

KaiZen HOCl Research Digest · Medium relevance

230 research records screened as Medium relevance in the source workbook

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1. HYPOChLorous Acid TESTING Studies in percutaneous DRAINAGE (HYPOCLATES:DRAINAGE): protocol for a single-centre, controlled, ambispective cohort study comparing hypochlorous acid versus saline irrigation in percutaneous drainage of intra-abdominal abscesses.

2026 · BMJ open · Human clinical & healthcare · Human observational / experimental

Authors: Nadvornik, Mika P; Hoch Al Hessen, Tobias; Siegel, Niels; Kramer, Axel; Harnoss, Jonathan M; Probst, Pascal; Al-Saeedi, Mohammed; Klauss, Miriam; Loos, Martin; Michalski, Christoph W; Harnoss, Julian C

This study evaluates whether HOCl irrigation shortens the indwelling time of percutaneous irrigation drains and systemic antibiotic duration compared with saline irrigation in patients with intra-abdominal abscesses. Study findings will be disseminated through peer-reviewed publications.

PMID 42526920 · DOI 10.1136/bmjopen-2026-117218 · [PubMed record](#)

2. HYPOChLorous Acid TESTING Studies in secondary peritonitis (Hypoclates:Peritonitis): extended hypochlorous acid versus isotonic lavage for the prevention of surgical site infections in secondary peritonitis in Germany - protocol for a sequential, quasi-experimental cohort study.

2026 · BMJ open · Human clinical & healthcare · Human observational / experimental

Authors: Hoch Al Hessen, Tobias; Siegel, Niels; Nadvornik, Mika P; Kramer, Axel; Harnoss, Jonathan M; Probst, Pascal; Al-Saeedi, Mohammed; Loos, Martin; Michalski, Christoph W; Harnoss, Julian C

The trial evaluates the primary endpoint of postoperative SSI incidence up to day 10 (± 2 days), hypothesising that the antimicrobial and biocompatible properties of HOCl significantly lower infection rates compared with standard isotonic lavage. To facilitate knowledge transfer and evidence-based practice, the study results will be presented at international scientific meetings and published in peer-reviewed journals, thereby contributing to the...

PMID 42457415 · DOI 10.1136/bmjopen-2026-119499 · [PubMed record](#)

3. Hypochlorous acid testing studies: elective surgeries (Hypoclates:Elective).

2026 · BMJ open · Human clinical & healthcare · Human observational / experimental

Authors: Hoch Al Hessen, Tobias; Siegel, Niels; Nadvornik, Mika P; Kramer, Axel; Harnoss, Jonathan M; Probst, Pascal; Al-Saeedi, Mohammed; Loos, Martin; Michalski, Christoph W; Harnoss, Julian C

The primary objective of this study is to evaluate whether the systematic introduction of a standardised intraoperative lavage with HOCl reduces the incidence of SSI in patients undergoing elective visceral surgery compared with conventional irrigation with isotonic saline. It is hypothesised that the implementation of HOCl-based lavage will lead to a significant reduction in the composite rate of superficial, deep and organ/space SSIs during the...

PMID 42373189 · DOI 10.1136/bmjopen-2026-119500 · [PubMed record](#)

4. Cutaneous safety evaluation of pure hypochlorous acid solution in preterm infants and neonates with complex wounds.

2026 · Wounds : a compendium of clinical research and practice · Human clinical & healthcare · Human observational / experimental

Authors: Amaya, Rene; Heisler, Emily

Across 766 cumulative applications, no cutaneous adverse effects or wound-related complications were observed, including contact dermatitis, erythema, chemical burns, infection, or secondary breakdown. CONCLUSION: This retrospective series represents the largest reported evaluation to date of cutaneous safety and tolerability associated with pHA use in neonatal patients.

PMID 42319836 · DOI 10.25270/wnds/25126 · [PubMed record](#)

5. Ultrafine "dry vapor" hypochlorous: proof-of-concept disinfection application.

2026 · Frontiers in cellular and infection microbiology · Human clinical & healthcare · Human observational / experimental
Authors: Hogan, Reed B 2nd; Mijalis, Eleni; Green, Charlotte; Porter, Terrell; Spankovich, Christopher

Results: Statistically significant reductions in RLU were observed at 30 minutes ($p < 0.001$) and 60 minutes ($p < 0.001$) post-treatment compared to baseline. CONCLUSION: Ultrafine aqueous HOCl is an efficient and safe disinfection method for large medical facilities, with implications for improving infection control practices and reducing healthcare-associated infections.

PMID 42291301 · DOI 10.3389/fcimb.2026.1679518 · [PubMed record](#)

6. [Not Available].

2026 · Journal of wound care · Human clinical & healthcare · Case report
Authors: Cortés Luengo, Solange; Villalobos Sandoval, Ana; Farfán Cerda, Valentina; Dachardi Astete, Valentina; Silva Opazo, Carolina

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 42275429 · DOI 10.12968/jowc.2026.0256 · [PubMed record](#)

7. HYPOChLorous Acid TESting Studies in elective groin VASCULAR surgery (HYPOCLATES:VASCULAR): protocol for an ambispective cohort study evaluating a standard change to hypochlorous acid lavage in patients undergoing elective groin vascular surgery.

2026 · BMC surgery · Human clinical & healthcare · Human observational / experimental
Authors: Nadvornik, Mika P; Uhl, Jonathan; Hoch Al Hessen, Tobias; Siegel, Niels; Kramer, Axel; Michalski, Christoph W; Böckler, Dittmar; Meisenbacher, Katrin; Harnoss, Julian C

The results will clarify whether this physiologically compatible antiseptic approach is associated with reduced surgical site infections and postoperative morbidity, thereby informing the design of future randomized trials and evidence-based perioperative standards in vascular surgery. TRIAL REGISTRATION: The study was registered on 25 March 2026 in the German Clinical Trials Register (registration identifier: DRKS00039521) prior to data acquisition.

PMID 42243808 · DOI 10.1186/s12893-026-03902-3 · [PubMed record](#)

8. A novel lysosome-targeting fluorescent probe for intracellular HClO imaging and aqueous environment detection based on smartphone-assisted quantification.

2026 · Bioorganic chemistry · Human clinical & healthcare · Review
Authors: Zhang, Jiayi; Wang, Qian; Ren, Yashuang; Xiang, Honglu; Cao, Lamei; Li, Yu; Li, Dan; Gao, Feiran; Xiao, Songyang; Tang, Yuping; Luo, Weifang

Probe Z exhibits prominent visualization advantages: upon HClO addition, it turns from pale yellow to fluorescent yellow under 365 nm UV light within 1 min, with a 13-fold fluorescence enhancement, high selectivity, high sensitivity, and a low detection limit of 0.52 nM. Notably, combined with the data processing function of smartphones, it enables reliable quantification of HClO, providing a new tool for exploring HClO's biological roles and on-site...

PMID 42235425 · DOI 10.1016/j.bioorg.2026.110043 · [PubMed record](#)

9. Comparative Efficacy of Hypochlorous Acid and Mafenide Acetate in Reducing Infection Rates in Postoperative Burn Patients: A Retrospective Cohort Study.

2026 · Journal of burn care & research : official publication of the American Burn Association · Human clinical & healthcare · Human observational / experimental

Authors: Carrarini, Mia J; Fedor, Christopher J; Zein, Omar; Liu, Hilary Y; Arellano, José Antonio; Elias, Garth; Corcos, Alain C; Ziembicki, Jenny A; Yassin, Mohamed H; Egro, Francesco M

Mortality was also not significantly different between groups. No significant differences were found between HOCl and MA in infection, mortality, or morbidity outcomes.

PMID 42176191 · DOI 10.1093/jbcr/irag080 · [PubMed record](#)

10. Rethinking Skin Preparation: Is Hypochlorous Acid (Clinisept+) a Safe Alternative Skin Preparation in Aesthetic Surgery?

2026 · Aesthetic plastic surgery · Human clinical & healthcare · Human observational / experimental
Authors: Arnaout, Ali; Goodarzi, Mohammad R; Nugent, Nora F; Pacifico, Marc D; Urso-Baiarda, Fulvio; Durrant, Charles A T; Heppell, Simon; Ali-Khan, Ahmed S

CONCLUSIONS: Clinisept+ yielded SSI rates comparable to historical data for CHG and povidone-iodine, with excellent tolerability and no observed skin irritation. These findings support its safe use in aesthetic surgery, though randomised controlled trials are warranted to confirm non-inferiority.

PMID 42009924 · DOI 10.1007/s00266-026-05806-2 · [PubMed record](#)

11. Hypochlorous acid lavage versus intrawound vancomycin powder for prevention of deep surgical-site infection after major posterior spine surgery: A retrospective case series with a historical control group.

2026 · Journal of orthopaedic surgery (Hong Kong) · Human clinical & healthcare · Human observational / experimental
Authors: Özer, H■d■r; Ka■ko Arici, Yeliz; Palaoglu, Selçuk; Kutlu, Hakan; Nabi, Vugar

Demographics, operative variables, and microbiological data were analyzed with rigorous statistical methods. Results Deep SSI rates were nearly identical: 3.1% (5/161) with HOCl versus 3.4% (3/88) with vancomycin ($p = 0.999$), with no HOCl-related adverse effects. Pathogen profiles (including MRSA, *S. epidermidis*, and *E. coli*) were comparable between groups, underscoring HOCl's broad-spectrum efficacy. Conclusion HOCl lavage showed similar deep SSI rates to...

PMID 41656744 · DOI 10.1177/10225536261425277 · [PubMed record](#)

12. A near-infrared fluorescent probe with rapid-response hypochlorite for imaging rheumatoid arthritis and wound healing in vivo.

2026 · Talanta · Human clinical & healthcare · In vitro / laboratory

Authors: Shi, Zhengyang; Wu, Hanbin; Chen, Zhengxin; Wang, Yao; Zhang, Long; Huang, Zhongxi; Zhang, Zhipeng; Yin, Haiyun; Xie, Yusheng; Yu, Changmin

Beyond in vitro performance, SX-CIO achieved high-contrast fluorescence imaging of CIO(-) accumulation in λ -carrageenan-induced RA mouse joints, effectively distinguishing inflamed joints from healthy ones. Moreover, the probe successfully detected elevated CIO(-) levels in MRSA-infected wound tissues, providing clear visualization of bacterial infection-associated oxidative bursts.

PMID 41621290 · DOI 10.1016/j.talanta.2026.129485 · [PubMed record](#)

13. Hypochlorous Acid as an Adjunctive Treatment for Periocular Necrotizing Fasciitis.

2026 · Ophthalmic plastic and reconstructive surgery · Human clinical & healthcare · Human observational / experimental

Authors: Jordan, David R; Kanda, Pushpinder

Results of treatment were compared with those PONF patients in the literature treated more traditionally with antibiotics and debridement, and those treated with antibiotics alone. The outcomes compared favorably to those outcomes in the literature of PONF patients treated more traditionally with antibiotics and debridement, and those patients treated more conservatively with antibiotics alone.

PMID 41474122 · DOI 10.1097/IOP.0000000000003170 · [PubMed record](#)

14. High rate pervaporation and disinfection efficacy of hypochlorous acid in vacuum-driven membrane process.

2025 · Journal of microorganism control · Materials & industrial applications · Journal article / other

Authors: Sakurai, Ayaka; Shimada, Chisato; Fukuzaki, Satoshi

This accumulated HOCl((g)), when applied to microorganisms on wet agar plates at a concentration of approximately 320 ppb, achieved a >3-log reduction in viable bacterial cells within 10 min and fungal spores within 20 min. These results demonstrate that high-rate pervaporation of HOCl can be achieved using an SR hollow fiber membrane in a vacuum-driven process, and the resulting HOCl((g)) is effective for rapid disinfection.

PMID 41391859 · DOI 10.4265/jmc.30.4_121 · [PubMed record](#)

15. Dog- to- dog bite wound management - Comparison of the antiseptic efficacy of polyhexanide and hypochlorous acid with regard to reducing the use of antibiotics: A randomized clinical trial.

2026 · Veterinary journal (London, England : 1997) · Human clinical & healthcare · Randomized controlled trial

Authors: Peters, M; Eberle, D; Reese, S; Wolf, G; Meyer-Lindenberg, A

No negative effect of occurrence of multi-drug resistant bacteria on wound healing was observed. None of the compared antiseptics showed a significantly better wound decontamination.

PMID 41276211 · DOI 10.1016/j.tvjl.2025.106505 · [PubMed record](#)

16. Mapping of HOCl-oxidized RNA identifies abasic sites as major damage and oxidation product of oxo(8)G.

2025 · Nature communications · Human clinical & healthcare · In vitro / laboratory

Authors: Weber, Marlies; Raorane, Kasturi; Grampp, Clara Johanna; Bourguignon, Valérie; Kilz, Lea-Marie; Glänzer, David; Marchand, Virginie; Kreutz, Christoph; Motorin, Yuri; Helm, Mark

These data support a model in which guanosine oxidation proceeds via transient oxo(8)G yielding abasic sites that can be mapped at nucleotide resolution by OABSeq. Our findings also suggest abasic sites may be a more informative marker of RNA oxidative damage than oxo(8)G, facilitating studies of RNA oxidation dynamics in cells.

PMID 41271707 · DOI 10.1038/s41467-025-65108-0 · [PubMed record](#)

17. An Activable Photosensitizer for Sunshine-Driven Photodynamic Therapy Against Multiple-Antibiotic-Resistant Bacteria by Exploiting Macrophage Chemotaxis.

2026 · Advanced materials (Deerfield Beach, Fla.) · Human clinical & healthcare · Human observational / experimental
Authors: Wang, Zehui; Wang, Lai; Zhou, Lin; Xiao, Yi; Zhang, Xinfu

Furthermore, this strategy demonstrates promising therapeutic efficacy in two animal models (mouse and rabbit) with systemic bacterial infection, using a low photosensitizer dose of 0.14 mg Kg(-1) in animals. This work demonstrates an intelligent and promising approach to breaking the routine of PDT and, for the first time, executing PDT for deep-tissue bacterial infection simply by bathing in the sunshine.

PMID 41128169 · DOI 10.1002/adma.202508232 · [PubMed record](#)

18. Hypochlorous Acid (HOCl) as a Promising Respiratory Antiseptic.

2025 · Viruses · Human clinical & healthcare · Review
Authors: Winter, Michael; Boecker, Dirk; Posch, Wilfried

Antiseptics are cost-effective and globally accessible, due to their ease of production, transportation and handling. Its successful history of medical use in wound treatment, combined with low cytotoxicity and documented efficacy against various pathogens, suggests that HOCl might be an effective agent for treating the respiratory mucosa.

PMID 41012647 · DOI 10.3390/v17091219 · [PubMed record](#)

19. Active electroceutical treatment of Pseudomonas aeruginosa infected murine wounds.

2025 · PloS one · Human clinical & healthcare · Animal study
Authors: Mack, Colin R; Wilgus, Traci A; Delloso-Nolan, Sheri; DiCesare, Tony; Bentley, Daria; Daniel, Fraser J; Subramaniam, Vish V; Mahajan, Sahil; Stoodley, Paul; Wozniak, Daniel J; Prakash, Shaurya

The powered electroceutical dressing demonstrated significantly reduced bacterial burden compared to untreated wounds. When compared against the other treatments, the powered electroceutical dressing demonstrated an improved capability in promoting wound area reduction while lowering infection burden.

PMID 40982459 · DOI 10.1371/journal.pone.0331785 · [PubMed record](#)

20. Effect of single inhalation of hypochlorous acid on the activity of cysteine cathepsins in rat blood plasma.

2025 · Inhalation toxicology · Human clinical & healthcare · Animal study
Authors: Murashevych, Bohdan; Abramova, Olha; Netronina, Olha; Girenko, Dmitry; Herhel, Tetiana; Maslak, Hanna

RESULTS AND DISCUSSION: it was found that the activity of cathepsin L did not change in any of the animal groups, while the activities of cathepsins B and H significantly increased. In all cases, an increase in the deviation of biochemical parameters from the norm was noted with an increase in the HOCl(g) concentration.

PMID 40936202 · DOI 10.1080/08958378.2025.2558569 · [PubMed record](#)

21. Hypochlorous Acid for a Persistent Filler Nodule: A Case Report.

2025 · Journal of drugs in dermatology : JDD · Human clinical & healthcare · Case report
Authors: Urbanski, Nicholas; Bommarreddy, Kanthi; Aguilera, Shino Bay

At our office, we added hypochlorous acid to the treatment plan over 3 clinic visits, resulting in the lesion decreasing in size significantly with no tenderness, swelling, or drainage. Hypochlorous acid is a safe and effective treatment for infections because of its broad-spectrum antimicrobial coverage and oxidative properties.

PMID 40911738 · DOI 10.36849/jdd.9096 · [PubMed record](#)

22. A water-soluble phenothiazine-based fluorescent probe for selective detection and bioimaging of hypochlorite.

2026 · Spectrochimica acta. Part A, Molecular and biomolecular spectroscopy · Human clinical & healthcare · Human observational / experimental
Authors: Yang, Yang; Shao, Yuxin; Bao, Xiaoying; Xu, Ning; Dong, Wu; Gao, Chao-Ying

Moreover, PTZMN was successfully applied to high-resolution fluorescence imaging in live HeLa cells and zebrafish embryos, with no observable toxicity. These findings highlight PTZMN's potential as a powerful platform for environmental analysis, portable detection and biological redox imaging.

PMID 40907065 · DOI 10.1016/j.saa.2025.126892 · [PubMed record](#)

23. Periprocedural Use of Hypochlorous Acid Mist for Improving Healing and Cosmesis of the Face After Laser.

2025 · Journal of cosmetic dermatology · Human clinical & healthcare · Human observational / experimental
Authors: Blyumin-Karasik, Marianna; Colon, Jessica; Gaer, Sophie; Vigil, Isabella; Nguyen, Sylvie; Rosen, Jordan

Statistically significant improvements were observed in CEA ($p = 0.007$) and IPA ($p = 0.012$) scores, indicating reduced clinical severity and pigment alteration. Results support the potential role of stabilized HOCl mist as a beneficial adjunct in post-laser skincare, contributing to faster healing, reduced inflammation, and enhanced cosmetic results.

PMID 40832716 · DOI 10.1111/jocd.70412 · [PubMed record](#)

24. An Acid-Oxidising Solution Containing Hypochlorous Acid Reduces Staphylococcus aureus and Improves Bacterial Diversity in Epidermolysis Bullosa Wounds.

2025 · Experimental dermatology · Human clinical & healthcare · Clinical trial
Authors: Zhou, Xiaolong A; Burns, Michael B; Ren, Ziyu; Stagaman, Elise; Green, Stefan J; Wu, Lok Yiu Ashley; Yang, Lynna; Rangel, Stephanie; Rabbia, Lydia; Paller, Amy S

Concurrently, bacterial diversity increased, and wound sizes diminished in correlation with reduced SA levels ($r = 0.64$). This study underscores the role of microbial dysbiosis in EB wounds and highlights HOCl-based solutions as a promising therapy to mitigate pathogenic burden and enhance wound healing.

PMID 40803690 · DOI 10.1111/exd.70147 · [PubMed record](#)

25. Effect of intraperitoneal hypochlorous acid (HOCl) on bacterial translocation in an experimental peritonitis model in rats.

2025 · Ulusal travma ve acil cerrahi dergisi = Turkish journal of trauma & emergency surgery : TJTES · Human clinical & healthcare · Animal study
Authors: Contarlı, Ahmet; Zihni, Ismail; İrin, Mümtaz Cem

Additionally, enzyme-linked immunosorbent assay (ELISA) results from blood samples showed that the mean levels of tumor necrosis factor-alpha (TNF- α) and interleukin-6 (IL-6), both inflammatory markers, did not differ significantly among the groups. This indicates that HOCl significantly reduced bacterial translocation without suppressing the inflammatory response.

PMID 40629731 · DOI 10.14744/tjtes.2025.51759 · [PubMed record](#)

26. Hypochlorous acid as a potential cavity conditioner for caries-affected dentin.

2025 · Scientific reports · Human clinical & healthcare · Human observational / experimental
Authors: Sanon, Kittisak; Elseoudy, Nader; Hiraishi, Noriko; Tamura, Yukihiko; Sanchavanakit, Neeracha; ThanNaing, SoeKayThwe; Shimada, Yasushi; Tagami, Junji; Thongthai, Pasiree

HOCl demonstrated significant antibacterial efficacy against *S. mutans* with substantial reduction of viable bacteria ($p < 0.001$). HOCl shows a promise as a dentin conditioner, offering enhance bond performance to CAD with improved bond durability, while providing antibacterial benefits and maintaining biocompatibility.

