

Faculty abstracts

William P. Adams

Step by step - The surgical procedure in breast augmentation

The highest level of breast augmentation executes the process of breast augmentation. The 3rd part of this process is a refined surgical technique, a 4-part systematic dissection, under direct vision, atraumatic, and to the dimensions of the implant selected pre-operatively during the consultation. Details will be demonstrated.

June 7, 08:00-09:00

William P. Adams

Why only low volume fat grafting with Implants

Fat grafting for buttock augmentation has typically used high volumes techniques; however, over the past 5 years fat grafting to the breast in revision or as a composite technique have grown in popularity. Nevertheless, all data in breast supports low volume techniques. Details will be discussed.

June 7, 14:00-15:30

Udi Arad

Update on capsular contracture – what is the present knowledge about this multifactorial condition?

Capsular contracture (CC) remains a substantial complication following breast augmentation and reconstruction, and one of the leading causes for revisional breast surgery. While the etiology and pathogenesis are unclear, a compiling amount of evidence drawn from recently published long-term studies, suggests certain trends that may enhance our understanding of risk factors and imply strategies for prevention and management of CC.

As the nature of CC is assumed to be multifactorial, multiple factors are found to play a role in its development, including implant surface, implant plane, incision location, and methods of bacterial control. Prevention strategies should strive to eliminate as many risk factors as possible for each patient, and improved techniques for bacterial-load reduction should be employed (will be specified).

Secondary surgery for correction of established CC runs a high risk of recurrence and presents dilemmas regarding the management of the existing capsule, the plane and type of implant. Updated studies suggest benefits in combining both implant and pocket exchange, however capsulectomy and capsulotomy appear to have similar outcomes. The use of fat-grafting and ADM meshes may have additional value in selected cases.

This presentation will highlight updates from recent literature, delineate strategies for prevention of primary and secondary CC, and discuss demonstrative clinical cases.

June 7, 09:00-10:00

Mark Ashton

Important anatomical considerations and landmarks in facial surgery

This presentation will discuss the recent advances in our understanding of facial anatomy and the anatomical basis underpinning how and where we age. It will explain the reasoning behind modern facial rejuvenation, and how the latest advances in our understanding of retaining ligaments and anatomical spaces can be used to improve surgical outcome and minimize complications.

June 6, 13:15- 13:45

Mark Ashton

Vascular complications

Inadvertent intra-arterial injection of Hyaluronic Acid has been associated with tissue necrosis and blindness. In many instances the tissue necrosis appears at a site distant to the point of injection.

This presentation will explain why and how these complications occur, and what can be done to minimize the risk of them occurring.

June 6, 16:00- 18:00

Mark Ashton

Overview of facial anatomy, fat compartments, SMAS and retaining ligaments

This presentation will provide an overview of facial anatomy and will explain the latest advances in our understanding of retaining ligaments, anatomical spaces, and the fat compartments, and how they directly impact on non-surgical facial rejuvenation

June 7, 08:10-09:55

Alexander Aslani

High definition body contouring— creating shape with liposuction, muscle etching and volume addition

The presentation centers the potential on high definition liposuction for the practice of interested surgeons. The presentation is largely video based and highlights the main steps of our technique of high definition liposuction WITHOUT energy based devices. Our approach to male makeover surgery usually includes fat grafting mainly to buttocks and breasts.

We share our pearls about how to make this surgery safe, effective and more profitable for the plastic surgery practice.

June 8, 13:30-14:30

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Alexander Aslani

High definition body contouring— limitations and how to avoid and treat complications

High definition liposuction, especially when combined with fat grafting, is a very rewarding and profitable operation. On the other hand, the procedure is technically more rewarding than simple liposuction and especially when fat grafting is involved, some important safety considerations have to be considered. We detail our modifications to this surgery that have helped us to keep this procedure safe in a day case surgery center.

June 8, 13:30-14:30

Ardeshir Bayat

Next Generation of Biocompatible Breast Implants: Enhanced silicone surfaces with biomimetic topographies

The drive to develop specifically engineered, functionalised silicone implants to reduce complications post-implantation is at an all-time high. Understanding the processes influencing initial implant cell attachment and subsequent cell response is critical to designing more biocompatible implants. The concept of reproducing surface topographies on nano-scale in a controlled way on the surface of a silicone implant in order to specifically modify cellular response is an exciting proposition, which may significantly enhance implant integration and performance while reducing complications such as capsular contracture and ALCL formation. In this presentation, novel implant surfaces developed by an entirely new approach to implant design will be carefully evaluated using cutting edge imaging technology. Cellular responses to varying surface topographies of commercially available implants from smooth to textured surfaces will be compared. For the first time, the conception of a completely new biomimetic approach to enable better understanding of the notion of biocompatibility of implant surfaces, will be presented using supportive biological data. This talk provides evidence of the great promise of unique biomimetic silicone topography with improved cellular response profiles compared to other commercially available implant surfaces, marking a new paradigm in the development of biocompatible implants.

June 7, 10:30-11:25

Giovanni Botti

My most important key point for successful facelifts

Extended deep plane undermining as well as SMAS fixation to firm tissues are both very important in order to obtain good outcomes. Deep tissues should be repositioned according to a mainly vertical vector aside from a supero-lateral pull on the platysma. On the other hand, the

skin must be uplifted supero-laterally. Adding a mid-face lift with wide subperiosteal undermining and some fat grafting grants, when indicated, more harmonious, natural and long-lasting results.

June 6, 13:45-15:30

Giovanni Botti

Malar festoons a difficult surgical problem – alternatives for correction

Excessive fullness below and lateral to the lower orbital rim has variously been described as «malar edema», «malar mound» or «festoon». In reality it's not easy to clearly distinguish each specific situation: often the three problems just merge and overlap... Is the bulging made by pure skin excess? Does it contain muscle and/or fat? Is it just a fluid collection? We will try to explain how to make a correct diagnosis according to the symptoms and how to choose the best treatment.

June 6, 16:00-18:00

Giovanni Botti

Canthopexy and canthoplasty - when and how?

Canthopexy can be used to slightly uplift the lateral commissure or to consolidate the lid tone, but it becomes an essential tool in preventing and correcting scleral show and ectropion, especially if coupled with spacers, mid-face lift, fat grafting, etc. Thanks to this approach we can also completely change the eye shape and slant (dynamic canthopexy). This procedure is nothing but simple and many details must be taken into consideration in order to obtain the best results.

June 6, 16:00-18:00

Giovanni Botti

Different approaches and indication for treatment of the nasal tip

There is no doubt that the most fashionable rhinoplasty technique at the moment is the open one. Nevertheless, I am convinced that in most cases good results can be obtained without any trans-columellar scars, which can be sometime visible. Open rhinoplasty offers undoubtedly the advantage of a better view into the operatory field and of more precise technical gestures making it easier to shape and position the nasal tip. Nevertheless, the closed approach allows to immediately better verify the aesthetic effect of any grafts (here not always required) and a much faster recovery. Many maneuvers equally belong to both techniques, both of which in time have evolved. In this lecture we will suggest effective tips & tricks to use with the closed approach tip surgery.

June 8, 09:00-10:00

Faculty abstracts

Giovanni Botti

Open or closed, how does it affect the outcome – results from a series of identical twin operations

Are you sure that the current fashion of OPEN RHINOPLASTY is better than the «old style» CLOSED RHINOPLASTY? We are not sure. This is the reason why we decided to further investigate whether there is still space for closed rhinoplasty in contemporary surgery, or if it is just an old tool doomed to be left behind. In order to find a solution to this debate, 5 years ago we organized in our clinic a quite particular Congress “The big challenge”. More recently (September 2008) we held the 2° edition of that event, this time on couples of twins. This lecture will show the results of these very special tournaments.

June 8, 10:30-11:30

Bradley Calobrace

What are the key elements in creating a successful aesthetic clinic?

This talk addresses the issue of development and creation of a comprehensive Plastic Surgery Center with a focus on the vision and dedication required to create a more complex and time-consuming business. I will discuss the creation of CaloSpa and the growth of my practice of the 20 years, focusing on the salient issues through the years. There will be a discussion of leadership, education, employee hiring, internal and external marketing, services offered, and the financial monitoring required. This discussion provides some insight into the mindset required to be successful, and the understanding that expansion takes more TIME and ENERGY, a commodity often in short supply in a busy plastic surgeon's life.

June 6, 08:10-09:00

Bradley Calobrace

How do I select implants and do preoperative markings in secondary breast augment cases?

This is a short 3-minute video session where issues of implant selection and markings will be reviewed for a secondary aesthetic breast case. The markings and discussion will focus on the algorithms and decision trees that are required to achieve a successful outcome with a focus on the challenging soft tissue component and issues of blood supply as it relates to the planned approach and markings.

June 7, 08:00-09:00

Seemal Desai

Hyperpigmentation – My approach

This lecture will allow the attendant to gain a greater understanding of the complex pathophysiology of disorders of hyperpigmentation, with an emphasis on melasma

and post-inflammatory hyper pigmentation. In addition, an evidence based treatment algorithm for managing these patients in both acute and chronic phases will be discussed. Emphasis will be placed on topical therapies, physical modalities, including but not limited to chemical peels and in-office laser therapies, as well as oral treatments such as tranexamic acid. Clinical images from a variety of complex cases, particularly in patients of color will be presented to allow the audience to better understand combination treatment approaches.

