Corporate Presentation
January 2021
Forward Looking Statement

This presentation is for informational purposes only and shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities of Beyond Air, Inc. (the “Company”) nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such jurisdiction. The Company files annual, quarterly and other reports with the Securities and Exchange Commission (the “SEC”) including its Annual Report on Form 10-K for the year ended March 31, 2020 (the “Form 10-K”) which was filed on June 23, 2020. You may get these documents for free by visiting EDGAR on the SEC’s website at www.sec.gov. For a more complete discussion of the risk factors affecting our business, please refer to the Form 10-K.

Our public communications, including this presentation, and SEC filings, may contain statements related to future, not past, events. These forward-looking statements are based upon current beliefs and expectations of Beyond Air’s management and are subject to significant risks and uncertainties. These forward-looking statements often, but not always, may be identified by the use of words such as “believes,” “estimates,” “anticipates,” “targets,” “expects,” “plans,” “projects,” “intends,” “predicts,” “may,” “could,” “might,” “will,” “should,” “approximately,” potential” or, in each case, their negative or other variations thereon or comparable terminology, although not all forward-looking statements contain these words. If underlying assumptions prove inaccurate or risks or uncertainties materialize, actual results may differ materially from those set forth in the forward-looking statements.

These forward-looking statements appear in a number of places throughout this presentation and include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things, the patient market size and market adoption of our products by physicians and patients, the timing and cost of clinical trials for our products or whether such trials will be conducted at all, completion and receiving favorable results of clinical trials for our products, the development and approval of the use of nitric oxide for additional indications, FDA approval of, or other regulatory action with respect to, the timing, cost or other aspects of the commercial launch of our products and the commercial launch and future sales of our products or any other future products or product candidates. The extent to which the COVID-19 pandemic and global efforts to contain its spread will impact our operations, including the ability to conduct our preclinical studies and clinical trials or rely on our third-party manufacturing and supply chain, will depend on future developments, which are highly uncertain and cannot be predicted at this time, and include the duration, severity and scope of the pandemic and the actions taken to contain or treat the COVID-19 pandemic.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events, competitive dynamics, and healthcare, regulatory and scientific developments and depend on the economic circumstances that may or may not occur in the future or may occur on longer or shorter timelines than anticipated or not at all. Although we believe that we have a reasonable basis for each forward-looking statement contained in this presentation, we caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward looking statements contained in this presentation.
Our Vision

Harnessing the power of Nitric Oxide to transform the lives of patients

Company Overview
- Nasdaq listed: XAIR
- Headquarters: Garden City, NY
- Locations: Ireland, Israel, USA
- Experienced leadership team

Robust Pipeline Includes
- 4 Product Candidates Across 6 Indications

Multiple Major Catalysts in the Next 12 Months
- PMA Pending for Pulmonary Hypertension of the Newborn (PPHN)

Ability to transition between hospital use and untapped at-home market
Our revolutionary LungFit™ technology platform generates nitric oxide (NO) on-demand from ambient air and safely delivers it to patients to treat a variety of lung diseases.

LungFit™ PH is an innovative alternative to currently used cylinder systems in the hospital for ventilated patients.

LungFit™ PRO allows for the use of high concentration NO to treat a variety of lung infections in the hospital setting.

LungFit™ GO safely moves high concentration NO into untapped home market allowing for self-administration.

*LungFit™ PH, PRO, and GO are Investigational Devices, Limited by Federal (or United States) Law to Investigational Use.*
Generating NO From Ambient Air – High Barrier to Entry

\[ \text{N}_2 + \text{O}_2 \rightleftharpoons 2\text{NO} \]

**Nature**

During electric discharge in a lighting storm at 20,000°C, the nitrogen and oxygen in air react to produce nitric oxide.

**LungFit™**

LungFit™ safely reproduces the reaction in a chamber with proprietary technology.
<table>
<thead>
<tr>
<th><strong>Late Stage, Active Pipeline</strong></th>
<th><strong>Preclinical</strong></th>
<th><strong>Pilot Trials</strong></th>
<th><strong>Pivotal</strong></th>
<th><strong>PMA</strong></th>
<th><strong>Commercial</strong></th>
<th><strong>Next Milestone</strong>¹</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LungFit™ PH ventilator compatible</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PMA pending</td>
</tr>
<tr>
<td>In-hospital use for Persistent Pulmonary Hypertension of the Newborn (PPHN)</td>
<td></td>
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<td>US launch 2Q21</td>
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<td></td>
<td>CE Mark 2H21²</td>
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<tr>
<td><strong>LungFit™ PRO</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Ongoing pilot study, interim data Spring 2021</td>
</tr>
<tr>
<td>Acute viral pneumonia (including COVID-19)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Pivotal study start 4Q21 (pandemic permitting)</td>
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<tr>
<td>Bronchiolitis</td>
<td></td>
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<tr>
<td><strong>LungFit™ GO</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Ongoing pilot study, interim data mid-2021 (self-administration at home)</td>
</tr>
<tr>
<td>Nontuberculous mycobacteria (NTM) lung infection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ongoing</td>
</tr>
<tr>
<td>Severe exacerbations due to lung infections in COPD patients</td>
<td></td>
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<tr>
<td><strong>Solid Tumor Program</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Ongoing</td>
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<tr>
<td>Multiple Solid Tumors</td>
<td></td>
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</tr>
</tbody>
</table>

¹Caution - LungFit™ is an Investigational Device, Limited by Federal (or United States) Law to Investigational Use.

