

Chlorhexidine

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Introduction

Name

- Chlorhexidine.

Class of drug

- Antiseptic.
- Synthetic cationic compound.

Description

Chemical name

- Chlorhexidine gluconate.

Molecular formula

- C₂₂H₃₀Cl₂N₁₀.

Molecular weight

- 505.45.

Uses

Action


- Exhibits bactericidal activity against a wide range of micro-organisms.
- More effective than povidone-iodine to *Staphylococcus aureus*.
- Some gram negative organisms may be resistant.
- Disrupts bacterial cell membrane and precipitates cell contents without significant effects on mammalian cells.
- Bound to cell walls so slow effect but prolonged activity: 5-6 h.
- Some effect on some species of fungi but this is a weak effect.
- No antiviral effects at all.
- Retains activity in face of organic contamination (blood, pus or other organic material).

Indications

- Minor skin wounds.
- Bacterial dermatitis.
- Skin disinfection and cleaning.
- Surgical scrub.
- Navel disinfection in neonatal foals - significantly better effect than even strong (7.5%) iodine solutions because of the duration of effect.

Administration

Do not mix with

 Chlorhexidine is inactivated by hard water, non-ionic surfactants, soaps and anionic substances.

- Dilution with saline causes precipitation and loss of activity.
- Activity is pH dependent.

Precautions

Contra-indications

- With soaps and anionic detergents.

Use with care

- On open wounds - should be carefully considered.

Adverse Reactions

Effects of overdose

- Extremely low tissue toxicity but still has some harmful effects on cells in wound sites.

Further Reading

Publications

Refereed Papers

- Recent references from [PubMed](#) and [VetMedResource](#).
- Paterson S (1997) **Dermatophytosis in 25 horses - a protocol of treatment using topical therapy.** *Equine Vet Educ* **9**, 171-172.
- Southwood L L & Baxter G M (1996) **Instrument sterilization, skin preparation, and wound management.** *Vet Clin North Am Equine Pract* **12** (2), 173-194.
- Dwyer R M (1995) **Disinfecting equine facilities.** *Rev Sci Tech* **14** (2), 403-418.
- Russel A D (1986) **Chlorhexidine: antibacterial action and bacterial resistance.** *Infection* **14**, 212-215.

Other Sources Of Information

- Derived from **The Veterinary Formulary** (1998) 4th edn. Ed: Bishop Y. British Veterinary Association and Royal Pharmaceutical Society.