

Clear Path HTC for Equine Topical Wound Care

[pH-neutral, on-demand Clear Path Solution for wound cleansing, biofilm control, tissue recovery, and management of the wound microenvironment]

Executive summary

Clear Path HTC is an equine wound wash, rinse, and pre-bandage solution produced using ReliOx Technology. It generates a pH-neutral aqueous chlorine dioxide-based Clear Path Solution at point of care, designed for use on equine topical wounds under veterinarian guidance. The product is intended to support cleansing, irrigation, debridement, reduction of wound contamination, biofilm disruption, odor reduction associated with contaminated wound burden, and preparation of the wound for dressing and protection.

Clear Path HTC is particularly relevant in equine environments where wound care is complicated by heat, humidity, flies, bedding, soil, sweat, repeated contamination, and slow-healing distal limb wounds. In warm, moist climates such as South Florida, contaminated wounds can develop necrotic odor, exudate, bacterial overgrowth, biofilm, and tissue breakdown products. These characteristics are highly attractive to flies and can increase the risk of larval contamination or wound myiasis.

Clear Path HTC helps manage the wound conditions that attract flies by cleansing contaminated tissue, reducing odor-producing bacterial and necrotic burden, weakening biofilm, supporting removal of debris, and helping create a cleaner wound microenvironment better suited for healing.

Clear Path HTC is a pH-neutral aqueous chlorine dioxide solution produced on demand by the ReliOx cartridge/device, delivering gentle oxidative cleansing appropriate for equine skin and superficial soft tissues, with conversion of precursor chlorite to chlorine dioxide with extremely low residual unreacted chlorite. Within current equine wound care protocol Clear Path is positioned as an irrigation and topical cleansing solution used during and after debridement followed by wound dressing. Contaminated or traumatic wounds are to be treated initially 2 to 4 times daily with maintenance wounds treated once daily or as directed by the veterinarian.

1. The equine wound-care problem

Equine wounds are difficult to manage because horses live in environments that continuously challenge wound hygiene. Even high-value horses in well-managed barns are exposed to sweat, moisture, flies, bedding, soil, manure particles, motion, grooming friction, and bandage disruption. Lower-limb wounds are especially problematic because distal equine tissues have limited soft tissue coverage, high movement, lower vascularity than trunk wounds, and a tendency toward delayed epithelialization and exuberant granulation tissue.

In warm, moist climates, the burden is amplified. South Florida and similar regions present nearly ideal conditions for wound deterioration:

- persistent humidity
- high ambient temperature
- high fly pressure
- moist wound surfaces
- rapid bacterial growth
- sweat and organic debris
- contaminated stall or turnout environments
- repeated wound re-exposure during exercise or turnout

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The result is a wound microenvironment that may remain inflamed, contaminated, malodorous, biofilm-laden, and slow to close. For show horses, polo horses, racehorses, ranch horses, and other working horses, delayed wound control can mean lost training time, higher care costs, cosmetic concerns, and increased risk of complications.

2. Why contaminated wounds attract flies and larvae

Flies are attracted to wound cues. Open wounds with moisture, exudate, blood residue, necrotic tissue, bacterial metabolites, and tissue breakdown odor can create a strong attractant signal. In warm climates, flies may deposit eggs on or near contaminated wounds. Those eggs can hatch into larvae, producing wound myiasis.

The wound characteristics that increase fly attraction often include:

- necrotic or devitalized tissue
- bacterial growth and anaerobic odor
- biofilm and persistent exudate
- moist bandages or trapped moisture
- blood, serum, and proteinaceous debris
- tissue breakdown products
- inadequate wound coverage or recurring contamination

Once larvae are present, they can further disturb healing tissue, expand contamination, increase inflammation, and perpetuate the cycle of odor, exudate, and fly attraction.

The clinical objective is therefore broader than simple surface washing. The veterinarian is trying to reset the wound microenvironment by reducing necrotic burden, removing contaminants, lowering bacterial load, disrupting biofilm, improving tissue visibility, and preparing the wound for dressing and protection.

Clear Path HTC is designed to support this reset.