June 8, 13:30-15:00

Seemal Desai

Pre- and post-procedure cosmeceuticals

This lecture will focus on incorporating cosmeceuticals into daily practice, particularly that of patients undergoing common in office aesthetic procedures. Emphasis will be placed on pre-treatment cosmeceuticals for patients undergoing chemical peels, as well as for patients undergoing intense pulse light, and/or laser therapy. In addition, common, as well as, newer cosmeceutical agents will be discussed. Clinical studies from the global literature will be presented alongside, a variety of clinical images.

June 8, 15:00-16:00

Ferial Fanian

High-Resolution ultrasound and confocal microscopy

Although we have a satisfactory knowledge about most of the medical and aesthetic interventions to the skin and its annexes, our knowledge is limited regarding the human skin behaviours and its modifications post these interventions. The histopathologic studies are still the gold standard to investigate these changes/behaviours, however, this approach is almost impossible in Aesthetic Medicine where the invasive investigations are not allowed. The best solution is to be able to penetrate into the living skin layers through the high-tech devices which are named as « Skin Optical Biopsy ». The most known technologies are as follow:

1. High Frequency ultrasound imaging: in this technology, by increasing the frequency, the resolution of the image increases while decreasing the depth of the penetration. It means the image quality could reach at 16µm via a 100 MHz probe.
2. OCT (Optical Coherence Tomography): The resolution of the images is around 8µ while it has a penetration depth of 1mm.
3. RCM (in vivo Reflectance Confocal Microscopy): this laser based technology could provide the best resolution of around 1µ (cell size scale) while the penetration is limited to hundred microns (200-300µ).

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We are actually in a new era of their applications particularly in Aesthetic Medicine. There is a big lack of long-term studies in this field but fortunately, there is a progressive tendency for both the researchers and also the industries to set up and launch this type of studies.

This presentation provides some up to date information regarding this field.

June 5, 16:00-17:00

Mario Goisis

The place for PRP, “nano” and microfat grafting in facial surgery

Investigating planes of insertion in Micrograft, nanograft and PRP treatments:

Background: The aim of the study is to analyze the facial layers in which the product is released in the most common practices in aesthetic medicine, such as volume augmentation by means micro and revitalization by nano-graft and prp.

Materials and methods: 40 cadavers head have been treated using several techniques imitating procedure on common practice in aesthetic medicine. During the simulated procedures different materials have been used: human fat harvested from cadavers, nanoafat and saline solution simulating PRP. Different colors have been used for the different materials in order to identify them at the dissection.

Micrograft has been injected using 22 gauges blunt cannulas and 21 gauges sharp needles, while nanograft using both 27 gauges blunt cannulas and 25 gauges sharp needles.

The colored saline used to imitate PRP has been injected using 30 gauges sharp needles.

After the injections and threads placements all cadavers head have been dissected creating 5 anatomical layers: 1-skin, 2-superficial fat compartments, 3-SMAS, 4-deep fat compartments and masticatory muscle, 5 - bone. Colored materials have been searched along the layers.

Results. Micrograft has been injected for 93% of cases in the layer 3, nanograft for the 83% of cases in layer 2 e 17% of cases in layer 3; PRP has been injected for 89% of cases in layer 2;

Conclusion: Cadaver dissection offers various insights over injections in aesthetic medicine, focusing the relationships between anatomical structures and injectables. The analysis of facial layers offers opportunity to optimize facial injection in order to have better aesthetic results.

June 6, 16:00-18:00

Miguel Goncalves Ferreira

Addressing the dorsum with the spare roof technique RHINOPLASTY – SPARE ROOF TECHNIQUE - A NEW APPROACH TO THE DORSUM

Since 2014 we have been developing the Spare Roof Technique - SRT. According to many authors, in rhinoplasty, the most difficult segment of control is the dorsum. Most revisions are due to iatrogenic manouvers on the dorsum and unpredictability in its healing / spacial reorganization in the so-called K area. The transition from the upper 1/3 to the middle 1/3 is clearly a critical area in the stability of the nasal pyramid - area of bone-cartilaginous transition. In this region, the superior alveolar cartilage extends cephalically up to 10 mm underneath the bones of the nose.

In the Caucasian nose the most relevant dysmorphic feature is the Hump, in both genders. The treatment of this dysmorphism has been reported since the times of ancient Egypt. In the 1980s and 1990s more advanced techniques were popularized and much research work was done. Today there are clearly two types of techniques from the conceptual point of view - the “surface” and those that work the most basal part of the nasal pyramid - the “structurants”.

The techniques most practiced and taught in the western world are clearly the surface ones: “Humpectomy en bloc” - HEB and “Split Hump Technique” - SHT are the techniques that dominate this group and are most used in all reduction rhinoplasty.

In HEB the block is removed, i.e. the whole osteo-cartilaginous set is removed en bloc - thereby destroying the K area and the Upper Lateral Cartilage - ULCs. In this technique it is mandatory to reconstruct this area, mainly with spacer grafts - Spreader Grafts.

In SHT the ULCs are only separated in the midline, and they are used to confine the Spreader Flaps - this is a less aggressive technique for the stability of the middle 1/3. SHT is clearly the most commonly used technique today. Minor variations of this technique have been described which, while important, do not fully meet the needs felt on a day-to-day basis.

The persistent difficulty in achieving harmonious and soft dorsuns has led to the development of numerous camouflage techniques - namely for intermediate and fine skins. From the temporal fascia to cartilage powder (ex-diced), passing through the interposition of fat, muscle or other materials. These techniques are not always fully effective, and the long-term results remain clearly unsatisfactory in the subgroup candidate for revision surgery. In this context, the idea arises of preserving important

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structures like the ULCs and the Spare Roof Technique - SRT is developed. Conceptually this technique has the following 4 steps:

1. Separation of the upper part of the quadrangular septum from the ULCs
2. Exérisis of the excess cartilage along the upper edge of the septum
3. Osteotomy of the caudal portion the Nasal Bones - NB - preserving the ULCs immediately by low-step performed with ultrasonic surgery or diamond drill.
4. Suture of the ULCs to the remaining quadrangular septum in order to avoid the spring / convex effect of the ULCs.

In this way, we achieve a uniformly smooth and structurally stable dorsum (demonstrated by our outcomes and by engineering calculations). From the structural point of view there is an alteration of the area K which is moved cephalically between 3 and 10 mm.

The SRT has had outcomes above expectations in the clinical, laboratory in cadaver and in the engineering study group of the University of Minho led by Prof. Dr. Nuno Dourado.

The first 300 rhinoplasties with SRT were already performed and the technique was published in the Facial Plastic Surgery - Thieme of February 2016. Laboratory investigation (structural engineering) and cadaver are continued.

June 8, 10:30-11:30

Alessandro Gualdi

Do minimal undermining and suspension in face-lifting makes sense?

Background: Less downtime following aesthetic interventions leads to the popularity of injectable solutions for facial rejuvenation treatments. Surgical interventions for aesthetic purposes are usually associated with higher complication rates and longer recovery times when compared to less invasive treatments. Here we present for the first time a minimally invasive surgical technique for a simultaneous mid-face and eyebrow lift using one small temporal incision.

Materials and methods: We prospectively studied patients who underwent facial rejuvenation using a minimal undermining suspension technique (MUST) in an outpatient setting. Postoperatively, surgical complications were classified according to the Clavien-Dindo classification. Preoperatively and at 12-month post-intervention, patient-reported outcomes were described using the FACE-Q questionnaire. Pre- and postoperative pictures were compared using MERZ Aesthetic Scales.

Results: Fifty-five patients (50 females and 5 males) with a mean age of 47 years were studied. The overall complication rate was 19%, whereas 18 patients (15%) developed an ecchymosis of the orbicular temporal region and two patients (4%) developed a dimple caused by the anchor of the suture. No displacements of the palpebral rim or injuries to the facial nerve were observed. Recovery time was in average 7 days and no long-term complications were seen. Both, the FACE-Q and the MERZ Aesthetic Scales showed significant improvements at 12-month post-surgery ($p < 0.01$).

Conclusions: The MUST can be used as a minimal invasive procedure for facial rejuvenation with a short downtime and low complication rate. The discreet temporal access and the MUST dissector allowed a safe dissection of anatomical tissue planes to perform safely a mid-face and eyebrow lift. Further studies are warranted to prove long-term outcomes.

June 6, 16:00-18:00

Nadim Hallab

Silicone particulate from textured implants – is there bio-reactivity?