1) All dates are based on projections and appropriate financing, anticipated first launch on a global basis pending appropriate regulatory approvals
2) Label expected to include cardiac surgery and PPHN
## Our Programs Represent Large Market Opportunities

<table>
<thead>
<tr>
<th>PPHN Opportunity:</th>
<th>Annual Viral Pneumonia Hospitalizations:</th>
<th>Annual Bronchiolitis Hospitalizations:</th>
<th>Total Refractory NTM Patient Populations:</th>
<th>Annual Acute COPD exacerbation-related Hospitalizations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>~7.5k cases in US&lt;sup&gt;1&lt;/sup&gt;</td>
<td>~350k US&lt;sup&gt;2&lt;/sup&gt;</td>
<td>~120K US&lt;sup&gt;4&lt;/sup&gt;</td>
<td>~15K US&lt;sup&gt;6&lt;/sup&gt;</td>
<td>~1M US&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td>ex-US includes PPHN &amp; Cardiac Patients</td>
<td>~16M ex-US&lt;sup&gt;3&lt;/sup&gt;</td>
<td>~3.2M ex-US&lt;sup&gt;4,5&lt;/sup&gt;</td>
<td>~4k EU&lt;sup&gt;7&lt;/sup&gt;</td>
<td>~15k Japan&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

### LungFit™ PH

- >$300M
- >$600M

### LungFit™ PRO

- >$1.5B
- >$3B
- >$1.2B
- >$2.5B

### LungFit™ GO

- >$500M
- >$1B
- >$2.5B
- >$6B

### Solid Tumor Opportunity:

- >$23 Billion Global Checkpoint Inhibitor Market in 2019 and Growing<sup>9</sup>

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**Sources:**

2) NCHS, National Hospital Ambulatory Medical Care Survey, 2017. CDC.
5) UNICEF
9) Company Presentations and Regulatory Filings from Bristol-Myers Squibb (BMY), Merck (MRK), Roche (RH), AstraZeneca (AZN), Pfizer (PFE), Regeneron (REGN); Sanofi (SNY), 2011-2019.

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**US Sales Potential**
**WW Sales Potential**
The role of nitric oxide in the human body

Nitric Oxide: Multiple Mechanisms of Action

**Pulmonary vasodilator**
- Inhaled NO selectively dilates the pulmonary vasculature via relaxation of vascular smooth muscle
  - Any NO that passes from the pulmonary vascular wall into systemic circulation is rapidly and efficiently scavenged by hemoglobin which minimizes systemic vasodilation effects

**Immunomodulation**
- Immunoregulatory functions
- Inhibition of T and B cell proliferation
- Leukocyte recruitment (adhesion, extravasation, chemotaxis)
- Antibody production by CD5+B cells, autoreactive T and B cell diversification\(^\text{[1]}\)

**Antimicrobial**
- Antiviral
  - Inhibition of viral enzymes\(^\text{[2]}\)
  - Blocking of RNA synthesis\(^\text{[3]}\)
  - Blocking of viral replication cycle by modifying target molecules essential for replication\(^\text{[3]}\)
- Antibacterial
  - Broad-spectrum activity against multiple bacteria including *Pseudomonas*, *Staphylococcus*, *E. coli*, and MRSA
  - Mechanism attributed to DNA damage, bacterial enzyme inhibition, and induction of lipid peroxidation\(^\text{[4]}\)

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1) Tripathi et al, FEMS Immunology and Medical Microbiology, December 2007
## NO Plays a Major Role in the Immune System

<table>
<thead>
<tr>
<th>Source of NO (cell type)</th>
<th>Category</th>
<th>Effector function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macrophages, microglia, neutrophils, eosinophils, fibroblasts, endothelial cells, epithelial cells</td>
<td>Antimicrobial activity</td>
<td>Killing or reduced replication of infectious agents (viruses, bacteria, protozoa, fungi and helminths)</td>
</tr>
<tr>
<td>Macrophages, eosinophils</td>
<td>Anti-tumor activity</td>
<td>Killing or growth inhibition of tumor cells</td>
</tr>
<tr>
<td>Macrophages, microglia, astroglia, keratinocytes, mesangial cells</td>
<td>Tissue-damaging effect (immunopathology)</td>
<td>Necrosis or fibrosis of the parenchyma</td>
</tr>
<tr>
<td>Macrophages (‘suppressor phenotype’)</td>
<td>Anti-inflammatory — immunosuppressive effect</td>
<td>Immunoregulatory functions Inhibition of T and B cell proliferation, leukocyte recruitment (adhesion, extravasation, chemotaxis), Antibody production by CD5+B cells, autoreactive T and B cell diversification</td>
</tr>
<tr>
<td>Macrophages, T cells, endothelial cells, fibroblasts</td>
<td>Modulation of the production and function of cytokines, chemokines and growth factors</td>
<td>Up- and downregulation, e.g., of: IL-1, IL-6, IL-8, IL-10, IL-12, IL-18, IFN-γ, TNF TGF-β, G-CSF, M-CSF, VEGF, MIP-1α, MIP-2, MCP-1</td>
</tr>
<tr>
<td>Macrophages</td>
<td>T helper cell deviation</td>
<td>Induction and differentiation of TH1 cells Suppression of TH1 (and TH2) cell responses Suppression of tolerogenic T cell responses</td>
</tr>
</tbody>
</table>