3. Product introduction: Clear Path HTC

Clear Path HTC is an equine wound wash, rinse, and pre-bandage solution created with ReliOx Technology. It is intended for use on equine topical wounds including traumatic lacerations, abrasions, degloving injuries, skin loss, chronic non-healing wounds, granulation-rich wounds, contaminated wounds, post-debridement wounds, and dressing-change preparation.

The product is designed to support:

- wound cleansing
- irrigation during debridement
- oxidative antimicrobial support
- reduction of microbial and biofilm burden
- removal of contaminants and debris
- odor reduction associated with contaminated wound burden
- preparation of the wound for dressing and bandaging

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The draft label language describes Clear Path as an equine wound wash, rinse, and pre-bandage product for cleansing, irrigation, and oxidative antimicrobial support of equine wounds, including traumatic wounds, chronic non-healing wounds, contaminated wounds, post-debridement cleansing, and pre-bandage antisepsis.

Clear Path HTC is a equine wound-care product, not a fly-control or pesticide product. Its role is to change the wound environment that attracts flies, not to function as a fly repellent or larvicide.

4. ReliOx Technology: why on-demand pH-neutral Clear Path Solution matters

The key distinction of Clear Path HTC is the way the Clear Path Solution is generated. ReliOx Technology produces a pH-neutral aqueous chlorine dioxide-based solution at point of care. Clear Path is generated on demand by the ReliOx cartridge/device, with pH-neutral oxidative cleansing suitable for equine skin and superficial soft tissues.

This matters for equine wound care for five reasons.

4.1 On-demand generation

Chlorine dioxide is most useful when active and fresh. On-demand generation means Clear Path Solution is produced at the time of use rather than relying on a less controlled or less stable premixed chemistry. This supports consistent application at the wound surface.

4.2 pH-neutral tissue compatibility

Healing wounds require viable fibroblasts, keratinocytes, endothelial cells, and immune cells. Aggressive antiseptics can damage mammalian cells or impair granulation and epithelialization if they are too harsh, too acidic, or repeatedly applied at cytotoxic levels. Clear Path HTC is positioned as pH-neutral and tissue-compatible, which is important for repeated use in equine topical wounds.

4.3 Oxidative action against wound contaminants

Clear Path Solution provides oxidative action directed at microbial burden and biofilm-associated wound contamination. This helps address a key cause of delayed healing: bacteria embedded in extracellular polymeric substances that protect organisms and maintain chronic inflammation.

4.4 Low residual precursor profile

Utilizing ReliOx Technology Clear Path converts precursor chlorite to chlorine dioxide with low residual unreacted chlorite at or below 0.1 mg/L in the Clear Path system. This is important for repeated equine wound use because low residuals help support a cleaner tissue-contact profile.

Clear Path HTC for Equine Topical Wound Care

[pH-neutral, on-demand Clear Path Solution for wound cleansing, biofilm control, tissue recovery, and management of the wound microenvironment]

4.5 Single workflow: wash, rinse, pre-bandage

Clear Path HTC is intended to simplify wound care by serving as the wound wash, rinse, and pre-bandage step when used per veterinarian direction. The internal equine protocol states that Clear Path may be used for continuous irrigation during debridement, followed by topical application for 30 to 60 seconds or soaked gauze exposure, with 1 to 2 minutes of contact before drying and dressing.

5. Effects on the wound microenvironment

Wound healing depends on the balance of microbes, moisture, oxygenation, inflammatory signaling, cellular migration, extracellular matrix remodeling, and mechanical protection. A contaminated equine wound often becomes locked in an inflammatory state because the wound bed contains bacteria, biofilm, necrotic material, foreign debris, exudate, and tissue breakdown products.

Clear Path HTC supports management of the wound microenvironment through several complementary effects.

5.1 Reduction of odor-producing burden

Malodor in wounds often reflects bacterial metabolism, necrotic tissue, trapped exudate, and anaerobic conditions. The practical importance of odor is twofold:

1. Odor is a sign of wound contamination and tissue breakdown.
2. Odor is a fly attractant in warm, humid equine environments.