Currently, it remains unknown how much particle shedding/release from breast implants (BI) occurs in both textured and smooth surface BIs. Additionally, it has not been established how these silicone particles are pro-inflammatory. Thus, it is unclear to what degree BI debris can elicit inflammation, potentially compromising the long-term biologic performance of breast implants. For orthopedic implants, implant debris induced bioreactivity/inflammation is mostly a peri-implant phenomenon, caused by local innate immune cells (e.g. macrophages), that produce pro-inflammatory cytokines such as TNF α , IL-1 β , IL-6, and PGE2. Can BI implant debris do the same thing? To examine this question, we have begun to characterize implant debris released from BIs and compare the responses of murine (BMDMs) and human (THP-1) innate immune cells (macrophages) to silicone implant particles. These macrophages are exposed to two types of silicone particles: Type 1 (cryo-milled from a silicone textured implant surface), and Type-2 (collected particles released from the textured implant surface under gentle agitation at room temp, 25C). These are compared with Cobalt alloy particles from orthopedic implants as known bioreactive controls (Cobalt-Chromium-Molybdenum-alloy (CoCr-Mo-alloy)). To date, all Silicone and CoCrMo-alloy based particles have induced significant ($p < 0.05$) cell membrane disruption (some degree of toxicity) at concentrations greater than 10 particles per macrophage as measured by LDH assay. For primary murine macrophages Type 2-si-

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licone particles also demonstrated a slight yet significant inhibitory effect on cell number. All particle types induced the production of IFN- γ and VEGF by human THP-1 macrophages, indicating particles naturally released from the implant surface were indeed capable of eliciting inflammatory responses. Thus, BI implant particles were verified to be able to induce significant inflammatory responses, and categorically were not inert. To date, there has been little in the way of systemic concerns associated with polymeric orthopedic implant-debris other than documented dissemination to remote organs (e.g. liver, spleen etc.) with no known associated pathogenicity. This is not true of metal implant debris where normal (well-functioning) orthopedic implants has been reported to induce systemic reactivity in the form of delayed type hypersensitivity (DTH). Orthopedic implant debris associated lymphocyte cancers have not been reported in over 40 years of orthopedic literature. Orthopedic hypersensitivity responses and atypical BI bioreactivity such as breast implant associated anaplastic large cell lymphoma, BIA-ALCL, share crossover markers for diagnosis. Understanding more normal innate and adaptive (hypersensitivity) immune reactivity as well as ALCL reactions to BIA-implant debris is critical to improving long term BI performance/success.

June 7, 11:30-12:25

Dennis Hammond

Why do I frequently use periareolar mastopexy in augmentations?

Many patients present for breast augmentation with an additional element of mild breast ptosis. To effectively rejuvenate the breast in these patients, a small lift of the position of the nipple and areolar complex can dramatically improve the overall result. With use of two separate surgical approaches along with the interlocking suture technique, an effective combination of the augmentation procedure with the periareolar lift can be utilized to achieve a successful result. This presentation will outline the technical steps required to create aesthetic results and combined peri areolar augmentation mastopexy.

June 7, 14:00-15:15

Per Hedén

Improvement of the skin structure in facelift patients

The main effect of face lifting is repositioning of the descended tissue, especially along the jawline, jowl area and the mid face. Modern facelift techniques including high SMAS elevation has better effect in the mid face. It is however well recognized that the central facial triangle has limited improvement with traditional facelifts. This

is especially true in the peri oral area where the ageing of the lip region is not affected by a facelift. This has resulted in an increased use of fat injection in combination with face lifting. Today traditional Coleman fat grafts combined with micro fat and nano fat are common to improve the effects of a facelift. When it comes to the skin structure in the cheek areas this is also improved with facelift but there are clear limitations on how much improvement can be gained with a facelift alone. For this reason, it is important to consider additional treatments such as fat graft at the time of surgery but also other treatments such as laser peeling and micro needling can be considered. The benefit of micro needling is the less pronounced trauma on the skin flaps, but a combination of this procedure is not scientifically evaluated. It is however usually recommended that treatments over the elevated skin flaps should be extremely limited to reduce the risks for healing problems. The use of hyaluronic acid skin boosters and botulinum toxin should always also be discussed with the patient to optimize the outcome. In this presentation the results of facelifts on the skin structure and improvements of these results with additional treatments will be discussed and presented.

June 6, 13:45-15:30

Per Hedén

Subplatysmal surgery – is it worth the risks or the new standard to improve the neck? Central approach

A facelift has its most pronounced effect in the cheek and jowl area, but the neck will also indirectly be improved. The severity of the neck problems varies greatly but for many patients the appearance of the neck is of more concern than the face itself. Liposuction may help to improve the neckline if this is used in combination with a facelift. However, it is common that much of the problem in a bulging neck relates to structures deep to the platysma muscle and this will not be affected by liposuction. It is extremely important to carefully palpate the subcutaneous fat layer in the neck before deciding on the suitable treatment. Many patients have relatively limited fat excess between the platysma and the skin and benefit little from liposuction or direct fat removal in this region. However, surgery deep to the platysma may greatly improve the neckline. A careful examination of the deep neck structure is warranted before deciding type of procedure. It is not uncommon that a bulging submandibular gland with excessive size adds to the poor neck contour. This can only be improved by a subplatysmal resection which still by many surgeons is considered a difficult and dangerous procedure. The submandibular gland can be approached through a lateral or central approach and the benefit

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of the central approach via a sub mental incision is that the sub mandibular fat can be inspected and resected and also the digastric muscle. This is considerably more difficult from a lateral approach. In this presentation the technique and pros and cons of a central approach for a deep neck dissection will be discussed and presented.

June 6, 16:00-18:00

Per Hedén

Implant texture – a hot topic. What are the benefits and future of different textures?

The first textured implant, a polyurethane covered implant by Pagman, was introduced already in 1968. It gained great popularity for its low incidence for capsular contraction but was later banned by the FDA. In the second half of the 1980's first Allergan (McGhan at the time), and later Mentor introduced texturization of the silicone envelope without a polyurethane cover. The first technique used for this was salt imprint technique and later by Mentor using polyurethane foam imprinting texture into the silicone surface. This has then been followed by a number of different textured implants from several manufacturers, the majority of which are similar to the first salt loss technique. It was relatively early proven that these devices could minimize capsular contraction but only in the sub glandular space. Lately the long-term CORE studies have also shown that smooth implants have more capsular contraction over time. Implant surface texturing is a hot topic as anaplastic large cell lymphoma (BIA-ALCL) is considered to be connected to textured surfaces. The frequency of this malignancy appears to be greatly related to the size of the pores and different classification systems for textures have been presented (e.g. by A. Deva and M. Atlan). Texturing also relates to the difference between round and anatomical implants as texturing is used for most anatomical devices and minimizes the risk for rotational problems. There is no doubt that anatomical implants have advantages in certain situations. Small pore size texturing of implants, so called micro texture does not allow tissue ingrowth and adhesion but the friction appears to be sufficient as the data for rotation is similar to that of macro textured implant which allows ingrowth of tissue into the surface (> 150 mm). A macro textured implant with good tissue ingrowth obviously has no risk for rotation but unfortunately not all macro textured implants adhere to surrounding tissue. This also gives room for more friction and possibly a high frequency of seroma which may be the first stage of developing ALCL. In spite of the fact that the frequency of this disease is so low, it has been of great concern to many physicians and examples of this is the low frequency of textured implants used

in the US. It has also been the concern of some medical authorities and lately (February 2019) the French regulatory authorities ANSM prohibited the use of macro textured bio cell surface implants (Allergan). A new and even more aggressive texturing than the macro textured Biocell® implant (Allergan) has been developed (The "Open pore" by Allergan) and in human series of patients this has offered an extremely good tissue ingrowth and adhesion. This implant will obviously have less risk for developing of seroma as there is no room for developing of seroma in the very strong adhesion in the surrounding tissue and implant surface. The implant is however only used in clinical studies and no CE markings are available. In this presentation, pros and cons of different textures and a review of the present status and possible future development will be discussed.

June 7, 11:30-12:25

Benoit Hendrickx

Toxin complications

The use of neuromodulators is extremely popular in cosmetic medicine and the number of possible applications is still very much on the rise. At the doses used in cosmetic medicine, the main complications that arise from toxin injection are related to misplacement of the toxin. A thorough understanding of the facial anatomy, especially of the facial musculature, compartments and fibrous septa is key to avoid neurotoxin complications. Here we present tips and tricks to avoid such complications and suggest treatments options in case they occur.

June 6, 16:00-18:00

Benoit Hendrickx

Key clinical points - Lower face and neck

The lower face is often considered one of the harder parts to treat with non-surgical approaches, given the ptosis of tissues and the laxity that comes with age. A thorough understanding of the facial anatomy of the lower half of the face and of the aging process of the mid- and lower face helps to understand how to improve the lower face and neck with injectables.

June 7, 14:00-15:15

Benoit Hendrickx

Chitosan filler

The skin is a key protective barrier for the body and is in a continuous state of renewal and repair. Yet, disorders of skin structure are very common, mainly due to ageing and dry skin. In aged/dry skin, the decreased content in Extracellular Matrix components and altered organization of the structural network lead to water loss and impairment

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of ECM mechanics which results in reduced functionality of dermal tissue.

Injectable hyaluronan-based formulations are today the Gold Standard to treat these skin disorders. This presentation highlights that a new natural and animal-free chitosan-based formulation (or technology) is also a candidate of choice for this indication. Indeed, a series of in vitro and in vivo tests has already demonstrated its safety, its easiness of use, its temporary scaffolding effect promoting dermal tissue reconstruction, and its ability to fight against oxidative stress. Preliminary results of the ongoing clinical trial are promising.

June 8, 10:30-12:15

Haideh Hirmand

Fillers and toxins

This lecture will be covering the algorithm for optimally combining surgical and non-surgical techniques (fillers and toxins), with a focus on the peri-orbital area to optimize results and minimize complications.

June 6, 13:15-14:30

Haideh Hirmand

Key clinical points – Midface (including infraorbital)

This lecture will focus on the technical details of non-surgical lower lid and midface rejuvenation including choosing the appropriate candidate, technical pearls, rheological considerations, complications and management, and post procedure care.

