

A Potential Low Frequency Source of Post Operative Wound Infections

Arnold B. Vardiman MD; Bradley Dengler MD

Department of Neurosurgery

University of Texas Health Science Center San Antonio

Introduction

Post operative wound infections constitute a costly, and potentially dangerous event. All means to limit intraoperative contamination of the surgical environment deserve consideration. Low frequency contributors to field contamination may be difficult to detect but may include surgical mask design that enhances exhaled breath vapor condensation that may weep off the mask and contaminate the field.

Methods

All surgeons are perpetually vigilant of the sterility of the surgical field. Scrutiny of the operative staffs choice of surgical masks and the presence of significant condensation of droplets of liquid on the outer plastic "vapor barrier" of the surgical masks was followed by witness on occasion of the liquid from the mask dropping on the field. Long cases, vigorous exertion, and "trapping" of the exhaled air between the outer plastic vapor barrier and overlying safety glasses may contribute to this phenomena.

Results

Close scrutiny of "Vapor Barrier" type masks to avoid contamination of the operative field would appear prudent.

Conclusions

Though rare, specific surgical mask designs may result in a source for intraoperative contamination and infection.

Learning Objectives

Recognize a potential source of intraoperative contamination that may lead to post operative wound infections.

Surgical Mask with "Vapor Barrier Film"

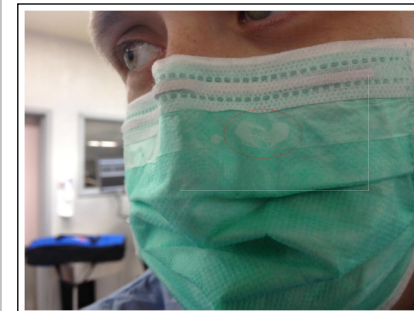


Figure 1. Surgical mask with "Vapor Barrier Film" which allows condensation of water droplets and potential contamination of the surgical field. An inner film along the inside of the mask does not prevent the condensation of water droplets on the outer film layer.

Detail of "Vapor Barrier Film".



Figure 2-Deatil of "Vapor Barrier Film". Note the free bottom edge that allows for fluid droplets to fall into the surgical field.



Area of condensation along inner aspect of vapor barrier.