PMID 40596309 · DOI 10.1038/s41598-025-06191-7 · [PubMed record](#)

27. Genome-wide characterization of hypothiocyante stress response in Escherichia coli.

2025 · Journal of bacteriology · Human clinical & healthcare · Journal article / other
Authors: Meredith, Julia D; Gray, Michael J

In this study, we used RNA-sequencing to characterize the global transcriptional response of *Escherichia coli* to treatment with HOSCN and the impact of deletions of the HOSCN resistance proteins RclA (HOSCN reductase), RclB, and RclC on that response. Strikingly, deletion of any one of the Rcl proteins had very similar effects on the transcriptional response to HOSCN, indicating that any disruption of HOSCN defense in *E. coli* results in similar impacts...

PMID 40298396 · DOI 10.1128/jb.00524-24 · [PubMed record](#)

28. Exploring the Efficacy of Hypochlorous Acid as a Cost Effective Environmental Decontaminant in Dentistry: A Scoping Review.

2025 · Nigerian journal of clinical practice · Human clinical & healthcare · Review
Authors: Ahmed, R; Ahmed, S

In order to maintain a safe environment in the dental clinic and prevent cross contamination, it is important to find alternative disinfection methods and agents to ensure effective decontamination. The reviewed studies highlight HOCl's broad-spectrum antimicrobial efficacy, with significant reductions in severe acute respiratory syndrome coronavirus 2, methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant *Enterococcus*, and *Clostridioides*...

PMID 40288999 · DOI 10.4103/njcp.njcp_674_24 · [PubMed record](#)

29. Electrochemical Catheter Hub Operated by a Wearable Micropotentiostat Prevents *Acinetobacter baumannii* Infection In Vitro.

2025 · Biotechnology and bioengineering · Human clinical & healthcare · In vitro / laboratory
Authors: Al-Qurahi, Majid; Fleming, Derek; Kim, Won-Jun; Bozyel, Ibrahim; Patel, Robin; Beyenal, Haluk

Intraluminal infection of central venous catheters, used for long-term treatment, can result in central line-associated bloodstream infection (CLABSI). The design evaluated three different electrode materials-titanium, platinum, and gold-for HOCl generation and biocidal activity, using working and counter electrodes of the same materials and a silver/silver chloride-plated wire as a quasi-reference electrode. e-catheter hubs operated by MPs at 1.5...

PMID 40235195 · DOI 10.1002/bit.28990 · [PubMed record](#)

30. Beyond anaerobic respiration-new physiological roles for DmsABC and other S-/N-oxide reductases in *Escherichia coli*.

2025 · Journal of bacteriology · Human clinical & healthcare · Human observational / experimental
Authors: Zhong, Qifeng; Nasreen, Marufa; Yang, Ruizhe; Struwe, Michel; Kobe, Bostjan; Kappler, Ulrike

E. coli strains lacking *dmsA* showed increased lag times in the presence of hypochlorite, and these strains also showed up to a 90% reduction in adherence to human bladder cells. Interestingly, in the presence of hypochlorite, expression of multiple alternative S-/N-oxide reductases present in *E. coli* was elevated by 2- to 4-fold in a Δ *dmsA* strain compared to the wild-type strain, suggesting functional redundancy.

PMID 40162811 · DOI 10.1128/jb.00463-24 · [PubMed record](#)

31. Eficacia y seguridad del ácido hipocloroso pH 5,5 en el manejo de heridas complejas en usuarios pediátricos.

2024 · Journal of wound care · Human clinical & healthcare · Human observational / experimental
Authors: Sánchez, María Carolina Medel; Contreras, Ilia Merino; González, Carolina Latorre; Durán, Bárbara Ampuero

Se evidencian beneficios significativos en términos de cicatrización acelerada y reducción del dolor en los casos tratados. Aunque existen limitaciones en la evidencia actual, los resultados preliminares sugieren que el HOCl pH 5,5 puede ser una opción terapéutica efectiva en el manejo de heridas y alteraciones cutáneas en el usuario pediátrico.

PMID 40072930 · DOI 10.12968/jowc.2024.33.latam_Sup_7.6 · [PubMed record](#)

32. A 12-month retrospective review of pressure injury plastic surgical flap techniques utilizing pure hypochlorous acid (pHA) preserved wound solution for wound bed preparation.

2024 · Wound management & prevention · Human clinical & healthcare · Human observational / experimental
Authors: Fligor, Caleb W; Duplechain, Abby B; Chaffin, Abigail E

RESULTS: Thirteen patients (18 chronic, stage IV PIs) were included in the study. CONCLUSIONS: Adjunctive irrigation and indwelling of a pHA antimicrobially preserved wound cleansing solution in the surgical management of chronic, stage IV PIs in this 1-year retrospective review resulted in a 7.7% bacteria-related postoperative complication rate.

PMID 39788876 · DOI 10.25270/wmp.24001 · [PubMed record](#)

33. Residual level of chlorine disinfectant, the formation of disinfection by-products, and its impact on soil enzyme activity.

2024 · Environmental geochemistry and health · Human clinical & healthcare · Journal article / other
Authors: Hua, Li; Wei, Xinlong; Wang, Meiting

The overall change in chlorine ion concentration in the soil-leaching solution of the hypochlorite disinfectant treatments was relatively small and stable compared to the 84 disinfectant treatments. The above results indicated that hypochlorite disinfectant was safer and more stable than 84 disinfectants, and trichloromethane should be strictly controlled as a key indicator among the disinfection by-products.

PMID 39692919 · DOI 10.1007/s10653-024-02337-0 · [PubMed record](#)

34. The economic and quality effects of wound cleansing with pure hypochlorous acid: evidence-based evaluation and clinical experience.

2024 · Wounds : a compendium of clinical research and practice · Human clinical & healthcare · Human observational / experimental
Authors: Mallow, Peter J; Black, Joyce; Chaffin, Abigail E; Couch, Kara S; Faust, Elizabeth; Fernández, Luis G; Gallagher, Kathy E; Lam, Loan; Niezgoda, Jeffrey A; Weir, Dot

Inexpensive specialized cleansers, such as pure hypochlorous acid (pHA), can be used to cleanse vulnerable wounds to reduce microbial burden, thereby reducing the risk of infection and significantly decreasing the likelihood of the patient developing a costly wound complication. CONCLUSION: Together, the information presented in the panel discussion supports pHA as a dominant strategy (more effective, less costly) compared with standard wound management...

PMID 39432725 · DOI 10.25270/wnds/24101 · [PubMed record](#)

35. Development of optimal indoor air disinfection and ventilation protocols for airborne infectious diseases.

2024 · PloS one · Human clinical & healthcare · Human observational / experimental
Authors: Park, Jooyeon; Lee, Kyoung Hwa; Song, Young Goo; Park, Hyungmin; Lee, Kwang Suk

The results confirmed the superiority (in terms of virus removal rate and time required) of the virus removal methods in the order of UV light, ventilation, and HOCl spray. The time span of three minutes in the latter protocol is based on the clinical practice such that the medical staffs have a sufficient time to process the samples taken in transition to next patient to care.

PMID 39352895 · DOI 10.1371/journal.pone.0311274 · [PubMed record](#)

36. Probing the toxic hypochlorous acid in natural waters and biosystem by a coumarin-based fluorescence probe.

2024 · Ecotoxicology and environmental safety · Human clinical & healthcare · Animal study
Authors: Ma, Junyan; Zhao, Mingtao; Kong, Xiangtao; Li, He; Xie, Hua; Yang, Xiaomei; Zhang, Zhenxing

Additionally, hypochlorous acid is vital as a reactive oxygen species in biological systems, and its irregular metabolism and level is associated with several illnesses. The probe showed a notable increase in fluorescence when exposed to hypochlorous acid, demonstrating its excellent selectivity, fast response time (less than 10 seconds), a large Stokes shift (~ 102 nm), and a low detection limit of 15.5 nM.

PMID 39097417 · DOI 10.1016/j.ecoenv.2024.116836 · [PubMed record](#)

37. The effect of hypochlorous acid inhalation on the activity of antioxidant system enzymes in rats of different ages.

2024 · Free radical research · Human clinical & healthcare · Animal study
Authors: Murashevych, Bohdan; Maslak, Hanna; Girenko, Dmitry; Abrahimova, Olha; Netronina, Olha; Shvets, Volodymyr

The glutathione peroxidase activity in animals of both ages increased upon inhalation of air with 5.0 mg/m³ HOCl, and in old animals this was more pronounced; when the HOCl concentration decreased to 2.0 mg/m³, this indicator increased slightly in old rats and remained virtually unchanged in young ones. The glutathione reductase activity when exposed to 2.0 mg/m³ HOCl did not change for both age groups, and with increasing HOCl concentration it...

PMID 39073910 · DOI 10.1080/10715762.2024.2386688 · [PubMed record](#)

38. Correlation between disinfection efficacy and cumulative amount of free chlorine reaching various positions during ultrasonic fogging with hypochlorite solution.

2024 · Journal of microorganism control · Human clinical & healthcare · Journal article / other
Authors: Fukuzaki, Satoshi; Hotta, Hajime; Nojima, Shun

At each discharge port angle, a strong correlation between the logarithmic reduction in relative viable cells and the cumulative amount of free chlorine reaching *S. aureus* plates was observed. This study demonstrated that the cumulative amount of free chlorine measured using the filter indicator could reflect the sum of the free chlorine of both fine droplets and HOCl((g)), and that the disinfection efficiency depended on the cumulative amount of free...

PMID 38880619 · DOI 10.4265/jmc.29.2_75 · [PubMed record](#)

39. The efficient application of instilling negative pressure wound therapy with a hypochlorous acid-preserved wound cleanser: a case series and practical advice.

2024 · Wounds : a compendium of clinical research and practice · Human clinical & healthcare · Case report
Authors: Matthews, Marc R; Fernández, Luis G; Hermans, Michel He; Chakravarthy, Debashish

BACKGROUND: The use of negative pressure wound therapy with instillation and dwell time (NPWTi-d) has been shown to be effective in removing nonviable tissue, reducing bioburden, and promoting granulation tissue formation in acute and chronic infected wounds. **CONCLUSION:** The cases presented demonstrate the ability of a pHA antimicrobially preserved wound cleansing solution used as the instillation fluid with NPWTi-d to aid in bacterial reduction...

PMID 38861209 · DOI 10.25270/wnds/21122 · [PubMed record](#)

40. The HOCl dry fog-is it safe for human cells?

2024 · PloS one · Human clinical & healthcare · Human observational / experimental
Authors: Lewandowski, Rafał Bogdan; Stępińska, Małgorzata; Osuchowski, Łukasz; Kasprzycka, Wiktoria; Dobrzyńska, Monika; Mierczyk, Zygmunt; Trafny, Elżbieta Anna

Flow cytometry analyses performed under these experimental conditions indicated a decrease in the number of cells with an intact cell membrane in the exposed samples compared to the sham samples, dropping to 49.1% of the total cells. Additionally, under the same conditions, the neutral comet assay results demonstrated significant DNA damage in the exposed cells.

PMID 38809935 · DOI 10.1371/journal.pone.0304602 · [PubMed record](#)

41. Multidisciplinary expert consensus statements and recommendations for use of hypochlorous acid as a solution for negative pressure wound therapy with instillation.

2024 · Wounds : a compendium of clinical research and practice · Human clinical & healthcare · Human observational / experimental
Authors: Kim, Paul J; Fernandez, Luis; Obst, Mary Ann; Chaffin, Abigail; Faust, Elizabeth; Lantis, John; Couch, Kara; Desvigne, Michael; Suski, Mark; Kundu, Neilendu; Matthews, Marc; Simman, Richard; Murphy, Christine; Nierenberg, Natalie E; Téot, Luc

RESULTS: Ten consensus statements are presented, along with the proportion of agreement or disagreement and summary comments. **CONCLUSION:** The consensus indicates that NPWTi-d with pHAP can have a beneficial effect in wound care.

PMID 38743855 · DOI 10.25270/wnds/23143 · [PubMed record](#)

42. Antimicrobial action and cytotoxicity of hypochlorous acid obtained from an innovative electrolytic device - An in vitro study.

2024 · Archives of oral biology · Human clinical & healthcare · In vitro / laboratory
Authors: Souza, Matheus Albino; Zanella, Mylena Lazareti; Vanin, Gabriele Nichetti; Dallepiane, Felipe Gomes; Pizzi, Camila Yasmin Monteiro; Ferreira, Eduarda Rizzon; Fuhr, Marcielle Cristiane Spanenberg; Piccolo, Nathan Mateus; Palhano, Huriel Scartazzini; da Silva Koch, Jordana; Souza, Kellyn Rocca; da Costa, Ubirajara Maciel; Dos Santos, Vanessa Valgas; Steier, Liviu; Bertol, Charise Dallazem; Figueiredo, José Antônio Poli de

RESULTS: The highest bacterial reduction was observed in experimental groups, with no statistical differences from each other ($p > 0.05$). **CONCLUSIONS:** It could be concluded that HClO presented high antimicrobial activity and low cytotoxicity at both tested concentrations.

PMID 38657440 · DOI 10.1016/j.archoralbio.2024.105966 · [PubMed record](#)

43. The therapeutic potential of thiocyanate and hypothiocyanous acid against pulmonary infections.

2024 · Free radical biology & medicine · Human clinical & healthcare · Review
Authors: Ashtiwí, Nuha Milad; Kim, Susan O; Chandler, Joshua D; Rada, Balázs

This imparts both antioxidant and antimicrobial potential to SCN(-). In this review, we discuss roles of HOSCN/SCN(-) in immunity and potential therapeutic implications for combating infections.

PMID 38608822 · DOI 10.1016/j.freeradbiomed.2024.04.217 · [PubMed record](#)

44. Hypochlorous acid-the future of wound care?

2024 · JPMA. The Journal of the Pakistan Medical Association · Human clinical & healthcare · Human observational / experimental
Authors: Roshan, Muhammad; Tariq, Maryam; Akhtar, Muhammad Sulaman

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 38591320 · DOI 10.47391/JPMA.10290 · [PubMed record](#)

45. ROS signaling in innate immunity via oxidative protein modifications.

2024 · Frontiers in immunology · Human clinical & healthcare · Review

Authors: Manoharan, Renuka Ramalingam; Prasad, Ankush; Pospíšil, Pavel; Kzhyshkowska, Julia

Survival and function of immune cells are under redox control and depend on intracellular and extracellular levels of ROS/RNS. The current review focuses on redox factors involved in the activation of immune response and the role of ROS in oxidative modification of proteins in macrophage polarization and neutrophil function.

PMID 38515749 · DOI 10.3389/fimmu.2024.1359600 · [PubMed record](#)

46. Inhalation of gaseous hypochlorous acid and its effect on human respiratory epithelial cells in laboratory model systems.

2024 · Journal of microorganism control · Human clinical & healthcare · Human observational / experimental

Authors: Muramatsu, Takashi; Kodama, Kazuya; Yamada, Tetsuyoshi; Yamada, Atsushi; Fukuzaki, Satoshi

Human nasal epithelium and bronchiolar epithelium were exposed to 100 ppb and 500 ppb HOCl(g) for 8 h and 5 d, respectively. No significant effects of HOCl(g) on cell viability and ciliary activity were observed in any cell type, indicating that low concentrations of HOCl(g), less than 500 ppb, had no cytotoxic effect.

PMID 38508761 · DOI 10.4265/jmc.29.1_39 · [PubMed record](#)

47. A novel thienothiophene-based "dual-responsive" probe for rapid, selective and sensitive detection of hypochlorite.

2024 · Talanta · Human clinical & healthcare · Journal article / other

Authors: Suna, Garen; Erdemir, Eda; Liv, Lokman; Karakus, Aysenur Cataler; Gunturkun, Dilara; Ozturk, Turan; Karakuş, Erman

TTM demonstrated a rapid "turn-on" fluorescence response (<30 s), naked-eye detection (colorimetric), voltammetric read-out with anodic scan, low detection limit (LOD = 0.58 µM and 1.43 µM for optical and electrochemical methods, respectively) and applicability in detecting ClO⁻ in real water samples and living cells. SIGNIFICANCE AND NOVELTY: This study represents one of the rare examples of a small thienothiophene-based molecule for both optical and...

PMID 38128280 · DOI 10.1016/j.talanta.2023.125545 · [PubMed record](#)

48. Hypochlorous acid hygiene solution in patients affected by blepharitis: a prospective randomised study.

2023 · BMJ open ophthalmology · Human clinical & healthcare · Randomized controlled trial

Authors: Mencucci, Rita; Morelli, Alberto; Favuzza, Eleonora; Galano, Angelo; Roszkowska, Anna Maria; Cennamo, Michela

RESULTS: After 1-month NIK-BUT and TF-BUT significantly increased in HOCL group, while they did not show a statistically significant difference in HYAL group compared with baseline. Bacterial load showed a significant reduction in both groups, more pronounced in HOCL group compared with HYAL group.

PMID 38088255 · DOI 10.1136/bmjophth-2022-001209 · [PubMed record](#)

49. Topical Stabilized Super-Oxidized Hypochlorous Acid for Wound Healing in Hair Restoration Surgery: A Real-Time Usage-Controlled Trial Evaluating Safety, Efficacy, and Tolerability.

2023 · Journal of drugs in dermatology : JDD · Human clinical & healthcare · Clinical trial

Authors: Stough, Dow

RESULTS: Statistical analysis found 56% had significant reduction in the amount of erythema compared to their current wound healing regimen. More than half of the patients (54%) had significant improvement of pruritus.

PMID 38051837 · DOI 10.36849/JDD.7172 · [PubMed record](#)

50. Candida albicans resistance to hypochlorous acid.

2023 · mBio · Human clinical & healthcare · Journal article / other

Authors: Douglas, Lois M; Min, Kyunghun; Konopka, James B

HOCl kills C. albicans more effectively than H₂O₂ and results in disruption of the plasma membrane. Altogether, these results indicate that HOCl has distinct effects on cells that could be targeted in novel therapeutic strategies to enhance the killing of C. albicans and other pathogens.

PMID 38032204 · DOI 10.1128/mbio.02671-23 · [PubMed record](#)

51. Efficacy of hypochlorous acid as an alternative oral antimicrobial agent on human gingival fibroblasts, *Aggregatibacter actinomycetemcomitans*, and *Candida albicans* biofilms in vitro.

2023 · Biofouling · Human clinical & healthcare · In vitro / laboratory
Authors: Bayraktar, Gözdem; Yılmaz Göler, Ayşe Mine; Aksu, Burak; Öztürk Özener, Hafize

50 ppm and 200 ppm HOCl demonstrated stronger efficiencies than CHX against *A. actinomycetemcomitans* and *C. albicans*. The data suggest that HOCl solutions have potential as an alternative antiseptic to CHX due to their lower cytotoxicity and superior antimicrobial activity, but optimal dosage of HOCl requires further investigations.

PMID 38018019 · DOI 10.1080/08927014.2023.2288071 · [PubMed record](#)

52. Effects of hypochlorous acid mouthwash on salivary bacteria including *Staphylococcus aureus* in patients with periodontal disease: a randomized controlled trial.

2023 · BMC oral health · Human clinical & healthcare · Randomized controlled trial
Authors: Lin, Ying-Chu; Tsai, Cheng-Feng; Huang, Hsiao-Ling

Linear regression revealed that baseline SBTC and the MWPF intervention significantly affected SBTC reduction percentage by volume. CONCLUSIONS: These study results indicated that 100 ppm HOCl mouthwash treatment could effectively reduce SBTC in patients with PD and the abundance of *S. aureus*.

PMID 37770865 · DOI 10.1186/s12903-023-03358-4 · [PubMed record](#)

53. Electrolyzed Hypochlorous Acid (HOCl) Aqueous Solution as Low-Impact and Eco-Friendly Agent for Floor Cleaning and Sanitation.

2023 · International journal of environmental research and public health · Human clinical & healthcare · Human observational / experimental
Authors: Gessi, Alessandro; Formaglio, Paolo; Semeraro, Bruno; Summa, Daniela; Tamisari, Elena; Tamburini, Elena

Currently, low-impact but effective biocides that are prepared in a way that avoids waste, with a very low toxicity, and safe and easy to handle and store are strongly needed. A comparative Life Cycle Assessment (LCA) analysis has been carried out for evaluating the sustainability of the use of the HOCl-based and detergent-based machine.