*Tripathi et al, FEMS Immunology and Medical Microbiology, December 2007*
Persistent pulmonary hypertension of the newborn (PPHN)

LungFit™ has significant advantages over cylinders
Inhaled NO (iNO) causes smooth muscle relaxation, increasing blood flow to the lungs and decreasing right ventricular workload (1).

PPHN – Persistent Pulmonary Hypertension of the Neonate (2)

iNO reversal of pulmonary hypertension decreases Right-to-Left shunt through PDA and PFO, dramatically improving oxygenation.

Perioperative Cardiac Surgery (3)

iNO reversal of pulmonary hypertension reduces RV workload and improves cardiac output pre- and post-cardiac surgery.
Current Nitric Oxide US Market Dynamics

Established standard of care for 20+ years for pulmonary hypertension in the hospital setting (only PPHN on label)

- **>$500M** LTM US Sales\(^1\)
- **8%** CAGR 2014-2019\(^1\)
- **854** Level 3 & 4 NICU's in the US\(^2\)

Monopoly Broken 2019

- **~3.8M** Total US Births in 2019\(^3\)
- **Incidence ~1.9 per 1,000 live births** (range 0.4-6.8 per 1,000 births)\(^4\)
- **~7.5K** Newborns in the US affected by PPHN every year

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(1) Mallinckrodt Company Reports
(2) American Academy of Pediatrics NICU Search
(3) According to the CDC
(4) Lakshminrusimha et al. 2015.
Evolution of Innovation in Nitric Oxide Therapy for PPHN

1999
INOmax received FDA approval for PPHN

2001
INOmax approved in the EU for PPHN & subsequently cardiac surgery

2014
>$354

2015
>$373

2016
>$434

2017
>$455

2018
>$488

2019
NoxBox and GENOSYL receive FDA approval
>$514

2020
Beyond Air submits PMA for LungFit™ PH for PPHN

~8% CAGR
(US Net Sales, $M)

Sources
1) NoxBox image lindeus.com
2) GENOSYL DS image vero-biotech.com
Minimum Differentiation Among Major Market Players

INOmax Front

INOmax Back

45-pound cylinder

NOxBOX

Images sourced from company websites.
LungFit™ PH: Revolutionary, Smart Design

On-demand NO generation from ambient air
First truly integrated unit
(no need for tanks, cartridges, or cassettes)

Easy to Use
- Filter timer
- Convenient for all staff
- Ample accessory storage
- Alarms monitor performance
- Usable with any electrical outlet 110/220V

Built in back-up system
No danger of sudden NO flow disruption
Simple switch to flip to backup NO source
– Keep ventilator or utilize “bagger”

†Caution - LungFit™ is an Investigational Device, Limited by Federal (or United States) Law to Investigational Use. Dimensions are estimates.
Introducing LungFit™ PH – Nitric Oxide Generated from Ambient Air

LungFit™ PH: Portable Unit

Increased optionality with lightweight detachable unit – 38 lbs
Modern, compact design for limited NICU space
Easy to transport and store for medical staff
Simple, intuitive, and familiar user interface

User Interface

Backup Switch
Bagging Connector

Detachable Unit

†Caution - LungFit™ is an Investigational Device, Limited by Federal (or United States) Law to Investigational Use. Dimensions are estimates.
The LungFit™ PH Advantage

Hospitals currently use large, bulky, and heavy cylinders

LungFit™ PH generates NO from ambient air

<table>
<thead>
<tr>
<th>Cylinder System</th>
<th>LungFit™ PH</th>
<th>LungFit™ PH on cart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>~60”</td>
<td>18”</td>
</tr>
<tr>
<td>Width</td>
<td>~20”</td>
<td>19”</td>
</tr>
<tr>
<td>Depth</td>
<td>~21”</td>
<td>14”</td>
</tr>
<tr>
<td>Weight</td>
<td>~175 lbs.</td>
<td>38 lbs.</td>
</tr>
</tbody>
</table>

†Caution - LungFit™ is an Investigational Device, Limited by Federal (or United States) Law to Investigational Use. Dimensions are estimates.
Beyond Air Smart Filter vs. Cylinder

Smart filter RFID chip consummate “razor blade” financial model

Proprietary smart filter removes toxic nitrogen dioxide (NO$_2$) gas

Filters are a fraction of the cylinder size

- No disposal requirements
- Easy to store, handle, and manage inventory

Smart filter RFID chip

- Measures time until filter change required
- Recognition – LungFit™ will not function without smart filter
  - Razor-Razor blade model
  - Safety – prevents NO$_2$ toxicity
  - Encryption prevents counterfeits

Filter programs the system

- Sets concentration and flow rate (not true for LungFit™ PH)

Smart filter ensure hospitals and insurers are only charged for what they use

- Favorable economics for institutions

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*Caution - LungFit™ is an Investigational Device, Limited by Federal (or United States) Law to Investigational Use.

