Microdacyn® Wound Care Solution
Microdacyn® Hydrogel

Super-oxidized hypochlorous acid solutions for advanced tissue repair

Antimicrobial | Biofilm | Healing | How to Use | Clinical Evidence

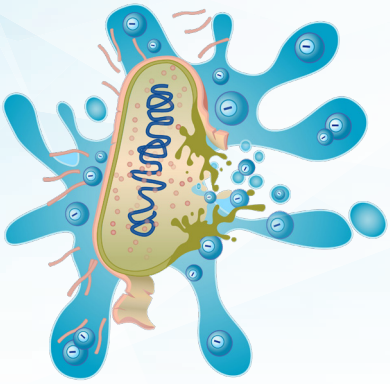
Microdacyn is a class IIb Medical Device for use in the debridement and moistening of acute and chronic wounds, ulcers, cuts, abrasions and burns including those located in any human cavity such as the oral, nasal or ear. Sodium hypochlorite and hypochlorous acid are ancillary substances may have a local antimicrobial effect. Through reducing the microbial load and assisting in creating a moist environment, it enables the body to perform its own healing process. Microdacyn® Wound Care can be broadly applied within a comprehensive wound treatment. Do not use if sensitive to hypochlorous acid or sodium hypochlorite.

TeArai BioFarma®

Antimicrobial | Biofilm

Super-oxidized solutions (SOS) and hydrogels utilize physiological concentrations of reactive oxygen speices such as hypochlorous acid to induce osmolysis In a totally non-antibiotic & chemical free process

Hypochlorous acid is naturally present in the human body & is produced as a natural response to infection by the white blood cells in our immune system such as neutrophils through a mechanism known as a oxidative burst.



Unlike traditional antiseptics & wound washes Microdacyn® only causes damage to single cell microbesuch as bacteria and is not cytotoxic to human cells allowing the delicate cells involved in healing to progress unhindered[15]

Recent consensus[28] has concluded that **rather than inhibt wound healing, Microdacyn® provides imporovement to wound healing** and is indicated for use without restriction in delicate tissue due to it's low cytotoxicty.

Proven effective against: Bacteria (incl MRSA), Fungi, Viruses, Spores & Uniquely Penetrates Biofilms[2]

"Use antiseptics at the lowest effective concentration to minimize harm to skin and tissue cells involved in wound healing"[21]

International Wound Infection Institutes (IWII) Clinical Practice Gudielines 2016

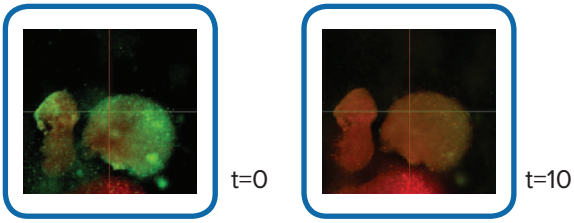
Treatment	Betadine®	Prontosan®	Microdacyn®
Generic Name	Antiseptic	Surfactant-based Antiseptic	Super-Oxidised Solution
Concentration	10%	0.1%	0.004%
Mechanism	Chemical	AMP	Osmolysis

The enormous difference in germicidal potency is due to the fact that pure HOCl as an uncharged species can penetrate microbial cell walls , whereas charged ionic species cannot[1]

Super-Oxidised Solutions Do Not Promote Bacterial Resistance[21]

Biofilm

Super-oxidised solutions *"rapidly penetrate biofilms killing microbes from within"*[21]



An example of this rapid penetration is shown here:

Fluorescence microscopy of a mature, 6 day, *Pseudomonas aeruginosa* biofilm before and after 10 minutes of repeated exposure. It is clear to see uniform penetration and eradication of living microbes

Green | Living Microbes Red | Dead Microbes

Inflammation | Healing | Clinical Evidence

The low concentration Hypochlorous acid found in Microdacyn® is the only antimicrobial component with clinical research demonstrating additional wound healing effects.

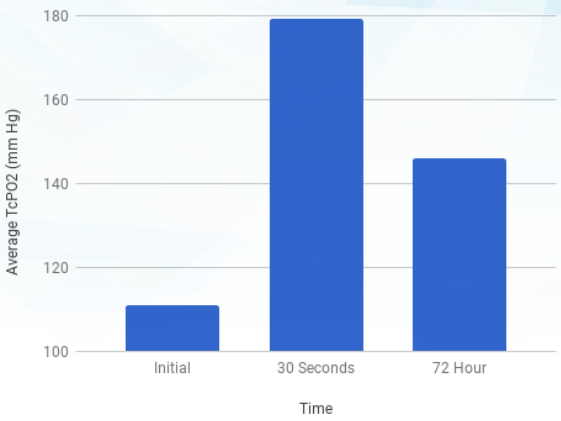
The use of Microdacyn has been demonstrated to:

- **Reduce Inflammation, Itch & Irritation**[20]
- **Increase available oxygen (TcPO2 - mmHg)**[3,5]

Here we observe the average tissue oxygenation effects when applying Microdacyn® to 393 non-insulin dependent diabetic (NIDDM) patients velous leg ulcers.

The TcPO2 levels are significantly increased to quickly improve tissue conditions within the wound and are sustained above baseline for up to 72 hours[5]

Effect of comorbidities on microcirculatory response of periwound tissue to Microdacyn® exposure.



