authors is an extremely valuable addition to the armamentarium for reconstruction of distal defects of the dorsum of foot, for which flap options are very limited.

In the description of technique, the authors have indicated that after the dissection of the EDB flap is complete the Dorsalis Pedis artery is clamped proximal to the origin of lateral tarsal artery, the deep plantar artery clamped at its origin from the dorsalis pedis and the tourniquet then released and perfusion of the EDB by reverse flow through the First Dorsal Metacarpal Artery (FDMA) observed. They found division of the deep plantar artery was required in 5 cases to improve the distal reach of the flap.

In cases of injury on the distal forefoot requiring flap cover the FDMA may be in the very zone of injury and therefore may not perfuse the EDB by reverse flow. We would like to know how often inadequate perfusion of the EDB was observed with the deep plantar artery and dorsalis pedis clamped and what the authors resorted to in that circumstance.

Furthermore, the anatomy of the Dorsalis Pedis – FDMA axis is known to be variable with variations in the anatomy of the deep plantar artery and origin of the FDMA in upto 22% of cases.[2] We would like to know whether difficulty was encountered in this regard.

We compliment the authors on this excellent work and thank them for bringing into focus this option for management of dorsal forefoot defects.

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Declaration of Competing Interest

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Reply on the letter comments on: "The Reverse Flow Extensor Digitorum Brevis Flap for dorsal foot defects – A single centre study" posted by Vishwanath et al.

Dear Sir,

Reply

We thank Vishwanath et al. regarding their interest in our recent article.[1] We welcome the opportunity to address the points raised by the authors.

We do agree with Vishwanath et al. that there are some variations in the anatomy of the Dorsalis pedis, the First Dorsal Metatarsal Artery (FDMA) and the Deep Plantar Artery (DPA) but by no means these variations have rendered any specific hindrance in elevation or survival of the flap.

As to the authors first comment regarding the injury of the FDMA, in all our cases the course of the dorsalis pedis along with the FDMA was confirmed by a hand held Doppler as mentioned in our inclusion criteria and proceedings for surgery was only done thereafter. An injured deep plantar artery (DPA) might not be detectable on hand held Doppler but this won't be an impediment to flap elevation as there are distal perforators in the toes anastomosing with the plantar system. We in our limited study did not encounter

any case where there was injury to the FDMA. We did get few cases where FDMA was not detectable on Doppler and those cases were excluded and managed by other modalities. Division of the deep plantar artery was required in five cases and in all these 5 cases perfusion of Extensor Digitorum Brevis (EDB) muscle was good intraoperatively with no flap complications postoperatively.

Regarding the anatomical discrepancies, the anatomy of the dorsalis pedis artery and FDMA is fairly constant with variations in different studies. It has been found to arise from the dorsalis pedis artery in 90% of cases and absent in 8% of patients.[2] Those cases in which these are absent could easily be excluded preoperatively by a hand held Doppler examination. Other studies report a constant presence of FDMA. It may either arise from the dorsalis pedis artery (90.6%) or from the lateral tarsal artery in (9.4%).[3] Even if the FDMA arises from the lateral tarsal artery, flap vascularity won't be a problem as the dorsalis pedis is divided proximal to the origin of the lateral tarsal artery. There may be some variations in the course of the FDMA in relation to the interosseous muscle.[4] In our study we did not encounter any case where the first dorsal artery was absent or any other anatomical variation.

Regarding the Deep plantar artery it is usually found in all patients, the only variation may be a slight difference in its location over the first metatarsal space.[5] The significance of which is that if it is located more proximal its division may be required for flap advancement. In our study the exact location of the deep plantar artery was not studied specifically but it was fairly at a constant location in the first intermetatarsal space.

We thank Professor Vishwanath for the recognition and attention to our article and their expert comments which will promote new thinking and application of this much underutilized flap for coverage of difficult areas in the foot.

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Ethical approval

N/A.

Declaration of Competing Interest

None declared.