*not displayed to scale
# LungFit™ PH has Significant Advantages for Hospitals

## Simple
- Improved operating economics for the hospital
- No burdensome inventory and storage requirements
- Reduced training burden

## Safe
- NO supplied as a non-hypoxic gas mixture
- No purging procedures or additional safety measures due to nitrogen dioxide (NO₂) buildup
- Reduced the risk of physical injury for health care workers
- Reduced risk of NO₂ exposure

## Convenient
- No significant capital investment required for hospitals new to NO
- XAIR does not have any expenses associated with a manufacturing facility for nitric oxide
- XAIR does not have any expenses associated with logistics related to nitric oxide cylinders
Beyond Air is prepared to launch in the United States pending a timely FDA approval

Key launch elements in place
- Commercial scale manufacturing in place for both LungFit™ PH and Smart Filter
- Accessory kit complete
- Calibration gas supply secured
- Commercial leadership, quality systems, global supply chain, service center, etc. in place
- Multiple respiratory therapists (RTs) on staff for training

LungFit™ PH is well positioned vs other players in market current environment
- Market leader recently lost monopoly and moves to defend share by extending contracts
- Increased competition has led to a rational price decline
- Opportunity to help hospitals with a historically very expensive and very difficult to use product
- LungFit™ PH advantages will be showcased in a phased launch

Ex-US plans
- CE Mark anticipated in 2H21 with a launch via partnership expected in 2022
- ROW launches to begin in 2021 via partnership
LungFit™ – Multiple Devices

Nitric oxide generation from ambient air
LungFit™: For Treating Lung Infections

Simple, safe and convenient
Allows for both home and hospital use
Supplemental oxygen can be utilized through the system

Easy to Use
Programmable by RFID on filter
Convenient for all staff
Self-administration for home use
Usable with any electrical outlet 110/220V

Portable
Only 20 lbs

One system can treat multiple patients
Easy to change breathing circuit
One circuit per patient
Disposable filters

One Respiratory Therapist (RT) can operate multiple systems
Insert filter and press “GO”
Alarms monitor performance

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High Concentration NO – XAIR Demonstrated Safety in Humans

- Beyond Air has 9 years of experience with high concentration NO
- Concentrations as high as 250 ppm have been tested, with no SAE’s
- Currently only 20 ppm NO approved by FDA

<table>
<thead>
<tr>
<th>Date</th>
<th>Study</th>
<th>Indication</th>
<th>Primary</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Phase 1 Safety (n=10)</td>
<td>All comers</td>
<td>Safety</td>
<td>• No SAEs</td>
</tr>
<tr>
<td>2013–2014</td>
<td>POC double blind randomized (n=43)</td>
<td>Bronchiolitis (due to any virus)</td>
<td>Safe &amp; Eff</td>
<td>• No SAEs; 24hr reduction in hospital length of stay</td>
</tr>
<tr>
<td>2013–2014</td>
<td>Pilot open label (n=9)</td>
<td>Cystic Fibrosis (CF)</td>
<td>Safe &amp; Eff</td>
<td>• No SAEs; Lowered bacterial load</td>
</tr>
<tr>
<td>2016</td>
<td>Compassionate use ISR (n=2)</td>
<td>NTM abscessus (CF)</td>
<td>Safe &amp; Eff</td>
<td>• No SAEs; clinical &amp; surrogate endpoints improved</td>
</tr>
<tr>
<td>2017</td>
<td>Compassionate use National Institute of Health, US (n=1)</td>
<td>NTM abscessus (CF)</td>
<td>Safe &amp; Eff</td>
<td>• No SAEs; Improvements in clinical endpoints</td>
</tr>
<tr>
<td>2017</td>
<td>Pilot open label (N=9)</td>
<td>NTM abscessus</td>
<td>Safe &amp; Eff</td>
<td>• No SAEs; clinical &amp; surrogate endpoints improved</td>
</tr>
<tr>
<td>2018</td>
<td>Pilot: double blind randomized (n=67)</td>
<td>Bronchiolitis (due to any virus)</td>
<td>Safe &amp; Eff</td>
<td>• No SAEs; 27hr reduction in hospital length of stay</td>
</tr>
<tr>
<td>2018</td>
<td>Compassionate use ISR (n=1)</td>
<td>NTM abscessus (CF)</td>
<td>Safety</td>
<td>• No SAEs at 250 ppm NO dose</td>
</tr>
<tr>
<td>2019–2020</td>
<td>Pilot: double blind randomized (n=89)</td>
<td>Bronchiolitis (due to any virus)</td>
<td>Safe &amp; Eff</td>
<td>• No SAEs; 150 ppm treatment showed statistically significant improvements in primary and key secondary endpoints compared to both 85 ppm and control</td>
</tr>
</tbody>
</table>