PMID 37754572 · DOI 10.3390/ijerph20186712 · [PubMed record](#)

54. Cost-per-Response Analysis of Pure Hypochlorous Acid Among Patients with Chronic Venous Leg Ulcers: A Health Economic Analysis.

2023 · Advances in skin & wound care · Human clinical & healthcare · Human observational / experimental
Authors: Niezgoda, Jeffrey A; Niezgoda, Jonathan A; Niezgoda, Kathleen M; Mallow, Peter J

RESULTS: A total of 31 patients (68% women) with 31 lesions (average age of wound, 29 months; range, 1-240 months) were included in the clinical study. The sensitivity analysis revealed that CPRs ranged from \$0.63 to \$1.12 per day at 90 days.

PMID 37682298 · DOI 10.1097/ASW.0000000000000024 · [PubMed record](#)

55. Evaluation of 0.01% Hypochlorous Acid Eye Drops Combined with Conventional Treatment in the Management of Fungal Corneal Ulcers: Randomized Controlled Trial.

2023 · Current eye research · Human clinical & healthcare · Randomized controlled trial
Authors: Wang, He; Yin, Xiaoyue; Zhang, Zhaowei; Wang, Yining; Zhang, Ling; Guo, Jianxin; Li, Mingxin

Corneal scraping results showed that all patients had filamentous fungi. CONCLUSION: HOCl can accelerate the healing of fungal keratitis without obvious complications, indicating a promising future in the field of keratitis treatment.

PMID 37493085 · DOI 10.1080/02713683.2023.2226374 · [PubMed record](#)

56. Immersion of debrided diabetic foot ulcer tissue in electrochemically generated pH neutral hypochlorous acid significantly reduces the microbial bioburden: whole-genome sequencing of *Staphylococcus aureus*, the most prevalent species recovered.

2023 · The Journal of hospital infection · Human clinical & healthcare · Human observational / experimental
Authors: Grealy, L; Wilson, P; Gillen, C; Duffy, É; Healy, M-L; Daly, B; Polyzois, I; Van Harten, M; Dougall, A; Brennan, G I; Coleman, D C; McManus, B A

AIMS: To investigate both the effectiveness of anolyte for microbial bioburden reduction in debrided ulcer tissues and the population of resident *S. aureus*. CONCLUSIONS: Short immersions of debrided ulcer tissue in anolyte significantly reduced microbial bioburden: a potential novel DFUI treatment.

PMID 37308064 · DOI 10.1016/j.jhin.2023.06.006 · [PubMed record](#)

57. HOCl Rapidly Kills Corona, Flu, and Herpes to Prevent Aerosol Spread.

2023 · Journal of dental research · Human clinical & healthcare · Human observational / experimental
Authors: Guan, H; Nuth, M; Weiss, S R; Fausto, A; Liu, Y; Koo, H; Wolff, M S; Ricciardi, R P

While current disinfection procedures commonly use surface wipe-downs to reduce viral transmission, they are not fully effective. The results revealed that human betacoronavirus OC43 (related to SARS-CoV-2), human influenza virus (H1N1), and HSV1 from atomizer-produced droplet-aerosols were each fully destroyed by only 100 ppm of hypochlorous acid (HOCl) within 30 s, which was the shortest time point of exposure to the virucide.

PMID 37246843 · DOI 10.1177/00220345231169434 · [PubMed record](#)

58. Highly water dispersible collagen/polyaniline nanocomposites with strong adhesion for electrochromic films with enhanced cycling stability.

2023 · International journal of biological macromolecules · Materials & industrial applications · Journal article / other
Authors: Zhao, Yinghui; Liu, Wentao; Bai, Xue; Huang, Wenhuan; Gu, Yingchun; Chen, Sheng; Lan, Jianwu

The resulting electrochromic film of the C/PANI nanocomposite displays significantly improved cycling stability compared with the pure PANI film after 500 coloring-bleaching cycles. The C/PANI electrochromic material illustrates scaling potential for the application of electrochromic devices.

PMID 37119893 · DOI 10.1016/j.ijbiomac.2023.124657 · [PubMed record](#)

59. Bleach Emissions Interact Substantially with Surgical and KN95 Mask Surfaces.

2023 · Environmental science & technology · Human clinical & healthcare · Human observational / experimental
Authors: Bhattacharyya, Nirvan; Tang, Mengjia; Blomdahl, Daniel C; Jahn, Leif G; Abue, Pearl; Allen, David T; Corsi, Richard L; Novoselac, Atila; Misztal, Pawel K; Hildebrandt Ruiz, Lea

Humidifying the mask increases reactive formation of chloramines, likely related to uptake of ammonia and HOCl. These experiments indicate that masks are a source of chemical exposure after cleaning events occur.

PMID 37061949 · DOI 10.1021/acs.est.2c07937 · [PubMed record](#)

60. Antiseptic efficacy of two mouth rinses in the oral cavity to identify a suitable rinsing solution in radiation- or chemotherapy induced mucositis.

2023 · BMC oral health · Human clinical & healthcare · Randomized controlled trial
Authors: Zwicker, Paula; Freitag, Marcus; Heidel, Florian H; Kocher, Thomas; Kramer, Axel

To support oral care, antimicrobial effective mouth rinses may be used. RESULTS: Both antiseptic mouth rinses induced a significant reduction of cfu on buccal mucosa and in saliva 1 min after mouth rinsing.

PMID 36966298 · DOI 10.1186/s12903-023-02884-5 · [PubMed record](#)

61. Synergistic effect of two formulations of hypochlorous acid in the treatment of 346 chronic ulcers.

2023 · Wound repair and regeneration : official publication of the Wound Healing Society [and] the European Tissue Repair Society · Human clinical & healthcare · Human observational / experimental
Authors: Herruzo, Rafael; Fondo Alvarez, Erika; Herruzo, Irene; Santiso Casanova, Emma; Cerame Perez, Silvia

In the bivariate and multivariate studies, we took as reference the 'others' treatments that showed no significant differences in healing time or infection rates compared with liquid hypochlorous acid 100-500 mg/L alone. However, hypochlorous acid liquid + gel showed a synergistic effect, with a higher probability of achieving complete healing (four times) and a lower probability of infection (a fifth), compared to the 'other' antiseptics.

PMID 36951216 · DOI 10.1111/wrr.13079 · [PubMed record](#)

62. Influence of thermal cycles and disinfection on the roughness, microhardness and color of PETG/TPU and PMMA.

2023 · Polimery w medycynie · Materials & industrial applications · Journal article / other
Authors: Neto, Clóvis Lamartine De Moraes Melo; Bernardi, Bruno Simão; Dekon, Stefan Fiuza De Carvalho; Santos, Daniela Micheline Dos; Goiato, Marcelo Coelho

RESULTS: For roughness and color, ANOVA showed statistical significance based on the interaction between thermal cycling, material and disinfectant factors. Microhardness significantly increased for both materials after thermal cycling, and at all time points, the microhardness of PMMA was significantly higher than that of PETG/TPU.

PMID 36929643 · DOI 10.17219/pim/159350 · [PubMed record](#)

63. Curcumin from *Curcuma longa* Linn. (Family: Zingiberaceae) attenuates hypochlorous acid-induced cytotoxicity and oxidative damage to human red blood cells.

2023 · Toxicology in vitro : an international journal published in association with BIBRA · Human clinical & healthcare · Human observational / experimental

Authors: Tantry, Irfan Qadir; Ali, Asif; Mahmood, Riaz

Treatment of RBC with HOCl alone increased hemolysis, protein carbonyls, heme degradation and chloramines as compared to untreated control cells. Pre-treatment of RBC with different concentrations of curcumin resulted in concentration-dependent attenuation in all these parameters while curcumin alone had no significant effect.

PMID 36924976 · DOI 10.1016/j.tiv.2023.105583 · [PubMed record](#)

64. In-vitro evaluation of the effectiveness of polyphenols based strawberry extracts for dental bleaching.

2023 · Scientific reports · Human clinical & healthcare · Journal article / other

Authors: Kohli, Shivani; Bhatia, Shekhar; Banavar, Spoorthi Ravi; Al-Haddad, Afaf; Kandasamy, Muruges; Qasim, Syed Saad Bin; Kit-Kay, Mak; Pichika, Mallikarjuna Rao; Daood, Umer

Mean colour change was significantly reduced in group 1 compared to other groups ($p < 0.05$). The novel strawberry extract and antimicrobial based dental formulation had immediate bleaching effect without promoting significant changes in enamel morphology.

PMID 36914760 · DOI 10.1038/s41598-023-31125-6 · [PubMed record](#)

65. Hypervirulent R20291 *Clostridioides difficile* spores show disinfection resilience to sodium hypochlorite despite structural changes.

2023 · BMC microbiology · Human clinical & healthcare · Human observational / experimental

Authors: Malyshev, Dmitry; Jones, Imogen Anne; McCracken, Matthew; Öberg, Rasmus; Harper, Glenn M; Joshi, Lovleen Tina; Andersson, Magnus

RESULTS: We found that the isolates show significantly different susceptibility to hypochlorite, with the R20291 strain, in particular, showing less than 1 log reduction in viability for a 0.5% hypochlorite treatment, far below typically reported values for *C. difficile*. While TEM and Raman spectra analysis of hypochlorite-treated spores revealed that some hypochlorite-exposed spores remained intact and not distinguishable from controls, most spores...

PMID 36879193 · DOI 10.1186/s12866-023-02787-z · [PubMed record](#)

66. Surface Inactivation of a SARS-CoV-2 Surrogate with Hypochlorous Acid is Impacted by Surface Type, Contact Time, Inoculum Matrix, and Concentration.

2023 · Food and environmental virology · Human clinical & healthcare · Human observational / experimental

Authors: Hamilton, Allyson N; Chandran, Sahaana; Baker, Christopher A; Gibson, Kristen E

Overall, increased HOCl concentration and exposure time led to increased Phi6 reduction. Notably, the highest estimated mean log reduction was 3.31 (95% CI 3.14, 3.49) for stainless steel at 60 s and 1000 ppm HOCl in artificial saliva, indicating that this method of sanitization may not adequately reduce enveloped viruses to below infective thresholds.

PMID 36680664 · DOI 10.1007/s12560-023-09549-0 · [PubMed record](#)

67. Near-source hypochlorous acid emissions from indoor bleach cleaning.

2023 · Environmental science. Processes & impacts · Human clinical & healthcare · Human observational / experimental

Authors: Stubbs, Annastacia D; Lao, Melodie; Wang, Chen; Abbatt, Jonathan P D; Hoffnagle, John; VandenBoer, Trevor C; Kahan, Tara F

The findings from mobile experiments were consistent with the spatial and temporal trends observed in the experiments with fixed inlet locations. This work provides insight on effective strategies to reduce exposure risk to emissions from bleach and other cleaning products.

PMID 36602445 · DOI 10.1039/d2em00405d · [PubMed record](#)

68. Comparison of hyaluronic acid, hypochlorous acid, and flurbiprofen on postoperative morbidity in palatal donor area: a randomized controlled clinical trial.

2023 · Clinical oral investigations · Human clinical & healthcare · Randomized controlled trial

Authors: Alpan, Aysan Lektemur; Cin, Gizem Torumtay

RESULTS: HA provided better WHI values on the 7(th), 14(th), and 21(st) days compared to the other groups, respectively ($p < 0.05$). Significantly fewer analgesics were taken in the topical agent-applied groups compared to the control group.

PMID 36595064 · DOI 10.1007/s00784-022-04848-5 · [PubMed record](#)

69. Evaluation of hypochlorous acid as an ear flush in dogs with chronic otitis externa.

2023 · Veterinary dermatology · Human clinical & healthcare · Animal study

Authors: Mueller, Ralf S; Baumann, Katja N; Boehm, Teresa; Dörfelt, Stefanie; Kasper, Bettina; Udraite-Vovk, Laura

Clinical and cytological scores decreased significantly with both solutions after 2 weeks of treatment. There was no difference between treatments in any of the scores at any time point between treatments and in the results of the hearing test before and after the flushing procedure.

PMID 36517454 · DOI 10.1111/vde.13142 · [PubMed record](#)

70. An Intensive Multidisciplinary Approach in Management of Extensive Nonuremic Calciphylaxis of the Bilateral Lower Extremities with Angioinvasive Fungus and Mold.

2023 · Journal of burn care & research : official publication of the American Burn Association · Human clinical & healthcare · Case report

Authors: Roberson, Jeffrey L; Butt, Zoya; Florez-Pollack, Stephanie; Morgan, Eric; Rosenbach, Misha; Braslow, Benjamin M; Yelon, Jay A

Management of infected wounds related to calciphylaxis poses a significant clinical challenge with high morbidity and mortality. When occurring over a large surface area, standard daily dressing changes are especially labor intensive, inefficient, and ineffective.

PMID 36269818 · DOI 10.1093/jbcr/irac158 · [PubMed record](#)

71. Reactive silver inks for antiviral, repellent medical textiles with ultrasonic bleach washing durability compared to silver nanoparticles.

2022 · PloS one · Human clinical & healthcare · Journal article / other

Authors: Galante, Anthony J; Pilsbury, Brady C; Yates, Kathleen A; LeMieux, Melbs; Bain, Daniel J; Shanks, Robert M Q; Romanowski, Eric G; Leu, Paul W

Similarly, after this bleach washing treatment, the fabric treatment shows reductions of infectious virus quantities by about 2 logs compared to controls for enveloped viruses. This study provides insights for improving the wash durability of antiviral silver fabric treatments and demonstrates a bleach wash durable, repellent antiviral treatment for reusable, functional personal protective equipment applications.

PMID 36103519 · DOI 10.1371/journal.pone.0270718 · [PubMed record](#)

72. A specific turn-on fluorescence probe for determination of nitazoxanide based on feasible oxidation reaction with hypochlorite: Applying cobalt ferrite nanoparticles for pre-concentration and extraction of its metabolite from real urine samples.

2022 · Journal of pharmaceutical and biomedical analysis · Human clinical & healthcare · Human observational / experimental

Authors: Abdel-Lateef, Mohamed A; Alzahrani, Eman; Pashameah, Rami Adel; Almahri, Albandary; Abu-Hassan, Ahmed A; El Hamd, Mohamed A; Mohammad, Bassam Shaaban

The synthesized magnetic nanoparticles were characterized by scanning electron microscope and zeta sizer techniques. Finally, the utilized magnetic nanoparticles exhibited good recovery results for pre-concentration and extraction of NTX or its metabolite from spiked and real human urine samples, respectively.

PMID 35905532 · DOI 10.1016/j.jpba.2022.114941 · [PubMed record](#)

73. Effect of oral antiseptics on the viral load of SARS-CoV-2: A randomized controlled trial.

2022 · Dental and medical problems · Human clinical & healthcare · Randomized controlled trial

Authors: Sevinç Gül, Sema Nur; Dilsiz, Alparslan; Saadk, mran; Aydn, Nurten Nur

RESULTS: Comparing the before and after mouthwash samples from all 3 groups, there were no statistically significant differences in the Ct values before and after gargling ($p > 0.05$). Taken together, these findings imply no role for antiseptics in the transmission of SARS-CoV-2 by the aerosol generated during dental procedures, or more generally, SARS-CoV-2 infection control.

PMID 35904769 · DOI 10.17219/dmp/150831 · [PubMed record](#)

74. Effect of Hypochlorites on the Compressive Strength and Surface Hardness of Type V Dental Stone: An In Vitro Study.

2022 · The journal of contemporary dental practice · Human clinical & healthcare · In vitro / laboratory

Authors: Nautiyal, Mansi; Jyothi, K S; Muttagi, Seshagiri; Pallavi, N T; D'Almeida, Avita Uh; Shah, Chintan P; Kaur, Harsimran; Singh, Nishtha

When the mean surface hardness of the sodium hypochlorite (A(s)) group was compared to calcium hypochlorite the results were highly significant ($p = 0.0001$) with the mean surface hardness of the calcium hypochlorite group more than the sodium hypochlorite group. CONCLUSION: Calcium hypochlorite used as a disinfectant showed better compressive strength and surface hardness when compared to sodium hypochlorite as a disinfectant.

PMID 35748452 · [PubMed record](#)

75. Oxidation of bacillithiol during killing of *Staphylococcus aureus* USA300 inside neutrophil phagosomes.

2022 · Journal of leukocyte biology · Human clinical & healthcare · Human observational / experimental

Authors: Ashby, Louisa V; Springer, Reuben; Loi, Vu Van; Antelmann, Haike; Hampton, Mark B; Kettle, Anthony J; Dickerhof, Nina

Oxidation of BSH was decreased upon inhibition of myeloperoxidase, implicating HOCl in phagosomal BSH oxidation. Collectively, our data show that myeloperoxidase-derived oxidants react with *S. aureus* inside neutrophil phagosomes, leading to partial BSH oxidation, and contribute to bacterial killing.

PMID 35621076 · DOI 10.1002/JLB.4HI1021-538RR · [PubMed record](#)

76. Effect of Stabilized Hypochlorous Acid on Re-epithelialization and Bacterial Bioburden in Acute Wounds: A Randomized Controlled Trial in Healthy Volunteers.

2022 · Acta dermato-venereologica · Human clinical & healthcare · Randomized controlled trial

Authors: Burian, Ewa A; Sabah, Lubna; Kirketerp-Møller, Klaus; Gundersen, Glenn; Ågren, Magnus S

Hypochlorous acid solution increased the degree of re-epithelialization on day 4 by 14% compared with the control solution (95% confidence interval (CI) 6.8-20%, $p = 0.00051$) and was not inferior ($p < 0.0001$) to the control solution on day 10 (0.3%, 95% CI -1.3-1.9%). Median bacterial counts were lower with stabilized hypochlorous acid compared with control and were further reduced after irrigation and treatment of both groups on day 4, but remained lower...

PMID 35578822 · DOI 10.2340/actadv.v102.1624 · [PubMed record](#)

77. Comparison of hypochlorous acid and Povidone Iodine as a disinfectant in neonatal circumcision.

2022 · Journal of pediatric urology · Human clinical & healthcare · Human observational / experimental

Authors: Gözükcük, Ali; Çakıroğlu, Basri

However, when all complications were analyzed collectively, it was determined that there was a significant difference, and the complication rate of Group 2 was greater ($p = 0.037$). In Group 2, the rate of edema and wound healing delay was significantly greater than that of Group 1 ($p: 0.037$ $p: 0.036$) (Table 1).

PMID 35414414 · DOI 10.1016/j.jpuro.2022.03.011 · [PubMed record](#)

78. Efficacy of hypochlorous acid (HOCl) fog in sanitizing surfaces against *Enterococcus faecalis*.

2022 · American journal of infection control · Materials & industrial applications · Human observational / experimental

Authors: Feng, Kuan-Che; Ghai, Anish; Liu, Haijiao; Salerno, Andrew; Miller, Curtis; Liu, Jessica; Manesh, Sana; Cymerman, Jerome; Simon, Marcia; Walker, Stephen G; Rafailovich, Miriam

CONCLUSIONS: The most effective mode of application was determined to be continuous fogging where a 6.59 log reduction was established in vertical geometry. No significant differences in outcome were determined between polymer or metal surfaces.

PMID 35307474 · DOI 10.1016/j.ajic.2022.03.009 · [PubMed record](#)

79. The Microbiome of Meibomian Gland Secretions from Patients with Internal Hordeolum Treated with Hypochlorous Acid Eyelid Wipes.

2022 · Disease markers · Human clinical & healthcare · Human observational / experimental

Authors: Yang, Shu; Wu, Bing-Cheng; Cheng, Zhe; Li, Lan; Zhang, Yuan-Ping; Zhao, Hui; Zeng, Han-Mei; Qi, Dong-Fang; Ma, Zi-Yao; Li, Jian-Guo; Han, Rui; Qu, Fang-Zhou; Luo, Yan; Liu, Yi; Chen, Xiao-Lei; Dai, Hong-Mei

RESULTS: A total of 2127 operational taxonomic units were obtained from the two groups of samples, and there was no significant difference in alpha diversity before and after eyelid cleaning. Hypochlorous acid eyelid wipes may affect the internal hordeolum through broad-spectrum antibacterial action to effectively reduce the relative abundance of symbiotic pathogens, such as *Staphylococcus*, *Neisseria*, *Actinomycetes*, and *Ruminococcus* and increase that of...

PMID 35251376 · DOI 10.1155/2022/7550090 · [PubMed record](#)

80. Resistance of *Streptococcus pneumoniae* to Hypothiocyanous Acid Generated by Host Peroxidases.

2022 · Infection and immunity · Human clinical & healthcare · Human observational / experimental

Authors: Shearer, Heather L; Kaldor, Christopher D; Hua, Harry; Kettle, Anthony J; Parker, Heather A; Hampton, Mark B

When associated with neutrophil extracellular traps (NETs), *S. pneumoniae* continued to generate H_2O_2 , which was converted to HOCl by myeloperoxidase (MPO) present on NETs. We conclude that at sites of infection, bacteria will be protected from HOCl by thiocyanate and extracellular proteins including those associated with NETs.