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Letter comments on: Cosmetic tourism during the COVID-19 pandemic: Dealing with the aftermath

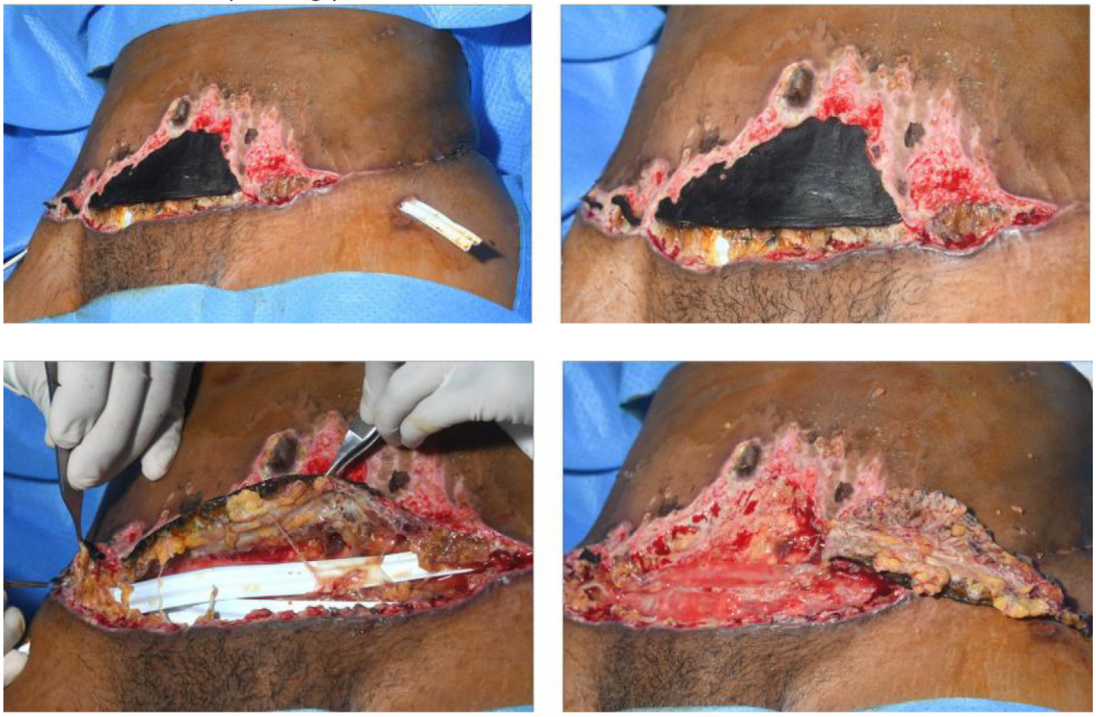
Dear Sir,

We read with interest the above titled paper about cosmetic tourism during the COVID-19 pandemic i.[1] During the start of the COVID-19 pandemic there was a decrease in availability of travel, and a national governmental request for the public to re-think risky situations to avoid the potential need for medical input. With this in mind, one would assume that cosmetic tourism would all but cease however, we also treated several patients who had complications of cosmetic tourism during lock-down in the United Kingdom, restricting the population to their local areas during the months of March, April, May, December, and January of 2020/21. We present some of our cases below.

Case 1

A 25 year old female who had an augmentation-mastopexy and 11 L abdominal liposuction in Turkey in July 2020, presented in August 2020 with mastopexy wound dehiscence and peri-implant infection. She had 48 h intravenous antibiotics. She was reluctant to undergo explantation. She later re-presented in November 2020 with further peri-implant infection and again declined surgery. She therefore had a further 72 h intravenous antibiotics followed by oral antibi-

a. Intraoperative photographs showing abdominal eschar with blue prolene visible in the wound and spanning yates drains.



b. Follow up photograph at 3 months

Fig. 1 (a) Intraoperative photographs showing abdominal eschar with blue prolene visible in the wound and spanning yates drains.(b) Follow up photograph at 3 months.

otics. She has had regular dressing clinic and consultant follow up. At 9 months post operation, she is left with hypertrophic and hyperpigmented scars but retained implants.

Case 2

A 47 year old male patient had an abdominoplasty in Pakistan in December 2020 during UK lockdown. He then presented to us in February 2021 with abdominal dehiscence and cellulitis requiring admission for intravenous antibiotics, surgical debridement and negative pressure wound therapy dressings. He had a total of 7 bed days in hospital. Frequent follow up shows the patient declined autologous skin grafts and resulted in prolonged dressing clinic follow up. He now has hyperpigmented and hypertrophic scarring of the lower abdominal wound.

