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SAFETY • SECURITY • SANITATION

HOCL

AS AN ANTIMICROBIAL AGENT TO PREVENT AND TREAT SSI.

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POTENT ANTIMICROBIAL

Tropical antimicrobials are frequently used in conjunction withtreatment and surgery to prevent and reduce the likelihood of infection. Hypochlorous acid (HOCl) is naturrally accurrinfg and its benefits has been well documented.

In the human body, cells produce hypochlorous acid (which helps destroy bacteria).

HOCl is a potent antimicrobial capable of eradicating bacteria including antibiotic-resistant strains, viruses, fungi, and spores.

Mode of action.

When water and sodium hypochlorous interact, they produce Na+ and OCl-in an equilibrium. Hypochlorous acid is the active component responsible for bacterial disruption by chlorine-releasing agents (CRAs).

ELECTROLYZED WATER (EW) SANITIZATION SOLUTIONS

Effective & stable

Non-corrosive

High applicability

including high-risk settings such as hospitals & food processing environments

Extended shelf life up to 2 years

have surged in popularity as novel broad-spectrum sanitizers due to their highly effective protective properties against an array of pathogens.

Purefic's full line of electrolyzed water bio sanitation products are 100% natural, safe for human beings and the environment. We offer customizable sanitization programs to facilitate the needs of any industry and offer variable size models that are tailor-made for any size traffic volume.

NON ACUTE ORAL TOXICITY

NON RESPIRATORY AND INHALATION EFFECTS

NON DERMAL TOXICITY

NON REPRODUCTIVE & DEVELOPMENTAL EFFECTS

NON FLAMMABILITY

Toxicity, flammability and compability of materials should de considered in selecting an appropriate disinfectant. Hypochlorous is not flammable and not know to release harsh chemicals. Hypochlorous acid should not be mixed with ammonia-based products, as chloramines can be released.

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SSI PREVENTION AND TREATMENT

Definition of SSI

There are 3 different types of surgical site infection defined by the Centers for Disease Control and Prevention (CDC):

- Superficial Incisional SSI
- Do not report the following conditions as SSI
- Deep Incisional SSI

COST OF SSIs

Surgical site infections raise costs due to prolonged hopitalization, additonal diagnostic tess, therapeutic antibiotic treatment and additional surgery.
A recent study synthesizing the results of 16 various studies examining the cost of SSIs revealed a mean increase of 115% for the cost of care of a patient with an SSI as compared with no infected control subjects.

PATIENT RISK FACTORS

Several patient characteristics have been shown to have a significant, independent association for SSI prediction: diabetes, cigarette smoking, obesity, and coincident remote site infections or colonization.

OPERATIVE CHARACTERISTICS

Wound classification is a system developed by the National Academy of Sciences and the National Research Council, is a strong predicting factor for subsequent development of SSI.

- 1. Clean wounds are characterized by incision into nonviscus, uninfected, no inflamed tissue that is subsequently closed primarily.

- 2. Clean-contaminated wounds result from intentional, controlled entry in a hollow viscus (respiratory, alimentary, genital, or urinary tract) without subsequent contamination.

- 3. Contaminated wounds, on the other hand, involve accidental visceral entry, operations complicated by gross spillage , departure from sterile technique, or incision into an area of purulent inflammation.

- 4. Dirty wounds involve surgery on tissue with retained devitalized tissue, foreign bodies, fecal contamination, perforated viscus, or existing, ongoing clinical infection.

A near-linear relationship of escalating wound classification and subsequent SSI has been demonstrated in the literature, with as low as 1.3% of clean wounds and as many as 40% of dirty cases complic ated by SSI.

SURGICAL ATTIRE

HOCL may dramatically reduce infections in Operating Rooms.

Few studies have examined whether a correlation between surgical attire and SSI exists.

- 1. Surgical masks in the operating room reduces SSIrisk.
- 2. Standard use of "scrub suits," surgical caps,and shoe covers have never been definitively demonstrated to reduce rates of surgical infection. A lthough SSI outbreaks have been traced to hair or scalp organisms (regardless of whether a cap was worn), and increased foot traffic through the operating room has been demonstrated to increase ambient microbial levels and ensuing infection risk.

PREOPERATIVE ANTISEPTIC SHOWERING

HOCL may be superior to clorhexidine in preoperative skin disinfection, especially in neonates, premature babies, NET surgery and gynecology.