PMID 35156851 · DOI 10.1128/IAI.00530-21 · [PubMed record](#)

81. The effectiveness of the information-motivation model and domestic brushing with a hypochlorite-based formula on peri-implant mucositis: A randomized clinical study.

2022 · Clinical and experimental dental research · Human clinical & healthcare · Randomized controlled trial
Authors: Cosola, Saverio; Oldoini, Giacomo; Giammarinaro, Enrica; Covani, Ugo; Genovesi, Annamaria; Marconcini, Simone

For the test group, the clinical improvement was significantly greater than that for the control group at the seventh-day evaluation (T1) in the gingival index (0-3) and FMBS (%). A previous decontamination of the oral cavity with chlorhexidine or nitradine domiciliary for 10 days could reduce plaque and inflammation, resulting in a painless operative session.

PMID 34677005 · DOI 10.1002/cre2.487 · [PubMed record](#)

82. Effect of hypochlorous acid nasal spray as an adjuvant therapy after functional endoscopic sinus surgery.

2022 · American journal of otolaryngology · Human clinical & healthcare · Randomized controlled trial
Authors: Jiang, Rong-San; Liang, Kai-Li

In contrast, TWSNOT-22 score significantly decreased after NS nasal irrigation ($p = 0.017$), but endoscopic score did not significantly decrease ($p = 0.142$). CONCLUSIONS: Our results showed that HOCl nasal spray had a similar effect to that of NS nasal irrigation in post-FESS care.

PMID 34653953 · DOI 10.1016/j.amjoto.2021.103264 · [PubMed record](#)

83. Hard-to-heal ulcers treated with hypochlorous acid oxidising solution and standard of care: a 32-week follow-up.

2021 · Journal of wound care · Human clinical & healthcare · Human observational / experimental
Authors: Ricci, Elia; Pittarello, Monica

RESULTS: By T224, 35.5% ($n=11$) of wounds healed completely and 83.9% showed some types of improvement. CONCLUSION: This follow-up evaluation, coupled with the primary study, suggests that AOS might represent a valuable therapeutic addition for the management of hard-to-heal ulcers for long periods of treatment.

PMID 34644135 · DOI 10.12968/jowc.2021.30.10.840 · [PubMed record](#)

84. Wound bed preparation with hypochlorous acid oxidising solution and standard of care: a prospective case series.

2021 · Journal of wound care · Human clinical & healthcare · Human observational / experimental
Authors: Ricci, Elia; Pittarello, Monica

By T70, 68.3% of wounds had healed or improved and a significant wound size reduction of 21% was observed ($p<0.001$), despite a mean wound duration of 20.6 months. WBP scores improved, while Bates-Jensen and pain scores fell significantly over time.

PMID 34644134 · DOI 10.12968/jowc.2021.30.10.830 · [PubMed record](#)

85. Loss of mTORC2 Activity in Neutrophils Impairs Fusion of Granules and Affects Cellular Metabolism Favoring Increased Bacterial Burden in Sepsis.

2021 · Journal of immunology (Baltimore, Md. : 1950) · Human clinical & healthcare · Human observational / experimental
Authors: Breda, Cristiane Naffah de Souza; Breda, Leandro Carvalho Dantas; Carvalho, Larissa Anastácio da Costa; Amano, Mariane Tami; Terra, Fernanda Fernandes; Silva, Reinaldo Correia; Fragas, Matheus Garcia; Forni, Maria Fernanda; Fonseca, Monique Thaís Costa; Venturini, Gabriela; Feitosa, Amanda Campelo Melo; Ghirotto, Bruno; Cruz, Mario Costa; Cunha, Flávia Franco; Ignacio, Aline; Latância, Marcela; Castoldi, Angela; Andrade-Oliveira, Vinícius; Martins da Silva, Eloisa; Hiyane, Meire Ioshie; Pereira, Alexandre da Costa; Festuccia, William; Meotti, Flávia Carla; Câmara, Niels Olsen Saraiva

Finally, myeloid-Rictor-deleted mice (LysMRic Δ/Δ) also showed an impairment of the microbicidal capacity, increasing the bacterial burden in the Escherichia coli sepsis model. Overall, our results highlight the importance of proper mTORC2 activation for neutrophil effector functions and metabolism during sepsis.

PMID 34261666 · DOI 10.4049/jimmunol.2000573 · [PubMed record](#)

86. Hypochlorous Acid Versus Saline Nasal Irrigation in Allergic Rhinitis: A Multicenter, Randomized, Double-Blind, Placebo-controlled Study.

2022 · American journal of rhinology & allergy · Human clinical & healthcare · Randomized controlled trial
Authors: Kim, Ho Chan; Kim, Dong-Kyu; Kim, Ji Sun; Lee, Ho Jun; Bae, Mi Rye; Choi, Woo Ri; Jang, Yong Ju

OBJECTIVE: The aim of this study was to evaluate the effectiveness of HOCl nasal irrigation to reduce allergic rhinitis (AR) symptoms compared with saline nasal irrigation. However, HOCl showed no additional improvement in symptoms compared with saline nasal irrigation for patients with perennial AR.

PMID 34236253 · DOI 10.1177/19458924211029428 · [PubMed record](#)

87. High concentrations of hypochlorous acid-based disinfectant in the environment reduced the load of SARS-CoV-2 in nucleic acid amplification testing.

2021 · Electrophoresis · Human clinical & healthcare · Human observational / experimental

Authors: Duan, Xiuzhi; Wang, Xuchu; Xie, Yiyi; Yu, Pan; Zhuang, Tingting; Zhang, Yingzhi; Fang, Liuyu; Ping, Ying; Liu, Weiwei; Tao, Zhihua

The results showed that different HOCl concentrations and different action times had an impact on the SARS-CoV-2 results. In order to reduce the possibility of false negative of SARS-CoV-2 nucleic acid test and prevent the spread of epidemic disease, environmental disinfectants should be used at the beginning and end of the experiment rather than during the experimental operation.

PMID 34142386 · DOI 10.1002/elps.202000387 · [PubMed record](#)

88. Debriding effect of amino acid-buffered hypochlorite on hard-to-heal wounds covered by devitalised tissue: pilot study.

2021 · Journal of wound care · Human clinical & healthcare · Human observational / experimental

Authors: Eliasson, Björn; Fagerdahl, Ann-Mari; Jönsson, Anders; Apelqvist, Jan

Guidelines conclude that new dressings and treatments generally fail to show superiority compared with standard of care.

CONCLUSION: This clinical study suggests that amino acid-buffered hypochlorite can be effective and well tolerated in the treatment of hard-to-heal lower extremity ulcers to dissolve and remove devitalised tissue.

PMID 34121441 · DOI 10.12968/jowc.2021.30.6.455 · [PubMed record](#)

89. A Concept for the Reduction of Mucosal SARS-CoV-2 Load using Hypochloric Acid Solutions.

2021 · Drug research · Human clinical & healthcare · Human observational / experimental

Authors: Mueller, Christian A; Winter, Michael; Renner, Bertold

During the next few months or years, vaccination against SARS-CoV-2 infection will significantly reduce the morbidity and mortality of COVID-19. This is even more important in view of new viral mutations that result in increased transmission rates.

PMID 33890267 · DOI 10.1055/a-1467-5956 · [PubMed record](#)

90. Prescribed exercise regimen versus usual care and hypochlorous acid wound solution versus placebo for treating venous leg ulcers: study protocol for a randomised controlled trial (Factorial4VLU).

2021 · BMJ open · Human clinical & healthcare · Clinical trial

Authors: Jull, Andrew; Wadham, Angela; Bullen, Chris; Parag, Varsha; Parsons, John G M; Laking, George; Waters, Jill; Klonizakis, Markos; O'Brien, Jane

There is only observational evidence supporting the use of hypochlorous acid (HOCl) as a topical wound solution on VLU and some limited randomised evidence for the effect of a prescribed regimen of exercise. If either of the interventions shows a statistically significant positive difference on healing outcomes, cost-effectiveness will be modelled using a health service perspective.

PMID 33602710 · DOI 10.1136/bmjopen-2020-043420 · [PubMed record](#)

91. A Multiple-Hit Hypothesis Involving Reactive Oxygen Species and Myeloperoxidase Explains Clinical Deterioration and Fatality in COVID-19.

2021 · International journal of biological sciences · Human clinical & healthcare · Review

Authors: Goud, Pravin T; Bai, David; Abu-Soud, Husam M

Overwhelming immune response associated with "cytokine storms" could activate reactive oxygen species (ROS), which may result in consumption of nitric oxide (NO), a critical vasodilation regulator. Understanding these mechanisms is critical to develop therapeutic strategies to combat COVID-19.

PMID 33390833 · DOI 10.7150/ijbs.51811 · [PubMed record](#)

92. A lysosome-targetable two-photon excited near-infrared fluorescent probe for visualizing hypochlorous acid-involved arthritis and its treatment.

2021 · Spectrochimica acta. Part A, Molecular and biomolecular spectroscopy · Human clinical & healthcare · Animal study

Authors: Mao, Guo-Jiang; Wang, Ying-Ying; Dong, Wen-Pei; Meng, Hong-Min; Wang, Qian-Qian; Luo, Xiao-Feng; Li, Yao; Zhang, Guisheng

At last, we have successfully used Lyso-TP-HClO to image the arthritis and evaluate the treatment of arthritis in mice. All the results confirm that Lyso-TP-HClO is a useful chemical tool for imaging of lysosomal HClO, the diagnosis of arthritis, and treatment evaluation of arthritis.

PMID 33360565 · DOI 10.1016/j.saa.2020.119326 · [PubMed record](#)

93. HClO-Activated Fluorescence and Photosensitization from an AIE Nanoprobe for Image-Guided Bacterial Ablation in Phagocytes.

2020 · Advanced materials (Deerfield Beach, Fla.) · Human clinical & healthcare · In vitro / laboratory
Authors: Wu, Min; Wu, Wenbo; Duan, Yukun; Liu, Xingang; Wang, Meng; Phan, Chi Uyen; Qi, Guobin; Tang, Guping; Liu, Bin

Effective accumulation of activatable photosensitizers (PSs) in phagocytes to realize selective imaging and on-demand photodynamic ablation of bacteria is of great scientific and practical interests for precise bacteria diagnosis and treatment. The selective activation of fluorescence and photosensitization is successfully confirmed by both in vitro and in vivo results, demonstrating the effectiveness and theranostic potential of DTF-FFP NPs in precise...

PMID 33079417 · DOI 10.1002/adma.202005222 · [PubMed record](#)

94. Toxicological aspects of increased use of surface and hand disinfectants in Croatia during the COVID-19 pandemic: a preliminary report.

2020 · Arhiv za higijenu rada i toksikologiju · Human clinical & healthcare · Human observational / experimental
Authors: Babić, Željka; Turk, Rajka; Macan, Jelena

Cases of exposures to disinfectants doubled in the first half of 2020 (41 vs 21 cases in 2019), and exposure to sanitisers increased about nine times (46 vs 5 cases in 2019). These preliminary findings, however limited, confirm that increased availability and use of disinfectants and sanitisers significantly increased the risk of poisoning, particularly in preschool children through accidental ingestion of hand sanitisers.

PMID 33074170 · DOI 10.2478/aiht-2020-71-3470 · [PubMed record](#)

95. Post-amputation wound on diabetic foot.

2020 · Journal of wound care · Human clinical & healthcare · Case report
Authors: Cuzic, Domagoj; Lenkovic, Maya

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 33016850 · DOI 10.12968/jowc.2020.29.Sup10a.S10 · [PubMed record](#)

96. Non-healing surgical wound with exposed bone.

2020 · Journal of wound care · Human clinical & healthcare · Case report
Authors: Dissemmond, Joachim

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 33016848 · DOI 10.12968/jowc.2020.29.Sup10a.S11 · [PubMed record](#)

97. Wound cleansing: benefits of hypochlorous acid.

2020 · Journal of wound care · Human clinical & healthcare · Human observational / experimental
Authors: Joachim, Dissemmond

Cleansing provides an opportunity to remove pathogens from the wound bed, thereby preventing an increase in the bioburden and delayed healing. This article describes the reported efficacy of hypochlorous acid-containing wound cleansers.

PMID 33016847 · DOI 10.12968/jowc.2020.29.Sup10a.S4 · [PubMed record](#)

98. Dehiscence surgical wound.

2020 · Journal of wound care · Human clinical & healthcare · Case report
Authors: Younis, Ibby

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 33016846 · DOI 10.12968/jowc.2020.29.Sup10a.S18 · [PubMed record](#)

99. Diabetic foot ulcer.

2020 · Journal of wound care · Human clinical & healthcare · Case report
Authors: Kurz, Peter

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 33016845 · DOI 10.12968/jowc.2020.29.Sup10a.S17 · [PubMed record](#)

100. Necrotising fasciitis.

2020 · Journal of wound care · Human clinical & healthcare · Case report
Authors: Kurz, Peter

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 33016844 · DOI 10.12968/jowc.2020.29.Sup10a.S14 · [PubMed record](#)

101. Granudacyn Wound Irrigation Solution and Wound Gel.

2020 · Journal of wound care · Human clinical & healthcare · Human observational / experimental
Authors:

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 33016842 · DOI 10.12968/jowc.2020.29.Sup10a.S9 · [PubMed record](#)

102. Infected cardiac pacemaker pocket.

2020 · Journal of wound care · Human clinical & healthcare · Case report
Authors: Oberhoffer, Martin

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 33016841 · DOI 10.12968/jowc.2020.29.Sup10a.S13 · [PubMed record](#)

103. Development of a personal passive air sampler for estimating exposure to effective chlorine while using chlorine-based disinfectants.

2021 · Indoor air · Human clinical & healthcare · Human observational / experimental
Authors: Ha, Yeonjeong; Kim, Yoonsub; Song, Eugene; Yoo, Hyun Jung; Kwon, Jung-Hwan

With an increasing use of indoor disinfectants such as chlorine (Cl₂) and hypochlorous acid, a convenient sampler for estimating exposure to oxidants, such as effective chlorine, is necessary. These PPAS-derived exposure concentrations were approximately two orders lower than those estimated using ConsExpo, suggesting a significant overestimation by prevailing screening models, possibly due to the ignorance of transformation reactions.

PMID 32978992 · DOI 10.1111/ina.12747 · [PubMed record](#)

104. COVID-19 prophylaxis in ophthalmology.

2020 · Indian journal of ophthalmology · Human clinical & healthcare · Human observational / experimental
Authors: Finger, Paul T; Fam, Anthony; Tomar, Ankit S; Garg, Gaurav; Chin, Kimberly J

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 32971608 · DOI 10.4103/ijo.IJO_2459_20 · [PubMed record](#)

105. Hypochlorous acid water prevents postoperative intrauterine infection after microwave endometrial ablation.

2020 · The journal of obstetrics and gynaecology research · Human clinical & healthcare · Human observational / experimental
Authors: Tsuda, Akira; Kanaoka, Yasushi

The combined ablation techniques i.e. transcervical microwave myolysis and transcervical microwave adenomyolysis did not increase frequency of infection. Postoperative intrauterine infection cases in group B (8 cases) were significantly lower than those in group A (28 cases) (Chi-square test, P = 0.001).

PMID 32939904 · DOI 10.1111/jog.14471 · [PubMed record](#)

106. A visible-light-excitable mitochondria-targeted europium complex probe for hypochlorous acid and its application to time-gated luminescence bioimaging.

2020 · Biosensors & bioelectronics · Human clinical & healthcare · In vitro / laboratory
Authors: Ma, Hua; Chen, Kaiwen; Song, Bo; Tang, Zhixin; Huang, Yundi; Zhang, Ting; Wang, Huanan; Sun, Wenping; Yuan, Jingli

Development of fluorescent/luminescent probes for rapid, selective and sensitive detection of reactive oxygen species (ROS) is of great significance for understanding the roles of ROS in pathophysiological processes. Overall, this study provides a useful tool for the clinical monitoring and treatment of wound diseases.

PMID 32890933 · DOI 10.1016/j.bios.2020.112560 · [PubMed record](#)

107. Hypochlorous Acid: A Review.

2020 · Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons · Human clinical & healthcare · Review
Authors: Block, Michael S; Rowan, Brian G

The surgeon needs to have an inexpensive, available, nontoxic, and practical disinfectant that is effective in sanitizing against the COVID-19 (Coronavirus Disease 2019) virus. The results indicate that this material can be used with a high predictability for disinfecting against the COVID-19 (Coronavirus Disease 2019) virus.

PMID 32653307 · DOI 10.1016/j.joms.2020.06.029 · [PubMed record](#)

108. Preliminary Outcomes of Hypochlorous Acid as an Adjunct for Pocket Irrigation in Revision Aesthetic Breast Surgery.

2021 · Aesthetic surgery journal · Human clinical & healthcare · Human observational / experimental
Authors: Hasan, Samir; Mujadzic, Mirza; Kaswan, Sumesh; Halpern, Joshua; Van Natta, Bruce; Lund, Herluf

Studies have shown that hypochlorous acid (HOCl; PhaseOne Health, Nashville, TN) effectively penetrates and disrupts biofilms; however, there are limited clinical data regarding this irrigation in breast augmentation. We plan to report our findings with HOCl in primary breast augmentation in the future, and other studies are being conducted on the efficacy of HOCl in aesthetic surgery.

PMID 32651995 · DOI 10.1093/asj/sjaa201 · [PubMed record](#)

109. Intraabdominal Lavage of Hypochlorous Acid: A New Paradigm for the Septic and Open Abdomen.

2020 · Wounds : a compendium of clinical research and practice · Human clinical & healthcare · Case report
Authors: Fernández, Luis G; Matthews, Marc R; Seal, Lawton

RESULTS: This initial experience suggests instillation of HOCl through the tubing set, in conjunction with the TAC device, is safe and easy to use. CONCLUSIONS: Based on the results of this study, the authors believe instillation through the TAC device may be the next evolution in the use of abdominal NPWT and programmed intermittent lavage of the peritoneal cavity represents an effective method in the care of patients with a septic OA.

PMID 32155118 · [PubMed record](#)

110. The Role of Myeloperoxidase in Biomolecule Modification, Chronic Inflammation, and Disease.

2020 · Antioxidants & redox signaling · Human clinical & healthcare · Review
Authors: Davies, Michael J; Hawkins, Clare L

Future Directions: The development of more targeted MPO inhibitors or a treatment regimen designed to reduce MPO-associated host tissue damage without compromising pathogen killing by the innate immune system is therefore an important future direction. Similarly, a partial MPO inhibition strategy may be sufficient to maintain adequate bacterial activity while decreasing the propagation of inflammatory pathologies.

PMID 31989833 · DOI 10.1089/ars.2020.8030 · [PubMed record](#)

111. Hypotonic, Acidic Oxidizing Solution Containing Hypochlorous Acid (HClO) as a Potential Treatment of Hailey-Hailey Disease.

2019 · Molecules (Basel, Switzerland) · Human clinical & healthcare · In vitro / laboratory
Authors: Cialfi, Samantha; Calabro, Salvatore; Franchitto, Matteo; Zonfrilli, Azzurra; Screpanti, Isabella; Talora, Claudio

We also found that the APR-TD012 treatment might support wound healing process, due to its ability to modulate the expression of wound healing associated cytokines. These observations suggested that the APR-TD012 might be a potential therapeutic agent for HHD-lesions.

PMID 31817098 · DOI 10.3390/molecules24244427 · [PubMed record](#)

112. Iodide modulates protein damage induced by the inflammation-associated heme enzyme myeloperoxidase.

2020 · Redox biology · Human clinical & healthcare · Human observational / experimental
Authors: Gamon, Luke F; Dieterich, Simon; Ignasiak, Marta T; Schrameyer, Verena; Davies, Michael J

The presence of increasing I(-) concentrations (0.1-10 μ M; i.e. within the range readily achievable by oral supplementation in humans), decreased damage to both model proteins and extracellular matrix components as assessed by gross structural changes (SDS-PAGE), antibody recognition of parent and modified protein epitopes (ELISA), and quantification of both parent amino acid loss (UPLC) and formation of the HOCl-biomarker 3-chlorotyrosine (LC-MS)...

