OBJECTIVES: Mastectomy and lumpectomy procedures are often carried out using electrocautery. Previous studies have demonstrated that the use of ultrasonic energy may reduce blood loss, seroma formation, wound infection, flap necrosis, hemato ma, prolonged auxiliary drainage and length of stay. In the Canadian healthcare environment hospitals are faced with increasingly restrictive budgets, creating an interest to explore the cost-effectiveness of new technologies. This study was conducted to determine whether the reduction in complications associated with the use of ultrasonic energy in mastectomy and lumpectomy procedures offsets the increased device costs in a Canadian hospital. METHODS: We examined the budget impact of replacing electrocautery devices with ultrasonic energy devices in a hospital that performs 100 mastectomies and 100 lumpectomies annually. The model incorporates the costs associated with surgery, length of stay (taking into account facility and staff costs) and postoperative care cost data was obtained from the Ontario Case Costing Initiative and case costing from a large Canadian hospital. Patient outcomes data was obtained from pooling published peer-reviewed literature after completing a comprehensive literature review. A multivariate sensitivity analysis was conducted to ensure scientific rigour. RESULTS: The use of electrocautery in mastectomy and lumpectomy procedures is associated with lower device costs when compared to ultrasonic energy devices. However, mastectomies and lumpectomies completed with ultrasonic energy devices demonstrate reduced operating time, a reduction in length of stay and a reduction in post-operative complications which offsets the increased device costs. The model establishes that replacing electrocautery with ultrasonic energy devices in a Canadian hospital performing 100 mastectomies and 100 lumpectomies annually would allow for a potential cost avoidance of $171,966. CONCLUSIONS: In a Canadian hospital, the use of ultrasonic energy in mastectomy and lumpectomy procedures provides a cost savings when compared to the use of electrocautery.

PMD19
BUDGET IMPACT OF PERCUTANEOUS ENDOVASCULAR ABDOMINAL AORTA ANEURYSM (AAA) REPAIR COMPARED TO STANDARD ENDOVASCULAR REPAIR IN CANADIAN HOSPITALS
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OBJECTIVES: Canadian hospitals spend an estimated $111 million annually on elective AAA repair. Percutaneous endovascular abdominal aortic repair approach (FEVAR) is a new minimally invasive technique that avoids open surgical cut downs, associated with standard endovascular AAA repair (EVAR). Innovations in access devices and low profile stent grafts have enabled the FEVAR approach. According to recent studies, FEVAR may offer substantial efficacy benefits as well as a reduction in post-operative complications and patient pain. The objective of our study was to evaluate the budget impact to a hospital of changing the technique for AAA repair from the EVAR approach to the FEVAR approach. METHODS: We examined the budget impact of replacing the EVAR approach with the FEVAR approach in a Canadian hospital that performs 100 endovascular AAA repairs annually. The model incorporates the costs associated with surgery, length of stay and postoperative complications occurring within 30 days. The cost data used in the model was obtained from peer reviewed literature, the Ontario Case Costing Initiative and case costing from a large Canadian hospital. Patient outcomes data was obtained from pooling published peer reviewed prospective studies after completing a comprehensive literature review. A multivariate sensitivity analysis was conducted to ensure scientific rigour. RESULTS: The use of FEVAR in AAA repair compared to EVAR resulted in reduced operating time ($126,903), and potential reduction in post-operative complications due to shorter operative time costs ($167,520). This was completely offset by potential savings in OR time costs ($167,520), potential reduction in infected surgical site rates or infections ($150,818) and potential reduction in post-operative care costs due to shorter hospital stay ($126,903). These analyses suggest that FEVAR is a new minimally invasive technique that avoids surgical cut down associated with EVAR and may offer substantial efficiency benefits as well as a reduction in post-operative complications as well as a reduction in costs when compared to EVAR. CONCLUSIONS: These analyses suggest that FEVAR is a new minimally invasive technique compared to EVAR can be a cost-effective solution in length of stay and time in the recovery room and a reduction in post-operative care costs due to shorter hospital stay. Adoption of the two devices would likely result in savings for hospitals, driven by shorter procedure time and related expected clinical benefits.

