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Dr. Kirsty Boyd: Secretary / Secrétaire**

01 - Critical Ischemia Time of Lymph Nodes: The Assessment of the Lymphatic Drainage Efficiency of Vascularized Lymph Node Flaps in Relation to Ischemia Time

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Purpose: Vascularized lymph node transfer is gaining acceptance as a promising treatment for lymphedema, especially in the more severe stages. While ischemia time for various tissues is known, the ischemia time of lymph nodes has not been studied or determined. This study aims to investigate whether the period of ischemia would affect the drainage efficiency of the vascularized lymph node flap and to determine the critical ischemia time of lymph nodes. **Methods:** Twelve male Sprague-Dawley rats (weight 450-550 g) were divided into 6 groups. In each rat, 2 lymph node-containing groin flaps (size: 2 × 5 cm) were dissected resulting in 24 flaps studied (n = 24). The superficial circumflex iliac vessels and lymphatic system were left intact. Clamping of the superficial circumflex iliac vessels along with lymphatic ducts was performed for separate time periods including 0, 1, 3, 5, 6, and 7 hours. After reperfusion, the flaps were immersed into the 10% albumin solution containing indocyanine green (ICG) and monitored for ICG fluorescence uptake in the iliac vessels. Perfusion and ischemic changes were also assessed using laser Doppler flowmetry and histologic studies. **Results:** The ICG fluorescence expression was detected in the lymphatic vessels of vascularized lymph node flaps in the groups of ischemia time for 0, 1, 3, 5, and 6 hours. The mean latency period of the groups of 0, 1, 3, 5, and 6 hours of ischemia was 247 ± 67, 83 ± 15, 72 ± 42, 30 ± 18, and 245 ± 85 seconds, respectively. Furthermore, there was no fluorescence observed in the lymphatic vessel of the 7-hour ischemia group. Laser Doppler flowmetry found and with a 2 to 4 hours of ischemia time, the perfusion is enhanced after reperfusion, but once past the 5-hour point, the perfusion

units are very low. Histologic studies demonstrated evidence for edema, bleeding, and congestion beyond the critical point. **Conclusions:** It has been demonstrated in this study that increased ischemia time improves the drainage function of the vascularized lymph node flaps until the critical ischemia time is reached. The ischemia time of lymph nodes was determined to be 5 hours. This evidence provides a meaningful insight for vascularized lymph node transfers and the viability of lymph nodes in the research and clinical setting. **Learning Objectives:** Participants will be able to gain insight into ischemia time to guide the optimal harvest and revascularization of vascularized lymph node flaps.

02 - Is Adjuvant Radiotherapy to the Immediate DIEP/SIEA-Based Reconstructed Skin-Sparing Mastectomy Associated With Worse Patient-Reported Outcomes and Surgeon Identified Complications?

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Purpose: To determine whether adjuvant radiotherapy (RT) is associated with adverse patient-reported outcomes and surgical complications 1 year after DIEP/SIEA reconstructed skin-sparing mastectomy (SPM). **Methods and Materials:** We compared patient-reported outcomes and surgeon-identified complications in 65 radiated and 61 nonradiated unilateral DIEP/SIEA immediate SPM reconstruction between 2012 and 2015. The questionnaires consisted of EORTC QLQ-BR23, NPRS, BREAST-Q, PROMIS-29, MPQ-SF, GAD-7, and PHQ-9. Additional variables consisted of RT technical data, age, cancer stage, estrogen receptor (ER), use of chemotherapy, breast size, body mass index (BMI), and income. **Results:** Tumor stage was the only statistically different preoperative group datum. Patients

who received RT had statistically more axillary nodes removed (11 vs 2 nodes) and chemotherapy more frequently (96.88% vs 37.70%). A highly significant correlation between arm symptoms and nodes removed ($P = .0001$) was noted. Numerical Pain Rating Scale (NPRS), BREAST-Q, PROMIS-29, McGill Pain Questionnaire (MPQ-SF) score, Generalized Anxiety Disorder (GAD-7), and Patient Health Questionnaire (PHQ-9) were not statistically different between the 2 groups. Surgical complications were uncommon and did not differ by treatment group. The only patient-reported outcome statistical differences were the RT group having higher EORTC QLQ BR23 Breast symptoms (8/100 point difference, $P < .0001$) and EORTC arm symptoms (20/100 point difference, $P = .0200$). The difference in arm symptoms was identified in univariable analysis but not in multivariable analysis. **Conclusions:** Radiotherapy to the immediate autologous neobreast is well tolerated at 1 year after surgery and only differ in breast and arm symptoms. Complications are few and do not differ by treatment. The need for postoperative RT should not dissuade the surgeon from performing immediate autologous free flap breast cancer reconstruction. **Learning Objectives:** (1) Participants will learn about the main patient complaints of the radiated neobreast. (2) Participants will be able to educate patients about the main RT-associated symptoms that patients report.