- 2,500+ Treatments administered
- 140+ Patients
- 9 Different clinical settings
- 0 Serious Adverse Events (SAEs) related to NO
Intermittent Dosing – Safe Delivery of High Concentration NO

Demonstrated safety using intermittent dosing in preclinical animal toxicity studies and in humans (predictable methemoglobin)

Preclinical Animal Studies

**400 ppm**
- Rats: 30 days of intermittent treatments with LungFit™ at 400 ppm NO showed no macroscopic or microscopic findings

**250 ppm**
- Rats: 12 weeks of intermittent treatments with LungFit™ at 250 ppm NO showed no macroscopic or microscopic findings
- Dogs: 12 weeks of intermittent treatments with LungFit™ at 250 ppm NO showed no macroscopic or microscopic findings

**200–400**
- Rats: Genotoxicology study of intermittent NO at 200 – 400 ppm showed a non-genotoxic response at all concentrations

Clinical NTM Pilot Study – 160 PPM NO

Methemoglobin (MetHb) - well known biomarker for safety of NO
Predictable peaks and troughs with intermittent delivery

Mean MetHb levels of 5 NO administrations (160 ppm every 4 hours) per day in 9 subjects for 14 days
Acute Viral Pneumonia
(including COVID-19)

Nitric oxide has demonstrated antiviral activity
As of January 4, 2021 there were 85.2 million confirmed cases of COVID-19 Worldwide.

- ~450M Global Cases of Pneumonia Each Year\(^1\)
- 13% of cases require intensive treatment\(^2\)
- ~16M Annual global acute viral pneumonia hospitalizations
- 27% of pneumonias are caused by a viral pathogen\(^4\)
- 1.3M Total pneumonia hospitalizations in the US in 2017\(^3\)
- 27% of pneumonias are caused by a viral pathogen\(^4\)
- ~350K Annual viral pneumonia hospitalizations in the US

\(^1\) According to the World Health Organization
\(^2\) Rudan et al. 2005.
\(^3\) According to the national hospital ambulatory medical care survey
\(^4\) According to the CDC
Nitric Oxide Inhibits the Replication Cycle of Severe Acute Respiratory Syndrome Coronavirus

Sara Åkerström, Mehrdad Mousavi-Jazi, Jonas Klingström, Mikael Leijon, Ake Lundkvist, and Ali Mirazimi

Center for Microbiological Preparedness, Swedish Institute for Infectious Disease Control, Solna, LightUp Technologies, Huddinge, and MTC/Karolinska Institute, Stockholm, Sweden

Received 13 May 2004/Accepted 16 September 2004

Nitric oxide (NO) is an important signaling molecule between cells which has been shown to have an inhibitory effect on some virus infections. The purpose of this study was to examine whether NO inhibits the replication cycle of the severe acute respiratory syndrome coronavirus (SARS-CoV) in vitro. We found that an organic NO donor, S-nitroso-N-acetylpenicillamine, significantly inhibited the replication cycle of SARS-CoV in a concentration-dependent manner. We also show here that NO inhibits viral protein and RNA synthesis. Furthermore, we demonstrate that NO generated by inducible nitric oxide synthase, an enzyme that produces NO, inhibits the SARS-CoV replication cycle.

Nitric Oxide Inhibits SARS Coronavirus Replication Cycle

Mitigation of the replication of SARS-CoV-2 by nitric oxide in vitro

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2 Department of Microbiology and Tissue and Cell Biology (MTK), Karolinska Institute, Solna, Sweden
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ARTICLE INFO

Keywords:
SARS-CoV-2
COVID-19
Nitric oxide
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FRET

ABSTRACT

The ongoing SARS-CoV-2 pandemic is a global public health emergency posing a high burden on nations’ health care systems and economies. Despite the great effort put in the development of vaccines and specific treatments, no prophylactic or effective therapeutics are currently available. Nitric oxide (NO) is a broad-spectrum antiviral and a potent vasodilator that has proven to be effective in reducing SARS-CoV replication and hypoxia in patients with severe acute respiratory syndrome. Given the potential of NO as a treatment for SARS-CoV-2 infection, we have evaluated the in vitro antiviral effect of NO on SARS-CoV-2 replication. The NO-donor S-nitroso-N-acetylpenicillamine (SNAP) had a dose-dependent inhibitory effect on SARS-CoV-2 replication, while the non-S-nitrosated SNAP was not active, as expected. Although the viral replication was not completely abolished (at 200 μM and 400 μM), SNAP delayed or completely prevented the development of viral cytopathic effect in treated cells, and the observed protective effect correlated with the level of inhibition of the viral replication. The capacity of the NO released from SNAP to covalently bind and inhibit SARS-CoV-2 ICL recombinase pseudovirus in vitro was also tested. The observed reduction in SARS-CoV-2 pseudovirus activity was consistent with S-nitrosation of the enzyme active site cysteine.
Preclinical Data Support Anti-Coronavirus Activity

In Vitro Data Presented at CHEST 2020 Support Anti-Coronavirus Activity of Nitric Oxide that Acts Within Hours

(1) A single 2-hour exposure to 250 ppm NO prior to infection reduces OC43 infectivity and improves host cell viability

(2) Treatment of OC43 coronavirus infected cells with 150 ppm NO reduced infectivity

(1) A single 2-hour exposure of OC43 human coronavirus to 250 ppm NO in vitro prior to infection of host cells resulted in a significant reduction in viral infectivity (1.4-log or 96% reduction) and a significant improvement in host cell viability (>75%) over 7 days.