June 7, 11:35-12:45

Haideh Hirmand

Reconstituted injectable SVF

This lecture presents a novel injectable consisting of non-autologous adipose-derived stromal vascular fraction. It covers the research and development background, mechanism of action, clinical protocol and outcomes, and current ongoing studies.

June 8, 10:30-12:15

Amin Kalaaji

Assessment of Rhinoplasty Outcomes with FACE-Q Nose Module: Norwegian Linguistic Validation and Clinical Application in 243 Patients

Background: Patient satisfaction after rhinoplasty is a growing area of research. The FACE-Q Rhinoplasty Module, used to assess these values, requires translation to national languages.

Methods: Fourteen questions assessing the Satisfaction With Nose Scale and Adverse Effects Checklist of FACE-Q Rhinoplasty Module were translated to Norwegian.

Answers were processed by a QuestBack™ anonymously. Of the 243 patients undergoing rhinoplasty at Oslo Plastic Surgery Clinic 214 patients were reachable by e-mail.

Results: Responses for somewhat or very satisfied with the nose (pre- vs postoperative) were: overall size of the nose (16.3% vs 61.7%); how straight the nose looks (22.4% vs. 58.3%); how well the nose suits the face (12.2% vs 60%); length of the nose (20.4% vs 68.4%); width of the nose at the bottom (26.6% vs 55%); bridge of the nose (14.3% vs 55%); how the nose looks in photographs (10.2% vs 50%) and tip of the nose (16.3% vs 48.3%). Adverse effects (pre- vs postoperative) were moderate or extreme difficulty breathing through the nose (28.6% vs 35%); tenderness (6.1% vs 23.7%); skin of the nose looking thick or swollen (14.6% vs 30.5%); and unnatural bumps or hollows on the nose (55.1% vs 53.3%).

Conclusions: Satisfaction levels in rhinoplasty patients are not as high as in other cosmetic surgery procedures, such as breast augmentation. However, compared with baseline, satisfaction levels showed great improvement postoperatively. The Rhinoplasty Module seems useful in evaluating outcome of rhinoplasty. We encourage application of this clinical outcome of rhinoplasty in and among centers.

June 8, 09:00-10:00

Amin Kalaaji

Challenges and Safety in Combined Aesthetic Procedures: Definition, Advantages, Limits, Postoperative Pain Management, and Quick Recovery

Background: Recently, combined procedures, such as the “mommy makeover,” have become more popular among patients who desire maximum impact and fewer procedures, lower cost, and minimal psychological stress and convalescence. This has raised questions about the definition of combined procedures with regard to anatomic area, type of operation, and operation time. Concerns were also raised about complication rate, pain relief, recovery time, and rate of late correction. Because of the number of deaths that have occurred after aesthetic plastic surgery in the past few years after combined and extensive high-risk and non-combined procedures, it is crucial to define certain standards and regulations: safety management routines for patient selection, preoperative assessment, performance of the procedures, operation time, extent of surgery, and postoperative recovery.

Materials and methods: We retrospectively examined our medical records of combined procedures performed at our clinic from 2004-2015. Relevant parameters were extracted: operation time, preoperative medication, perioperative sedation, postoperative pain relief, conva-

Faculty abstracts

lescence, complication rate, and correction rate. Comparison was made to determine whether the combination of 2 procedures improved/shortened the duration of the operation and lessened the amount of anesthesia used.

Results: A total of 178 (6.2%) patients were culled from 2867 procedures. During the past 2 years, the number of combined procedures increased by 11%. We classified 11 possible combinations. Where an anatomical area was repeated, the number of breast combinations was highest in 85 patients, followed by combination liposuction (n=84), combination facial procedures (n=77), combination fat grafting (n=68), and combination abdominal (n=41) procedures. The lowest number was seen in combination genital procedures (n=19). The longest operating time with combination breast-abdomen was 260 min; mean operation time was 115 min. The analysis of 2 combinations (rhinoplasty-breast implantation and rhinoplasty-otoplasty) versus the respective non-combined procedures showed a 145-min operation time for combined versus 165 min (72 min and 93 min) for not combined. All procedures were conducted with total intravenous anesthesia (TIVA) sedation. An average of 1.5 mg midazolam was used for combination procedures and 4.5 mg was used for the procedures alone (2 mg and 2.5 mg, respectively). Fentanyl and propofol use was 0.23 mg and 535 mg on average for the combination and 0.35 mg (0.16-0.19) and 922 mg (614-308) respectively for the noncombination. There were no clear differences between propofol and fentanyl doses with ear-nose combinations. Complications occurred in 7 patients (4%): swelling (n=1), infection (n=4), fistula (n=1), and nausea (n=1). The average correction rate for noncombination procedures was 8% and for combined procedures was 28%. Pain control consisted of paracetamol, paracetamol/codeine, opioids, and dexamethasone. Average age of patients was 41 years; average age of 360 randomly chosen patients who underwent non-combined procedures was 35 years. Complication rate, pain relief, and convalescence did not seem to cause patient inconvenience.

Discussion: Combined procedures are beneficial when it comes to saving time, effort, stress, and cost. The low complication rate in our study could be related to the rigid selection of patients, the type of procedures, and the effectiveness of the operation. Moreover, our patients are ASA 1 and ASA 2 according to the American Society of Anesthesiologists (ASA) Physical Status classification system; they are mobile, healthy, and widely motivated to undergo surgery. Patients are mobilized directly after the operation, and all surgeries are performed on a daily-surgery basis, which reduces the risk for complications. The high reoperation rate could be because multiple proce-

dures were performed, but it could also be related to the push not to exceed a specified operation time. The higher average age in these patients might be a result of the increased desire to undergo aesthetic surgery with as one age.

Conclusion: The number of combined procedures performed doubled in the past 2 years. The rate of correction rate was higher for combined procedures. The average age at which patients typically undergo combined surgery is 5 years older than that with non-combined procedures. By rigid selection of patients, limiting operation time to less than 4 hours, use of TIVA sedation and lipotumescent infiltration, adequate pain control, and early mobilization, the combined procedures could be advantageous for both the patients and clinics in regard to cost, psychiatric rehabilitation, and environmental aspects. Larger dissection areas, longer operation time, and loss of a large amount of liquids/blood should be avoided. When a combination and its 2 separate components were compared, a reduction in operation time and anesthesia use was seen. The effect on surgeons in regard to stress and cost-effectiveness must still be studied. Multicenter comparative studies are advised. To obtain further feedback, a quality-of-life questionnaire that will be sent to the patients in our clinic is forthcoming.

June 8, 13:30-14:30

Roger Khouri

Improved fat grafting outcome after EVE External Vacuum Expansion

Fat is not a tissue expander. Injecting more fat to swell the tissues beyond their inherent capacity to stretch is detrimental to graft survival. Fat grafts will survive best when they are diffusely and loosely seeded as a fine mist onto a nutritive fibrovascular scaffold without crowding or tension; hence the advantage of enlarging that scaffold by pre-expansion.

Furthermore, fat graft survival is a biologic process whereby avascular graft particles combine with vascular receptor sites to yield successfully vascularized graft receptor complexes. The stoichiometry needs to be respected; unless we create more receptor sites, stuffing more grafts than available receptors only decreases the percentage graft survival. To augment tissues with successful complexes we need more receptors; hence again the advantage of pre-expansion.

The common yardstick of fat graft success, percentage graft survival, is more a measure of this stoichiometry mismatch. Since the goal is tissue augmentation, success in fat grafting should be therefore be measured as percentage tissue augmentation, not survival.

Faculty abstracts

Over the past 20 years a large body of laboratory and clinical data has confirmed the advantages of pre-expansion. Our data with over 500 fat grafting breast augmentations reveals a strong linear correlation between pre-grafting percentage tissue expansion and resultant percentage tissue augmentation. Tripling the recipient size prior to grafting reliably leads to a doubling of the recipient site volume.

With an improved EVE device and vacuum application protocol, we have shown that only 200 hours of external vacuum expansion over the 15 days preceding the grafting session triples the recipient volume in more than 90% of healthy breasts. To reliably double breast volume with fat grafting alone, it is best to pre-expand.

June 8, 14:30-16:00

Roger Khouri

Tissue recruitment techniques to improve the outcome of fat grafting

Vascularized flaps reliably transfer more tissue than avascular grafts. Supplementing a reverse abdominoplasty (RA) flap would therefore be of significant benefit to autologous fat transfer (AFT). To this effect, we developed a reverse Abdominoplasty and Fat Transfer Procedure and called it RAFT.

The RAFT requires no new incisions. It is percutaneously dissected with specially designed long cutting needles. It is mobilized and recruited with a specially designed 35 cm long double pointed needle that inserts a #2 purse string suture around the recruited peri-mammary tissue and suspends it to the clavi-pectoral fascia.

The RAFT reliably transfers a 3- 7 cm wide crescent of peri-mammary skin and 100 - 250 ml of flap tissue to mushroom up a breast mound and define new breast folds. It essentially percutaneously transfers to the breast both a Ryan abdominal advancement flap and a lateral thoracic flap.

Initially developed to salvage implant failures, we have refined the RAFT over the past 15 years and now include it in essentially most of our breast procedures to significantly enhance our fat grafting results.

June 8, 14:30-16:00

Hee-Jin Kim

Key anatomy to avoid complications

Anatomically, the face is the most complicated structure of the human body. Especially, the structure of facial muscles including nerves and vessels is very variable and has the racial differences. Recently, the importance on the facial anatomy has been reconsidered as the interest on the facial aesthetics is increasing. In this reason, the aest-

hetic physicians should understand the facial anatomical structures prior to performing the clinical procedures.

