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Confidential Limited Environmental Sampling
To Evaluate the Efficiency of Hypochlorous as a Disinfectant
Against Viable Proteins (Viruses, Bacteria, and Fungi)

Of the
Soffer Health Institute

Located At:

21550 Biscayne Boulevard, Suite 133

Aventura, FL 33180

ERR PROJECT No. 21-0016-01A1



Prepared for:

Soffer Health Institute
21550 Biscayne Boulevard, Suite 133
Aventura, FL 33180

Prepared by:

Environmental Research & Restoration
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Inspection Date: January 26, 2021

**Reference : Confidential Limited Environmental Scientific Sampling
To Evaluate the Efficiency of Hypochlorous as a Disinfectant
Against Viable Proteins (Viruses, Bacteria, and Fungi)**

of the
**Soffer Health Institute
21550 Biscayne Boulevard, Suite 133
Aventura, FL 33180**

Environmental Research and Restoration is pleased to submit this confidential assessment with scientific results concerning the efficacy of **Hypochlorous (via MistShield™)** as a disinfectant against viable proteins (viruses, bacteria and fungi). Strategic sampling was conducted on **January 25, 2021** at the above referenced facility.

Samples were collected from solid surfaces. Two separate treatment rooms were selected for this study. These two exam rooms were selected for scientific testing comparison of the efficacy of **Hypochlorous** application as a disinfectant against viable proteins (viruses, bacteria and mold).

Exam Room #7 was reportedly never previously treated with **Hypochlorous** application and as such, served as a baseline sampling site. Accordingly, surface samples were collected both pre and post **Hypochlorous** application in **Exam Room #7**.

Exam Room #5 was reportedly previously treated with **Hypochlorous** application (**via MistShield™**) and served as a comparison sampling site.

The air samples were collected with an Anderson Sampler, with blood plate media. Air was drawn at **15LPM** for **5** minutes, for a total of **75 liters**.

Environmental Research conducted entrance interviews prior to sampling.

Inspection Sampling Strategy

First, **Exam Room #7**, which had never been exposed to **Hypochlorous**, was inspected. Second, **Exam Room # 5**, which had previously been exposed to **Hypochlorous (via MistShield™**: a machine used to disburse aerosolized colloidal mist into the ambient air) was inspected and tested.

Surface testing post the aerosol mist, appears to be highly effective in the microbial disinfection of both vertical and horizontal hard surfaces.

Exam Room #7

- **Exam Room #7** is setup as a cardiac stress test room that reportedly was never exposed to the **Hypochlorous** mist.
- It is inherent in the dynamics of a cardiac stress testing area that sweat, exhaled droplets of one's breath/saliva, and high levels of shedding skin cells are likely to settled on the surfaces within the facility.

- The proteins isolated from **Exam Room # 7** pre-introduction of **Hypochlorous** were significant.
- **Three (3) pre-hypochlorous application surface** samples were collected from **Exam Room #7** and **One (1) pre-hypochlorous application** sample, was collected 4' above the floor (the approximate height of an average person's mouth or nose).

Exam Rooms 7 & 5 Breathing Air

- Multiple ubiquitous species of microbial proteins were identified in both **Exam Room 5** and **Exam Room #7** pre- applications of **Hypochlorous (via MistShield™)**.
- Notably, **Exam Room #5** had previously been exposed to **Hypochlorous** mist, and the misting unit was operating at the time of entry. Therefore, all samples collected within **Treatment Room #5** were post **Hypochlorous** exposure. None of the surfaces identified any viable proteins.