Six randomized, controlled trials involving a total of 10,007 patients were examined in a 2007 Cochrane Database review regarding preoperative bathing with skin antiseptics to prevent SSI. Chlorhexidine gluconate was not demonstrated to result in any improvement in SSI as compared with placebo or with bar soap, with the exception of 1 large study revealing a benefit to chlorhexidine washing as compared with no bathing preoperatively. Consistent with these findings, a Swedish-based study examining preoperative vaginal cleansing with chlorhexidine on postoperative infectious morbidity in total abdominal hysterectomy failed to demonstrate a benefit.

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PREOPERATIVE HAIR REMOVAL

HOCL hair washing may significantly reduce SSI, nontoxic and inflammable.

Numerous randomized, controlled trials have examined the practice of preoperative hair removal and its relation to operative site infection. Hair has often been perceived to be associated with a lack of cleanliness, and its removal linked to infection prophylaxis.

Routine preoperative shaving was not shown to decrease the risk of SSI in laparotomies in 2 randomized, controlled trials, and has been implicated in higher rates of infection. Studies have shown that shaving the skin as compared with clipping results in a statistically significant increase in the rate of SSI. Shaving results in microscopic cuts and abrasions,thus acting as a disruption of the skin's barrier defense against microorganism colonization.

PREOPERATIVE HAND ANTISEPSIS

HOCL for hand wash before and after sterile gloves usage.

The risk of SSI stems not only from exposure to the patient's own natural flora, but also from the inadvertent transfer of microorganisms from surgeons and surgical staff to the patient.
Sterile gloves are worn in the operating room as a primary barrier against such transfer. This method of antisepsis, however, is not foolproof.

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PATIENT SKIN PREPARATIONS PRIOR TO SURGERY IN OPERATING ROOM

The purpose of preoperative skin antisepsis is to remove soil and transient organisms from the skin. The skin is a dynamic home to a large number of bacteria, with up to 3 million microorganisms on each square centimeter of skin.

Most commonly, SSI occurs from commensal organisms such as staphylococci, diphtheroid organisms, Pseudomonas, and propionibacterium species that are consistently present on a patient's skin, compared with transient organisms that are more easily removed.

Any chemical agent for microbial reduction of the skin ideally kills all skin organisms, is nontoxic and hypoallergenic, and does not result in significant systemic absorption.

Antiseptics are split into 3 major types:

1. Iodine/Iodophor
2. Chlorhexidine
3. Alcohol-based preparations

SURGICAL SITE INFECTION (SSI)

accounts for 15% of all nosocomial infections and, among surgical patients, represents the most common nosocomial infection. Postsurgical infection leads to increased length of postoperative hospital stay, drastically escalated expense, higher rates of hospital readmission, and jeopardized health outcomes .

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FOR OPERATIONS ROOMS

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FOR SURGICAL TOOLS AND MEDICAL EQUIPMENT

WE PROVIDE A SAFE ENVIROMENT

For people with a fragile immune system.

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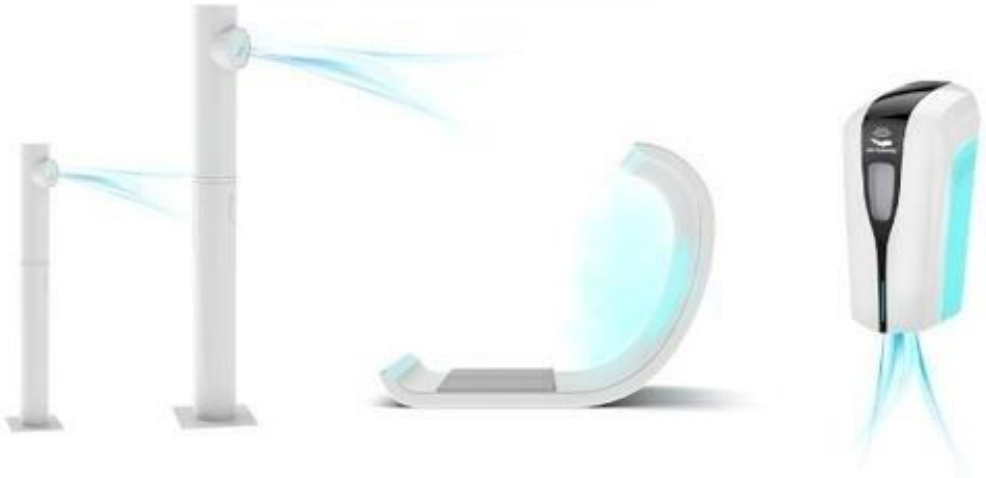
OUR SOLUTIONS

TUNNELS

DEVICES



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