PMD20
SAFETY PEN NEEDLE (SPN) DEVICES IN THE ACTUE CARE SETTING: AN ANALYSIS OF HEALTH RESOURCE UTILIZATION (HRU) IN THE UNITED STATES
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OBJECTIVES: Diabetes (DM) is prevalent among hospitalized patients making insulin administration a regular practice in acute care. Variability in the method of administration leaves room for optimization. A budget impact model was created to evaluate the impact of passive SPN on healthcare worker safety and HRU in the acute care setting. METHODS: Model inputs include fixed assumptions of insulin waste and cost, needle stick injury (NSI) rates from safety syringe (SS) and SPN, nursing time, and supply costs. Inputs were obtained from the literature and real-world pilots. The model compares 4 scenarios using insulin vial with SS versus using insulin pens with SPN: 1) SS + 10mL vial patient supply, 2) SS + 10mL vial floor stock, 3) SS + 3 mL vial patient supply, 4) SS + 3 mL vial floor stock. RESULTS: Using insulin pens with SPN reduced NSIs, decreased nursing time, and increased injection supply cost. Insulin consumption varies based on the scenario and affects economic outcomes. The real-world impact of insulin pens using SPN was estimated to result in annual cost savings ($27,622, 2) -$5,951, 3) $18,730, 4) $14,485. CONCLUSIONS: The cost of NSI is significant and total HRU in the acute care setting in the US. Benefits of switching to SPN include reducing NSIs and decreasing nursing time needed to prepare an insulin injection. For individual patient supply scenarios (scenarios 1 and 3), switching to SPN can reduce both NSIs and total cost to the institution. It is important for hospitals to invest in SPN. Although the real-world pilot study results above are not generalizable, the model is adaptable to any institution based on number of beds and yearly insulin consumption. NSI rates may be underestimated, and in these cases, adoption of SPN may have a positive budget impact while improving health care worker safety.

PMD21
ASSESSMENT OF THE ECONOMIC IMPACT OF THE ADOPTION OF A NEW MECHANICAL FIXATION DEVICE ALONG WITH A NEW SKIRTED INTRA- PERITONEAL ONLAY MESH (IPOM) ON HOSPITAL COSTS OF OPEN VENTRAL HERNIA REPAIR SURGERIES
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OBJECTIVES: Demonstrating economic value of new products is important for hospitals adoption. The combination of two devices: ETHICON SECURESTRAP™ Open Absorbable Strap Fixation Device and ETHICON PHYSIOMESH™ Open Flexible Composite Mesh Device, offers a standardized approach to open IPOM repair of ventral hernia. This analysis assesses the potential economic value of using these devices when compared with other meshes and a hand-nutured suture approach. METHODS: An economic model was developed to evaluate the budget impact to hospitals adopting ETHICON SECURESTRAP™ Open Fixation Device with ETHICON PHYSIOMESH™ Open Flexible Composite Mesh Device versus suturing of various meshes. Over three years, although the use of ETHICON SECURESTRAP™ Open Fixation Device added $54,600 in supplies costs, this was completely offset by potential savings in OR time costs ($167,520), potential reduction in infected surgical site rates or infections ($150,818) and potential reduction in post-operative care costs due to shorter hospital stay ($126,903), and potential reduction in anesthesia costs ($17,189). Similarly, a savings of $40,108 was expected in the very first year. CONCLUSIONS: This economic evaluation suggests that replacing suture with ETHICON SECURESTRAP™ Open Fixation Device with ETHICON PHYSIOMESH™ Open in ventral hernia surgery. Adoption of the two devices would likely result in savings for hospitals, driven by shorter procedure time and related expected clinical benefits.

PMD22
COST ANALYSES OF LUTONIX® 035 DBC PCA CATHETERS FOR THE TREATMENT OF PERIPHERAL ARTERY DISEASE: A COST-EFFECTIVENESS STUDY OF LUTONIX® 035 DBC PCA CATHETERS FOR THE TREATMENT OF PERIPHERAL ARTERY DISEASE IN A HOSPITAL SETTING, A US HOSPITAL PERSPECTIVE
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OBJECTIVES: To evaluate the cost-effectiveness of Lutonix® 035 DBC (PDC10053) in comparison to other catheters/dilators available in the market for the treatment of peripheral arterial disease (PAD). A decision-tree model was developed to compare the cost-effectiveness of Lutonix® 035 DBC versus other catheters/dilators commonly used in the treatment of PAD in the US. RESULTS: The Lutonix® 035 DBC catheter appeared to be more cost-effective in reducing the cost of the treatment of PAD in the US. A1–A307

PMD23
IMPACT OF SAMPLE COLLECTION METHOD FOR EGFR MUTATION TESTING: COMPARISON OF BLOOD-BASED AND TISSUE-BASED COBAS® EGFR MUTATION TESTING IN THE TREATMENT OF LOCALLY ADVANCED OR METASTATIC NSCLC IN THE US
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OBJECTIVES: Sufficient tissue sample is not always available for EGFR mutation testing to direct treatment with tyrosine kinase inhibitors in NSCLC patients. We compared the cost-effectiveness of blood-based versus tissue-based cobas® EGFR Mutation Testing Methodologies and resulting treatment pathways in a hypothetical NSCLC US population health plan with 5 million covered lives and a baseline EGFR mutation prevalence of 16%. Inputs were based on published literature and Medicare fee schedules. RESULTS: When compared with clinical outcomes, the cost-effective EGFR mutation testing method was able to be cost-saving in the majority of analyses vs. individual therapies (e.g., DCB vs. SS-$2,202 to $2,967 per patient). Alternative analyses assuming incremental reimbursement predicted that DCBs could provide even greater cost-savings under a Medicare payment scenario. CONCLUSIONS: These analyses suggest that DCBs may provide cost-savings from a hospital perspective when considering the full range of comparators.