PMID 31568923 · DOI 10.1016/j.redox.2019.101331 · [PubMed record](#)

113. The myeloperoxidase product, hypochlorous acid, reduces thrombus formation under flow and attenuates clot retraction and fibrinolysis in human blood.

2019 · Free radical biology & medicine · Human clinical & healthcare · Human observational / experimental

Authors: Misztal, Tomasz; Golaszewska, Agata; Tomasiak-Lozowska, Maria Magdalena; Iwanicka, Marta; Marcinczyk, Natalia; Leszczynska, Agnieszka; Chabielska, Ewa; Rusak, Tomasz

Exposure of pure fibrinogen to HOCl (10-1000 µM) resulted in formation of dityrosine and was associated with altered fibrin structure derived from such modified fibrinogen. We conclude that, in human blood, clinically relevant HOCl concentrations may inhibit thrombus formation under flow, clot retraction and fibrinolysis.

PMID 31279970 · DOI 10.1016/j.freeradbiomed.2019.07.003 · [PubMed record](#)

114. The Utility of Hypochlorous Acid Wound Therapy in Wound Bed Preparation and Skin Graft Salvage.

2019 · Plastic and reconstructive surgery · Human clinical & healthcare · Human observational / experimental

Authors: Odom, Elizabeth B; Mundschenk, Minh-Bao; Hard, Kathryn; Buck, Donald W 2nd

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 30601316 · DOI 10.1097/PRS.0000000000005359 · [PubMed record](#)

115. Safety and efficacy profiles of different commercial sodium hypochlorite/hypochlorous acid solutions (NaClO/HClO): antimicrobial efficacy, cytotoxic impact and physicochemical parameters in vitro.

2019 · The Journal of antimicrobial chemotherapy · Human clinical & healthcare · In vitro / laboratory

Authors: Severing, Anna-Lena; Rembe, Julian-Dario; Koester, Verena; Stuermer, Ewa K

Furthermore, a concentration- and time-dependent impact on pathogens and cells was observed: cytotoxic and antimicrobial activity increased with rising NaClO/HClO solution concentrations and extended exposure times. CONCLUSIONS: The presented results indicate that microbicidal effects are almost always associated with certain negative side effects on cell proliferation.

PMID 30388236 · DOI 10.1093/jac/dky432 · [PubMed record](#)

116. Postoperative effects on lower third molars of using mouthwashes with super-oxidized solution versus 0.2% chlorhexidine gel: A randomized double-blind trial.

2018 · Medicina oral, patologia oral y cirugía bucal · Human clinical & healthcare · Randomized controlled trial

Authors: Coello-Gómez, A; Navarro-Suárez, S; Diosdado-Cano, J-M; Azcárate-Velazquez, F; Bargiela-Pérez, P; Serrera-Figallo, M-A; Torres-Lagares, D; Gutiérrez-Pérez, J-L

RESULTS: No statistically significant differences were found between the two groups with regard to infectious complications, swelling, or wound healing. CONCLUSIONS: Both CHX and SOS are effective at improving the postoperative period after extraction of lower third molars.

PMID 30341268 · DOI 10.4317/medoral.22622 · [PubMed record](#)

117. Commentary on: Surgical Breast Pocket Irrigation With Hypochlorous Acid (HOCl): An In Vivo Evaluation of Pocket Protein Content and Potential HOCl Antimicrobial Capacity.

2018 · Aesthetic surgery journal · Human clinical & healthcare · Journal article / other

Authors: Van Natta, Bruce W

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 30084921 · DOI 10.1093/asj/sjy148 · [PubMed record](#)

118. Antimicrobial activity of hypochlorite solutions and reciprocating instrumentation associated with photodynamic therapy on root canals infected with *Enterococcus faecalis* - An in vitro study.

2018 · Photodiagnosis and photodynamic therapy · Human clinical & healthcare · In vitro / laboratory

Authors: Souza, Matheus Albino; Tumelero Dias, Caroline; Zandoná, Julia; Paim Hoffmann, Igor; Sanches Menchik, Vitor Hugo; Palhano, Huriel Scartazzini; Bertol, Charise Dallazem; Rossato-Grando, Luciana Grazziotin; Cecchin, Douglas; de Figueiredo, José Antônio Poli

RESULTS: The greatest ability to promote bacterial reduction was observed in groups 8 (1% NaOCl + R40 + PDT), 9 (2.5% NaOCl + R40 + PDT), 10 (1% Ca[OCl](2) + R40 + PDT), and 11 (2.5% Ca[OCl](2) + R40 + PDT), with no significant difference between them ($p < 0.05$). CONCLUSIONS: The association of PDT with hypochlorite solutions and reciprocating instrumentation provides effective elimination of *E.faecalis*.

PMID 30053480 · DOI 10.1016/j.pdpdt.2018.07.015 · [PubMed record](#)

119. Topical Hypochlorite and Skin Acidification Improves Erythroderma of Omenn Syndrome.

2018 · Pediatrics · Human clinical & healthcare · Case report

Authors: Wat, Margaret; Olicker, Arielle; Meyerson, Howard; Nedorost, Susan; Paller, Amy S; Cooper, Kevin

She demonstrated a marked improvement in her erythroderma within days after treatment initiation. This case reveals for the first time that dilute topical hypochlorite and skin pH restoration holds promise to control severe dermatitis associated with immunodeficiency and inflammatory syndromes with minimal side effects.

PMID 29610161 · DOI 10.1542/peds.2017-1249 · [PubMed record](#)

120. Evaluation of substantivity of hypochlorous acid as an antiplaque agent: A randomized controlled trial.

2018 · International journal of dental hygiene · Human clinical & healthcare · Randomized controlled trial

Authors: Lafaurie, G I; Zaror, C; Díaz-Báez, D; Castillo, D M; De Ávila, J; Trujillo, T G; Calderón-Mendoza, J

RESULTS: HOCl led to a 33% reduction in bacterial counts in the saliva after 30 seconds compared with a 58% reduction by CHX. Placebo treatment led to the highest plaque count after 7 hours compared with the CHX and HOCl groups, although the differences were not significant.

PMID 29608039 · DOI 10.1111/idh.12342 · [PubMed record](#)

121. The aldehyde dehydrogenase AldA contributes to the hypochlorite defense and is redox-controlled by protein S-bacillithiolation in *Staphylococcus aureus*.

2018 · Redox biology · Human clinical & healthcare · In vitro / laboratory

Authors: Imber, Marcel; Loi, Vu Van; Reznikov, Sylvia; Fritsch, Verena Nadin; Pietrzyk-Brzezinska, Agnieszka J; Prehn, Janek; Hamilton, Chris; Wahl, Markus C; Bronowska, Agnieszka K; Antelmann, Haïke

Kinetic activity assays revealed that AldA is irreversibly inhibited under H₂O₂ treatment in vitro due to overoxidation of Cys279 in the absence of BSH. Pre-treatment of AldA with BSH prior to H₂O₂ exposure resulted in reversible AldA inactivation due to S-bacillithiolation as revealed by activity assays and BSH-specific Western blot analysis.

PMID 29433022 · DOI 10.1016/j.redox.2018.02.001 · [PubMed record](#)

122. Redox-Sensing Under Hypochlorite Stress and Infection Conditions by the Rrf2-Family Repressor HypR in *Staphylococcus aureus*.

2018 · Antioxidants & redox signaling · Human clinical & healthcare · In vitro / laboratory

Authors: Loi, Vu Van; Busche, Tobias; Tedin, Karsten; Bernhardt, Jörg; Wollenhaupt, Jan; Huyen, Nguyen Thi Thu; Weise, Christoph; Kalinowski, Jörn; Wahl, Markus C; Fulde, Marcus; Antelmann, Haïke

RESULTS: NaOCl stress caused an oxidative stress response in *S. aureus* as indicated by the induction of the PerR, QsrR, HrcA, and SigmaB regulons in the RNA-seq transcriptome. Moreover, the HypR-controlled flavin disulfide reductase MerA was shown to protect *S. aureus* against NaOCl stress and increased survival in J774A.1 macrophage infection assays.

PMID 29237286 · DOI 10.1089/ars.2017.7354 · [PubMed record](#)

123. Comparative study of dissolved organic matter generated from activated sludge during exposure to hypochlorite, hydrogen peroxide, acid and alkaline: Implications for on-line chemical cleaning of MBR.

2018 · Chemosphere · Materials & industrial applications · Journal article / other

Authors: Cai, Weiwei; Liu, Yu

It was found that NaClO at 50 and 80 mg L⁻¹ triggered significant release of DOM, while NaOH strongly promoted soluble nitrogen release. The combined analysis by EEM-PARAFAC and LC-OCD-OND further revealed that NaClO-triggered DOM mainly originated from the breakdown of humic substances and other small humics with molecular weight (MW) less than 500 Da.

PMID 29145090 · DOI 10.1016/j.chemosphere.2017.11.032 · [PubMed record](#)

124. Intracavity lavage and wound irrigation for prevention of surgical site infection.

2017 · The Cochrane database of systematic reviews · Human clinical & healthcare · Systematic review / meta-analysis

Authors: Norman, Gill; Atkinson, Ross A; Smith, Tanya A; Rowlands, Ceri; Rithalia, Amber D; Crosbie, Emma J; Dumville, Jo C

A preventable complication, they are costly and associated with poorer patient outcomes, increased mortality, morbidity and reoperation rates. Any new trial should be adequately powered to detect a difference in SSIs in eligible participants, should use robust research methodology to reduce the risks of bias and internationally recognised criteria for diagnosis of SSI, and should have adequate duration and follow-up.

PMID 29083473 · DOI 10.1002/14651858.CD012234.pub2 · [PubMed record](#)

125. *Pseudomonas aeruginosa* defense systems against microbicidal oxidants.

2017 · Molecular microbiology · Human clinical & healthcare · Journal article / other
Authors: Groitl, Bastian; Dahl, Jan-Ulrik; Schroeder, Jeremy W; Jakob, Ursula

HOSCN treatment is distinctly different, affecting primarily actively growing PA14 and evoking stress responses suggestive of membrane damage. Treatment of PA14 with the FDA-approved anti-inflammatory drug mesalamine, which has recently been shown to attenuate polyP production in a wide range of bacteria, effectively decreased the resistance of PA14 toward all three oxidants, suggesting that we have discovered a novel, targetable defense system in P....

PMID 28795780 · DOI 10.1111/mmi.13768 · [PubMed record](#)

126. Oxidation of phosphorothioate DNA modifications leads to lethal genomic instability.

2017 · Nature chemical biology · Human clinical & healthcare · Human observational / experimental
Authors: Kellner, Stefanie; DeMott, Michael S; Cheng, Ching Pin; Russell, Brandon S; Cao, Bo; You, Delin; Dedon, Peter C

Whereas PT levels were unaffected by exposure to hydrogen peroxide (H₂O₂) or hypochlorous acid (HOCl), PT turnover increased to 3.8-10% h⁻¹ after HOCl treatment and was unchanged by H₂O₂, consistent with the repair of HOCl-induced sulfur damage. The genotoxicity of HOCl in PT-containing bacteria suggests reduced fitness in competition with HOCl-producing organisms and during infections in humans.

PMID 28604692 · DOI 10.1038/nchembio.2407 · [PubMed record](#)

127. An alternative approach to gynecological wound healing.

2017 · Ginekologia polska · Human clinical & healthcare · Case report
Authors: Rzepka, Jakub; Mosoń, Katarzyna; Dębski, Romuald

Physical examination revealed mutilated vulva with excised labia major, labia minor, and narrowing of vaginal orifice. The right side shown tumor 2.5 cm in diameter, with slough area and no deep infiltration and satellital nodule on the left labia majora 1cm in diameter.

PMID 28509325 · DOI 10.5603/GP.a2017.0042 · [PubMed record](#)

128. Personal protective equipment solution for UK military medical personnel working in an Ebola virus disease treatment unit in Sierra Leone.

2017 · The Journal of hospital infection · Human clinical & healthcare · Human observational / experimental
Authors: Reidy, P; Fletcher, T; Shieber, C; Shallcross, J; Towler, H; Ping, M; Kenworthy, L; Silman, N; Aarons, E

PPE maximized dexterity, enabled personnel to work in hot temperatures for periods of up to 2h, protected mucosal membranes when doffing outer layers, and minimized potential contamination of the doffing area with infectious material by reducing the requirement to spray PPE with hypochlorite. Overall, the training provided: (i) an evidence base underpinning the PPE solution chosen; (ii) skills in donning and doffing of PPE; (iii) personnel confidence in...

PMID 28420487 · DOI 10.1016/j.jhin.2017.03.018 · [PubMed record](#)

129. Myeloperoxidase targets oxidative host attacks to Salmonella and prevents collateral tissue damage.

2017 · Nature microbiology · Human clinical & healthcare · Human observational / experimental
Authors: Schürmann, Nura; Forrer, Pascal; Casse, Olivier; Li, Jiagui; Felmy, Boas; Burgener, Anne-Valérie; Ehrenfeuchter, Nikolaus; Hardt, Wolf-Dietrich; Recher, Mike; Hess, Christoph; Tschann-Plessl, Astrid; Khanna, Nina; Bumann, Dirk

Myeloperoxidase-deficient neutrophils were predicted to accumulate large quantities of H₂O₂ that still effectively kill Salmonella, but most H₂O₂ would leak from the phagosome. These data show that myeloperoxidase has a major function in mitigating collateral tissue damage during antimicrobial oxidative bursts, by converting diffusible long-lived H₂O₂ into highly reactive, microbicidal and locally confined HOCl at pathogen surfaces.

PMID 28112722 · DOI 10.1038/nmicrobiol.2016.268 · [PubMed record](#)

130. Fruiting Bodies of *Antrodia cinnamomea* and Its Active Triterpenoid, Antcin K, Ameliorates N-Nitrosodiethylamine-Induced Hepatic Inflammation, Fibrosis and Carcinogenesis in Rats.

2017 · The American journal of Chinese medicine · Human clinical & healthcare · In vitro / laboratory
Authors: Tien, An-Jan; Chien, Chen-Yen; Chen, Yueh-Hsi; Lin, Lung-Chin; Chien, Chiang-Ting

In the in vivo experiment, oral intake ACW and AC significantly inhibited DEN-enhanced hepatocellular inflammation, fibrosis and carcinoma by pathologic observation, the elevated bile and liver reactive oxygen species (ROS) amounts, plasma [Formula: see text]-glutamyl transpeptidase, and oxidative stress including 3-nitrotyrosine, 4-hydroxynonenal and Kupffer cell infiltration (ED-1 stains) in the inflammatory livers. DEN enhanced nuclear factor-[Formula: see text]

PMID 28081627 · DOI 10.1142/S0192415X17500124 · [PubMed record](#)

131. Protein S-Bacillithiolation Functions in Thiol Protection and Redox Regulation of the Glyceraldehyde-3-Phosphate Dehydrogenase Gap in Staphylococcus aureus Under Hypochlorite Stress.

2018 · Antioxidants & redox signaling · Human clinical & healthcare · In vitro / laboratory

Authors: Imber, Marcel; Huyen, Nguyen Thi Thu; Pietrzyk-Brzezinska, Agnieszka J; Loi, Vu Van; Hillion, Melanie; Bernhardt, Jörg; Thärichen, Lena; Kolšek, Katra; Saleh, Malek; Hamilton, Chris J; Adrian, Lorenz; Gräter, Frauke; Wahl, Markus C; Antelmann, Haike

Hypochlorite stress resulted in >10% increased oxidation of 58 Cys residues (25.4%) in the thiol redox proteome. Molecular docking was used to model the S-bacillithiolated Gap active site, suggesting that formation of the BSH mixed disulfide does not require major structural changes.

PMID 27967218 · DOI 10.1089/ars.2016.6897 · [PubMed record](#)

132. Low-concentration hypochlorous acid nasal irrigation for chronic sinonasal symptoms: a prospective randomized placebo-controlled study.

2017 · European archives of oto-rhino-laryngology : official journal of the European Federation of Oto-Rhino-Laryngological Societies (EUFOS) :

affiliated with the German Society for Oto-Rhino-Laryngology - Head and Neck Surgery · Human clinical & healthcare · Randomized controlled trial
Authors: Yu, Myeong Sang; Kim, Bo-Hyung; Kang, Sung-Ho; Lim, Dae Jun

With respect to the RSDI scores, there was a significant improvement in the HOCl group at 1 week after treatment and in both groups at 2 weeks after treatment ($p < 0.05$). Our results showed that low-concentration HOCl irrigation resulted in a greater improvement in CRS symptoms as compared to saline irrigation.

PMID 27853946 · DOI 10.1007/s00405-016-4387-5 · [PubMed record](#)

133. Antiseptics and Antibiotics for Surgical Wounds Healing by Secondary Intention: Summary of a Cochrane Review.

2016 · JAMA dermatology · Human clinical & healthcare · Review

Authors: Norman, Gill; Dumville, Jo C; Crosbie, Emma J

BOTTOM LINE: No high-quality randomized clinical trials have addressed this question. Current evidence is limited and insufficient; it is uncertain whether treating SWHSI with antiseptics or antibiotics is beneficial.

PMID 27681006 · DOI 10.1001/jamadermatol.2016.3131 · [PubMed record](#)

134. Universal decolonization with hypochlorous solution in a burn intensive care unit in a tertiary care community hospital.

2016 · American journal of infection control · Human clinical & healthcare · Human observational / experimental

Authors: Gray, Dorinne; Foster, Kevin; Cruz, Abner; Kane, Gail; Toomey, Mike; Bay, Curtis; Kardos, Patricia; Ostovar, Gholamabbas Amin

We studied the impact of universal decolonization using mupirocin and hypochlorous acid bathing on health care-associated MRSA infections in a burn intensive care unit. We show a significant decrease in total MRSA infections.

PMID 27079244 · DOI 10.1016/j.ajic.2016.02.008 · [PubMed record](#)

135. Real-Time Discrimination and Versatile Profiling of Spontaneous Reactive Oxygen Species in Living Organisms with a Single Fluorescent Probe.

2016 · Journal of the American Chemical Society · Human clinical & healthcare · Human observational / experimental

Authors: Zhang, Ruilong; Zhao, Jun; Han, Guangmei; Liu, Zhengjie; Liu, Cui; Zhang, Cheng; Liu, Bianhua; Jiang, Changlong; Liu, Renyong; Zhao, Tingting; Han, Ming-Yong; Zhang, Zhongping

Here, we report a single fluorescent probe to achieve the effective discrimination and profiling of hydroxyl radicals ($\bullet\text{OH}$) and hypochlorous acid (HClO) in living organisms. The reactions of probe with $\bullet\text{OH}$ and HClO simultaneously result in cyan and green emissions, respectively, providing the real-time discrimination and quantitative analysis of the two ROS in cellular mitochondria.

PMID 26938117 · DOI 10.1021/jacs.5b12848 · [PubMed record](#)

136. Flow-through Instillation of Hypochlorous Acid in the Treatment of Necrotizing Fasciitis.

2016 · Wounds : a compendium of clinical research and practice · Human clinical & healthcare · In vitro / laboratory

Authors: Crew, John R; Thibodeaux, Kerry T; Speyrer, Marcus S; Gauto, Anibal R; Shiao, Timothy; Pang, Liliana; Bley, Keith; Debabov, Dimitri

Neutralization of bacterial toxins should improve the results. Randomized controlled clinical trial research of this relatively simple and inexpensive instillation protocol is suggested for identified cases of NF.

PMID 26891136 · [PubMed record](#)

137. Germicide wound pad with active, in situ, electrolytically produced hypochlorous acid.

2016 · Biomedical microdevices · Human clinical & healthcare · Journal article / other
Authors: Rubinsky, L; Patrick, B; Mikus, P; Rubinsky, B

The effectiveness of the Active HClO Pad (AHCIOP) concept is demonstrated in a study on sterilization of *E. coli* in a deep wound contamination simulating gel. Results show that the AHCIOP can sterilize throughout the gel, while the commercial dressings cannot.

PMID 26888442 · DOI 10.1007/s10544-016-0052-4 · [PubMed record](#)

138. Virus removal and integrity in aged RO membranes.

2016 · Water research · Materials & industrial applications · Journal article / other
Authors: Pype, Marie-Laure; Donose, Bogdan C; Martí, Lluçia; Patureau, Dominique; Wery, Nathalie; Gernjak, Wolfgang

However, there is no detailed study demonstrating the impact of aged membrane on the rejection of viruses and of membrane integrity indicators. Under this accelerated ageing condition, the introduction of chlorine in the membrane chemistry and the breakage of amide bonds caused an increase of the water permeability and a decrease of the virus surrogate's and indicators' rejection.

