

JTTS CLINICAL PRACTICE GUIDELINES FOR IRRIGATION OF WAR WOUNDS

Introduction:

Irrigation of wounds is the most common war surgery and it prevents wound problems by removing debris, blood, and bacteria. Recent evidence challenges the current practice of routinely using high pressure pulsatile lavage devices (HPPL), and questions of fluids, additives, and volumes have been clarified.

Devices:

BLUF: simple bulb irrigation or gravity irrigation is preferred. While HPPL is fast, available, and easy to use in washing wounds it traumatizes tissue such that at 2 days after HPPL, bacterial load rebounds more than gentler methods such as bulb syringe use. Gentler methods lead to the least rebound and are the cheapest and widely available. Large bore gravity-run tubing should be used (such as Baxter's Y-Type TUR Irrigation Set of tubing for urologic cystoscopy 2C4005, Deerfield, IL: NSN 3218654401; Unit of issue is 20 to a case) which is as gentle as bulb syringe but is faster and accepts 2 bags at once. Traditional debridement (Emerg War Surg Handbook, 3rd US Revision, 2004, Chpt 22) should be performed in addition to irrigation.

Fluids: Research demonstrates that normal saline, sterile water and potable tap water have similar usefulness and safety. The sterile isotonic solutions are readily available and remain the fluid of choice for irrigation. If unavailable, sterile water or potable tap water can be used.

Additives: BLUF: No additive is recommended for routine irrigation of war wounds. No additive is demonstrated to be best, and none is shown to be substantially beneficial for routine use compared to no additive. Additives such as antibiotics, surfactants, soaps, and antiseptics add cost, time, nursing care, and risk sensitivities, cytotoxicities, allergies, and anaphylactic death. Specific wound types such as with petroleum contamination appear to do better with surfactants.

Volume: Bacterial loads drop logarithmically with increasing volumes of 0, 3, 6, and 9 liters of irrigation. Recommend 1-3 liters for small volume wounds, 4-8 liters for moderate wounds, and 9 or more liters for large wounds or wounds with heavy contamination.

Conclusion: We recommend warm 3 liter bags of sterile normal saline without additives through gravity-run cystoscopy tubing with 1-3 liters for small volume wounds, 4-8 liters for moderate wounds, and 9 or more liters for large wounds. Individualization is appropriate for cases that are not routine.