



Cleaning & Sanitising – Medical range

Working in harmony with nature to protect

Introduction

- Hospitals, nursing homes and similar establishments are now acknowledged to have a major pathogenic problem – **Methicillin Resistant Staphylococcus aureus**.
- This represents a significant and **life threatening** cause of hospital acquired infection, and the hospitals act as a reservoir for this pathogen.
- Staphylococcus aureus is a pathogen found in the warm and moist areas of the body. In healthy people it causes little harm, but can cause severe and **dangerous infections** in patients who have had surgery, or who are suffering from boils, septicaemia or pneumonia.
- Staphylococcus aureus is a **thick walled bacterium**, with the ability to develop **resistance** to antibiotics.
- The most resistant strain of this bacteria encountered is resistant to the powerful antibiotic, methycillin and is therefore known as *Methicillin Resistant Staphylococcus aureus*, generally abbreviated to “**MRSA**”.
- New antibiotics were developed to overcome this trend, but *S.aureus* again developed **resistance** to these new antibiotics, with potentially disastrous consequences for patients from wound infection.



Main applications

- Citrox hospital grade range of products pro-actively eliminate, control and reduce the incidences of virulent and microbial diseases which have become immune to toxic based alternatives, including **Methycillin Resistant Staphylococcus Aureus, "MRSA"**.
- They can be used for:
 - The cleaning of **hospitals, clinics, nursing homes** and all similar establishments to remove a wide range of pathogens including MRSA.
 - The reduction of **cross infections** by use in staff personnel and visitor's personal hygiene.
 - The cleaning of all types of **medical equipment** including surgical instruments.

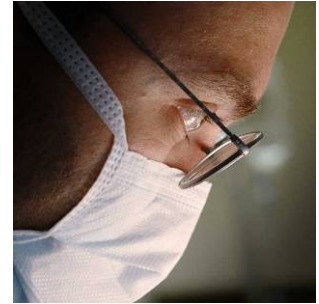
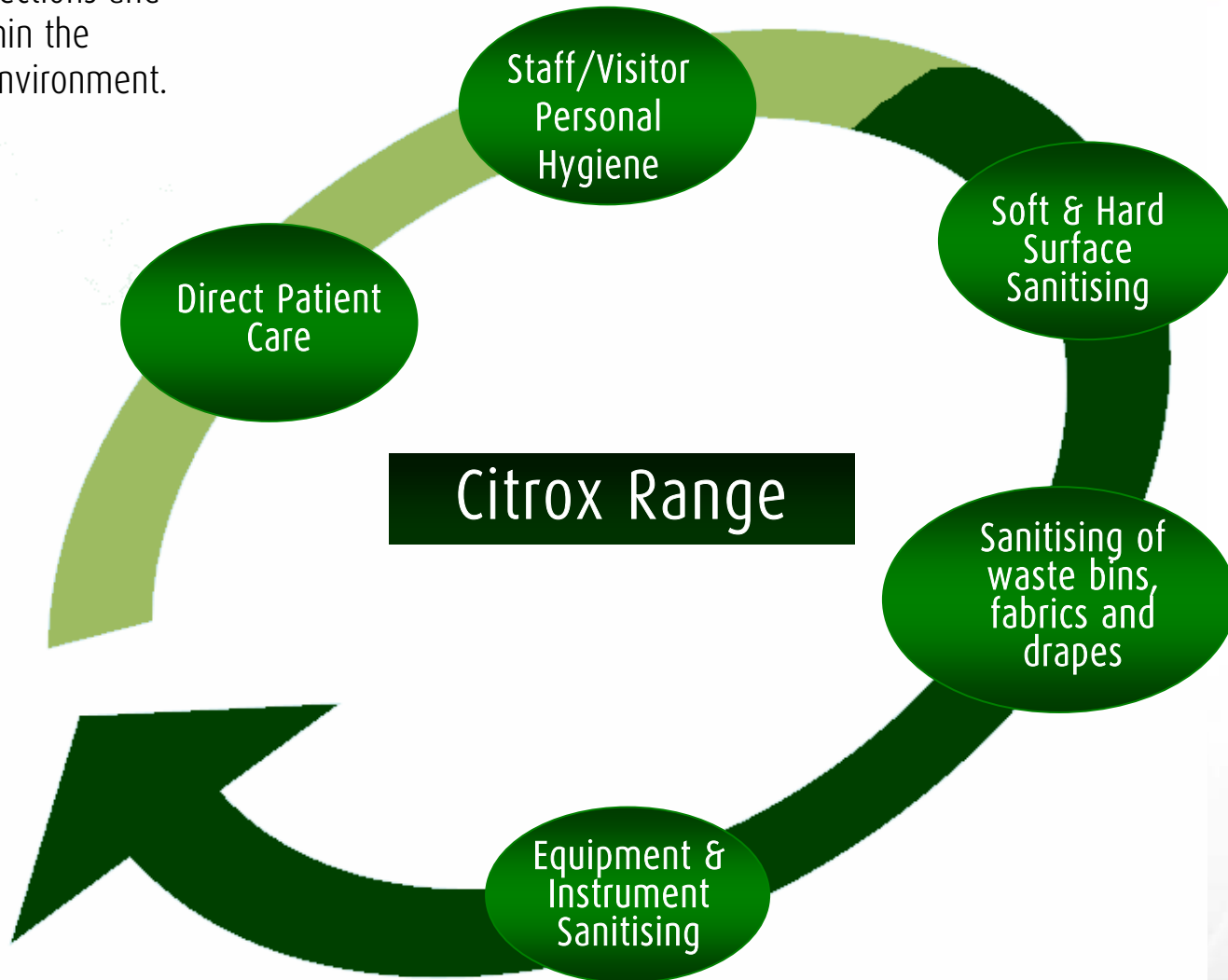