Through my talks, I would like to show the anatomical characteristics of SMAS and subSMAS structures including the superficial and deep facial fat compartments. In addition, vascular anatomy and its individual variations of the face related to the thread lifting procedures will be shown for the safe and efficient clinical applications.

To avoid the serious complications after the procedure, the detailed vascular anatomy of the face is essential. In this presentation, I would like to show (1) the whole running courses of the facial artery (FA) and superficial temporal artery (STA), (2) the origin and nature of the angular artery, (3) the layered location of supratrochlear and supraorbital artery at the forehead, (4) the vasculatures of the nose, and (5) the courses and distribution patterns of the labial artery around upper and lower lip. In every items of my presentation, the clinical importance of each area will be raised.

About the peripheral nerve distributions of the face, I will demonstrate that the demarcations of branches of the CN V (trigeminal nerve) and CN VII (facial nerve) anatomically overlap on some area of a whole face based on the Sihler's staining technique. Especially, I would like to talk about the general distribution and anastomosing patterns of the trigeminal and facial nerves.

June 6, 16:00-18:00

Luciano Lanfranchi

Non surgical Rhinoplasty: From surgical to medical nose reshaping, the DRS technique

Non surgical rhinoplasty is a common procedure that has been increasing in the last years. We know that nose reshaping can be sometimes very complex and dangerous, that's why we have to know very well nose anatomy and nose active and passive dynamics-shape to obtain better results and reduce complications. We can reproduce some of the rhinoplasty techniques in a non invasive way. It is possible to correct saddle deformity, alar cartilage collapse, dorsal unevenness, asymmetries, some nasal dysfunctions and reinforce, lift and stabilize a nose tip, counteracting active and passive downforces to obtain better and durable results. Several products can be used in order to obtain better and long lasting results (HA, toxin, threads, etc.) In this lecture the author wants to share his experience as a Plastic surgeon and show his personal approach to stabilize the nose tip with fillers, toxin and barbed absorbable threads: the DRS technique and the multiple uses of hyaluronic acid to mask nasal asymmetries and deformities: how to reproduce some rhinoplasty

Faculty abstracts

techniques in a non surgical way for a complete medical nose job with only one prick, and in the safest way.

June 7, 11:35-12:45

Luciano Lanfranchi

Threads with hyaluronic acid

Soft tissue repositioning-filling and facial suspension has always been a central aim to treat facial aging with so many available surgical and medical treatments. During the last years there has been an huge increase on threads for cosmetic reasons, increasing the various number of available techniques and materials, improving the bio-compatible behaviour, reducing the number of complications, and improving technical feasibility. Barbed threads are used for cosmetic facial rejuvenation to treat different areas, lifting soft tissues and modifying facial profile with excellent results -thanks to the pulling "traction" effect, soft tissue repositioning - armoring and biorivitalization properties- if used with right candidades. In this lecture the author wants to highlight the use of threads during these last 13 years, having used them first for functional problems and after for cosmetics reasons, analysing the importance of threads and their role in our daily practice and introducing the newest threads with HA.

June 8, 10:30-12:15

Craig Layt

How do I select implants and perform my preoperative markings in mastopexy augmentations?

Planning prevents poor performance. This short video presentation is about the planning of mastopexy augmentation to avoid poor performance.

June 7, 08:00-09:00

Craig Layt

10 complications in 10 minutes

- a talk about management of complications

This talk is designed to showcase a combination of common complications and their prevention and management, as well as interesting or uncommon complications in order to stimulate thought and discussion as to how we each deal with and avoid these complications.

June 7, 09:00-10:00

Craig Layt

Why round implants?

This lecture is part of a point/counterpoint discussion comparing the pros and cons of various implant types.

June 7, 14:00-15:30

Mark Magnusson

Breast implant illness – what is it?

A potential link between silicone and systemic disease has been reported since 1960s and for breast implants since 1980s. Although many studies have looked at either supporting or refuting its existence there remains a robust debate.

The rise of patient advocacy and communication through social media channels has led to an increasing presentation of patients who feel they may be affected.

This paper will summarise the history of breast implants and systemic disease critically including an assessment of associated deficiencies in the science.

A way forward

Our first priority as plastic surgeons is to assist our patients as there are real women with real symptoms attending our clinics.

Secondly, in order to obtain more definitive information, we require a systematic and prospective analysis of breast implant outcomes as well as studying the samples from patients correlating their preoperative symptoms and morbidity to measurable post explanation outcome. Because of the rare nature of this disease the way forward will require a collaborative and open approach to achieve sufficient power to reach scientific conclusions and be able to provide our patients with more concrete advice regarding outcomes.

Magnusson M, Cooter RD, Rakhorst H, McGuire PA, Adams WP, Deva AK. Breast Implant Illness: A Way Forward. *Plast Reconstr Surg.* 2019;143(3S A Review of Breast Implant-Associated Anaplastic Large Cell Lymphoma):74S-81S. doi:10.1097/PRS.0000000000005573.

June 7, 09:00-10:00

Mark Magnusson

Key anatomy - Lower face and neck

The relevant anatomy for non-surgical treatments of the lower face and neck will be discussed to facilitate a three-dimensional understanding of the key clinical points and video demonstrations that follow.

We will discuss

- Layers of the face to understand the plane and depth at which fat pads exist and muscles, nerves and blood vessels run.
- Outline the normal landmarks for muscles that are the focus of neuromodulators.
- Outline the reliable landmarks for key vessels (facial artery, inferior labial artery, superficial temporal) and discuss the variability.

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- Outline the location of key motor nerves and sensory nerves.

June 7, 14:00-15:15

Rahul Mehta

Hyperpigmentation: My Approach

Changes in skin pigmentation can be elicited within days (UV exposure), weeks (Post-Inflammatory Hyperpigmentation), months (Long Lasting Pigmentation) or years (sun/age spots). Differences in chemical structure, rate of synthesis, concentration and distribution of melanin as well as changes in melanocyte function and skin architecture are all responsible for the variety of hyperpigmentary skin conditions. To develop a comprehensive product that works on multiple types of pigmentary conditions in people of various ethnic origins, we must utilize the knowledge of complex biology of melanogenesis. TYR inhibition is one of the key intervention points of any successful pigmentation product; however, it alone is not sufficient to provide maximal pigmentation control. We have successfully combined management of 6 categories of pathways related to melanogenesis: melanocyte activation, melanosome generation, melanin synthesis, melanosome transfer, melanosome degradation/exfoliation and improved epidermal health to create a comprehensive product. The outcome clearly shows greater pigmentation control compared to other HQ-free products in skin tissue models and earlier control in clinical studies compared to 4% HQ.

Since a growing body of research has shown innate differences in the biochemical processes of melanogenesis between people of different ethnic origins, multiple clinical studies enrolled subjects with broader Fitzpatrick Skin Types and pigmentary classifications which allowed us to conduct sub-group analysis of data in people of different ethnic origins and pigmentation types. The product developed based on a thorough understanding diverse melanocyte biology was shown to be effective in a wide variety of patient population across multiple ethnicities and multiple countries.

June 8, 13:30-15:00

Rahul Mehta

Customized Cosmeceuticals - Why and How?

Customizing cosmeceuticals based on individual needs and preferences is growing in popularity over the last few years. Changes in skin condition, like all biological processes, are unique to an individual based on their lifestyle, environment, personal habits and genetic profile. Creating personalized skincare products that meet the needs of the skin and customer preference is likely to

provide a better clinical outcome while minimizing the potential for adverse effects. Currently, self-assessment questionnaires are the most popular means to assess individual skincare needs. However, there is a need for a more scientifically appropriate means of personalization such as assessment of skin condition by a skincare expert, determination of genetic predisposition for developing changes in skin condition or assessment of skin condition based on microbiome and metabolome analysis. Once the skincare needs are established, appropriate ingredient combinations can be selected for personalized formulation.

One of the most overlooked steps in creating personalized products is the evidence of activity of the selected combination of ingredients in the final formulation. Adequate skin penetration of cosmetic actives requires a thorough understanding of the o/w partition coefficient of each ingredient. A single base formula may not be adequate to allow maximum penetration of all the ingredients and therefore does not guarantee adequate activity from each ingredient. A better approach would be to combine multiple products with proven biological and activity in a regimen personalized for individuals based on their skincare needs.

June 8, 13:30-15:00

Stephane Meunier

BDDE-free injectable HA

Since 1996 BDDE is the gold standard for crosslinking of hyaluronic acid (HA) in the manufacturing soft-tissue fillers. Very scarce examples of HA fillers crosslinked by different technology failed yet to demonstrate conclusive advantage over the BDDE technology. However, the BDDE technology has well-known drawbacks for the end-users.

A new technology, BDDE free, based on a crosslinking approach protective of the integrity of long chains of HA, allows the preparation of a new generation of soft-tissue fillers with original and promising properties. Pre-clinical data on these new gels demonstrate excellent safety and tolerability as well as great promises for very high lifting capacities and longer lasting effects.

June 8, 10:30-12:15

Hyoung Jin Moon

Anatomy for threads

Threads-lift technique is less invasive surgical treatment to correct sagging tissue.

