

Sternal Wound Healing Tenets

Maryland Cardiac Surgery Quality Initiative

State-wide Mission

The cardiac surgery teams in the state of Maryland are composed of multiple specialties of health care delivery. The team effort is important during the preoperative, intraoperative, and postoperative management of patients. We are committed to providing safe and efficient, highly complex operative procedures, which promote excellent healing of all patient's operative incisions. Our comprehensive team is dedicated to all aspects of wound healing and establishing the highest standard of wound care. Our philosophy is that every wound can heal with the most innovative, comprehensive, and compassionate treatment for all of our patients.

Importance of Wound Healing Protocol

Wound healing is the process by which the skin, subcutaneous tissues, and bone repairs itself after injury. There are 4 phases of wound healing: (1) hemostasis, (2) inflammatory, (3) proliferative, (4) and remodeling. The process of wound healing is not only complex, but often affected by many different intrinsic and extrinsic factors. The importance of enhancing intrinsic wound healing factors, such as preoperative control of glucose levels in a diabetic patient, or cessation of smoking prior to surgery, is paramount. Other intrinsic factors, such as a patient's underlying medical condition, immunologic competency, and nutritional reserve are complex factors contributing to each phase of the wound healing process. Factors at the time of surgery, which can either inhibitor or enhance wound healing phases, are also critical for successful wound healing.

Results of State-Wide Survey of Best Practice Guidelines

In March, 2017, each hospital participating in cardiac surgery in the state of Maryland completed best practice-guidelines for a sternal wound-healing initiative. The following recommendations are based on practices achieved in greater than 50% of the Maryland hospitals. These guidelines are not meant to supersede any surgeon preference, nor are they meant to represent an all-inclusive approach to sternal wound healing.

MCSQI

STERNAL WOUND HEALING INITIATIVE

MCSQI Sternal Wound Healing Best Practice Guidelines

A. Preoperative Wound Healing Initiatives

1. Mupuricin in nares in all patients, if possible.
2. Bathe with Hibiclens night before and morning of surgery, if possible.
3. Hair clipped morning of surgery, if possible.
4. We recommend shaving facial hair prior to surgery.
5. Pre-op antibiotic given within 60 minutes of incision.
6. Smoking Cessation, at least 2 weeks prior to surgery, if possible.

B. Intraoperative Wound Healing Initiatives

1. Absolute & Strict Sterile Technique & Environment, Systematic Control
2. Facility Maintenance & Management of sterility
3. Clip hair in OR only if absolutely necessary (e.g., salvage or emergency cases)
4. Incision area scrubbed x 2 with hibiclens scrub
5. Prepped chin to ankles with Duraprep
6. loban placed on chest over incision area after completion of procedure
7. Pre-op antibiotic given included in the 'time out'
8. Tight intraoperative glucose control (glucose levels 100-140 mg/dL).
9. Repeat intravenous antibiotic dose four hours after incision.
10. Vancomycin Paste (6 gramsVanco/6cc normal saline), applied to sternal table at the time of closure

C. Post-operative Wound Healing Initiatives

1. Careful handwashing (soap & water) before & after every patient's dressing change.
2. Use of gloves during any wound care management
3. Do not remove Op-site / Dressing for at least 7 days unless excessive bleeding.
4. Tight glucose management (100-140)
5. Nutritional Supplementation & Management
6. Smoking Cessation education prior to discharge