Exam Room #7- Surface Sampling- Pre-Hypochlorous

- A total of **Three (3)** surface samples were collected from **Exam Room #7** pre introduction of **Hypochlorous**.
- All **Three (3)** samples scientifically identified significant viable proteins. **Covid-19** is in the protein category.
- Significantly, after introduction of **Hypochlorous** mist (**via MistShield™**) for **10** minutes, re-collection of surface samples failed to identify any viable proteins with the exception of a single spore of **Bacillus** on the surface of the **Tread Mill**.
- **Bacillus** is ubiquitous and usually found on all surfaces.
- A total of **Four (4)** pre-**Hypochlorous** mist surface samples were collected from **Exam Room #7** and evaluated against **Three (3)** surface samples post-**Hypochlorous (via MistShield™)** .
- As previously noted, the only surface protein identified after the **10** minutes of **Hypochlorous** mist (**via MistShield™**) was **One (1) Bacillus spore** which is found on all skin cells.
- All surface samples tested **post** introduction of **Hypochlorous (via MistShield™)** were **negative** for the presence of viable proteins.

<u>Location</u>	<u>Sample Description/ Touch Points</u>	<u>Results</u>
Exam Room #7 Pre- Hypochlorous Application TP = Touch Points	B-1 (Exam Room 7) Tread Mill TP Pre-Hypochlorous	<u>Bacteria Isolated:</u> <ul style="list-style-type: none"> ➤ Enterobacter Cloacae (Coliform) ➤ Acinetobacter Baumannii ➤ Bacillus SP.
	B-1	<u>Fungus Isolated:</u>

(Exam Room 7) Tread Mill TP Pre-Hypochlorous	➤ Aspergillus Niger
B-2 (Exam Room 7) Exam Table TP Pre-Hypochlorous	<u>Bacteria Isolated:</u> ➤ Bacillus SP. ➤ Acinetobacter Baumannii
B-2 (Exam Room #7) Pre-Hypochlorous	No fungal growth isolated
B-3 (Exam Room 7) Counter Top TP Pre-Hypochlorous	<u>Bacteria Isolated:</u> Bacillus SP.
B-3 (Exam Room 7) Counter Top TP Pre-Hypochlorous	No fungal growth isolated

With Hypochlorous Application

Exam Room # 7 Post-Hypochlorous Application	B-9 (Exam Room 7) Exam Table TP Hypochlorous	No bacterial growth isolated
	B-9 (Exam Room 7) Exam Table TP Hypochlorous	No fungal growth isolated
	B-10 (Exam Room 7) Tread Mill TP Hypochlorous	<u>Bacteria Isolated:</u> ➤ Bacillus SP.
	B-9 (Exam Room 7) Tread Mill TP Hypochlorous	No fungal growth isolated
	B-11 (Exam Room 7) Counter Top TP Hypochlorous	No bacterial growth isolated
	B-11 (Exam Room 7) Counter Top TP	No fungal growth isolated

	Hypochlorous		
Exam Room #5	With Hypochlorous Mist		Method
	B-5 (Exam Room 5) Exam Table TP Hypochlorous	No bacterial growth isolated	AOAC
	B-5 (Exam Room 5) Exam Table TP Hypochlorous	No fungal growth isolated	AOAC
	B-6 (Exam Room 5) Exam Table TP Hypochlorous	No bacterial growth isolated	
	B-6 (Exam Room 5) Exam Table TP Hypochlorous	No fungal growth isolated	

(1) Conclusion:

Per the supporting scientific data, **Hypochlorous** application via the **MistShield™** is efficient as an ambient air disinfectant against viable proteins on solid surfaces.

(2) Limitations

The results of this report represent conditions at the specific time and location in which the aforementioned were procured. Thus, this report should not be relied upon to represent conditions at any other location, time or date, and does not imply that this location is free of these or other contaminants. The intent of this report is to assess the basic microbial conditions of a limited sampled area. Although this type of analysis is a valuable tool to enhance an environmental assessment, it should not be used solely to determine an occupant's health or exposure risk. Some fungi are bacteria not identified by direct microscopic observation alone. To access additional data, more extensive testing may be required. This report is intended for the sole use of the client and all results are private and confidential.