03 - Correlation of Volumetric Assessment of Lymphedematous Limbs Using CT Imaging Compared to Circumferential Measurement Differentials

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Taiwan

Purpose: Circumferential measurements of upper and lower lymphedematous limbs at specified distances from the elbow, ankle, and knee have been a primary method of documenting and following patients with lymphedema for upper and lower limb swelling. However, there has been criticism that circumferential measurements do not truly represent the volume of the affected limbs. CT imaging produces accurate, consistent, and hygienic measurements of volume. It is a direct representation of the limb with axial, sagittal, and coronal cuts of the limb. While CT volume measurements can be expensive, time consuming and most importantly, expose the patient to radiation, it is an excellent model to compare other measurement methods as it is unbiased and accurate. This study aims to compare circumferential measurements to volumetric studies using CT imaging to assess their correlation. **Methods:** Patients with lymphedema from January 2013 to May 2016 were assessed with both CT scans and standard circumferential measurements. Patients were diagnosed with grade I to IV lymphedema at Chang Gung Memorial Hospital during the study time period who had undergone vascularized lymph node transfer

with a completion of CT scans both preoperatively and postoperatively within the course of 12 months. Circumferential measurement differentials were taken at each monthly clinic visit. The 2 methods were compared using the same standardized position points using anatomical landmarks. Three comparison groups were used including upper limb measurements alone, lower limb measurements alone, and with both upper and lower limbs assessed together. Statistical analysis was performed to determine the Pearson product-moment correlation coefficient to assess for comparability. Cost analysis of the 2 modalities was performed. **Results:** In total, 77 patients were assessed and their CT measurements correlated with their respective circumferential measurement differentials and were found to have the same Pearson correlation coefficient of $r = +.7$ that was statistically significant ($P = .03$) when upper limbs were assessed alone, when lower limbs were assessed alone, and when both upper and lower limbs were assessed together. This indicates that there is a strong positive correlation between the circumferential measurement differentials with the actual limb volume changes as determined with CT imaging. Circumferential measurement differentials are more cost-effective than CT volume assessments while still providing accurate measurement of clinical improvement after treatment. **Conclusion:** Standardized circumferential limb measurement differentials that are currently used are consistent with unbiased CT volumetric measurements and can be used as a reliable, reproducible, minimally invasive, low cost, and accurate method of measurement of the lymphedematous limbs of patients. **Learning Objectives:** Participants will gain insight into the value of using standardized circumferential limb measurements for patients with lymphedema in their practice as a consistent and reliable method comparable to CT volume measurements.

04 - An Ultrasonic Study of Fat Necrosis in DIEP and SIEA Flaps

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Purpose: One of the common criticisms of the SIEA flap compared to the more commonly utilized DIEP flap is the potentially higher rates of fat necrosis due to smaller caliber vessels. With increasing knowledge surrounding the principle of angiosomes, we hypothesized that the rates of fat necrosis would be similar if the flaps were harvested following these principles. Therefore, we aimed to objectively assess the rate and extent of fat necrosis in SIEA and DIEP flaps using ultrasound examinations. **Methods:** This was a prospective study in patients randomized between SIEA and DIEP flaps. There were 10 SIEA and 36 DIEP flaps. Each flap underwent ultrasound examination for detection of fat necrosis at 12 months postoperatively. Comparisons between both prevalence and extent of fat necrosis were assessed using nonparametric tests. **Results:** Ultrasound evaluation detected fat necrosis in 22 of 46 flaps with a median area of 6.0 cm^2 . There were no significant differences in the prevalence as well as the extent of fat necrosis between

SIEA and DIEP flaps. Postoperative radiation was not found to increase the rates of fat necrosis, but it was found to significantly increase the extent of fat necrosis. **Conclusion:** DIEP and SIEA flaps can have similar rates of fat necrosis despite having different angiosomes and harvest difficulties. This study shows an increased extent of fat necrosis but not prevalence of fat necrosis in radiated flaps. This finding supports the authors' belief that radiation may not cause fat necrosis in fully viable flaps but will worsen the extent of fat necrosis that already exists. **Learning Objectives:** To learn about differences in fat necrosis rates between SIEA and DIEP flaps and the effect of postoperative radiation.