Nowadays the used threads material is bio-degradable. Compare to bio-degradable thread, non-absorbable threads cause many serious complications.

Faculty abstracts

The ideal insertion an implant layer is Subcutaneous layer and vectors are vertical and lateral.

Target tissues for thread lifting are superficial fat compartment on our face.

Soft anchoring is better than hard anchoring to fix the thread for stable facial tissue. As an anchoring point, Zygomatic ligaments and Platysma-auriculo facia are recommended.

Facial cosmetic surgery using threads can only be successfully performed if the surgeon has a good understanding of anatomy and is able to select the appropriate product for his purposes.

Anatomically, the face is the most complicated structure of the human body. Especially, the structure of facial fat, muscles including nerves and vessels is very variable and has the racial differences. Recently, the importance on the facial anatomy has been reconsidered as the interest on the facial aesthetics is increasing. The aesthetic physicians should understand the anatomy of the facial structures.

June 5, 08:10-10:30

Hyoung Jin Moon

Anatomy for toxin injection

Botulinum toxin, which has seen increasing popularity in the field of aesthetic surgery over the years, is a neurotoxin secreted by bacteria called Clostridium botulinum and is found in canned foods. Botulinum toxin paralyzes the muscle by blocking the secretion of a neurotransmitter called acetylcholine at the terminal part of neuromuscular synapse. There are many types of botulinum toxin such as A, B, C, D, E, F, G etc., but the ones for medical use are types A and B, and in particular, type A is most commonly used. Botulinum toxin is used for the treatment of muscular diseases such as torticollis, strabismus, spastic dysphonia etc. but it is also widely used for aesthetic purposes such as treatment of wrinkles and square jaw.

Facial cosmetic procedures using botulinum toxin can only be successfully performed if the surgeon has a good understanding of anatomy and is able to select the appropriate product for his purposes.

Anatomically, the face is the most complicated structure of the human body. Especially, the structure of facial muscles including nerves and vessels is very variable and has the racial differences. Recently, the importance on the facial anatomy has been reconsidered as the interest on the facial aesthetics is increasing. The aesthetic physicians should understand the anatomy of the facial musculature. Through this lecture, we would like to show the anatomical characteristics and the individual variations

of the face related to the Botulinum toxin injection for the safe and efficient clinical applications.

June 7, 08:10-09:55

Ernst Magnus Noah

Deep Plane - How to approach the spaces of Mendelsohn?

In facial aging we see the known changes regarding fat reduction and descensus of soft tissue. In analyzing these changes, it gets obvious that these changes happen in the medial half of the face in most of our patients.

Standard SMAS techniques in facelift elevate the lateral parts of the SMAS of the parotid fascia and might loosen some of the medial parts by working on some of the retaining ligaments; other techniques sever or duplicate the SMAS at the border of the medial half.

By introduction of the midface elevation by Hamra and the Fame technique by Aston the emphasis of elevation moves centrally in the face.

It was Mendelsohn who showed in his anatomical as well as in his clinical work the way to prepare anatomical spaces in order to elevate the most central parts of the face.

Personally, I started this technique in late 2016 and want to demonstrate my results after 82 cases and especially my way to extend the Mendelsohn procedure into the neck.

Surgical technique:

I start with a standard preauricular hairline incision and retroauricular temple incision. After elevating the skin flap for approx. 5 cm. I measure about 3 cm in front of the tragus a line extending from the zygoma to the mandibular border. From here I curve into the neck. At this line the SMAS is incised and the anterior border of the parotid gland is exposed. Depending of the fat layer nerves and the parotid duct may be visible.

In order to elevate in the deep plane, I open the lower masseter space which is located on the masseter muscle and can easily be elevated by the aid of the speculum. The upper master space is approached next and might bring the fat pad into vision - by combining the preparation the pre-masseter space is prepared, and the lower face is mobile. Most difficult preparation in my eyes are the zygomatic parts. Here I go below the lateral extension of the OOM and after reaching the zygomatic space the midface can be elevated bloodless and easily.

Next step is a sequential fixation of the elevated flap to the fixed SMAS platysma auricular fascia PAF. The lateral border of the cut SMAS is fixed in running sutures. The subcutaneous space is really limited by this maneuver. In contrast to the technique by Bryan Mendelson I do extend

Faculty abstracts

the preparation below the mandibular border. Here I elevate again under the platysma and in most cases the level of preparation are unified. In cases of severe platysma banding the platysma is cut completely and two muscle skin flaps according to Mario Pelle techniques are fixed lateral to the posterior auricular fascia.

Skin resection and closure is done in a standard way.

Since Nov 2016 I used this technique now in 82 cases. The results are demonstrated as well as pros and cons discussed.

June 6, 13:45-15:30

Tim Papadopoulos

Enhancing your practice with non-surgical body shaping

The demand for body contouring is rapidly increasing, and interest in non-invasive approaches has also grown. Today, different kinds of non-invasive body contouring modalities, including cryolipolysis, radiofrequency, low-level laser therapy, high-intensity focused ultrasound and injectable treatments are available for reducing the volume of subcutaneous adipose tissue. Each procedure has distinct mechanisms for stimulating apoptosis or necrosis of adipose tissue. This author specifically reviews the mechanisms, effects and side effects of cryolipolysis and injectable treatments and how they can enhance your practice.

June 6, 08:10-09:00

Tim Papadopoulos

Hyaluronidase

Hyaluronidase degrades hyaluronic acid (HA), allowing flexibility in the use of hyaluronic acid-based filler commonly used in facial correction. There is considerable evidence for the off-label use in aesthetic medicine for dealing with vascular compromise (due to inadvertent intravascular injection), over-correction, asymmetry, lumps and nodules, caused by the injection of hyaluronic acid filler. Available hyaluronidases and HA fillers appear to have differing physical properties that influence their interaction in a time and dose-dependent manner. Knowledge of the ways in which specific fillers interact with different hyaluronidases may help achieve better overall aesthetic outcomes and increase patient satisfaction.

June 6, 16:00-18:00

Tim Papadopoulos

Keys to facial assessment - choosing the right patients and strategies for injectables

There has been a continuous evolution in the techniques for the administration of injectable fillers and neuromodulators for facial aesthetic rejuvenation and enhance-

ment. As the number of medical practitioners with limited experience in providing aesthetic treatments expands, the need for more guidance and training has become more evident. The use of a slow, careful, and meticulous injection technique is vital in all treatment settings and for all facial areas. Constant attention to local anatomy, especially arteries, is critical for minimizing complications. Overall, this in-depth lecture provides a practical framework of techniques for medical practitioners who desire to perform safe and effective aesthetic treatments using a multimodal approach.

June 7, 08:10-09:55

Tim Papadopoulos

Key anatomy - Midface

This lecture addresses techniques and recommendations for aesthetic treatment of the midface. Injectable fillers are important for rejuvenation of the midface by replacing lost volume, contour and providing structural support; with neuromodulators playing a smaller role in this facial region. Fillers are used for volumization of the midface regions, including the upper cheek and lid-cheek junction and the submalar and preauricular areas. Also, treatment of the frontonasal angle, the dorsum, the nasolabial angle, and the columella may be used to shape and contour the nose. Neuromodulators may be used to treat bunny lines and for elevation of the nasal tip. The midface is considered an advanced area for treatment, which requires specific training, particularly when injecting fillers near the nose or mid-cheek, because of the risk of serious complications, including blindness and skin necrosis.

June 7, 11:35-12:45

Thomas Rappi

Threads: Evidence-based review

Background: Dr. Alcamo (USA) was the first who filed a patent for barbed sutures 1956, receiving approval in 1964. This was probably the first US patent which actually describes a "thread" with a roughened or barbed surface. He was the first to recognize the potential for "face-lifts and other cosmetic operations, where the sutures would provide lines of tissue support beneath the skin. Polypropylene threads have been brought on the market by Sulamanidze 2002 (Aptos), Contour threads were approved by the FDA 2004. Poly-L-lactic acid (Silhouette Soft) and Polydioxanone Threads (Promo Italia) are other biocompatible and biodegradable, multianchor suspension sutures. Furthermore, there are some non resorbable threads on the market

Faculty abstracts

Methods: Threads are placed beneath the surface of the skin to create scarring and tightening of the facial tissues. As a mild inflammatory reaction occurs, collagen is deposited around the threads- when it matures it will contract slightly, giving the desired facial enhancement used to shift the position of the malar fat pad, the jowls, or for elevation of the brow. In most cases the effects are powerful but short-lived because of the “cheese-wiring” effect which occurs as the loop of the suture cuts through the supporting tissues, consequently the effects are gradually lost. A wide variety of deployment methods exist but generally they are used to lift or “loop” either muscular units or fat pads.

Results: In 2006, Villa et al. concluded in review article concerning the use of thread-lift sutures concluded that the technique was still in its infancy but had great potential to become a useful and effective procedure for non-surgical lifting of sagged facial tissues. As 11 years have passed, again a systematic review to determine the real scientific current state of the art on the use of thread-lift sutures has been performed by H.A.Gülbitti (thread-lift sutures: still in the lift? A systematic review of the literature).

Conclusion: within the past decade, little or no substantial evidence has been added to the peer-reviewed literature to support or sustain the promising statement about thread-lift in terms of efficacy or safety. All included literature in the authors’ review, except two studies, demonstrated at best a very limited durability of the lifting effect. The two positive studies were sponsored by the companies that manufacture the thread-lift sutures. (Plast. Reconstr. Surg. 141: 341e, 2018.) Future research should consider objective, standardized photographic analysis of facial suspension at fixed intervals postoperatively in double-blinded fashion. Comparisons with standard suspension techniques should be performed using patients matched for age, sex, and skin characteristics or randomized to experimental and control arms.