PMID 26724450 · DOI 10.1016/j.watres.2015.12.023 · [PubMed record](#)

139. Repairing oxidized proteins in the bacterial envelope using respiratory chain electrons.

2015 · Nature · Human clinical & healthcare · Human observational / experimental
Authors: Gennaris, Alexandra; Ezraty, Benjamin; Henry, Camille; Agrebi, Rym; Vergnes, Alexandra; Oheix, Emmanuel; Bos, Julia; Leverrier, Pauline; Espinosa, Leon; Szewczyk, Joanna; Vertommen, Didier; Iranzo, Olga; Collet, Jean-François; Barras, Frédéric

For this activity, MsrPQ uses electrons from the respiratory chain, which represents a novel mechanism to import reducing equivalents into the bacterial cell envelope. A remarkable feature of MsrPQ is its capacity to reduce both rectus (R-) and sinister (S-) diastereoisomers of methionine sulfoxide, making this oxidoreductase complex functionally different from previously identified Msrs.

PMID 26641313 · DOI 10.1038/nature15764 · [PubMed record](#)

140. Novel mechanism for scavenging of hypochlorite involving a periplasmic methionine-rich Peptide and methionine sulfoxide reductase.

2015 · mBio · Human clinical & healthcare · Journal article / other
Authors: Melnyk, Ryan A; Youngblut, Matthew D; Clark, Iain C; Carlson, Hans K; Wetmore, Kelly M; Price, Morgan N; Iavarone, Anthony T; Deutschbauer, Adam M; Arkin, Adam P; Coates, John D

Our results demonstrated that SigF was specifically activated by RCS and initiated the transcription of a small regulon centering around yedY1 and mrpX. Our results suggest a mechanism involving hypochlorite scavenging by sacrificial oxidation of the MrpX in the periplasm.

PMID 25968643 · DOI 10.1128/mBio.00233-15 · [PubMed record](#)

141. Metabolic Response of Escherichia coli upon Treatment with Hypochlorite at Sub-Lethal Concentrations.

2015 · PloS one · Human clinical & healthcare · Journal article / other
Authors: Drazic, Adrian; Kutzner, Erika; Winter, Jeannette; Eisenreich, Wolfgang

Comparative gas chromatography-coupled mass spectrometry analyses revealed that the amounts of free methionine and alanine were significantly decreased in the treated cells, demonstrating their susceptibility to hypochlorite exposure. The concentrations of succinate, urea, orotic acid, 2-aminobutyric acid, and 2-hydroxybutyric acid were also severely affected, indicating general changes in the metabolic network by hypochlorite.

PMID 25932918 · DOI 10.1371/journal.pone.0125823 · [PubMed record](#)

142. Does the Transcription Factor NemR Use a Regulatory Sulfenamide Bond to Sense Bleach?

2015 · Antioxidants & redox signaling · Human clinical & healthcare · Journal article / other
Authors: Gray, Michael Jeffrey; Li, Yan; Leichert, Lars Ingo-Ole; Xu, Zhaohui; Jakob, Ursula

We have now determined the crystal structure of NemR, showing that the regulatory cysteine, Cys106, is in close proximity to a highly conserved lysine (Lys175). Based on our results, we hypothesize that RCS treatment of NemR results in the formation of a reversible Cys106-Lys175 sulfenamide bond.

PMID 25867078 · DOI 10.1089/ars.2015.6346 · [PubMed record](#)

143. Methicillin-resistant *Staphylococcus aureus* (MRSA) contamination in bedside surfaces of a hospital ward and the potential effectiveness of enhanced disinfection with an antimicrobial polymer surfactant.

2015 · International journal of environmental research and public health · Materials & industrial applications · Clinical trial
Authors: Yuen, John W M; Chung, Terence W K; Loke, Alice Y

In the experimental group, the mean staphylococcal concentration of bedside surfaces was significantly ($p < 0.0001$) reduced from 4.4 ± 8.7 cfu/cm² at 08:00 hours to 0.07 ± 0.26 cfu/cm² at 12:00 hours by the QAC polymer. The results of this study support the view that, in addition to hypochlorite wiping, the tested QAC surfactant is a potential environmental decontamination strategy for preventing the transmission of clinically important pathogens in medical...

PMID 25768241 · DOI 10.3390/ijerph120303026 · [PubMed record](#)

144. Postantifungal-like effect of sublethal treatment of *Candida albicans* with acid-electrolyzed water.

2015 · Archives of oral biology · Human clinical & healthcare · Journal article / other
Authors: Mokudai, Takayuki; Kanno, Taro; Niwano, Yoshimi

RESULTS: The dilute AEW exerted PAFE-like activity against *C. albicans*. The increase in HPF fluorescence after treatment with dilute AEW was cancelled by dimethyl sulfoxide, a hydroxyl radical (OH) scavenger.

PMID 25555249 · DOI 10.1016/j.archoralbio.2014.12.008 · [PubMed record](#)

145. Microbicidal activity of neutrophils is inhibited by isolates from recurrent vaginal candidiasis (RVVC) caused by *Candida albicans* through fungal thioredoxin reductase.

2015 · Cellular immunology · Human clinical & healthcare · Human observational / experimental
Authors: Ratti, Bianca Altrão; Godoy, Janine Silva Ribeiro; de Souza Bonfim Mendonça, Patrícia; Bidóia, Danielle Lázarin; Nakamura, Tânia Ueda; Nakamura, Celso Vataru; Lopes Consolaro, Marcia Edilaine; Estivalet Svidzinski, Terezinha Inez; de Oliveira Silva, Sueli

Our results showed that RVVC isolates induced neutrophil migration but significantly decrease the microbicidal activity of neutrophils, compared with VVC and ASS isolates. Therefore, RVVC isolates induced biochemical changes in the inflammatory response triggered by neutrophils, and these effects were mainly related to the detoxification of ROS/RNS through the thioredoxin reductase (TR), a key antioxidant enzyme in fungi.

PMID 25497972 · DOI 10.1016/j.cellimm.2014.11.004 · [PubMed record](#)

146. Antibacterial validation of electrogenerated hypochlorite using carbon-based electrodes.

2014 · Letters in applied microbiology · Human clinical & healthcare · Journal article / other
Authors: Locker, J; Fitzgerald, P; Sharp, D

SIGNIFICANCE AND IMPACT OF THE STUDY: Carbon fibre electrodes can rapidly generate antimicrobial concentrations of hypochlorite; as such, these cheap and commercially available electrodes are proposed for the local production of hypochlorite for healthcare antisepsis. Importantly, the antimicrobial properties of the electrochemically generated hypochlorite mirror those of commercial hypochlorite, suggesting this is not enhanced by the cogeneration of...

PMID 25179583 · DOI 10.1111/iam.12324 · [PubMed record](#)

147. Cleaning of filtering facepiece respirators contaminated with mucin and *Staphylococcus aureus*.

2014 · American journal of infection control · Human clinical & healthcare · Human observational / experimental
Authors: Heimbuch, Brian K; Kinney, Kimberly; Lumley, April E; Harnish, Delbert A; Bergman, Michael; Wander, Joseph D

The highest penetrations were observed in FFRs cleaned with benzalkonium chloride wipes. CONCLUSIONS: FFRs can be disinfected using antimicrobial wipe products, but not effectively cleaned with the wipes evaluated in this study.

PMID 24462175 · DOI 10.1016/j.ajic.2013.09.014 · [PubMed record](#)

148. Effects of C-reactive protein on the neutrophil respiratory burst in vitro.

2014 · Innate immunity · Human clinical & healthcare · In vitro / laboratory
Authors: Ling, Martin R; Chapple, Iain L C; Creese, Andrew J; Matthews, John B

Physiologically relevant concentrations of CRP inhibited baseline ROS generation and reduced FcγR-stimulated extracellular superoxide and TLR-stimulated HOCl release, suggesting that CRP may offer some degree of host protection from neutrophil-associated, low-level oxidative stress. However, CRP enhanced TLR-mediated superoxide release from neutrophils, potentially increasing oxidative stress but aiding host protection from infection.

PMID 23839528 · DOI 10.1177/1753425913493199 · [PubMed record](#)

149. Selective metabolism of hypothiocyanous acid by mammalian thioredoxin reductase promotes lung innate immunity and antioxidant defense.

2013 · The Journal of biological chemistry · Human clinical & healthcare · Human observational / experimental
Authors: Chandler, Joshua D; Nichols, David P; Nick, Jerry A; Hondal, Robert J; Day, Brian J

Treatment with the H-TrxR inhibitor auranofin inhibited HOSCN metabolism in 16HBE lysates and significantly increased HOSCN-mediated cytotoxicity. These findings demonstrate both the metabolism of HOSCN by mammalian H-TrxR resulting in resistance to HOSCN in mammalian cells and the potent inhibition of bacterial L-TrxR resulting in cytotoxicity in bacteria.

PMID 23629660 · DOI 10.1074/jbc.M113.468090 · [PubMed record](#)

150. Nebulized thiocyanate improves lung infection outcomes in mice.

2013 · British journal of pharmacology · Human clinical & healthcare · In vitro / laboratory
Authors: Chandler, J D; Min, E; Huang, J; Nichols, D P; Day, B J

Nebulized SCN effectively reduced bacterial load, infection-mediated morbidity and airway inflammation in mice infected with *P. aeruginosa*. SCN also sustained adaptive increases in reduced GSH in infected mice.

PMID 23586967 · DOI 10.1111/bph.12206 · [PubMed record](#)

151. Super-oxidized solution (Dermacyn Wound Care) as adjuvant treatment in the postoperative management of complicated diabetic foot osteomyelitis: preliminary experience in a specialized department.

2013 · The international journal of lower extremity wounds · Human clinical & healthcare · Case report
Authors: Aragón-Sánchez, Javier; Lázaro-Martínez, Jose Luis; Quintana-Marrero, Yurena; Sanz-Corbalán, Irene; Hernández-Herrero, Maria J; Cabrera-Galván, Juan J

Limb salvage was successfully achieved in 100% of the cases. Healing was achieved in a median period of 6.8 weeks.

PMID 23446366 · DOI 10.1177/1534734613476710 · [PubMed record](#)

152. Discrimination of infectious hepatitis A viruses by propidium monoazide real-time RT-PCR.

2012 · Food and environmental virology · Human clinical & healthcare · In vitro / laboratory
Authors: Sánchez, Gloria; Elizaquível, Patricia; Aznar, Rosa

For thermally inactivated HAV, PMA treatment was more effective than RNase treatment for differentiating infectious and inactivated viruses, with HAV titers reduced by more than 2.4 log(10) units. Results showed that combining 50 µM of PMA and RT-qPCR selectively quantify infectious HAV in media suspensions.

PMID 23412764 · DOI 10.1007/s12560-011-9074-5 · [PubMed record](#)

153. Single-cell analysis of cell viability after a biocide treatment unveils an absence of positive correlation between two commonly used viability markers.

2013 · MicrobiologyOpen · Human clinical & healthcare · Journal article / other
Authors: Ducret, Adrien; Dukan, Sam

Applying these two procedures on the same cells after a hypochlorous acid (HOCl) treatment, we showed that the ability of cells to divide and their metabolic activity were anticorrelated. These results indicate that the relation between CV6 uptake and cell viability may be partially incorrect.

PMID 23281341 · DOI 10.1002/mbo3.62 · [PubMed record](#)

154. DNA of *Dientamoeba fragilis* detected within surface-sterilized eggs of *Enterobius vermicularis*.

2013 · Experimental parasitology · Human clinical & healthcare · Human observational / experimental
Authors: Röser, Dennis; Nejsum, Peter; Carlsgart, Anne Josefine; Nielsen, Henrik Vedel; Stensvold, Christen Rune

Numerous studies have suggested that eggs of intestinal nematodes, primarily *Enterobius vermicularis* (pinworm), can serve as vectors for *D. fragilis*, although attempts to culture *D. fragilis* from pinworm eggs have been unsuccessful and data from epidemiological studies on *D. fragilis*/pinworm co-infection have been conflicting. The finding of *D. fragilis* DNA within eggs of *E. vermicularis* strongly supports the hypothesis of *D. fragilis*-transmission by...

PMID 23116599 · DOI 10.1016/j.exppara.2012.10.009 · [PubMed record](#)

155. Isoniazid as a substrate and inhibitor of myeloperoxidase: identification of amine adducts and the influence of superoxide dismutase on their formation.

2012 · Biochemical pharmacology · Human clinical & healthcare · Human observational / experimental
Authors: Forbes, Louisa V; Furtmüller, Paul G; Khalilova, Irada; Turner, Rufus; Obinger, Christian; Kettle, Anthony J

INH substantially inhibited HOCl production by MPO and neutrophils below pharmacological concentrations. The reversible inhibition is explained by diversion of MPO to its ferrous and compound III forms during oxidation of INH.

PMID 22846601 · DOI 10.1016/j.bcp.2012.07.020 · [PubMed record](#)

156. Colorimetric determination of hypochlorite with unmodified gold nanoparticles through the oxidation of a stabilizer thiol compound.

2012 · The Analyst · Human clinical & healthcare · Journal article / other
Authors: Zhang, Jia; Wang, Xiaolei; Yang, Xiurong

However, by its oxidizing power, OCl(-) converted the alkanethiol to a sulfonate derivative, which could not protect Au NPs from aggregation, thereby a blue solution was observed after the subsequent addition of Au suspension. This sensitive and selective colorimetric assay opens up a fresh insight of facile, rapid, and reliable detection of OCl(-), and may find its future application in the monitoring of OCl(-)/HOCl in waters sanitized by chlorine or...

PMID 22573188 · DOI 10.1039/c2an35239g · [PubMed record](#)

157. Effect of thermal cycling and disinfection on colour stability of denture base acrylic resin.

2013 · Gerodontology · Human clinical & healthcare · Human observational / experimental
Authors: Goiato, Marcelo C; Dos Santos, Daniela M; Baptista, Gabriella T; Moreno, Amália; Andreotti, Agda M; Bannwart, Lisiane C; Dekon, Stefan F C

There were significant differences on colour change between the time-points, except for the Lucitone acrylic resin. CONCLUSIONS: The thermal cycling and disinfection procedures significantly affected the colour stability of the samples.

PMID 22519836 · DOI 10.1111/j.1741-2358.2012.00676.x · [PubMed record](#)

158. Effect of different disinfectants on the microhardness and roughness of acrylic resins for ocular prosthesis.

2013 · Gerodontology · Human clinical & healthcare · Human observational / experimental
Authors: Moreno, Amália; Goiato, Marcelo C; dos Santos, Daniela M; Haddad, Marcela F; Pesqueira, Aldiéris A; Bannwart, Lisiane C

RESULTS: N1 resin showed lower microhardness when compared with colourless resin ($p < 0.05$). An increase in roughness and reduction in microhardness of ocular acrylic resins were observed after both periods of disinfection and storage ($p < 0.05$).

PMID 22471379 · DOI 10.1111/j.1741-2358.2012.00642.x · [PubMed record](#)

159. Control of bacterial contamination of washbasin taps and output water using Ecasol: a one-year study.

2012 · The Journal of hospital infection · Human clinical & healthcare · Human observational / experimental
Authors: Boyle, M A; O'Donnell, M J; Miller, A; Russell, R J; Coleman, D C

FINDINGS: The mean counts for hot, cold, mains and tank water during the 54-week study period were 1 (SD 4) cfu/mL, 2 (SD 4) cfu/mL, 205 (SD 160) cfu/mL and 0 cfu/mL, respectively. No detrimental effects due to Ecasol were observed in the water network.

PMID 22382277 · DOI 10.1016/j.jhin.2012.01.011 · [PubMed record](#)

160. Laboratory evaluation of large-scale decontamination approaches.

2012 · Journal of applied microbiology · Materials & industrial applications · Journal article / other
Authors: Calfee, M W; Ryan, S P; Wood, J P; Mickelsen, L; Kemper, C; Miller, L; Colby, M; Touati, A; Clayton, M; Griffin-Gatchalian, N; McDonald, S; Delafield, R

Results indicated that pH-adjusted bleach was effective (≥ 6 logs reduction) when two applications and a 30 min contact time were administered, regardless of the decontaminant application method or material. SIGNIFICANCE AND IMPACT OF THE STUDY: Results presented here are intended to help development of remediation plans following a biological contamination incident.

PMID 22332972 · DOI 10.1111/j.1365-2672.2012.05259.x · [PubMed record](#)

161. Effect of disinfection and storage on the flexural strength of ocular prosthetic acrylic resins.

2012 · Gerodontology · Human clinical & healthcare · Human observational / experimental

Authors: Goiato, Marcelo C; dos Santos, Daniela M; Moreno, Amália; lyda, Mariana G; Rezende, Maria C R A; Haddad, Marcela F

Group I in the initial period exhibited greater flexural strength, with significant difference only in group VI after 120 days.

CONCLUSION: It can be concluded that the flexural strength only changed after 120 days of storage for samples disinfected with chlorhexidine.

PMID 22004090 · DOI 10.1111/j.1741-2358.2011.00570.x · [PubMed record](#)

162. The effect of a low concentration of hypochlorous acid on rhinovirus infection of nasal epithelial cells.

2011 · American journal of rhinology & allergy · Human clinical & healthcare · In vitro / laboratory

Authors: Yu, Myeong Sang; Park, Hyung Wook; Kwon, Hyun Ja; Jang, Yong Ju

RESULTS: HOCl treatment significantly inhibited HRV-induced secretion of IL-6 and IL-8 and significantly reduced viral titer.

CONCLUSION: These in vitro findings indicate that nasal irrigation with low-level HOCl solution may improve clinical symptoms in patients with the common cold.

PMID 21711976 · DOI 10.2500/ajra.2011.25.3545 · [PubMed record](#)

163. The effect of chlorine-based disinfectant on wettability of a vinyl polysiloxane impression material.

2010 · The Journal of prosthetic dentistry · Human clinical & healthcare · Journal article / other

Authors: Blalock, John S; Cooper, Jeril R; Rueggeberg, Frederick A

For both materials containing surfactant, extended contact with chemical disinfectant resulted in increased contact angles that were not significantly different from those of the nonsurfactant-containing control product. CONCLUSIONS: Increasing the contact time between a surfactant-containing impression material and a disinfecting solution can significantly alter the resulting contact angle of the impression material and render it similar to a material...

PMID 20970540 · DOI 10.1016/S0022-3913(10)60151-5 · [PubMed record](#)

164. Dermacyn irrigation in reducing infection of a median sternotomy wound.

2010 · The heart surgery forum · Human clinical & healthcare · Randomized controlled trial

Authors: Mohd, Abdul Ramzisham Rahman; Ghani, Mohd Khairulasri; Awang, Rafli Ruzairee; Su Min, Joanna Ooi; Dimon, Mohd Zamrin

METHODS: This prospective, randomized clinical trial was conducted to compare the effectiveness of Dermacyn and povidone-iodine in reducing sternotomy wound infection in patients undergoing coronary artery bypass graft surgery. CONCLUSION: We found Dermacyn to be safe and more effective as a wound-irrigation agent than povidone-iodine for preventing sternotomy wound infection.

PMID 20719724 · DOI 10.1532/HSF98.20091162 · [PubMed record](#)

165. Evaluation of Vashe Wound Therapy in the clinical management of patients with chronic wounds.

2010 · Advances in skin & wound care · Human clinical & healthcare · Human observational / experimental

Authors: Niezgoda, Jeffrey A; Sordi, Peter J; Hermans, Michel H E

MAIN OUTCOME MEASURES: Wound healing, reduction of pain, and odor. MAIN RESULTS: At the end of the study, 86% of all lesions healed, and the average size of reduction in nonhealed wounds was 47%.

PMID 20664326 · DOI 10.1097/01.ASW.0000383198.35815.a2 · [PubMed record](#)

166. Occurrence of bromate, chlorite and chlorate in drinking waters disinfected with hypochlorite reagents. Tracing their origins.

2010 · The Science of the total environment · Human clinical & healthcare · Journal article / other

Authors: Garcia-Villanova, Rafael J; Oliveira Dantas Leite, M Vilani; Hernández Hierro, J Miguel; de Castro Alfageme, Santiago; García Hernández, Cristina

Bromate was first reported as a disinfection by-product from ozonated waters, but more recently it has been reported also as a result of treatment using hypochlorite solutions worldwide. Only 7 out of 40 hypochlorite feedstock solutions were negative for bromate, the rest showing a median of 1022 mg/l; and 4 out of 14 calcium hypochlorite pellets were also negative, the rest with a median of 240 mg/kg.