05 - Using SPY Intraoperative Perfusion Assessment Tool to Reduce Complications Following Mastectomy: A Systematic Review and Meta-Analysis

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Purpose: Indocyanine green and laser-assisted fluorescence angiography, known as the SPY system, is a recently developed tool that has shown promise in assessing tissue perfusion intraoperatively, especially in breast surgery. This review aims to evaluate whether it can accurately assess tissue perfusion and reduce complications, including skin necrosis, after mastectomy. **Methods:** Two independent assessors undertook a systematic review of the literature using multiple databases. All studies that involved use of the SPY system to assess perfusion of postmastectomy skin flaps were included. The perfusion-related complication rates, including skin flap necrosis and unexpected reoperation rates across multiple studies, were extracted and then reviewed. **Results:** A total of 11 relevant articles were identified that included a total of 1116 patients undergoing mastectomy procedures. In the studies that compared use of SPY system with clinical observation, groups that used indocyanine-green angiography had statistically less incidence of skin necrosis and unexpected reoperations due to perfusion-related complications compared to groups that monitored flaps with only clinical observation (odds ratio [OR] 0.54 for skin necrosis, 0.36 for reoperation). Overall complication rate was also lower in the group that used the SPY system (OR 0.73). **Conclusion:** In this review of the literature, we found the incidence of skin necrosis and unexpected reoperations to be statistically lower in cases where SPY was used. However, more prospective studies are required to establish SPY angiography as a cost-effective tool for assessment of tissue perfusion. **Learning Objectives:** At the end of this lecture, the learner will be able to describe indocyanine green angiography as a method to intraoperatively assess perfusion of postmastectomy skin flaps and evaluate current literature on the effectiveness of this novel system in reducing complication and reoperation rates associated with inadequate tissue perfusion.

06 - A Novel Interactive Mobile Application for the Internal Mammary Artery and Vein Dissection: A Randomized Controlled Trial

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Purpose: To evaluate a novel interactive educational mobile application to assist in the education of plastic surgery trainees with the internal mammary artery and vein (IMAV) vessel dissection and preparation component of the *deep inferior epigastric perforator flap* breast reconstruction surgery. **Methods:** A prospective randomized controlled trial was conducted with residents and fellows to compare this mobile application to the more traditional apprenticeship model. All trainees had a surgeon-directed intraoperative teaching session. Afterward they were randomized to the mobile application or control group. The IMAV dissection was then performed independently at a second surgery and was graded by the blinded operating surgeon. The primary outcome was trainee performance using the validated OSATS assessment. Secondary outcomes were operative time, trainee confidence and anxiety, surgeon anxiety, and trainee evaluation of module. **Results:** The majority of trainee participants had no independent operative experience prior to the study. All participants passed the intraoperative OSATS assessment. Operative times were not significantly different (114.3 vs 136.4 minutes, $P = .195$) between the 2 groups. Self-reported trainee and surgeon anxiety was reduced in the mobile application group regardless of training level. Trainees ranked the mobile application consistently high but below clinical training and technical skills simulation when compared to other teaching methods. **Conclusion:** The mobile application did not reduce operative times; however, it did reduce both trainee and operating surgeon anxiety. This mobile application could be a useful complement to the existing plastic surgery training curriculum. **Learning Objective:** (1) A mobile application to teach the IMAV vessel preparation is a valuable adjunct to the current plastic surgery training curriculum.

07 - Reverse End-to-Side Anterior Interosseous Nerve to Ulnar Nerve Transfer for Severe Ulnar Neuropathy

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Purpose: The purpose of this study is to evaluate the reverse end-to-side anterior interosseous nerve (AIN) to ulnar nerve transfer for severe ulnar neuropathy at the elbow. **Methods:** This study is a retrospective cohort analysis with approval from Western University Biomedical Ethics review board. Chart review was performed for consecutive patients presenting to our institution between January 1, 2012, and January 31, 2016, who underwent AIN to ulnar nerve reverse end-to-side transfer

