In April 2010, St. Joseph Hospital opened the nation's first true Hybrid Operating Room for the treatment of cardiac, coronary, and vascular conditions in adult and pediatric patients. A highly skilled multidisciplinary team from cardiovascular OR, cardiac catheterization lab, and interventional radiology work together in a single shared surgical environment. Team members include a surgeon, anesthesiologist, RN circulator, and scrub person from cardiovascular OR; a cardiologist, RN circulator, scrub person, radiology technologist, and recorder from cardiac catheterization lab; and a radiologist from interventional radiology. Efficient teamwork, a coordinated patient care plan, and aligned goals generate complex cardiac and vascular care for cases that are categorized in three levels; Level A: primarily surgical (i.e., thoracic aneurysm), Level B: true hybrid (i.e., AAA repair with endograft), or Level C: primarily closed catheter-based (i.e., congenital heart defect repairs). The imaging system also differentiates the Hybrid OR suite. The Artis Zeego is the first multi-axis imaging system that uses robotic technology and 3-D imaging DynaCT software. These high-resolution images of the heart and vascular system enhance diagnoses and treatment while reducing radiation exposure and contrast media usage. This technology provides patients who were previously non-surgical candidates due to age or history of multiple cardiovascular surgeries the opportunity for valve repair or replacement. The Hybrid OR also allows for a quick conversion from a minimally invasive procedure to surgery if needed, without relocating the patient or calling a surgical team. Shorter hospital stays, faster recovery times, and fewer complications are providing improved patient outcomes.

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It became evident through an integrative literature review that aspects of prevention and control of postoperative mediastinitis in cardiac surgery has been linked to major risk factors, such as being male, diabetes mellitus, and being of advanced age. The main agent in the cultures of the secretion was Staphylococcus aureus. The mortality from mediastinitis was on average 33%. The main forms of treatment were used to antimicrobial therapy and/or surgical debridement of the wound and duration of treatment on average was 25 days. A preventive measure in the surgical technique was seen as a determining factor. Emphasized were care related to surgical technique and skin disinfection. The control incidence for all authors surveyed was based on the knowledge and control of risk factors. The conclusion points to the difficult control of infection because it occurs intermittently and multifactorial etiology. As emphasis on aspects of preoperative prophylaxis: a clinical evaluation of patients preoperatively (infectious processes; lung preparation; minimum period of confinement preoperative skin preparation with antiseptic solution the night before and morning of surgery; glycemic control, defining the protocol for antibiotic prophylaxis; and more appropriate time for administration), intraoperatively suggested segregation of surgical instruments and excellence of surgical technique. Postoperative care was emphasized for clinical stabilization of the patient and expert manipulation drains, catheters, bandages, and surgical incision.

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Transapical aortic valve implantation is a minimally invasive procedure. Even though the procedure is minimally invasive, caution must still be taken to prevent any mishaps. Most patients that have this procedure are older patients who cannot withstand any other type of aortic valve implantation. Severe narrowing of the aortic valve is the main reason for the transapical aortic valve implantation. When this procedure is performed, preparation is extremely important. The procedure generally requires a team consisting of anesthetists, cardiac surgeons, cardiologists, and perioperative nurses. They all must work together to ensure the best outcome for the patient. Prior to the procedure, the team must go through disciplined training to learn the different steps of the procedure. It is also recommended that the team view an actual transapical aortic valve implementation performed by an experienced team. Once this is done, the team should perform an actual implantation under the supervision of an experienced team. The team should actually perform several of these procedures while under supervision until it is determined by the experts that they have become skilled and work together perfectly as a team. The procedure should be performed in a hybrid operating room with excellent imaging equipment. If this is not possible, a converted cardiac catheterization room is acceptable. Because the majority of patients having this procedure are elderly, detailed preoperative examinations are a must. These examinations are also considered part of the team preparation. All patients should have cardiac catheterization in order to determine if there are any pressing issues with the arteries. A lung function analysis should also be performed before the procedure and a transthoracic echo is necessary in order to find out if there are any other valve issues. All of these preoperative examinations are imperative and help the team determine whether or not the procedure should be performed or not. As with any other type of surgery, whether considered minimally invasive or major surgery, complications can arise. Under the supervision of the physician, the nurse will be responsible for most of the perioperative care of the patient. As a result, the nurse must be aware of any and all complications that may arise and must also know how to assist the patient with treatment and management of these medical issues. There are numerous other complications that may arise following this procedure and it is important to know that this type of surgery, as with any other type of surgery, is not foolproof. However, the success rate can be relatively high if the surgical team performing the operation and the nurse providing the postoperative care are both highly trained. It is also important that the patient follow the instructions after discharge to ensure that the recuperation period is speedy and without complications.