PMID 20347118 · DOI 10.1016/j.scitotenv.2010.03.011 · [PubMed record](#)

167. Impact of hypochlorite-based disinfection on bacterial contamination of cystic fibrosis patients' home-nebulisers.

2009 · The Journal of hospital infection · Human clinical & healthcare · Human observational / experimental
Authors: Reychler, G; Leonard, A; Van Ossel, C; Godding, V; Gigi, J; Simon, A; Lebecque, P

We conclude that in this sample of patients, initial routine practices were varied. With regard to CF pathogens, the superiority of a hypochlorite solution over a mix of other disinfection methods was not demonstrated.

PMID 19596489 · DOI 10.1016/j.jhin.2009.05.011 · [PubMed record](#)

168. Feasibility of infectious prion digestion using mild conditions and commercial subtilisin.

2009 · Journal of virological methods · Human clinical & healthcare · In vitro / laboratory
Authors: Pilon, John L; Nash, Paul B; Arver, Terry; Hoglund, Don; Vercauteren, Kurt C

Only one digestion condition (subtilisin 309 at 138mAU/ml, 55 degrees C and 14h digestion time pH 7.9) was considered to be highly relevant statistically ($P < 0.001$) compared to control, with 52% of challenged mice surviving until the end of the study period. Further, in vitro assays suggest that potential proteolytic based PrP(res) decontamination methods must use high enzyme concentration, pH values > 9.0 , and elevated temperatures to be a safely...

PMID 19467265 · DOI 10.1016/j.jviromet.2009.04.040 · [PubMed record](#)

169. Bleach activates a redox-regulated chaperone by oxidative protein unfolding.

2008 · Cell · Human clinical & healthcare · In vitro / laboratory
Authors: Winter, J; Ilbert, M; Graf, P C F; Ozcelik, D; Jakob, U

Our results substantially improve our molecular understanding about HOCl's functional mechanism. They suggest that the antimicrobial effects of bleach are largely based on HOCl's ability to cause aggregation of essential bacterial proteins.

PMID 19013278 · DOI 10.1016/j.cell.2008.09.024 · [PubMed record](#)

170. Identification of plasma proteins that are susceptible to thiol oxidation by hypochlorous acid and N-chloramines.

2008 · Chemical research in toxicology · Human clinical & healthcare · Human observational / experimental
Authors: Summers, Fiona A; Morgan, Philip E; Davies, Michael J; Hawkins, Clare L

The thiol-containing plasma proteins alpha1-antitrypsin and transthyretin were found to be oxidized in addition to albumin, with this treatment resulting in the inactivation of alpha1-antitrypsin. A similar selectivity of reaction and extent of thiol oxidation were also observed with myeloperoxidase in the presence of hydrogen peroxide and chloride ions.

PMID 18698849 · DOI 10.1021/tx8001719 · [PubMed record](#)

171. Denture cleansers, soft lining materials and water temperature: what is the effect?

2008 · Primary dental care : journal of the Faculty of General Dental Practitioners (UK) · Human clinical & healthcare · Human observational / experimental
Authors: Handa, Rajesh K; Jagger, Daryl C; Vowles, Richard W

This study reported on the effect of using both the higher temperatures and the recommended temperature on the colour and roughness of permanent and temporary soft lining materials. RESULTS AND CONCLUSION: The results of the study showed that the temperature of the water used with denture cleansers might have a detrimental effect on the colour and surface roughness of some permanent and temporary soft lining materials.

PMID 18397592 · DOI 10.1308/135576108784000285 · [PubMed record](#)

172. The influence of dental unit waterline cleaners on composite-to-dentin bond strengths.

2008 · Dental assistant (Chicago, Ill. : 1994) · Human clinical & healthcare · Human observational / experimental
Authors: Ritter, André V; Ghaname, Eduardo; Leonard, Ralph H

However, the authors found no statistically significant differences and/or interactions between mean SBSs of specimens treated with the various DUWL cleaners and adhesives ($P > 0.05$). CONCLUSIONS: The tested DUWL cleaners did not significantly influence composite-to-dentin bond strengths for the total-etch adhesive and self-etching primer/adhesives used in this study.

PMID 18333599 · [PubMed record](#)

173. Quantifying changes in the thiol redox proteome upon oxidative stress in vivo.

2008 · Proceedings of the National Academy of Sciences of the United States of America · Human clinical & healthcare · Animal study
Authors: Leichert, Lars I; Gehrke, Florian; Gudiseva, Harini V; Blackwell, Tom; Ilbert, Marianne; Walker, Angela K; Strahler, John R; Andrews, Philip C; Jakob, Ursula

These results indicate that individual oxidants target distinct proteins in vivo. Conditionally essential *E. coli* genes encode one-third of redox-sensitive proteins, a finding that might explain the bacteriostatic effect of oxidative stress treatment.

PMID 18287020 · DOI 10.1073/pnas.0707723105 · [PubMed record](#)

174. Ultraviolet spectrophotometric determination of nitrate: detecting nitrification rates and inhibition.

2007 · Water environment research : a research publication of the Water Environment Federation · Human clinical & healthcare · Journal article / other
Authors: Kelly, Richard T 2nd; Love, Nancy G

The objective of this study was to demonstrate a rapid method for measuring nitrification inhibition by using nitrate generation rates (NGRs) coupled with direct UV detection of nitrate. Used as a batch method coupled with biotic and abiotic controls, this approach can be deployed at full-scale treatment plants as a relatively rapid (1.5 hours) means of identifying nitrification-inhibiting wastewaters.

PMID 17710926 · DOI 10.2175/106143007x156682 · [PubMed record](#)

175. Dermacyn on the infected foot ulcers of 10 patients.

2007 · Journal of wound care · Human clinical & healthcare · Human observational / experimental
Authors: Kaehn, K

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 17552409 · DOI 10.12968/jowc.2007.16.5.27035 · [PubMed record](#)

176. Molecular monitoring of disinfection efficacy using propidium monoazide in combination with quantitative PCR.

2007 · Journal of microbiological methods · Human clinical & healthcare · Journal article / other
Authors: Nocker, Andreas; Sossa, Katherine E; Camper, Anne K

Threshold cycle numbers increased with increasing disinfection strength after PMA treatment of samples compared to non-PMA treated samples. With some disinfectant-specific differences, monitoring viability loss with membrane integrity as an indicator seemed to be more conservative than monitoring viability loss with plate counts.

PMID 17544161 · DOI 10.1016/j.mimet.2007.04.014 · [PubMed record](#)

177. The dimensional stability of dental impression materials following immersion in disinfecting solutions.

2007 · Dental materials : official publication of the Academy of Dental Materials · Human clinical & healthcare · Journal article / other
Authors: Martin, N; Martin, M V; Jedynakiewicz, N M

RESULTS: All the disinfection routines tested resulted in acceptable levels of dimensional stability within the category of normal use of each impression material. SIGNIFICANCE: All the disinfection routines tested resulted in acceptable levels of dimensional stability within the category of normal use of each impression material.

PMID 17353045 · DOI 10.1016/j.dental.2007.01.004 · [PubMed record](#)

178. Different experimental protocols for decontamination affect the cleaning of medical devices. A preliminary electron microscopy analysis.

2007 · The Journal of hospital infection · Human clinical & healthcare · Human observational / experimental
Authors: Tessarolo, F; Caola, I; Fedel, M; Stacchiotti, A; Caciagli, P; Guarrera, G M; Motta, A; Nollo, G

Polyphenolic-based treatments had the highest level of efficiency in bioburden removal, but interaction and adsorption of this class of chemicals onto biopolymers might lead to serious concerns about toxicity on subsequent reuse. Adequate pre-sterilization cleaning is fundamental for sterilization success and high-resolution electron microscopy can provide significant and detailed information about the efficiency of chemicals used for cleaning a...

PMID 17241696 · DOI 10.1016/j.jhin.2006.10.015 · [PubMed record](#)

179. Amuchina 10% solution, safe antiseptic for preventing infections of exit-site of Tenckhoff catheters, in the pediatric population of a dialysis program.

2007 · Contributions to nephrology · Human clinical & healthcare · Randomized controlled trial

Authors: Mendoza-Guevara, L; Castro-Vazquez, F; Aguilar-Kitsu, A; Morales-Nava, A; Rodriguez-Leyva, F; Sanchez-Barbosa, J L

From these nine infections, the bacteria isolated were: 4 (13%) were caused by *Pseudomona aeruginosa*, 1 (3.3%) by *Staphylococcus aureus*, coagulase-positive staphylococci in 2 (6.6%) and *Serratia marcescens* in 1 (3.3%). In conclusion, Amuchina 10% solution is effective in preventing infection on the exit-site, without any secondary topical reaction.

PMID 17099309 · DOI 10.1159/000096959 · [PubMed record](#)

180. Exit-site care in peritoneal dialysis.

2007 · Contributions to nephrology · Human clinical & healthcare · Randomized controlled trial

Authors: Wadhwa, Nand K; Reddy, Gampala H

ESI rates in peritoneal dialysis patients treated with Amuchina 10% (ExSept Plus) and Amuchina 5% (ExSept) for the exit-site care are similar or lower compared to povidone-iodine or chlorhexidine. Electrolytic chloroxidizing (Amuchina 10% - ExSept Plus and Amuchina 5% - ExSept) solutions for exit-site care are effective for prevention and treatment of ESI.

PMID 17099306 · DOI 10.1159/000096955 · [PubMed record](#)

181. Evaluation of hypochlorous acid washes in the treatment of chronic venous leg ulcers.

2006 · Journal of wound care · Human clinical & healthcare · Human observational / experimental

Authors: Selkon, J B; Cherry, G W; Wilson, J M; Hughes, M A

Using quantitative microbiology, preliminary studies showed it achieved an appreciable reduction in the bacterial burden in chronic venous leg ulcers. RESULTS: Of 30 patients admitted to the study, 10 achieved a 44% ulcer reduction after three weeks of standard treatment.

PMID 16669304 · DOI 10.12968/jowc.2006.15.1.26861 · [PubMed record](#)

182. Exploitation of the unusual thermodynamic properties of human myeloperoxidase in inhibitor design.

2005 · Biochemical pharmacology · Human clinical & healthcare · Human observational / experimental

Authors: Jantschko, Walter; Furtmüller, Paul Georg; Zederbauer, Martina; Neugschwandtner, Karin; Lehner, Isabella; Jakopitsch, Christa; Arnhold, Jürgen; Obinger, Christian

It is shown that these aromatic one-electron donors bound to the hydrophobic pocket at the distal heme cavity and were oxidized efficiently by compound I (k₃), which has a one-electron reduction potential of 1.35 V. The reversible mechanism of inhibition is discussed with respect to the enzymology of MPO and the development of drugs against HOCl-dependent tissue damage.

PMID 15794935 · DOI 10.1016/j.bcp.2005.02.006 · [PubMed record](#)

183. Role of environmental cleaning in controlling an outbreak of *Acinetobacter baumannii* on a neurosurgical intensive care unit.

2005 · Intensive & critical care nursing · Human clinical & healthcare · Human observational / experimental

Authors: Denton, M; Wilcox, M H; Parnell, P; Green, D; Keer, V; Hawkey, P M; Evans, I; Murphy, P

During efforts to control the outbreak a significant correlation was observed between the number of environmental isolates of *A. baumannii* obtained during each monthly screening and the number of patients with *A. baumannii* colonization/infection in the same calendar month (P=0.004). Failure to maintain low levels of environmental contamination with *A. baumannii* resulted in increases in patient colonization.

PMID 15778073 · DOI 10.1016/j.iccn.2003.10.008 · [PubMed record](#)

184. Hypochlorous acid and taurine-N-monochloramine in periodontal diseases.

2004 · Journal of dental research · Human clinical & healthcare · Review

Authors: Mainnemaire, A; Mégarbane, B; Soueidan, A; Daniel, A; Chapple, I L C

HOCl activates tyrosine kinase signaling cascades, generating an increase in the production of extracellular matrix components, growth factors, and inflammatory mediators. Taken together, these findings may offer opportunities for the development of novel host-modulating therapies for the treatment of periodontitis.

PMID 15505230 · DOI 10.1177/154405910408301101 · [PubMed record](#)

185. External decontamination of wild leeches with hypochloric acid.

2004 · BMC infectious diseases · Human clinical & healthcare · Animal study

Authors: Aydin, Atakan; Nazik, Hasan; Kuvat, Samet Vasfi; Gurler, Nezahat; Ongen, Betigul; Tuncer, Serdar; Hocaoglu, Emre; Kesim, Sinan Nur

RESULTS: *Aeromonas hydrophilia* was the most commonly identified microorganism and found to be resistant to first generation cephalosporins, frequently used in prophylaxis at surgical wards. Although disinfection of the transport material and suppression of the oral flora of *hirudo medicinalis* were successful in 100, 50, 25, 12.5, 6.25 ppm concentrations; 12.5 ppm solution was the greatest concentration in which *hirudo medicinalis* could survive and sucking...

PMID 15329153 · DOI 10.1186/1471-2334-4-28 · [PubMed record](#)

186. Hypochlorous acid inhibition by acetoacetate: implications on neutrophil functions.

2004 · Biological & pharmaceutical bulletin · Human clinical & healthcare · In vitro / laboratory

Authors: da Costa, Miriani; Ximenes, Valdecir Farias; da Fonseca, Luiz Marcos

The superoxide anion scavenging properties were confirmed by ferricytochrome C reduction and lucigenin-enhanced chemiluminescence assays. A strong inhibition of the expression of the cytokine IL-8 by cultured neutrophils was also observed; this is discussed with reference to the antioxidant-like property of acetoacetate.

PMID 15305018 · DOI 10.1248/bpb.27.1183 · [PubMed record](#)

187. The potential role of neutrophils in promoting the metastatic phenotype of tumors releasing interleukin-8.

2004 · Clinical cancer research : an official journal of the American Association for Cancer Research · Human clinical & healthcare · In vitro / laboratory

Authors: De Larco, Joseph E; Wuertz, Beverly R K; Furcht, Leo T

The reactive oxygen species produced by neutrophilic oxidases to kill invading organisms have the potential to interact with tumor cells to attenuate their apoptotic cascade and increase their mutational rate. It is proposed that the increase in metastatic potential of tumors ectopically releasing IL-8 is, in part, attributable to their ability to attract neutrophils.

PMID 15297389 · DOI 10.1158/1078-0432.CCR-03-0760 · [PubMed record](#)

188. Morphological and physiological changes of *Staphylococcus aureus* exposed to hypochlorous acid.

2004 · Letters in applied microbiology · Materials & industrial applications · Journal article / other

Authors: Abid, N; Maalej, S; Rouis, S

Intracellular proteins increased gradually to reach a level of 51% of dry weight and an enhanced synthesis of at least two proteins of 23 and 220 kDa was concluded. **CONCLUSIONS, SIGNIFICANCE AND IMPACT OF THE STUDY:** *Staphylococcus aureus* can undergo morphological and physiological changes during 2 h of exposure to 2 mg l⁻¹ of HOCl, which represents an adaptive response towards the hypochlorous acid stress.

PMID 14962048 · DOI 10.1111/j.1472-765x.2004.01482.x · [PubMed record](#)

189. HOCl-mediated cell death and metabolic dysfunction in the yeast *Saccharomyces cerevisiae*.

2004 · Archives of biochemistry and biophysics · Human clinical & healthcare · Journal article / other

Authors: King, David A; Hannum, Diane M; Qi, Jian-Shen; Hurst, James K

Loss of function in membrane-localized proteins, including the hexose transporters and PMA1 H(+)-ATPase, which is the primary proton pump located within the *S. cerevisiae* plasma membrane, was also marginal and K(+) leak rates to the extracellular medium increased only slowly with exposure to increasing amounts of HOCl, indicating that the plasma membrane retained its intrinsic impermeability to ions and metabolites. The absence of significant loss of...

PMID 14871479 · DOI 10.1016/j.abb.2003.12.012 · [PubMed record](#)

190. Antibacterial titanium plate anodized by being discharged in NaCl solution exhibits cell compatibility.

2004 · Journal of dental research · Human clinical & healthcare · In vitro / laboratory

Authors: Shibata, Y; Kawai, H; Yamamoto, H; Igarashi, T; Miyazaki, T

On the other hand, TiO formed on the Ti-Cl surface enhanced cell extension and cell growth through a larger adsorption of fibronectin compared with the pure titanium control. These findings suggest that antibacterial titanium is a promising material for use in dental implant systems.

PMID 14742647 · DOI 10.1177/154405910408300206 · [PubMed record](#)

191. Human phagocytic cell responses to *Scedosporium apiospermum* (*Pseudallescheria boydii*): variable susceptibility to oxidative injury.

2003 · Infection and immunity · Human clinical & healthcare · Human observational / experimental

Authors: Gil-Lamaignere, Cristina; Roilides, Emmanuel; Lyman, Caron A; Simitopoulou, Maria; Stergiopoulou, Theodouli; Maloukou, Avgi; Walsh, Thomas J

However, azide, which inhibits PMN myeloperoxidase activity, significantly reduced hyphal damage to SA1216 ($P < 0.01$) but not to SA54A. The selective inhibitory pattern of azide with respect to hyphal damage and the parallel susceptibility to HOCl suggests an important difference in susceptibilities to myeloperoxidase products that may be related to the various levels of pathogenicity and amphotericin B resistance of *S. apiospermum*.

PMID 14573669 · DOI 10.1128/IAI.71.11.6472-6478.2003 · [PubMed record](#)

192. Comparison of the effect of detergent versus hypochlorite cleaning on environmental contamination and incidence of *Clostridium difficile* infection.

2003 · The Journal of hospital infection · Human clinical & healthcare · Human observational / experimental

Authors: Wilcox, M H; Fawley, W N; Wigglesworth, N; Parnell, P; Verity, P; Freeman, J

On ward X the incidence of CDI was significantly associated with the proportion of culture-positive environmental sites ($P < 0.05$). These results provide some evidence that use of hypochlorite for environmental cleaning may significantly reduce incidence of CDI, but emphasize the potential for confounding factors.

PMID 12818583 · DOI 10.1016/s0195-6701(02)00400-0 · [PubMed record](#)

193. Mechanisms of killing of *Bacillus subtilis* spores by hypochlorite and chlorine dioxide.

2003 · Journal of applied microbiology · Human clinical & healthcare · Journal article / other

Authors: Young, S B; Setlow, P

METHODS AND RESULTS: Spores of *B. subtilis* treated with hypochlorite or chlorine dioxide did not accumulate damage to their DNA, as spores with or without the two major DNA protective alpha/beta-type small, acid soluble spore proteins exhibited similar sensitivity to these chemicals; these agents also did not cause spore mutagenesis and their efficacy in spore killing was not increased by the absence of a major DNA repair pathway. **SIGNIFICANCE AND IMPACT...**

PMID 12807454 · DOI 10.1046/j.1365-2672.2003.01960.x · [PubMed record](#)

194. Effects of hypochlorite and hydrogen peroxide on cardiac autonomic receptors and vascular endothelial function.

2003 · Clinical and experimental pharmacology & physiology · Human clinical & healthcare · In vitro / laboratory

Authors: Sand, Carsten; Peters, Stephan L M; Pfaffendorf, Martin; van Zwieten, Pieter A

The purpose of the present study was to evaluate the effects of hypochlorite on a variety of receptor-dependent processes in rat isolated left atria and rat thoracic aorta and to compare these results with the phenomena observed after incubation with hydrogen peroxide. The negative inotropic response to acetylcholine (ACh) was significantly enhanced after hypochlorite incubation compared with control.

PMID 12680842 · DOI 10.1046/j.1440-1681.2003.03822.x · [PubMed record](#)

195. Efficacy of selected hand hygiene agents used to remove *Bacillus atrophaeus* (a surrogate of *Bacillus anthracis*) from contaminated hands.

2003 · JAMA · Human clinical & healthcare · Randomized controlled trial

Authors: Weber, David J; Sickbert-Bennett, Emily; Gergen, Maria F; Rutala, William A

Handwashing with chlorine-containing towels was increasingly effective as the wipe time increased; reductions at 10, 30, and 60 seconds were 1.3 (1.1-1.5), 1.6 (1.2-2.0), and 2.2 (2.1-2.2) log₁₀ CFUs/mL, respectively. **CONCLUSIONS:** In this evaluation of hand hygiene agents, handwashing with soap and water, 2% chlorhexidine gluconate, or chlorine-containing towels reduced the amount of *B. atrophaeus* spore contamination, whereas use of a waterless rub...