for ulnar neuropathy. All procedures were performed by 2 plastic surgeons with a subspecialty practice in peripheral nerve surgery. Medical Research Council (MRC) intrinsic strength, DASH, and Patient-Rated Ulnar Nerve Evaluation (PRUNE) survey scores were reviewed. A subset of patients presented with formal strength testing. Electromyography was used to determine whether reinnervation was evident at an earlier than expected time postoperatively. **Results:** Forty-one patients with minimum 1-year follow-up were reviewed. Twelve patients underwent nerve transfer for trauma and 29 for severe compressive ulnar neuropathy at the elbow (McGowan grade 3). Mean DASH and PRUNE at 6 and 12 months were 32, 36 and 26, 29, respectively. Mean pinch strength for the extremity undergoing nerve transfer versus the unaffected side at 6 and 12 months was 6.83 versus 8.26 kg and 7.52 versus 10.18 kg, respectively. Needle electromyography demonstrated that reinnervation of hand intrinsics occurs via the nerve transfer based upon time to motor unit recovery as well as augmentation of motor unit interference pattern with forearm pronation. No major complications were noted. **Conclusions:** Reverse end-to-side nerve transfer appears to improve objective as well as patient-rated outcomes in severe ulnar neuropathy at the elbow. An ongoing, prospective, randomized trial will seek to confirm these findings. **Learning Objective:** Understand disabilities and surgical options associated with severe ulnar neuropathy.

08 - Peripheral Nerve Transfers in the Treatment of Cervical Spondylotic Amyotrophy

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Purpose: Cervical spondylotic amyotrophy (CSA) is an uncommon disorder characterized by progressive, disabling upper extremity atrophy and weakness. Cervical decompression approaches have produced variable results. The purpose of this article is to report the use of nerve transfers to restore upper extremity function in CSA. **Methods:** Three patients with CSA were treated and reviewed. Preoperative imaging and neurosurgical evaluation was completed in all. Comprehensive electrodiagnostic assessment to assess for peripheral nerve deficits as well as the status of potential donor nerves was undertaken. MRC strength testing pre- and postoperatively was completed. Patient-rated outcomes were assessed using a DASH questionnaire. Electromyographic (EMG) findings at 5 and 12 months postoperatively were recorded. **Results:** All patients demonstrated evidence of CSA at the C5/6 levels on magnetic resonance imaging and had been assessed to be non-operative candidates in neurosurgical consultation. All demonstrated marked wasting in the C5 and C6 myotomes. Average age was 72 years and mean duration of severe weakness preoperatively was 13.3 months. Average follow-up was 33 months (8-60). One patient died of metastatic bowel cancer 15 months postoperatively. Of the 2 remaining patients, average increase in elbow flexion was MRC 3+ (with restoration of absent supination) and

average increase in shoulder abduction was MRC 2+. EMG evidence of reinnervation was first observed at 5 months postoperatively and was used to trigger a course of rehabilitation emphasizing neuromuscular stimulation, biofeedback, and neuroplasticity. Patient-rated DASH scores showed significant improvement. **Conclusions:** CSA is an uncommon but highly disabling disorder. Nerve transfers should be considered for patients who are poor candidates for decompressive neurosurgical procedures. Outcomes of nerve transfer surgery are encouraging, despite elderly age and prolonged preoperative weakness. **Learning Objectives:** Participants will (1) understand the pathophysiology, disabilities, and treatment options associated with CSA.

09 - Cystic Lesions of the Peripheral Nerves: What Are We Missing?

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Purpose: To study the epidemiology of cystic nerve lesions and highlight the salient imaging findings that differentiate the intraneural ganglion cysts from the other cystic lesions. **Methods:** A historical cohort of patients who underwent MRI scans for peripheral nerve palsy over a 10-year period was identified. From these data, all lesions that were reported as cystic were reviewed. The distribution of various cystic nerve and extraneural lesions was identified in this group, and their diagnoses were compared to current imaging literature. **Results:** A total of 245 patients underwent MRI for various peripheral nerve palsies. In this group, 45 patients were identified to have cystic neurogenic tumors or juxtaneural lesions. These included 13 intraneural ganglion cysts (INGC), 10 extraneural ganglion cysts (ENG), 6 paralabral cysts, 8 cystic schwannomas, and 8 nerve abscesses. Only 7 of the INGCs were diagnosed correctly in the initial report, and except for 2 reports on ENG, the rest of the initial diagnoses were accurate. **Conclusion:** In this series, INGC emerged as the single most common cause for a cystic lesion associated with the nerve. The diagnosis of this condition is relevant since it is a reversible cause for mononeuropathy that can be treated by surgery. The articular branch of the involved nerve that acts as a route for the genesis and propagation of the INGC should be identified in all cases on imaging and should be confirmed during surgery and excised along with the cyst to prevent recurrence. The underreporting of this condition among the first cases in this series is attributed to the lack of prevalent literature about this condition at that point in time. **Learning Objectives:** (1) The INGC is probably the commonest cause for a cystic lesion associated with the nerve. (2) Although most commonly seen around the knee, it could occur within any major nerve traversing a joint. (3) Its identification also requires a diligent examination of the articular branch that forms a route for the tracking of the cyst. (4) Excision of the articular branch is of paramount importance to prevent recurrence. (5) The INGC is a lesion that is treated with intraneural decompression as opposed to excision for most other lesions treated surgically.