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By definition, congenital heart defects are cardiocirculatory anomalies both in structure and function. These malformations seem to rise from multifactorial interactions, encompassing genetic and environmental factors. Surgical techniques have been developed to maintain these children alive, evolving to correct cardiopathies which range from simple to complex congenital defects. Not only should the nursing staff enhance and perfect knowledge of technical and scientific aspects of care, but also engage in holistic care of the patient and family. This study proposes to describe the importance of nursing care provided to the family of a child who undergoes cardiac surgery. A literature review and a computerized search were conducted in the Scielo and LILACs electronic databases, and in scientific books of the Pe. Inocente Radrizzani library. This search centered Portuguese language publications from the past 10 years. It is clear that from the nursing perspectives, the child is the center of attention, not the family. This highlights the great importance for the nurse to approach the family members at the time of admission to the hospital. In doing so, the nurse makes them feel welcome and they can become familiar with the hospital routine and the procedures to be carried out on the child. Nursing care to the family members of children submitted to cardiac surgery is of extreme importance. During the hospital stay, the existence of “support groups,” where nurse and family can have the opportunity to clarify doubts and minimize anxieties, is fundamental, and should be part of the day-to-day activities. These practices reduce anxiety, as the family obtains clarification about the child’s situation.

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When Skin Marking Is Not an Option: Compliance to JC & WHO

Pediatric hospitals are challenged to implement the Joint Commission and WHO Patient Safety initiatives in a way that is not only safe for the pediatric patient, but also follows recommended practices. A collaborative team of physician champions, nurses, educators, and quality improvement staff developed and implemented a patient safety process to identify side/site and procedure for children when traditional skin marking is not a viable method, and developed procedure checklists for use in perioperative settings, interventional radiology, and bedside procedures. The 2010 NPSGs and WHO checklist were adapted and implemented at Phoenix Childrens Hospital to accommodate the challenges of patient safety when dealing with neonates, critically ill, and very young children whose skin surface could not be marked. By utilizing a bright blue extremity band, the proceduralist/surgeon is able to document the procedure, side/site, and add their initials on this band, which is then placed on the child prior to the procedure. The team additionally developed time-out visual checklists to be used in any area of the facility. Housewide education was provided, explaining changes to the current Universal Protocol, the use of the blue bands, and the significance of the checklist. Super users from each care area were identified and trained. An audit tool was developed to track compliance and was initiated in April 2010. Ongoing evaluation of the audit tool and visual checklist has lead to positive changes, and an increased awareness of the importance of the time-out process regardless of where the procedure is performed within the facility.

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POSTER SESSION HANDOUTS

SESSION # 3386
POSTER ID: 75
POSTER TITLE: Minimally Invasive Surgery (MIS) Techniques and Nursing

Surgery by video has largely replaced conventional surgery; the objective being improvement of surgical techniques and less invasive procedures to patients. The evolution of surgical techniques resulted in robotic surgery, which theoretically provides access procedure with smaller incisions that can translate into reduced surgical trauma, lower costs, reduced length of stay, lower infection rate, and aesthetic advantages. However, we must consider that conventional, laparoscopic, and robotic surgeries have various indications, advantages, and disadvantages. The surgical technique used has a direct impact on the clinical manifestations of the patient intraoperatively and immediately postoperatively, and a need of nursing care for a satisfactory outcome of the post-surgical patient. The conventional laparotomy accesses the abdominal wall incision for exposing the abdominal cavity and increases the risk of bleeding and infection. In the video-laparoscopic method, incisions are made for minimum visualization of the cavity and insertion of instruments, but the need to inflate the cavity to broaden the view makes the position of the surgeon uncomfortable, the picture is subject to earthquakes due to manipulation of the camera, and the awakening from the anesthetic is slow. In robotic surgery, a robotic arm that manipulates the camera is used and responds to voice command, and the time of the surgery is three times longer than a video-laparoscopy. Robotic surgery is called minimum access, but the invasion of the cavity occurs in the same proportions. Only by training the medical and nursing teams will it be possible to minimize the risk of complications for the patient in the perioperative period.