(1) Exposure of OC43 human coronavirus infected cells to a 150 ppm NO intermittent exposure regimen (4 one-hour exposures over 7 hours per day for two days) resulted in complete inhibition of infectivity.

Source: CHEST 2020 Presentation
Recently Announced Pilot Clinical Trial in Israel

✓ Commenced enrollment in November 2020

- Multicenter open label study of 90 adult patients hospitalized with acute viral pneumonia, including SARS-CoV-2

- Randomized 1:1 to treatment with inhaled NO, 150 ppm 40 minutes 4 times daily for up to 7 days in addition to standard supportive treatment or standard supportive treatment alone

- Primary endpoint: establishing safety at 150 ppm

- Secondary endpoints: (1) fever resolution, (2) ICU admission, (3) oxygen support, (4) stable room air saturation

- Interim data expected mid-2021
Nontuberculous Mycobacteria

Expanding NO into the home market for lung infections
How is NTM acquired?
- Acquired by inhalation from the environment
- Water thought to be the main source
  - US study across 25 states showed that NTM bacteria were found in nearly 8 out of 10 water samples\(^1\)
- Warmer climates have higher infection rates
  - Gulf States account for 70% of annual NTM cases in the United States\(^2\)
- Patient to patient transmission possible

Who is at risk?
- Underlying lung disease and/or genetic predisposition
- Cystic Fibrosis (CF)
- COPD (chronic obstructive pulmonary disease)
- Bronchiectasis
- Receiving immunosuppressive therapy

NTM Market Dynamics

- There are a limited number of players in NTM
- Median survival for MAC is 13 years while for non-MAC NTM it is 4.6 years\(^3\)
- Patients with COPD and NTM experienced a 1.43x increased risk of all-cause mortality vs patients with COPD alone\(^5\)

Beyond Air is targeting *Mycobacterium abscessus*, the most aggressive and difficult to treat form of NTM and MAC (*mycobacterium avium* complex), the most prevalent form of NTM

- Significant undiagnosed NTM patient population
- NTM costs estimated at $1.7 Billion\(^4\) with *M. abscessus* costs > 2x MAC costs
- 37% of NTM confirmed Cystic Fibrosis patients in the US are *M. abscessus*\(^6\)

6) Data presented at ATS 2017 (Derek Low et al, Medical University of South Carolina)
Nitric Oxide Market Dynamics for NTM

Targeting Refractory *Mycobacterium avium* complex (MAC) & *M. abscesses* NTM Patients

- **~15K** Refractory NTM patients in US
- **~4K** Refractory NTM patients in the EU
- **~15K** Refractory NTM patients in Japan

NTM is an FDA disease area of focus with limited treatment options resulting in high unmet medical need

- 7.5% annual prevalence growth in the US
- ~75% of NTM cases are caused by MAC
- ~25% of NTM cases are caused by *M. abscesses*

---

5) According to the Cystic Fibrosis Foundation
Pilot Study in NTM infected CF Patients Demonstrates Safety and Efficacy

Single arm study with 160 ppm NO showed a reduction in bacterial load and improvements in quality of life
Data Published in the Journal of Cystic Fibrosis (Bentur et al., 2019)

- 9 CF patients with refractory MABSC were treated at 3 centers in Israel with NO added to background antibiotic therapy
  - 160 ppm NO was given via mask for 30 min 5x/day for 14 days and 3x/day for 7 days
  - Primary endpoint of safety was met, with no NO-related serious adverse events (SAEs) observed
  - Bacterial load, as measured by qPCR showed a 65% reduction at day 81 versus baseline
    - One patient was culture negative at Day 51 and Day 81, two others had one negative culture
    - Quality-of-Life data showed positive trends on relevant questions

- 4 patients treated under compassionate use experienced similar results
  - 1 treated at NIH with LungFit™, 1 treated safely with 250 ppm NO, 1 culture conversion
Pilot LungFit™ NTM Study Protocol Summary

- Open label pilot study with 12 weeks of treatment and 12 weeks of observation
- Approximately 20 subjects >18 years of age with NTM lung infection refractory to antibiotic therapy
  - Both MAC (Mycobacterium avium complex) and *Mycobacterium abscessus* will be included in CF and non-CF patients
- Study start fourth quarter 2020 with interim results expected late 2Q21 and final results in 2H21
- Four doses of NO per day for 14 days followed by two doses of NO per day for 70 days (all patients will remain on background antibiotic therapy)
  - Each dose lasts 40 minutes and are 4-5 hours/at least 9 hours apart
  - Subjects will be titrated from 150 ppm up to 250 ppm in hospital with all subsequent administrations at home
- Primary endpoint is safety
- Key Secondary endpoints
  - Culture conversion/bacterial load
  - Quality of Life
  - Respiratory function
  - Physical function (activity tracker, 6MWT, etc.)
How Big is the Home Market for Severe Lung Infections?