These additional effects may further assist in Microdacyn® accelerating wound healing & being excellently tollerated

Clinical Evidence

Clinical conclusions of 10+ years of Microdacyn use internationally

Improves Healing

Prevents Infection

Reduces Inflammation

- **Improved Healing**
  - Improve wound healing [5-9,11,13-15]
  - Reduce wound healing time [5-9,11,13-15]
  - Improve wound bed oxygen supply (TcPO2) [3,5]
  - Improve wound bed granulation [3,11,13]
  - To be non-cytotoxic [1-2,11,14,19,21]
- **Prevents Infection**
  - Improve infection control [2,4,7,14,16]
  - Reduce the requirement for antibiotic use to manage infection [10]
  - Reduce post-surgical infection rate [2,7,12,15]
- **Patient Well Being**
  - Reduce pain associated with wound cleansing [17]
  - Reduced wound associated malodour [11]
  - Reduce patient length of stay [8,16-17]
- **Additionally**
  To be at least as effective as certain oral antibiotics for treatment of mild diabetic foot infections [10]
  To be a wider spectrum antimicrobial compared to commonly used topical-antimicrobials [12,17-18]

References: 1: S.A. Rani et al, 2014 2: Javier Aragón-Sánchez, 2013 3: Cheryl M.Bongiovanni, 2006 4: R. K. Chittoria, 2007 5: Cheryl M. Bongiovanni, 2016 6: Nina Fanggang, 2008 7: Chiara Goretti, 2007 8: Syed Fazle Hadi, 2008 9: Marwaha, 2010 10: Adam Landsman, 2011 11: Fermin R Martinez-De Jesus, 2007 12: Abdul Ramzisham Rahman Mohd, 2010 13: P K Pandey, 2011 14: Luca Dalla Paola, et al., 2006 15: A. Piaggesi MD, 2010 16: Elia Ricci, 2007 17: Ariel Miranda Altamirano, 2006 18: C. Landa-Solis, 2005 19: J. Medina-Tamayo, 2007 20: Friedman et al, 2017 21: Swanson et al IWII 2016 Many full articles available at **www.microdacyn.com.au**

How to Use | Product Details

Microdacyn® should be applied liberally at every dressing change or if the wound can be regularly accessed, up to 3 times daily

1 Saturate

Irrigate the wound by applying Microdacyn® Wound Care Solution directly onto/into the wound to the point of saturation

2 Soak

Place Microdacyn® saturated gauze onto the wound for up to 10 minutes helping to hydrate and aid slough removal

Microdacyn® soaks are to assist manual cleaning/debridement not to replace it

3 Flush Clean

Once the wound is clean use Microdacyn® Wound Care Solution is an irrigant to flush any remaining debris clear prior to dressing

Practice Tip

Another strip of gauze or similar that is doused in Microdacyn® Wound Care Solution is excellent for cleaning both in & around the wound

4 Cover & Dress

Leave Microdacyn® in the wound, do not rinse out

3b

Higher Risk Patients

In the case of the following, repeat step 2;

- Significant Debridement
- Chronic Wounds
- Non-Healing Wounds
- Suspected Biofilm

3c

Applying Hydrogel

Leave Microdacyn® Wound Care Solution in the wound and apply Microdacyn® Hydrogel 2-5mm thick as required
This may be left for up to 3 days
Microdacyn® Hydrogel is well suited to painful, inflammed or malodorous wounds

Microdacyn® Wound Care
Super-Oxidised Water, Sodium Chloride (0.022%), Hypochlorous Acid (0.004%), Sodium Hypochlorite (0.004%), Ancilary Substances including Oxygen & Ozone

Microdacyn® Hydrogel
Super-Oxidised Water, Sodium Chloride (0.066%), Hypochlorous Acid (0.004%), Sodium Hypochlorite (0.002%), Ancilary Substances including Oxygen & Ozone
Additionally Sodium Magnesium Fluorosilicate Gelling Agent (3.0%)

Product Description	Internal Code	
Microdacyn® Wound Care Solution 120ml	MDWC120	Box 24
Microdacyn® Wound Care Solution 250ml	MDWC250	Box 12
Microdacyn® Surgical Irrigation Solution 990ml	MDSIWT990	Box 6
Microdacyn® Hydrogel 60g	MDHG60	Box 24
Microdacyn® Hydrogel 120g	MDHG120	Box 24

www.microdacyn.com.au | 1800 Te Arai (83 2724) | enquiries@tearaibiofarma.com

"Stop anointing wounds & start cleansing wounds"

International Wound Infection Institutes
Clinical Practice Guidelines

In the case of severe or multi-resistant infection, stubborn biofilm or lack of progress. Microdacyn® may be applied copiously to acheive desiared results

Microdacyn® is compatible with:

- **All** Wound Dressings
- Leaving Soaked Gauze in the Wound
- Pulse Lavage / Wound Irrigation
- Under Occlusion
- NPWTi & Ultrasonic Debridement

Microdacyn® can be used on:

- Skin
- Mucosa
- Exposed Ligament, Joints, Bones & Tendons
- Sensitive Areas Such as Eyes
- Children
- ANY Human Cavity

Product Information

- Ready-to-use, pH neutral solution
- 24 month unopened shelf life
- Discard Within 60 Days of Opening
- Does not promote bacterial resistance[21]
- Available from your local pharmacy

Microdacyn® .com.au