Clear Path HTC supports oxidative cleansing of the wound surface and helps reduce the odor-producing burden associated with bacteria, necrotic debris, exudate, and biofilm. Clear Path HTC helps reduce wound malodor associated with contaminated wound conditions.

5.2 Biofilm disruption

Biofilm is one of the central barriers to wound progression. Bacteria within biofilm are shielded by extracellular matrix material and can persist despite routine rinsing. Biofilm can also maintain inflammatory signaling and impair the transition from inflammation to proliferation.

Clear Path HTC is designed to destroy biofilm matrix components and reduce embedded microbial burden. This is important in chronic equine wounds and granulation-rich wounds where repeated contamination, moisture, and tissue damage can keep the wound from progressing.

Clear Path HTC for Equine Topical Wound Care

[pH-neutral, on-demand Clear Path Solution for wound cleansing, biofilm control, tissue recovery, and management of the wound microenvironment]

5.3 Support for debridement

Debridement removes non-viable tissue, foreign material, and bulk biofilm. The equine protocol describes Clear Path as useful during continuous irrigation and after debridement, with repeat application after gross contamination is removed.

This creates a practical sequence:

1. remove what should not remain in the wound
2. irrigate and cleanse the wound bed
3. allow short contact time
4. protect the wound with dressing or bandage

5.4 Tissue compatibility during repeated use

Repeated wound care is common in equine cases. A product that is too harsh may impair the very cells needed for repair. Clear Path HTC's pH-neutral formulation is intended to allow oxidative cleansing while preserving the healing tissue required for granulation, contraction, and epithelialization.

5.5 Moisture and dressing transition

The goal is not to leave the wound wet and exposed. The goal is to cleanse, allow contact, dry or lightly blot as needed, and dress appropriately. The equine protocol calls for allowing the treated surface to air dry or gently blotting with sterile gauze, followed by a non-adherent pad and bandage where indicated.

This is particularly important in humid climates, where prolonged moisture can worsen maceration and insect attraction.

6. Fly larvae, myiasis risk, and Clear Path HTC

6.1 What Clear Path HTC should be understood to do

Clear Path HTC should be understood as a wound microenvironment management tool. It helps reduce the wound conditions that attract flies:

- malodor
- exudate
- necrotic debris
- bacterial burden
- biofilm
- contaminated surface material

By improving wound cleanliness and reducing odor-producing wound burden, Clear Path HTC may help make the wound less attractive to flies as part of a complete veterinarian-guided protocol.

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6.2 What Clear Path HTC is not

Clear Path HTC is not presented as:

- an insecticide
- a fly repellent
- a larvicide
- a treatment that kills maggots
- a product that prevents fly strike
- an environmental fly-control product

Where there may be benefit to the overall effects of these issues, Clear Path HTC is not formulated for these claims specifically.

6.3 Practical role in larval contamination

If larvae are already present, Clear Path HTC's appropriate role is in wound cleansing after mechanical removal of larvae and during veterinarian-directed debridement. A suitable veterinary sequence is:

1. examine wound depth and structures involved
2. clip and clean surrounding hair
3. remove visible larvae and gross contamination
4. debride devitalized tissue as indicated
5. irrigate with Clear Path HTC
6. repeat application after debridement
7. dry or blot as needed
8. dress and protect wound
9. implement environmental fly control around the horse

7. Immuno-modulatory implications

Indirect immuno-modulatory effects through wound microenvironment control.

In contaminated equine wounds, the immune system is often kept in a prolonged inflammatory state. Biofilm, necrotic tissue, bacterial products, proteases, and persistent exudate can extend neutrophil-driven inflammation, damage extracellular matrix, and impair fibroblast activity. A wound that remains inflamed does not efficiently move into granulation, contraction, and epithelialization.

Clear Path HTC may support a more favorable immune environment by:

- reducing microbial burden that drives inflammatory signaling
- weakening biofilm that sustains chronic immune activation
- assisting removal of necrotic and proteinaceous debris
- reducing odor-producing wound burden associated with bacterial metabolism
- improving the cleanliness of the wound bed before dressing
- supporting the transition from inflammatory phase toward proliferative repair

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These potential supportive outcomes are presented here as **microenvironment-mediated immune support**, not direct pharmacologic immune modulation. As such, Clear Path HTC supports the wound's natural immune progression by helping reduce contaminating burden and biofilm signals that can prolong inflammation. By improving the wound microenvironment, Clear Path HTC helps the veterinarian move the wound from contamination and chronic inflammation toward granulation and epithelialization.