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SESSION # 3386
POSTER ID: 76
POSTER TITLE: Minimally Invasive Surgery at SHC Thompson Peak Hospital

Scottsdale Healthcare Thompson Peak Hospital (TPK) is a small community hospital with six operating rooms (ORs) located in the majestic McDowell Mountains in sunny Scottsdale, Arizona. TPK began providing patient care on November 5, 2007. TPK may appear to be in the infancy phase for a new health care facility but TPK has exceeded the planned expectations with providing advanced Minimally Invasive Surgery (MIS) procedures. Some examples are daVinci robotic hysterectomy, anterior hip arthroplasty, and extreme lateral interbody fusion (XLIF) for spine surgery. When initiating these new and successful MIS programs at TPK, they required team work and collaboration from TPK administration, surgeons, anesthesiologists, nursing, surgical technicians, and CSPD. The daVinci robotic system is used primarily for gynecology oncology procedures. There is a significant decrease in blood loss and a much more precise surgery performed. The MIS Anterior Hip Arthroplasty (AHA) provides a smaller surgical incision than the conventional Total Hip Arthroplasty (THA). These patients do not require the traditional abductor pillow, and are able to stand and walk much sooner compared to the traditional THA recovery. The XLIF is not for every patient but for those patients that qualify, it is less invasive than the anterior approach. With this XLIF approach, it allows the surgeon to make a smaller incision and avoid major muscle groups, major organs, and major blood vessels. With these TPK MIS procedures, our patients have minimal tissue damage, decreased recovery time, less postoperative pain, and less pain medication is needed, as well as a shorter hospital stay. There is marked improvement with patient satisfaction and the quality of our patients lifestyles!

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The diagnoses of acute pain affects more than 60% of patients during recovery from anesthesia. Acute pain is associated with neurodegenerative changes, such as tachycardia, hypertension, sweating, pallor, agitation, and anxiety. The aim of this study was to compare the manifestations of acute pain in patients during recovery from anesthesia, related to preventive analgesia in the operating room (OR). The sample consisted of two groups of patients during anesthesia recovery, with group one comprised of 20 patients who received no preventive analgesia in the OR, and the second group of 20 patients who received some type of analgesia in the OR, such as opioids and non-steroidal anti-inflammatories. The results showed that 20 (100.0%) of patients in group 1 felt pain, characterized as severe pain, and of these 16 (80.0%) had two or more neurovegetative changes, such as tachycardia, hypertension, and pallor, lasting 30 to 60 minutes for improvement after analgesic administration. Of the group 2 patients who received analgesia in the OR, four (20.0%) had pain considered moderate, with a sign neurovegetative like pallor. We conclude that preventive analgesia in the OR reduces the neurovegetative manifestations triggered by acute pain, providing better rehabilitation, decreasing pulmonary, cardiac, early ambulation, lower incidence of thromboembolism, reduced hospitalization time, and comfort the patient.

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Purpose: To educate perioperative nurses in an out-patient surgical center regarding the care of the patient receiving the Oxford Uni Compartmenental Knee Replacement surgery. A pictorial overview of patient selection, anesthesia, pain management, steps of the surgery, and the postoperative care and discharge of the patient.

Methodology: We held a PowerPoint presentation for all of the nursing staff and all of our ancillary employees. The presentation consisted of a pictorial overview of the perioperative experience of a patient about to receive a Uni Compartmenental Replacement Knee, from admission through the intraoperative process and discharge.

Result: With this increased education, we are better able to give the best possible care to our Uni patients. And there is a greater appreciation for all of the preparation and work done by the entire team. We are much more informed and able to help educate the community.

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During total knee arthroplasty, an assistant surgeon needed to use one hand to maintain the patient's knee position in flexion, stabilizing the foot on the operative table. To reduce the workload of the assistant surgeon, a new foot supporting instrument was designed to stabilize the foot during total knee arthroplasty. Perioperative registered nurses prepared and planned a newly designed foot supporting instrument made of an L-shape metal rod. The diameter of the rod was an inch and the length of both limbs of L-shape rod is 12 inches. One limb of the L-shape rod was covered with leather and soft rubber to support the plantar surface of the foot. The other limb was firmly connected to the side of the operative table.

Assessment: A newly designed foot supporting instrument was used on 20 patients who were undergoing total knee arthroplasty surgery.

Implementation: A newly designed foot supporting instrument was evaluated and includes the satisfaction of the surgeons and the effectiveness of the instrument in maintaining knee flexion during surgery.

Outcome: The average score for reduction of surgeon's workload was 3.90, convenience during surgery was 3.88, patient safety was 3.90, usefulness was 3.90, and surgeon's satisfaction was 3.93. All the scores evaluated were in the excellent grade.

Implication for Perioperative Nursing: The newly designed foot supporting instrument should be used to reduce the workload of surgeons and assistants and provide convenience during total knee arthroplasty surgery.

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