- ...is the largest at-risk population for opportunistic lung infections
- There are an estimated 30m people in the US suffering from COPD\(^1\) with 10% considered severe\(^2\)
- 1,075,575 estimated acute COPD exacerbation-related hospitalizations in 2010
- Average COPD exacerbation hospital LOS was 6 days in 2010
- $38,455 cost per hospitalization in 2010 translates to >$41b in cost
- ...after hospitalization varies between 16% and 19% in the 3 months following hospitalization, between 23% and 43% at 1 yr and is 55–60% at 5 yrs \(^4\).
- In the ECLIPSE\(^5\) study (Hurst et al. NEJM 2010), a 3 year observation of 1,679 moderate to severe COPD patients (GOLD 2,3 & 4)
  - 77% of patients had at least one exacerbation during the observation period
  - 47% of patients had >2 exacerbations in at least one of the three study years
  - 30% of patients had >1 exacerbation in each of the three study years
  - 12% of patients had >2 exacerbations in each of the three study years

1) COPD Foundation
3) Jinjuvadia et al. Journal of Chronic Obstructive Pulmonary Disease 2017;
5) Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints
Bronchiolitis

*Three successful pilot studies completed in infants*
Nitric Oxide Market Dynamics for Bronchiolitis

Targeting US Bronchiolitis Patients

~144M
Total Births Worldwide in 2019¹

~2-3%
Infants hospitalized with bronchiolitis diagnosis²

~3.2M
Annual child bronchiolitis hospitalizations globally

There are no approved therapies for this unmet medical need

~4M
Total US Births in 2019³

~3%
Infants hospitalized with bronchiolitis diagnosis²

~120K
Annual child bronchiolitis hospitalizations in the US

¹ According to UNICEF
³ According to the CDC
Bronchiolitis Disease Overview

A leading cause of child mortality globally

The disease

- Acute inflammatory injury of the bronchioles usually caused by viral infection
- Usually affects children <2 years\(^{(1)}\), with a peak in infants aged 3-6 months\(^{(1)}\)
- Leading cause of infant hospitalizations, accounting for >120,000 hospitalizations with a direct cost of at least $550 million each year\(^{(1)}\)
- Most common cause is respiratory syncytial virus (RSV)\(^{(2)}\)

Benefits of nitric oxide

- Antiviral and Antibacterial mechanisms
  - Preclinical studies show high dose NO has antibacterial and antiviral properties\(^{(3-6)}\)
- Pulmonary vasodilatory properties
  - FDA/EMA approved for ~20 years

7) https://www.healthline.com/health/bronchiolitis-vs-bronchitis
8) American Academy of Pediatrics
First two pilot bronchiolitis trials demonstrate reduction in hospital LOS

LOS did not differ between groups. However, in a post-hoc analysis of a subgroup of infants hospitalized for >24 h (n = 24), the median LOS was shorter in the nitric oxide (41.9 h) than in the control group (62.5 h) (P = 0.014).
### Third Bronchiolitis Pilot Study Top Line Data

Statistical significance on both the primary and secondary endpoint at 150 ppm vs. placebo and vs. 85 ppm

<table>
<thead>
<tr>
<th></th>
<th>150 ppm vs. 85 ppm</th>
<th>150 ppm vs. SST</th>
<th>85 ppm vs. SST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary endpoint</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Time to Fit-to-Discharge (FTD)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard Ratio</td>
<td>2.11</td>
<td>2.32</td>
<td>0.90</td>
</tr>
<tr>
<td>95% CI</td>
<td>1.03, 4.31</td>
<td>1.01, 5.33</td>
<td>0.44, 1.81</td>
</tr>
<tr>
<td>P-value</td>
<td>0.041</td>
<td>0.049</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Secondary endpoint</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Hospital Length of Stay (LOS)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard Ratio</td>
<td>2.01</td>
<td>2.28</td>
<td>0.77</td>
</tr>
<tr>
<td>95% CI</td>
<td>1.01, 3.99</td>
<td>1.03, 5.06</td>
<td>0.40, 1.48</td>
</tr>
<tr>
<td>P-value</td>
<td>0.046</td>
<td>0.043</td>
<td>NS</td>
</tr>
</tbody>
</table>

Pivotal study delayed due to COVID-19 – Beyond Air is prepared to initiate in the fourth quarter of 2021 pandemic permitting
Nitric Oxide for Solid Tumors

Ultra high concentration nitric oxide has cytotoxic effects and data suggest immunostimulatory activity.
Nitric Oxide is an Anti-Cancer Agent

- NO has shown anticancer properties at high concentrations by activating innate and adaptive responses of the immune system.
- Our data suggest that our innovative gaseous NO-based treatment may treat solid tumors locally and their distant metastases systemically via stimulation of an anti-tumor immune response.