Case 3

A 29 year old female underwent 360° liposuction, 'Brazilian butt lift' and revision abdominoplasty in May 2021 in Iran after initial abdominoplasty in Turkey during March 2020 UK lockdown. She presented in June 2021, exactly 20-days post-operation. She attended requesting removal of abdominal drains that she had flown back with in-situ. Examination showed she was pyrexial, had spanning yates drains in situ under an abdominal eschar. She was admitted for intravenous antibiotics, surgical debridement and negative pressure wound dressings, spending 4 days in hospital. After two negative wound swabs she then had delayed reconstruction with autologous skin grafts. See Figure 1a and b.

Discussion

Cosmetic tourism is increasingly popular often due to the cheaper options, shorter waiting lists and the associated holiday.[2,3] Our case series further highlights that patients are still keen to seek plastic surgery abroad despite lockdowns, restrictions on travel, fewer travel options and therefore increasing travel cost (self-isolation, PCR tests, increased airfare), and importantly the risk of catching and transmitting COVID-19. The pandemic also means that travelling back to the country where the surgery was performed to deal with a complication is very difficult and therefore these patients are treated locally, with costly theatre trips, bed days and prolonged dressing clinic visits.[4] With the NHS cancelling thousands of elective surgery including paediatric and cancer surgeries, it is hard to justify the NHS using valuable resources to treat complications of cosmetic tourism. Professional bodies for cosmetic surgery in each country must have more strict regulations for the risk and burden associated with cosmetic tourism especially during the pandemic. Particular attention also needs to be focused on travelling with open wounds and potential thromboembolic risks of travel after general anaesthetics and prolonged procedures.

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Ethical approval

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Declaration of Competing Interest

None.

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Reply to letter commenting on "Cosmetic tourism during the COVID-19 pandemic: Dealing with the aftermath"

Dear Sir,

We read with interest the reply to our letter about specific cases of cosmetic tourism treated during the pandemic at Pinderfields Hospital in Wakefield, UK.[1,2] This highlights our concern that we are likely to see an increase in such cases, especially as cosmetic surgery tourism evolves.

As discussed, this patient group is particularly vulnerable and as Plastic Surgeons we should advocate on their behalf regarding the potential risks they are exposed to. By travelling abroad for surgery, there is no guarantee that patients will undergo the same rigorous preoperative investigations as in the UK e.g. anaesthetic assessment and MRSA screening. Anecdotally we have also found a high prevalence of multiresistant bacterial infection, which should be taken in to account when providing treatment.

Furthermore, the risk of air travel in the postoperative period is something that should not be taken lightly. These patients are in a state of increased oxygen consumption due to the trauma of surgery and resulting increased adrenergic outflow.[3] The effect of low pressures on an aeroplane and reduced oxygen availability may be detrimental in the recovery process, as well as the increased thromboembolic risk and subsequent complications which may occur.

The concept of a holiday combined with an operation is appealing to patients, especially if travel involves visiting a hot and sunny country. Case 2 in the reply by McCrossan and Jivan looks at a patient who had an abdominoplasty in Pakistan and presented with wound dehiscence and cellulitis. His-wounds have consequently become hyperpigmented and have hypertrophic scarring. There is evidence that ultraviolent B (UVB) radiation impairs skin wound healing by affecting focal adhesion dynamics.[4] This could partly explain the poor wound healing and hyperpigmentation in this patient.

As clinicians, we have a duty to protect patients from unsafe surgical practices. Both our papers highlight the danger of inadequate follow up. In the letter by McCrossan and Jivan, the patient in case 3 is sent back from Iran after a major procedure of a 360° liposuction, 'Brazilian butt lift' and revision abdominoplasty with drains in situ. She repre-

sented with an infection and required hospital admission. Furthermore, in our cohort of patients that presented during the pandemic, one patient flew back to the UK from Turkey one day post transfusion of 4 units of red blood cells. Regulation of international practices is a difficult problem to tackle. In our previous letter, we had mentioned that it may be prudent for these patients to have additional insurance if they undertake cosmetic procedures abroad but this would be difficult to enforce. Another suggestion from the British Association of Aesthetic Plastic Surgeons (BAAPS) has been for hospitals in the NHS to invoice foreign providers with the costs of treating complications.[5]

In the UK, the RCS Cosmetic Surgery certification is a scheme which will provide accreditation for key competencies demonstrating expertise to patients, which aims to make the cosmetic surgery industry safer.[6] This is an excellent example of how we can help to regulate practices and keep patients safe. We hope this will inspire other countries to follow in similar footsteps.

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Declaration of Competing Interest

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