PMID 12633189 · DOI 10.1001/jama.289.10.1274 · [PubMed record](#)

196. Human neutrophil oxidative bursts and their in vitro modulation by different N-acetylcysteine concentrations.

2002 · Arzneimittel-Forschung · Human clinical & healthcare · In vitro / laboratory
Authors: Allegra, Luigi; Dal Sasso, Monica; Bovio, Cinzia; Massoni, Carola; Fonti, Elena; Braga, Pier Carlo

At concentrations of 16 and 35 $\mu\text{mol/l}$, NAC significantly reduced in a concentration-dependent manner the activation of polymorphonuclear neutrophils (PMNs) oxidative bursts induced by all of the stimulants (C. albicans, formyl-methionyl-leucyl-phenylalanine (fMLP), phorbol myristate acetate (PMA)). The fact that no effects were seen on PMN phagocytosis and bacterial killing indicates that NAC has no negative influence on other PMN functions such as...

PMID 12404881 · DOI 10.1055/s-0031-1299949 · [PubMed record](#)

197. Seawater in treatment of waste waters.

2002 · Journal of environmental science and health. Part A, Toxic/hazardous substances & environmental engineering · Human clinical & healthcare · Journal article / other
Authors: Chunilall, V; Covender, M; Jonnalagadda, S B

Effective bacterial growth inhibition occurs using the hypochlorite containing seawater. The addition of hypochlorite to sample at point 1 lowered the BOD and COD levels and improved the water quality.

PMID 12369643 · DOI 10.1081/ese-120013274 · [PubMed record](#)

198. Antimicrobials in periodontal maintenance.

2001 · Journal of dental hygiene : JDH · Human clinical & healthcare · Review
Authors: Jorgensen, M G; Slots, J

Povidone-iodine for professional use and diluted bleach for self-care are inexpensive and valuable antimicrobial agents in periodontal maintenance. The present article outlines the prudent use of antimicrobial therapy in periodontal maintenance.

PMID 11603305 · [PubMed record](#)

199. Vitamins C and E: missing links in preventing preterm premature rupture of membranes?

2001 · American journal of obstetrics and gynecology · Materials & industrial applications · Review
Authors: Woods, J R Jr; Plessinger, M A; Miller, R K

Prior evidence shows that (1) damage by reactive oxygen species can impair fetal membrane integrity, (2) reduced midgestation levels of vitamin C are associated with preterm premature rupture of membranes, and (3) these vitamins can be safely and effectively absorbed and delivered to gestational tissues. We hypothesize that increased dietary consumption or supplementation of vitamins C and E during pregnancy may reduce physiologically the risks of that...

PMID 11483896 · DOI 10.1067/mob.2001.115868 · [PubMed record](#)

200. Effect of electrolyzed water on wound healing.

2000 · Artificial organs · Human clinical & healthcare · Animal study
Authors: Yahagi, N; Kono, M; Kitahara, M; Ohmura, A; Sumita, O; Hashimoto, T; Hori, K; Ning-Juan, C; Woodson, P; Kubota, S; Murakami, A; Takamoto, S

Hypochlorous acid (HOCl), also produced by electrolysis, was ineffective, suggesting that these types of electrolyzed water enhance wound healing by a mechanism unrelated to the well-known antibacterial action of HOCl. One possibility is that reactive oxygen species, shown to be electron spin resonance spectra present in anode chamber water, might trigger early wound healing through fibroblast migration and proliferation.

PMID 11121980 · DOI 10.1046/j.1525-1594.2000.06557-3.x · [PubMed record](#)

201. Improvement in bioreactor productivities using free radicals: HOCl-induced overproduction of xanthan gum from Xanthomonas campestris and its mechanism.

2001 · Biotechnology and bioengineering · Human clinical & healthcare · Journal article / other
Authors: Rao, Y M; Sureshkumar, G K

The acetate mass fraction in xanthan gum decreased by 42% and its pyruvate mass fraction increased by 63% as a result of HOCl treatment. The significant aspects of the hypothesis, such as SoxS protein binding to the promoter region of the gum gene and the consequent increase in mRNA concentrations, have been experimentally verified.

PMID 11084595 · DOI 10.1002/1097-0290(20010105)72:1<62::aid-bit9>3.0.co;2-9 · [PubMed record](#)

202. Environmental control to reduce transmission of *Clostridium difficile*.

2000 · Clinical infectious diseases : an official publication of the Infectious Diseases Society of America · Human clinical & healthcare · Human observational / experimental

Authors: Mayfield, J L; Leet, T; Miller, J; Mundy, L M

Restrictive antibiotic policies and infection control measures have been shown to reduce the incidence of *Clostridium difficile*-associated diarrhea (CDAD) among hospitalized patients. In a before-and-after intervention study, patients in 3 units were evaluated to determine if unbuffered 1:10 hypochlorite solution is effective as an environmental disinfectant in reducing the incidence of CDAD.

PMID 11049782 · DOI 10.1086/318149 · [PubMed record](#)

203. [Puncture of liver cystic masses and abscesses].

1999 · Khirurgiia · Human clinical & healthcare · Human observational / experimental

Authors: Nishanov, K T; Durmanov, B D; Ishankhodzhaev, Kh R; Borovski, S P

The results of punctional treatment of cavital masses and abscesses of the liver in 58 patients are analysed. The application of the developed method of punctional treatment with the use of electrolyze solution of sodium hypochlorite provides the possibility to increase the terms of temperature normalization and cleansing and elimination of cavity 1.5 times comparing to traditional method of treatment, to decrease the number of complications and...

PMID 10216349 · [PubMed record](#)

204. The effect of bioburden on in-depth disinfection of denture base acrylic resin.

1998 · Journal of the California Dental Association · Human clinical & healthcare · Human observational / experimental

Authors: Saunders, T R; Guillory, V L; Gregoire, S T; Pimsler, M; Mitchell, M S

This study evaluated the effectiveness of three different disinfectant solutions against denture bioburden absorbed within the depth of acrylic resin. Specimens were taken from dentures that had been worn by the patients for 15 to 20 years and were scheduled for replacement.

PMID 10029780 · [PubMed record](#)

205. Inside the neutrophil phagosome: oxidants, myeloperoxidase, and bacterial killing.

1998 · Blood · Human clinical & healthcare · Review

Authors: Hampton, M B; Kettle, A J; Winterbourn, C C

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 9787133 · [PubMed record](#)

206. Activation of the NF-kappaB transcription factor in a T-lymphocytic cell line by hypochlorous acid.

1997 · The Biochemical journal · Human clinical & healthcare · In vitro / laboratory

Authors: Schoonbroodt, S; Legrand-Poels, S; Best-Belpomme, M; Piette, J

Various antioxidants, such as pyrrolidine dithiocarbamate, p-bromophenacyl-bromide and nordihydroguaiaretic acid could strongly reduce NF-kappaB translocation, demonstrating the importance of oxidative species in the transduction mechanism. Collectively, these results suggest that HOCl should be considered as an oxidative species capable of inducing NF-kappaB in a T-lymphocytic cell line through a transduction mechanism involving ROS, and having a...

PMID 9032466 · DOI 10.1042/bj3210777 · [PubMed record](#)

207. Effects of minimally invasive surgery on hypochlorous acid production by neutrophils.

1994 · The British journal of surgery · Human clinical & healthcare · Human observational / experimental

Authors: Carey, P D; Wakefield, C H; Thayeb, A; Monson, J R; Darzi, A; Guillou, P J

Neutrophil hypochlorous acid production was compared in patients undergoing uncomplicated laparoscopic surgery (group 1) and those submitted to conventional open surgery (group 2). In group 2, mean(s.e.m.) neutrophil hypochlorous acid production fell significantly on day 1 after surgery (0.36(0.05) nmol/min; P < 0.01) but this did not occur in group 1 (0.63(0.07) nmol/min).

PMID 8205435 · DOI 10.1002/bjs.1800810425 · [PubMed record](#)

208. Neutrophil function and dysfunction in periodontal disease.

1994 · Current opinion in periodontology · Human clinical & healthcare · Review
Authors: Van Dyke, T E; Vaikuntam, J

Abnormal neutrophil function has been associated (directly or indirectly) with the pathogenesis of early onset periodontal disease. This paper reviews the recent developments in neutrophil function and dysfunction as they relate to periodontal disease progression.

PMID 8032460 · [PubMed record](#)

209. Hypochlorous acid and myeloperoxidase-catalyzed oxidation of iron-sulfur clusters in bacterial respiratory dehydrogenases.

1991 · European journal of biochemistry · Human clinical & healthcare · Journal article / other
Authors: Hurst, J K; Barrette, W C Jr; Michel, B R; Rosen, H

Increasing amounts of oxidant produced progressive loss of signal amplitudes from the S-1 and S-3 Fe/S clusters of succinate:ubiquinone oxidoreductase in respiring membrane fragments. Rather, the major respiration-inhibiting lesion(s) appeared to reside at points in the respiratory chain between the Fe/S clusters and the ubiquinone reductase site.

PMID 1662610 · DOI 10.1111/j.1432-1033.1991.tb16500.x · [PubMed record](#)

210. Pseudomonas and neutrophil products modify transferrin and lactoferrin to create conditions that favor hydroxyl radical formation.

1991 · The Journal of clinical investigation · Human clinical & healthcare · Human observational / experimental
Authors: Britigan, B E; Edeker, B L

Apolactoferrin inhibition of hydroxyl radical generation was unaffected by any of the four proteases or HOCl. Alteration of transferrin by enzymes and oxidants present at sites of pseudomonas and other bacterial infections may increase the potential for local hydroxyl radical generation thereby contributing to tissue injury.

PMID 1655825 · DOI 10.1172/JCI115408 · [PubMed record](#)

211. Nucleotide chloramines and neutrophil-mediated cytotoxicity.

1991 · FASEB journal : official publication of the Federation of American Societies for Experimental Biology · Human clinical & healthcare · Review
Authors: Bernofsky, C

It is responsible for killing bacteria and has been implicated in neutrophil-mediated tissue injury associated with the inflammatory process. This loss appears to be mediated by the formation of adenine nucleotide chloramines which are reactive intermediates with a free radical character and are capable of forming stable ligands with proteins and nucleic acids.

PMID 1848195 · DOI 10.1096/fasebj.5.3.1848195 · [PubMed record](#)

212. Topical treatment of burn wounds with chloroxidating solution and silver sulfadiazine: a comparative study.

1991 · Drugs under experimental and clinical research · Human clinical & healthcare · Clinical trial
Authors: Mian, E U; Gianfaldoni, R; Mian, M

The present paper reports the results of clinical and laboratory tests carried out on two homogeneous groups of ten burn patients subjected to local therapy, either with isotonic chloroxidating solution Amuchina* or with 1% silver sulfadiazine cream at the Burns Centre of the Pisa University Dermatological Clinic. On the basis of data referring to the development of the wound granulation and the temperature curve, as well as the microbial presence and the...

PMID 1665411 · [PubMed record](#)

213. The effects of disinfectants on the dimensional stability of alginate impression materials.

1990 · Australian dental journal · Human clinical & healthcare · Journal article / other
Authors: Ralph, W J; Gin, S S; Cheadle, D A; Harcourt, J K

Glutaraldehyde and hypochlorite solutions have been shown to be effective disinfectants for use in the dental surgery. All changes measured were considered to be within clinical tolerance.

PMID 1965275 · DOI 10.1111/j.1834-7819.1990.tb04682.x · [PubMed record](#)

214. Can we obtain a further reduction of peritonitis episodes in CAPD patients already using a Y-set with disinfectant?

1990 · Advances in peritoneal dialysis. Conference on Peritoneal Dialysis · Human clinical & healthcare · Human observational / experimental
Authors: Viglino, G; Gandolfo, C; Cottino, R; Mariano, F; Goia, F; Servetti, L; Rivetti, M; Cavalli, P L

A protocol of patient selection and more frequent home visits have significantly reduced peritonitis episodes in CAPD patients using Y-set with Amuchina. However, no change in dropout rates were observed.

PMID 1982795 · [PubMed record](#)

215. The effects of chemical sterilisation on the dimensional stability of some elastomeric impression materials.

1990 · Clinical materials · Human clinical & healthcare · Human observational / experimental
Authors: Salem, N; Combe, E C

Experiments were carried out on polysulphides, a poly(ether urethane) and several condensation and addition silicones. The last materials had the greatest dimensional stability over a range of storage conditions, which included aqueous glutaraldehyde and hypochlorite solutions.

PMID 10150081 · DOI 10.1016/0267-6605(90)90046-x · [PubMed record](#)

216. General mechanism for the bacterial toxicity of hypochlorous acid: abolition of ATP production.

1989 · Biochemistry · Human clinical & healthcare · Journal article / other
Authors: Barrette, W C Jr; Hannum, D M; Wheeler, W D; Hurst, J K

Initial rates of transport of glucose, succinate, and various amino acids that act as respiratory substrates and the ATP hydrolase activity of the F1 complex from the ATP synthase of E. coli 25922 also declined in parallel with or preceded loss of viability. These results establish that cellular death is accompanied by complete disruption of bacterial ATP production by both oxidative and fermentative pathways as a consequence of inhibition of inner...

PMID 2557918 · DOI 10.1021/bi00449a032 · [PubMed record](#)

217. Prospected randomized study of two Y devices in continuous ambulatory peritoneal dialysis (CAPD).

1989 · Peritoneal dialysis international : journal of the International Society for Peritoneal Dialysis · Human clinical & healthcare · Randomized controlled trial
Authors: Viglino, G; Colombo, A; Scalamogna, A; Cavalli, P L; Guerra, L; Renzetti, G; Gandolfo, C; De Vecchi, A; Barzaghi, V; Balteau, P

Seventy-nine percent of the patients who used both systems preferred the TAS for better handling, lower encumbrance, and major safety. One patient preferred the TCS, three patients did not find any differences between the two devices.

PMID 2562200 · [PubMed record](#)

218. Hypochlorous acid-promoted loss of metabolic energy in Escherichia coli.

1987 · Infection and immunity · Human clinical & healthcare · Journal article / other
Authors: Barrette, W C Jr; Albrich, J M; Hurst, J K

Loss of viability is also accompanied by inhibition of induction of beta-galactosidase. These observations establish a causal link between loss of metabolic energy and cellular death and indicate that the mechanisms of oxidant-induced nucleotide phosphate bond hydrolysis are indirect and that they probably involve damage to the energy-transducing and transport proteins located in the bacterial plasma membrane.

PMID 2820883 · DOI 10.1128/iai.55.10.2518-2525.1987 · [PubMed record](#)

219. Intraperitoneal antiseptics in experimental bacterial peritonitis.

1984 · The British journal of surgery · Human clinical & healthcare · Animal study
Authors: Platt, J; Jones, R A; Bucknall, R A

The other antiseptics, taurolin, noxytiolin, povidone iodine and hypochlorite were all ineffective. Delayed treatment with chlorhexidine was not as effective as instillation immediately postinfection.

PMID 6331561 · DOI 10.1002/bjs.1800710822 · [PubMed record](#)

220. Proposed mechanism for sensitization by hypochlorite treatment of *Clostridium botulinum* spores.

1983 · Applied and environmental microbiology · Human clinical & healthcare · Journal article / other
Authors: Foegeding, P M; Busta, F F

Scanning electron microscopy revealed a more open-appearing surface of hypochlorite-treated spores, and sodium dodecyl sulfate-polyacrylamide gel electrophoresis indicated that a greater amount of protein was removed from hypochlorite-treated and other lysozyme-sensitized spores than from buffer-treated spores. The data suggest that spore coat proteins may be removed by hypochlorite treatment, and this may be responsible for the sensitivity of spores and...

PMID 6305269 · DOI 10.1128/aem.45.4.1374-1379.1983 · [PubMed record](#)

221. Hypochlorite injury of *Clostridium botulinum* spores alters germination responses.

1983 · Applied and environmental microbiology · Human clinical & healthcare · Journal article / other
Authors: Foegeding, P M; Busta, F F

Tryptose inhibited L-alanine germination of the spores. Treatments with hypochlorite and with hydrogen peroxide (7%, 25 degrees C, 2 min) caused similar enumeration and germination responses, indicating that the effect was due to a general oxidation phenomenon.

PMID 6305267 · DOI 10.1128/aem.45.4.1360-1368.1983 · [PubMed record](#)

222. Death, injury and revival of chemically treated *Bacillus subtilis* spores.

1983 · The Journal of applied bacteriology · Human clinical & healthcare · Journal article / other
Authors: Gorman, S P; Hutchinson, E P; Scott, E M; McDermott, L M

The resistance of spores of *Bacillus subtilis* NCTC 10073 to glutaraldehyde, sodium hypochlorite and povidone-iodine was compared. The results, including the evidence of electron microscopy, are discussed in terms of chemical-spore reactivity and the implications on their use and suitability as chemical sterilizers.

PMID 6303998 · DOI 10.1111/j.1365-2672.1983.tb01305.x · [PubMed record](#)

223. Effect of chlorine treatment on infectivity of hepatitis A virus.

1983 · Applied and environmental microbiology · Human clinical & healthcare · Animal study
Authors: Peterson, D A; Hurley, T R; Hoff, J C; Wolfe, L G

Prodromal chimpanzee feces, shown to induce hepatitis in marmosets (*Saguinus* sp.), was clarified, and the virus was precipitated with 7% polyethylene glycol 6000, harvested, and resuspended. These results suggest that HAV is somewhat more resistant to chlorine than are other enteroviruses.

PMID 6297391 · DOI 10.1128/aem.45.1.223-227.1983 · [PubMed record](#)

224. [Antibacterial activity of a solution of H2O2, hypochlorite, and chloramine].

1980 · Ceskoslovenska stomatologie · Human clinical & healthcare · Human observational / experimental
Authors: Kotula, R; Hudác, A

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 6244901 · [PubMed record](#)

225. Materials and methods for cleaning dentures.

1979 · The Journal of prosthetic dentistry · Human clinical & healthcare · Human observational / experimental
Authors: Budtz-Jørgensen, E

It is the obligation of the dentist to motivate and instruct the patient and provide the means and methods for plaque control. Future research should be directed to developing solution cleansers which can maintain plaque-free dentures with a daily soaking period of 15 to 30 minutes and not affect the color and surface luster of the denture acrylic resin.

PMID 229217 · DOI 10.1016/0022-3913(79)90190-2 · [PubMed record](#)

226. [Clinical use of sodium hypochlorite for local treatment and prevention of urinary tract infections and therapy of contracted bladders (author's transl)].

1976 · Der Urologe. Ausg. A · Human clinical & healthcare · Human observational / experimental
Authors: Eisen, M; Jurcovic, K; Pfeiffer, E; Skoluda, D; Busse, K

The complete germicidal action against all sorts of bacteria was shown in suspension-tests. Bladder capacity was increased in 6 of 8 patients with nonmalignant contracted bladder or interstitial cystitis.

PMID 176760 · [PubMed record](#)

227. [Change in the activity of the enzymatic systems of Bacillus anthracoides spores during germination and under the action of Ca hypochlorite].

1975 · Mikrobiologija · Human clinical & healthcare · Journal article / other
Authors: Bekhtereva, M N; Krašnová, O A

The activity of other enzymes changes but slightly in the course of germination of the spores. Treatment of the spores with calcium hypochlorite inhibited their initiation and germination and the activity of several enzymes, especially malate dehydrogenase, isocitrate dehydrogenase, and fumarase.

PMID 173977 · [PubMed record](#)

228. [Etiology and prevention of recurring aphthous stomatitis].

1975 · Deutsche zahnärztliche Zeitschrift · Human clinical & healthcare · In vitro / laboratory
Authors: Sallay, K; Kulcsár, G; Dán, P; Nász, I; Geck, P

Lymphoblast transformation in the circulating lymphocytes could be demonstrated in vitro with heat-inactivated type 1 adenovirus, in 75% of the patients. Köbner's isomorphous phenomenon could be demonstrated in aphthous patients.

PMID 173517 · [PubMed record](#)

229. EVALUATION OF AN ANTITUMOR CELL WOUND IRRIGANT--MILTON, A STABLE HYPOCHLORITE.

1964 · Cancer · Human clinical & healthcare · Animal study
Authors: VINCENT, P C; REEVE, T S; NICHOLLS, A

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 14202601 · DOI 10.1002/1097-0142(196408)17:8<997::aid-cnrcr2820170806>3.0.co;2-8 · [PubMed record](#)

230. [On two cases of fungoid mycosis treated with chloramine].

1949 · Il Dermosifilografo · Human clinical & healthcare · Human observational / experimental
Authors: LEONE, R

No abstract was available in the source workbook; consult the linked record for bibliographic details.

PMID 18130516 · [PubMed record](#)