Figure 1: A complete holistic approach to the control of infections and diseases within the HealthCare environment.



Benefits

- Effective against MRSA
- Broad spectrum biocide against bacteria, (gram positive and gram negative) viruses, moulds, yeast and fungi.
- Breaks down biofilm
- Effective in the presence of organic matter
- Strong residual effect
- Non-tainting
- Non-toxic, Non-carcinogenic, Non-mutagenic
- Non-corrosive
- Hypoallergenic
- Citrox ingredients are recognized as non-toxic, hypoallergenic, non-mutagenic, non-carcinogenic and non hazardous to humans.



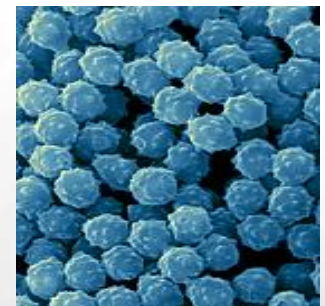
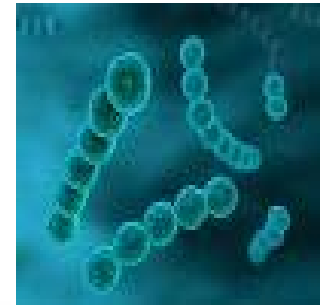
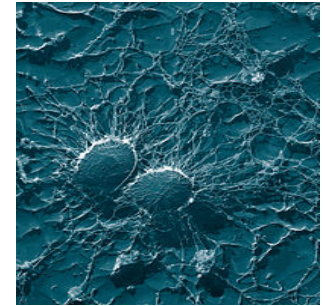
Pathogens tested to date

Bacteria

Campylobacter jejuni
Dipiodia natalensis
Escherichia coli
Geotrichum candidum
Klebsiella pneumoniae
Lactobacillus pentoaceticus
Legionella pneumophila (NCTC 11192)
Listeria monocytogenes
MRSA (clinical strain)
Mycobacterium fortutum (NCTC 8573)
Proteus vulgaris
Pseudomonas aeruginosa (ATCC 15442)
Salmonella cholerasuis
Salmonella typhimurium (DT004)
Staphylococcus aureus (NCTC 6571)
Staphylococcus pyogenes
Staphylococcus sp.
Streptococcus faecalis

Yeast and Fungi

Aspergillus flavus
Aspergillus niger
Aspergillus terreus
Botrytis cinerea
Candida albicans
Candida glabrata
Chaetonium globosum
Cladosporium
Collectotricum sp.
Fusarium sp.
Geotrichum candidum
Mucor sp
Penicillium sp.
Penicillium digitatum
Penicillium funiculosum
Penicillium italicum
Penicillium roqueforti
Phomopsis ortl
Pullularia pullulans
Pythium sp.
Trichophyton interdigitale
Trichophyton mentagrophytes



All of the pathogens/viruses are tested at independent laboratories.
Certificates & reports available on request.

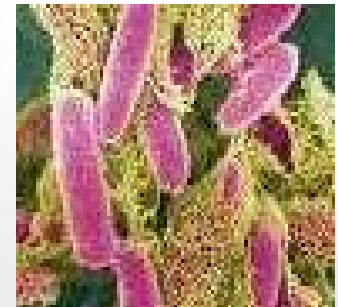
Pathogens tested to date

Viruses

Human Rhinovirus - Retroscreen Virology
Influenza A - Retroscreen Virology
Human Immunodeficiency Virus (HIV) - Retroscreen Virology
Urban SARS - Retroscreen Virology
African swine fever
Avian influenza
Foot & mouth disease
Gumboro virus
Herpes virus type 1 & type 2
Herpes zoster
Hepatitis A & B
Newcastle disease
Severe Acute Respiratory Syndrome (SARS)