10 - The Effect of Increasing Age on Outcomes of Digital Revascularization or Replantation

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Purpose: As the elderly patient population grows and as trauma to this population increases, it is important to understand whether the risks of a lengthy procedure outweigh the benefits. The aim of this study is to evaluate whether increasing age was a predictor of digital failure in patients undergoing digital replantation or revascularization. **Method:** A retrospective cohort study of digital replantation and revascularization patients was undertaken from 2005 to 2016. Data collected consisted of patient demographics, comorbidities, smoking status, procedure types, as well as post-operative morbidity and mortality. Descriptive statistics, chi-square, and logistic regression were performed to assess outcomes. Patients were divided by age above and below 60 for analysis. **Results:** During the study period, 295 patients underwent replantation or revascularization (12% elderly and 91.9% male); 36% underwent replantation, 56% revascularization, and 8% both. Smoking status and number of digits injured were similar between the groups. Comorbidities were more frequent in elderly patients (64% vs 33%; $P = .0002$). Higher American Society of Anesthesiology score (ASA) was present in the elderly group ($P = .02$). Morbidity was noted in 135 patients: 55 in-hospital and 80 post-discharge. Of these, 16% in-hospital and 11% postdischarge were experienced by elderly patients. Ninety-one (30.64%) patients experienced digital failures, with 11% of failures in the elderly patients. Morbidity and digital failure rates were nonstatistically different between the groups. Multivariate logistic regression controlling for sex, ASA, comorbidities, number of digits, and smoking demonstrated that age did not impact failure rate. **Conclusion:** Elderly patients presented with significantly more comorbidities and higher ASA scores as compared to their younger peers. Despite this, elderly patients did not experience higher rates of digital failure. Elderly patients should be offered replantation if medically or surgically indicated. **Learning Objectives:** (1) Discuss factors impacting revascularization or replantation digit failure. (2) Review the impact of increasing age on digit failure.

11 - Functional Gracilis Muscle Transfer for Knee Extension and Limb Salvage

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Purpose: Loss of the quadriceps muscles or the femoral nerve either to satisfy adequate oncologic margins in tumor extirpation or as a consequence of trauma results in the loss of knee extension. Functional muscle transfer offers an option for limb salvage and restoration of ambulation. Larger muscle groups have traditionally been favored to restore knee extension owing to a greater contractile force generated by a larger muscle cross-sectional area. Consequently, the smaller diameter gracilis muscle has been

disregarded in the literature as unsuitable to support active knee extension. We present our center's experience with obtaining successful restoration of knee extension and resumption of ambulation using a transfer of a single functional gracilis muscle. **Methods:** Free or pedicled gracilis transfers were utilized in patients requiring restoration of knee extension as a result of trauma or oncologic reconstruction. Patients were followed up until functional ambulation was achieved or as part of routine oncologic surveillance. Major outcomes of interest included extensor motor strength, ambulation status at final follow-up, and time in hospital. **Results:** Four patients were included in the study. Loss of knee extension resulted from an en bloc sarcoma extirpation in 3 patients and a traumatic injury to the anterior compartment in one. A free gracilis muscle was utilized in 1 case and pedicled transfers in the remainder. Three cases required additional microvascular skin and soft tissue coverage. The maximum hospital admission was 10 days. Although all patients achieved at least motor grade 3 knee extension, we observed grade 2 was sufficient to functionally ambulate. **Conclusions:** Free or pedicled muscle transfers using a gracilis muscle alone can achieve functional knee extension sufficient for ambulation. This surgical option offers an invaluable adjunct to limb salvage strategies while conferring limited donor morbidity. **Learning Objectives:** Describe a strategy using the gracilis muscle to power knee extension.