Clear Path HTC supports immune balance indirectly by improving the wound microenvironment.

8. Expected recovery observations

Clear Path is expected to reduced odor and exudate within days, improved cleanliness and less visible biofilm, noticeable granulation and reduced inflammation in many chronic wounds within 7 to 14 days, allow for light return to training in many uncomplicated distal limb cases within 30 days, and full closure in most clinical cases a within around 8 weeks when used with appropriate debridement and adjunct care.

These expected recovery observations are typical not guaranteed outcomes. Individual recovery will vary based on:

- wound size
- wound location
- degree of contamination
- depth and structure involvement
- presence of infection
- adequacy of debridement
- bandage integrity
- fly pressure
- horse health and movement
- veterinarian-directed adjunct therapy

9. Regulatory and claims discipline

Clear Path HTC is clearly presented as follows:

- equine use only
- veterinarian-guided wound wash, rinse, and pre-bandage solution
- supports cleansing, irrigation, debridement, biofilm reduction, microbial burden reduction, and odor reduction associated with wound contamination
- not for human use
- not an environmental disinfectant
- not an insecticide, fly repellent, or larvicide

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10. Recommended Take Aways regarding Clear Path HTC

Clear Path HTC:

- is an equine wound wash, rinse, and pre-bandage solution
- is produced using ReliOx Technology
- generates a pH-neutral Clear Path Solution at point of care
- supports cleansing and irrigation of equine topical wounds
- supports debridement by helping remove contaminants and wound debris
- helps reduce microbial and biofilm burden
- helps reduce wound malodor associated with contamination, exudate, and necrotic burden
- helps prepare the wound for dressing and protection
- is useful in warm, humid, high-contamination equine environments
- is intended for use under veterinarian guidance

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11. Clear Path HTC – Point of Care Positioning

Clear Path HTC is not simply a topical rinse. It is a ReliOx Technology-generated Clear Path Solution designed to help veterinarians reset the equine wound microenvironment. By providing pH-neutral, on-demand oxidative cleansing, Clear Path HTC supports debridement, reduces contaminating wound burden, weakens biofilm, helps reduce odor associated with necrotic and bacterial tissue, and prepares the wound for clean dressing and protection. In humid, fly-heavy environments, this matters because the same contaminated, malodorous wound conditions that delay healing also attract flies and can contribute to larval contamination. Clear Path HTC does not replace fly control, debridement, bandaging, antibiotics, or veterinary judgment. It strengthens the wound-care sequence by helping make the wound cleaner, less malodorous, less biofilm-laden, and better positioned to heal.

12. Closing

Conclusion

Equine wound care often fails not because the wound cannot heal, but because the wound microenvironment remains contaminated, inflamed, moist, malodorous, and repeatedly re-exposed to environmental burden. In warm, humid regions, these same conditions attract flies and increase the risk of larval contamination. Clear Path HTC addresses this challenge at the wound surface.

By generating pH-neutral Clear Path Solution on demand through ReliOx Technology, Clear Path HTC gives veterinarians a practical tool for cleansing, irrigation, debridement support, biofilm disruption, microbial burden reduction, odor reduction associated with contaminated tissue, and pre-bandage preparation. The product's value is its combination of oxidative activity, tissue compatibility, low-residual design, and straightforward workflow.

The result is a more controlled wound environment: cleaner tissue, reduced odor-producing burden, less visible biofilm, improved readiness for dressing, and a stronger foundation for normal inflammatory resolution, granulation, contraction, and epithelialization.

Clear Path HTC is an equine wound-care product for real-world conditions, including humid, fly-heavy environments. It is not an insecticide or fly repellent. Its strength is more clinically useful as it helps address the contaminated wound conditions that attract flies while supporting the veterinarian's broader plan for wound recovery.