Protozoa

Histomonas meleagridis
Giardia lamblia
Entamoeba histolytica
Blastocystis hominis

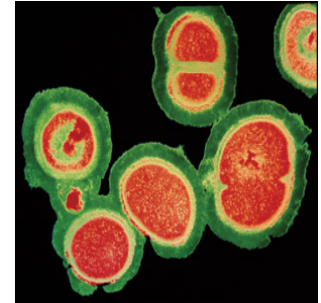


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In the control of M.R.S.A. and other opportunistic pathogens

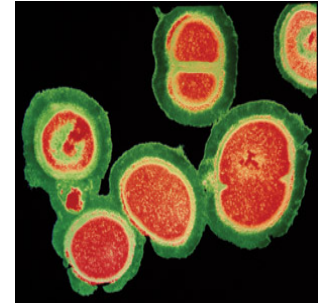


- Health Care organisations and hospitals especially now have a major pathogenic problem: **Methicillin resistant Staphylococcus Aureus**, generally shortened to "**MRSA**". S. Aureus is a pathogen found in warm moist areas of the body without immediate harm to them.
- It can cause **infections** to other hospital patients i.e. hospitals can act as a reservoir for this pathogen.
- S. Aureus can cause **abscesses, boils, septicemia and pneumonia**.
- S. Aureus is a **bacterium with thick cell walls** which is able to develop **resistance to antibiotics** and this has resulted in serious outbreaks in hospitals.
- New antibiotics were evolved to overcome this trend, but S. Aureus has now developed further and can **resist the new antibiotics**, and appears to be able to repeat this process of adaptation, with the possibility of **disastrous consequences** for patients as a result of wound infection.



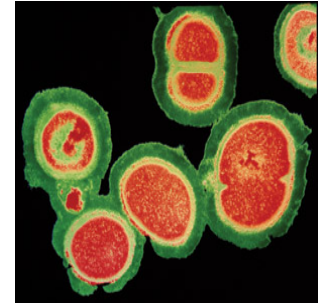
MRSA issues

- The **financial cost** of treating MRSA is a matter of great concern to world Health Services.
- MRSA is transmitted by **direct contact** with hands, skin, dust and equipment.
- It has proved particularly dangerous in **wound infections** following surgery, and in some cases is known to have been acquired from operating theatre staff.
- **Areas** especially **at risk** from MRSA are intensive care unite, transplant units, neo-natal units and orthopaedic wards.
- The general approach is that the best answer to MRSA is an **active control programme**, and that inaction is unacceptable – MRSA will not just “go away”.



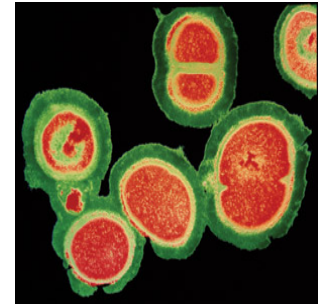
MRSA Control Programs

- Methods that can be employed in active MRSA control programmes are as follows:
 - Avoid use of **antibiotics** except where essential – unnecessary use has contributed to the development of the antibiotic **resistant strains**.
 - **Screen patients** pre-operatively. This is expensive but effective as it identifies those people who are particularly at risk.
 - Elimination of MRSA **before surgery** if at all possible. This is case where the use of powerful antibiotics to prevent infection is entirely justified.
 - **Non essential equipment** should be removed from operating theatres to minimise the role of equipment in contamination by contact.
 - Patients identified as MRSA positive should be placed at the end of the day's operating list. This avoids the **risk of infecting** uncontaminated patients.
 - MRSA contaminated patients should be allowed to **recover initially in the operating theatre** or in specially isolated areas.
 - Operating theatres should be **cleaned** especially thoroughly, using an effective and long lasting cleaning agent after treating an MRSA positive patient.



The role of Citrox in controlling MRSA

- MRSA is a dangerous problem and all possible techniques to **prevent its spread**, both to patients and to medical staff, should be deployed.
- Citrox products have been shown, microbiologically, to be **effective against MRSA**, and can have a major and positive influence on the problem.
- Citrox can be used **holistically** throughout various hospital facilities for hygiene procedures including:
 - Cleaning and disinfection of **instruments**
 - General disinfection of **hard surfaces** (walls, floors, working surfaces etc).
 - Cleaning and disinfection of **waste bins**, fabrics, curtains and other drapes.
 - **Personal hygiene** (where it is “kind” to the hands).
 - Citrox is unique in this field in that it is completely non-toxic, hypoallergenic and requires no special precautions in use or disposal.



“Nothing in the world is as powerful as
an idea who’s time has come.”

Victor Hugo

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