Respectfully Submitted,

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Soffer Health Institute

21550 Biscayne Boulevard, Suite 133, Aventura, FL 33180
January 26th, 2021



Environmental Research - Soffer Health Institute
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Blood plate swab samples

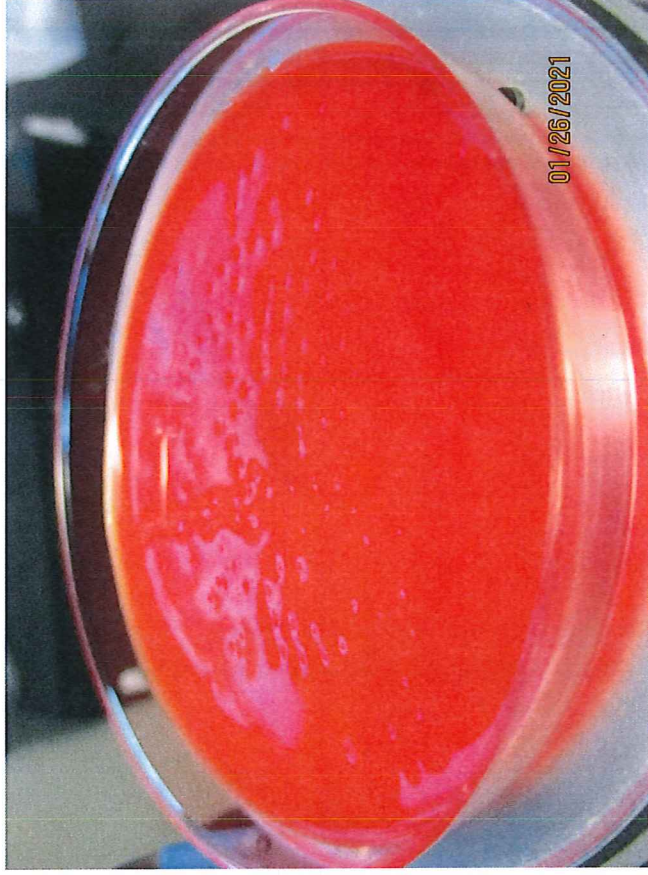


Exam Room # 5 air samples collection

MistShield™ machine is on the counter

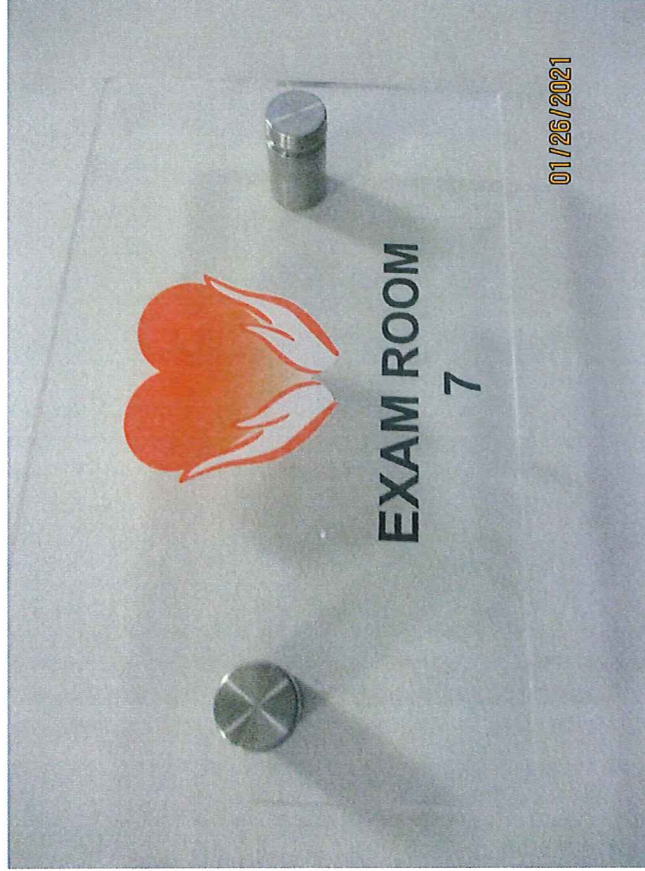


Blood plate air sample of Exam Room # 5



Air sampling of Exam Room # 7

MistShield™ machine is on the treadmill



Air sampling blood plate set up Exam Room # 7

