Do Double Gloves Reduce Risk of Intraoperative Blood Borne Infection?

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Purpose: Surgical teams rely on surgical gloves as a barrier to protect themselves against blood-borne pathogenic infections during surgery, but perforation of the glove increases the risk of surgical team exposure to blood borne pathogens during surgery. However, wear double gloves practice varies between different surgical specialty. The study aimed to determine double gloves reduces the incidence of blood borne infection compared with single glove.

Methods: Data collected in (June 1, 2016 ~ August 31, 2016), a total of six operation room 400 pair gloves were collected from the Colon and Rectum Surgery and Orthopedics. Twenty Participants includes first surgeon, second or assistant surgeon and scrub staff, all the gloves used in the study were Ansell latex powderdered sterile surgical gloves. By using fluorescent testing to observed visible blood on the hands of surgical team members and air-inflation tests were used to detect number of perforation to innermost gloves.

Results: Glove perforations was detected in 11 of 141 sets of single-gloves (7.8%), and 9 of 259 sets of innermost gloves in the double-gloved (3.47%), the most common site of perforation was in the left hand with 5 of 20 (25%). Single gloves use was higher prevalence of blood borne infection of Colon and Rectum Surgery than double gloves of Orthopedics (16.9% vs. 2.7%). It was lower prevalence of perforations in innermost after double gloves intervention of Colon and Rectum Surgery (0.8%). We used fluorescent testing to check surgical team members hands whether contaminated with blood after remove gloves (0%).

Conclusion: This study proved effectiveness whether double gloves decreases the risk of blood borne infection and exposure blood borne pathogens compared with single glove. Until now, double-gloving has not been a common practice among the Surgical teams members. The study can be extended in parallel to improve the quality of operation room, it should be introduced as a routine practice.