June 5, 11:00-12:00

Thomas Rappl

Key clinical points - Upper face

Background: In most of the cases, beginners in injectables are starting to treat the upper face, because the area between the hairline and nose seems to be promising and failure-forgiving. In fact, it is an underestimated area and literature sometimes might be misleading. The upper face and periorcular region is a complex and dynamic part of the face. Successful rejuvenation requires a combination of minimally invasive modalities without masking facial expression.

Methods: Using review of the literature, anatomical dissections and clinical experience, we discuss a strategy for combining different non-surgical treatment options to treat aesthetic problems of the upper face.

Results/Conclusion: With attention to safety recommendations, non-surgical treatments can be safely combined in experienced hands to provide enhanced outcomes in the rejuvenation of the upper face.

June 7, 09:55-10:15

Thomas Rappl

Key anatomy - Hands - Volumetric hand rejuvenation, anatomical guidelines

Background: Beside the face, first signs of aging are clearly shown in the hands. Due to the high demand, different techniques for hand rejuvenation using either structural fat grafts or injectable fillers to restore the volume have been performed. Mesotherapy, lasers, chemical peelings or sclerotherapy help to treat the superficial signs of aging. We wanted to demonstrate the right plane of injection for safe volumetric restoration.

Methods: Having dissected 12 cadaveric hands, evaluation clearly showed the best placement of volumetric fillers.

Results: Histologic examination showed three fatty laminae which are separated by thin fascias. No structures transversing the subcutaneous, superficial fatty lamina could be found. Dorsal veins and dorsal sensory nerves could be found within the intermediate lamina. The extensor tendons were found within the deep lamina.

Conclusions: Following anatomical dissection, we could demonstrate the safe approach injecting into the intermediate lamina with minimal risk of adverse events.

June 7, 15:45-16:25

Jonas Röjdmark

Combined open and closed rhinoplasty technique

Open versus closed approach in rhinoplasty is a frequently debated topic in aesthetic plastic surgery. Although good results can often be achieved with either technique, both have unique advantages and disadvantages. We present our experiences of a modified closed-open approach which has been applied on 482 complex primary and secondary rhinoplasties. Three representative cases are described in more detail.

Surgical method: The procedure begins as a closed approach through an intracartilaginous incision allowing cephalic trimming of the lateral crura, dorsal rasping and/or excision. Patients requiring extensive nasal tip maneuvers are subjected to exposure of the alar cartilage framework through a transcolumellar/limited marginal

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incision. This provides not only adequate exposure of the alar cartilages but also easy access to the septum. In our hands this approach is easy and expeditious. It requires less tip dissection, and therefore may avoid the prolonged postoperative edema which is often a consequence of open or extended closed tip delivery approaches.

To further facilitate surgery a new cartilage holder and crusher will be described as well that allows the surgeon to hold, crush, morselise, and suture a single piece or stack of cartilage graft without letting it slip. The customised slit-shaped jaws allow adequate room for the suture needle, while the serrated surfaces hold the cartilage firmly.

June 8, 09:00-10:00

Michael Scheflan

Alteration of silicone weight – the science and its clinical implications

Since the 1960s, the number of breast augmentations and implant based reconstructions continue to grow and lead among plastic surgery procedures. The viscoelastic nature of breast tissue renders it susceptible to the impact of gravitational forces, and all the more so, to the rigorous challenge of continuous forces applied by breast implants, in direct proportion to their weight.

Overextension of the breast tissue capacities by selecting implants with weights that challenge

the tissue limits, bears risk of irreversible anatomical and physiological sequelae, including ptosis, atrophy and tissue thinning. Until recently, silicone and saline implant volume and weight have always been synonymous, with no option of uncoupling the two parameters. However, the introduction of the novel lightweight B-Lite® breast implant, challenges the decades-old breast implant lexicon, by affording a ~30% reduction in implant weight in comparison to a full-mass implant of identical size. This ground-breaking distinction between implant volume and weight promises to enhance the plastic surgeon's armamentarium for fulfilling patient desires while being equipped to better match between implant, anatomy and tissue characteristics, with the ultimate goal of achieving more favorable long-term results.

June 7, 10:30-11:25

Kai-Uwe Schlaudraff

Recent advances in research on adipose tissue, SVF, ASCs:

A new mechanism of cellular regulation of adipogenesis through A-regs

Introduction: Recent research in the field of adipose tissue, its functions, the role of ASCs and the control mechanisms of adipogenesis has brought to light several

unknown aspects of fat.

Materials and methods: The author will outline recent knowledge about:

- adipose tissue cycling: fat involution and recovery in the breast during pregnancy and lactation
- thermogenesis research
- cellular control of adipogenesis through the newly discovered regulatory cells A-regs
- non-cellular control of adipogenesis
- implications for fat grafting, weight control and metabolic disorders

Conclusion: Today, there is a growing body of evidence for the multiple functions of adipose tissue and new ways of potentially controlling adipogenesis - which might positively influence the results of fat grafting but also improve the overall metabolic state of our patients.

June 6, 13:15-14:30

Kai-Uwe Schlaudraff

Rotated-Y-V Neo-Umbilicoplasty – get rid of the telltale sign of abdominoplasty!

Introduction: The umbilicus is the only physiologic scar of the human body that normally remains after birth and is considered a key component of the abdomen - both aesthetically and symbolically. This remainder scar of the umbilical cord serves as a central visual reference point and defines the supra-umbilical median sulcus. The author has described the 'rotated Y-V' neo-umbilicoplasty as a versatile and constraint-free design for an aesthetic belly button during 'inverse' abdominoplasty or classic 'inferior' abdominoplasty.

Materials and methods: In brief, after the resection of the existing umbilical stalk and full advancement of the abdominal flap, a triple dermal flap in Y-shape is designed at the desired location of the umbilicus. Defatting of the umbilical area is carried beyond the bases of the dermal flaps and creates the umbilical concavity. Periumbilical quilting sutures provide efficient 'high tension' anchoring of the abdominal flap and desepidermization of the tip of the superior flap allows for efficient 'turnover' fixation of the neo-umbilicus. The size and shape of the neo-umbilicus can be modified by the length of the branches of the Y-design, the amount of upward rotation and the degree of lower central tightening. Tie-over dressings are not necessary, healing is quick.

Conclusion: The 'rotated Y-V' neo-umbilicoplasty allows to create a natural result with a scar that is discreetly hidden in the centre of the belly button and therefore almost invisible - thus avoiding a major tell-tale sign of abdominoplasty.

June 8, 13:30-14:30

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Kai-Uwe Schlaudraff

ASCs and fat grafting – recent changes in processing, regulatory environment, therapies and ethics

Introduction: Since the revival of fat grafting technology by Sydney Coleman and the discovery of adipose derived stem cells there is ongoing debate about 1. efficient harvesting techniques for fat, 2. ideal processing of the fat graft, 3. correct injection techniques and 4. the role of ASCs for fat survival and the processing technique of fat through minimal manipulation. Also, there has been considerable debate about the use of those techniques in aesthetic and reconstructive breast surgery as well as for other treatments based on ASCs.

Materials and methods: The author will outline the parameters and correct methods for fat harvesting, fat processing and fat grafting in order to ensure successful volume restoration.

More importantly, the advent of new regulatory requirements in terms of minimal processing has spurred the development of mechanical processing of fat in order to obtain SVF and ASCs without the use of enzymatic digestion.

Conclusion: Today, there is a consensus for the various technical parameters for fat grafting making autologous fat transfer a successful treatment option. For the therapeutic use of ASCs in various medical subspecialties, regulatory standards will be clarified and promising research about new mechanical processing techniques for SVF harvesting will be discussed.

June 8, 14:30-16:00

Sabrina Shah-Desai

Ptosis correction in aesthetic eyelid surgery

Eyelid ptosis can range from mild, moderate to severe.

Traditional surgical correction has been via an anterior cutaneous approach whilst posterior approach (transconjunctival) approach has been limited to mild ptosis correction.

Mrs. Shah-Desai will discuss the assessment of eyelid ptosis and present her published technique of transconjunctival closure of posterior approach ptosis correction.

June 6, 16:00-18:00

Sabrina Shah-Desai

Transconjunctival fat transposition blepharoplasty - does it have a role

Lower lid blepharoplasty is considered one of the most challenging procedures as there are many variables to consider in the final outcome achievable.

Mrs. Shah-Desai will present her recommendations of when this procedure can be used to rejuvenate the lower eyelid and discuss the surgical technique.

June 6, 16:00-18:00

Sabrina Shah-Desai

Nodular complications

Nodular complications with dermal fillers are rare

Lumps, masses, nodules, regions of induration, delayed hypersensitivity reactions, biofilms, sterile abscesses and granulomas are all terms used to describe a delayed onset nodule.

A 4-year retrospective study reported a 0.6-0.8% incidence of hypersensitivity reactions including nodules to hyaluronic acid dermal filler. True foreign body granulomas are rare with an estimated incidence of between 0.01% and 1%. They can occur with all injectable dermal fillers and usually appear after a latent period of several months to years after treatment.