12 - Abdominally Based Flaps: The New Workhorse Cutaneous Flaps for Large Oncologic Defects

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Purpose: Resection of malignant tumors often creates large surface area defects. Classically, the reconstructive algorithm is to utilize a skin-grafted latissimus dorsi muscle flap for defects exceeding the dimensions of an ALT flap, the current workhorse cutaneous flap. Typically, harvesting an ALT of 9 cm width and 25 cm length will allow primary closure of the donor. For most defects exceeding the capabilities of the ALT flap, we prefer to utilize abdominally based DIEP/SIEA flaps. A flap of 15 cm width can be harvested in the thinnest patients and up to 25 cm of flap length is available from a hemiabdomen alone. Vascular manipulations such as supercharging and turbocharging allows harvest of enormous flaps utilizing the entire lower abdomen. Advantages over the latissimus dorsi include muscle preserving technique, no harvest repositioning, no skin graft, and often cosmetic superiority. **Methods:** Ten-year retrospective review of all patients undergoing reconstruction following massive tumor resections using abdominally based flaps. **Results:** Eighteen patients met the inclusion criteria. Average age was 56 years, and average body mass index was 27. The most common tumor pathology was a sarcoma variant (in 15/18) followed by an SCC, BCC, and hemangioendothelioma. Most underwent neoadjuvant radiotherapy (11/18), and 3 were previously radiated (3/18). Most defects were in the lower extremities (9/18), followed by the trunk (4/18). Reconstruction was

performed with free unilateral DIEP (10/18), pedicled SIEA+DIEP (3/18), pedicled SIEA+DIEP with supercharged/turbocharged SIEA+DIEP (2/18), free bilateral turbocharged DIEP (1/18), free bilateral supercharged DIEP (1/18), flow-through KISS flap (1/18). Of 18, 8 had a flap-site complication: minor wound dehiscence (6/18), infection (3/18) and marginal

flap necrosis (<5 mm; 2/18). There were no cases of partial/total flap loss, no take backs, and no hernias/bulges. **Conclusions:** Abdominal-based flaps should be considered the workhorse cutaneous flaps for most large oncologic defects. **Learning Objectives:** Participants will learn about reconstructing massive defects utilizing variations in abdominal-based cutaneous flaps.

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C001 - Eye Opener

Diabetic Foot Disease

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Using clinical cases, the global burden of this condition and types of presentations made to plastic surgeons will be outlined.

Learning Objectives

- (1) Bring participants up-to-date knowledge and principles of modern management of this condition.
- (2) Participants will understand the current literature on this subject.
- (3) Participants will understand the care necessary for healing these patients' open wounds.

GENERAL SESSION

01 - Paravertebral Blocks Associated With Improved Pain Control, Decreased Narcotic Usage, Earlier Discharge From PACU, and Increased Cost Savings Compared to General Anesthesia Alone in Immediate Breast Reconstruction Following Mastectomy

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Purpose: The use of paravertebral nerve blocks (PVB) in breast surgery has proved to be a promising adjunct to standard

analgesic protocols. Reducing postoperative pain, nausea, and vomiting can have a significant impact on improving patient satisfaction and reducing hospital stay. The present study is the largest retrospective cohort study to date evaluating the impact and cost of paravertebral blocks in immediate breast reconstruction following mastectomy. **Methods:** A retrospective cohort study (REB# 20160428-01H) identified 312 patients who underwent immediate breast reconstruction following mastectomy, 119 (38%) who underwent standard analgesic protocols alone and 193 (62%) who underwent preoperative PVBs in addition to standard analgesic protocols. Electronic medical records were analyzed for patient demographics, type, indication and laterality of mastectomy, cancer type, adjuvant chemotherapy/radiation use, PVB use, postoperative narcotic and antiemetic use, serial pain scores, and length of stay in PACU. Primary outcomes were oral morphine equivalent use, length of stay in PACU, and self-reported pain scores. Direct (materials/staff) and indirect (space/operational) costs were incorporated into an economic analysis for performing PVB in breast surgery patients. **Results:** There were no significant differences in age, body mass index, procedure type, or cancer diagnosis between the 2 groups. Patients in the PVB group had statistically significant reductions in postoperative pain and opiate usage compared to patients having general anesthesia alone. Patients who received the PVB also required a shorter stay in PACU, which was associated with significant cost savings for the hospital. **Conclusions:** The use of paravertebral blocks in immediate breast reconstruction is associated with reductions in narcotic usage, patient-reported pain scores, and length of stay in PACU. Expedited discharge from the PACU results in cost savings for the hospital. **Learning Objectives:** Participants will be able to appreciate the clinical and economic