Mrs. Shah-Desai will discuss the Patient, Practitioner and Product risk factors and how to minimise and manage nodules due to hyaluronic acid fillers.

June 6, 16:00-18:00

Daniel Del Vecchio

Advantages of High Ratio Fat/Implant Composite Breast Augmentation

The use of implants and fat – to give the core volume projection of the implant and the natural look and feel of fat – can result in an infinite spectrum of fat to implant ratios. Patient preference combined with the surgeon's comfort level in fat grafting reliability dictates what ratio of fat/implant is used in each practice. Clinical case examples will be discussed to illustrate some of the more common fat/implant scenarios.

June 7, 14:00-15:30

Daniel Del Vecchio

Buttock augmentation fat or implants or a hybrid technique – indications and surgical technique

Gluteal shaping with implants has not proven to be a reliable or complication-free technique. Conversely, gluteal augmentation with fat alone can often result in less than desirable core muscle projection and may require several grafting rounds. Taking a lesson from Composite breast augmentation, the use of smaller implants in the intramuscular space, combined with fat in the subcutaneous position, achieves both the core mound projection of an implant plus the natural look and feel of fat. Indications

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and surgical technique, featuring Progressive Instrument Dissection, will be discussed.

June 8, 14:30-16:00

Daniel Del Vecchio

EVL (Expansion Vibration Lipofilling)

The use of the Coleman technique is tedious and time inefficient, potentially dangerous due to flexibility misguidance, and is overall obsolete in large volume fat grafting. The vibrational insertion of fat using a roller pump ("EVL") demonstrates better operative efficiency, and converts a motor-dominant, fatigue inducing exercise into a sensory-dominant shape and safety focused grafting sequence. The science behind vibrational insertion and separation, as well as a 10-year clinical experience will be discussed.

June 8, 14:30-16:00

Virginia Vega

Hyperpigmentation: My Approach

In the beginning, the treatment of hyperpigmentation was uniquely focused in the prevention of melanin production. Tyrosinase inhibitors, although efficacious, were unable to "cure" this skin condition resulting in pigmentation rebound once the subject stopped using the inhibitor ingredients. The perfect example for this situation is the usage of hydroquinone (HQ), for many the gold standard for the treatment of stubborn hyperpigmentation. We currently know that skin hyperpigmentation is a chronic and multifactorial condition in which an excess production of melanin becomes independent of the initial harmful factor (ie., UV radiation, hormonal changes, pollution or heat, to mention some). The mechanisms associated to the regulation of this uncontrolled pigmentation, in spite of recent advances, have not yet been fully understood. Inflammation, immune response and skin aging are some of the factors that can contribute to aggravate uneven skin pigmentation. Thus, formulation of products to manage hyperpigmentation cannot be based on single ingredients despite how efficacious they are. We must consider active cosmetic ingredients that address epidermal and dermal pathways affected by the chronic activation of melanocytes as well as inflammation control and preserving optimal superficial and deep hydration.

June 8, 13:30-15:00

Virginia Vega

Microbiome: Evidence and evidence gap

Microbiome refers to the totality of microorganisms that reside on the human skin, which are commonly non-pathogenic and either commensal or mutualistic. Human

skin gets colonized at the moment of birth (vaginal colonization when the child birth is natural or stomach colonization when the birth is due to a C-section). During our entire life, the skin microbiome presents a very dynamic behavior that is influenced by hormones (i.e., puberty, pregnancy, menopause), diseases and external conditions. Current research has shown that human microbiota is the prime educator and maintainer of the innate and adaptive immune system, as the microbiota communicates directly with the host immune system and may potentially influence systemic health. Changes in the skin microbiota have been linked to skin diseases such as atopic dermatitis (AD), psoriasis and acne (though it is not clear which happens first: disease or microbiome alterations). Thus, an altered version of the healthy skin microbiome is observed during AD flares and in psoriatic patients. Several companies in the beauty industry have been talking about microbiome rebalance and its role in aging though little is known about the role of microbiome in wrinkle formation, sagginess, lacking of firmness or hyperpigmentation.

June 8, 13:30-15:00

Jill Waibel

Lasers and energy-based devices

Medicine is a highly individualized process. From severe disease to single brown spots, laser and energy-based devices have revolutionized medical and aesthetic interventions through quick, easy, and effective treatments with minimal to no down time. The capacity and potential of the technology continues to grow astronomically with each passing year while the techniques for use are simultaneously refined for properly tailored, patient-specific treatment. Through brand new advanced imaging systems and novel devices that span uncharted territory of aesthetic technique, technology is transforming the future of medicine. This lecture ventures into the latest in laser and energy-based technology and touches on the pearls and pitfalls to optimize each individual patient experience.

June 6, 13:15-14:30

Jill Waibel

Stem cells in aesthetic medicine

Stem cells have been a high potential, high controversy emerging technology in several different facets of medicine. But what once was a carefully and seldom trodden path has had recent surges in high volume, insufficiently regulated aesthetic repurposing. If properly utilized, with appropriate oversight, stem cell technology can evolve to treat countless debilitating disease that have no current available treatment as well as provide a platform for the future of rapid and effective large-scale wound healing.

Faculty abstracts

This lecture discusses the foundational research and the future directions of stem cell usage for the aspirational growth of entirely new skin, including fat, PRP and mesenchymal stem cells.

June 8, 10:30-12:15

Jill Waibel

Early interventions for surgical scars

What would happen if physicians waited a year after their patients became sick to intervene? So why is this how we treat scars? Standard surgical guidelines suggest that following a substantial injury, patients should be allotted a full year to heal before scar intervention strategies should be allowed to take the stage. But is this standard well founded? Most areas of modern medicine utilize prevention for optimal outcomes. By one year following severe injury, patient scarring is already condemned to be debilitating. Wound healing begins at the time of injury and scar treatment should be no different. This lecture follows the treatment of even the most extensive scars from within a few months of injury to modern day to show that, if action is taken early, scars can not only be treated, but prevented from ever forming.

June 8, 15:00-16:00

Eitam Weiss

Future option to reduce the risk for biofilm formation

All medical grade silicone devices, including breast implants, are susceptible to microbial contamination and biofilm formation. Bacterial contamination during implant insertion may cause a biofilm formation on the implant and cause serious complications such as acute and chronic infections, capsular contraction, infection leading to implant removal and maybe a contribution to BIA-ALCL formation.

There are several recommended steps to prevent bacterial contamination during implant insertion which will reduce the risk of complication.

I will present a new nanoparticle technology of an antibacterial/antibiofilm feature, which is added into the silicone compound during the manufacturing process. This technology creates a medical grade silicone which is resistant to bacterial biofilm formation. My in vivo and in vitro studies show a complete bacterial elimination over the silicone samples with this nanoparticle technology compare to the control silicones.

This technology may have a great contribution in preventing bacterial colonization on the breast silicone implant and may reduce the risk of complications associated with infections.

June 7, 11:30-12:25

Eyal Winkler

Limitations, risk and possibilities with combined laser liposuction of the neck – is skin tightening possible?

A “heavy” neck presents a cosmetic challenge even when a formal face and neck lift surgery is performed.

Non-the-less, heavy necks are considered not suitable for less extensive surgical or non-invasive procedures – i.e., liposuction alone.

We present our experience using a simultaneous liposuction & leaser device (LipoLife by Alma Leasers).

Over the last 2 years, more than 40 cases were operated on, showing promising results. Both fat removal and proper chin and neck re-draping and tightening were obtained.

We will discuss indications, contraindications, the surgical technic as well as complications.

In our experience the results are superior to liposuction alone.

June 6, 16:00-18:00

Dolores Wolfram-Raunicher

Immunological response to silicone

During the last 15 years, we have been investigating local as well as possible systemic side effects of silicone breast implants (SBI). The aim of this talk is to explain the basic concept of the immunological response to silicone. In our first study, we analyzed the cellular and molecular composition of fibrous capsules removed from patients at various times after surgery for the presence of inflammatory cells, extra-cellular matrix proteins and stress proteins. The capsules were consistently characterized by single or multilayered accumulation(s) consisting of HSP60+ macrophages and fibroblasts. Mononuclear cell infiltrates consisting of activated CD4+ T-cells as well as DCs were found with a predilection at the frontier layer zone of the capsular tissue, which is in direct contact to the foreign material silicone.

Based on these morphological analyses, we decided to investigate the phenotype and function of the immune cells within the capsular tissue in a follow-up project. We were able to show that capsular fibrosis resulted from a silicone-triggered activation of the immune system mediated mainly by macrophages and CD4/CD3 a/b+ T cells. The most interesting results of this series of experiments were (a) preponderance of effector T cells (Teffs) (mainly TH17 cells) within the peri-SBI fibrotic capsule, and (b) the decreased number of regulatory T cells (Tregs) which correlated with increasing severity of capsular fibrosis.

Recently, we aimed to apply our immunological knowledge to investigate the immunological biocompatibility of diverse SBI surfaces. Peripheral blood mononuclear cells

Faculty abstracts

were cultured on various silicone surfaces. We found that silicone surfaces do not induce T-cell proliferation, nor do they extensively alter the proportion of T cell subsets. Cytokine analysis showed surface specific differences, especially for IL-6 and TNF-alpha. In order to mimic the in vivo situation more accurately, we are now pre-incubating the surfaces with wound bed fluid +/- immune cells and analyze the immunological response towards different surface types.

June 7, 11:30-12:25