**Hypothesis:** Exogenous high-concentration gaseous NO (>10,000 ppm) administered directly to a solid tumor may result in local cell death resulting in systemic exposure to tumor antigens. Tumor antigens may trigger a systemic immune response, thereby creating a memory immune response that will recognize and attack subsequent primary tumor regrowth as well as distal metastases.
Findings from *In Vivo* Murine Lung Cancer Model Are Consistent with Previous Data

In vivo results showed that lung tumor-bearing mice treated with 50,000 ppm gNO for 10 minutes were resistant to a second LLC1 cancer cell inoculation.

**Challenge assay:** The tumors of lung cancer tumor-bearing mice were treated with NO. Up to 14 days post NO treatment, mice were re-inoculated with lung cancer cells (LLC1 cells) and the percentage of tumor take was monitored.

Data presented at the IASLC 2020 North America Conference on Lung Cancer (NACLC) October 16, 2020
Data presented at the AACR Conference on Tumor Immunology and Immunotherapy, October 16, 2020

- Colon and breast tumor-bearing mice (CT26 and 4T1) received a single treatment with high-concentration gNO intratumorally.
- CT26 study mice received either 20,000 or 50,000 ppm gNO for 5 minutes & 4T1 study mice received 50,000 ppm gNO for 10 minutes.
- Naïve mice inoculated with the same cancer cells served as an internal control, with the 4T1 study having an additional control arm of N₂-treated mice.
- Up to 21 days after gNO administration to the primary tumor, all mice were inoculated with a challenge tumor and growth of that tumor was tracked.

1. Effects of high-concentration NO on CT26 challenge tumors in mice in vivo

   - At day 45, challenge tumor uptake was observed in 100% of naïve mice, 27% of 20,000 ppm gNO mice, and 0% of 50,000 ppm gNO mice, suggesting dose-dependence.
   - At day 45, 25% of naïve mice, 73% of 20,000 ppm gNO mice and 100% of 50,000 ppm gNO mice were alive.

2. Effects of high-concentration NO on 4T1 challenge tumors in mice in vivo

   - At day 45, delay in challenge tumor take was observed with NO as compared with naïve and N₂ controls.
Financial and Patent Information

<table>
<thead>
<tr>
<th>Ticker</th>
<th>XAIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange</td>
<td>NASDAQ</td>
</tr>
<tr>
<td>Share Price</td>
<td>$5.27 (as of Dec 31, 2020)</td>
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<tr>
<td>Shares Outstanding</td>
<td>18 million</td>
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</table>

As of September 30, 2020

<table>
<thead>
<tr>
<th>Cash &amp; cash equivalents</th>
<th>$22.4 million</th>
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<tbody>
<tr>
<td>Debt</td>
<td>$5 million</td>
</tr>
<tr>
<td>Expected quarterly burn is approximately $4-5M</td>
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</tr>
</tbody>
</table>

> 20 issued patents expiring through 2033
> 10 pending patents, if issued, may extend the last expiration through 2037

Beyond Air believes that its patent portfolio is strong and broad

- The generator
- The breathing circuit
- NO concentration
- NO action in the body
- NO dosing
- NO\(^2\) filter
- Method of Use
- Cancer
- Coronavirus
# Achievements & Upcoming Milestones

## Estimated timelines for pipeline progress and commercialization

<table>
<thead>
<tr>
<th></th>
<th>2H20</th>
<th>1H21</th>
<th>2H21</th>
<th>1H22</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LungFit™ PH ventilator compatible</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>In-hospital use for Persistent Pulmonary Hypertension of the Newborn (PPHN) &amp; Heart Surgery</td>
<td>Submit PMA to US FDA</td>
<td>US FDA approval anticipated: Commercial launch in the US</td>
<td>Obtain CE Mark</td>
<td>Continue to launch globally</td>
</tr>
<tr>
<td><strong>LungFit™ PRO</strong></td>
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<tr>
<td>Acute viral pneumonia (including COVID-19)</td>
<td>Initiate study at 150 ppm NO</td>
<td>Report interim data</td>
<td>Report full dataset</td>
<td></td>
</tr>
<tr>
<td>Bronchiolitis</td>
<td>Pivotal study initiation delayed due to COVID-19 pandemic</td>
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<tr>
<td><strong>LungFit™ GO</strong></td>
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<tr>
<td>Nontuberculous mycobacteria (NTM) lung infection</td>
<td>Begin self-administration at home study</td>
<td>Report interim data</td>
<td>Report full dataset from home study</td>
<td></td>
</tr>
<tr>
<td>Severe exacerbations due to lung infections in COPD patients</td>
<td></td>
<td>Report in vitro data</td>
<td>Begin pilot study (pending resource availability)</td>
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<tr>
<td><strong>Solid Tumor Program</strong></td>
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<tr>
<td>Multiple Solid Tumors</td>
<td>Present pre-clinical data at a major medical conference (NACLC)</td>
<td></td>
<td>Potentially initiate human studies</td>
<td>Continue human studies</td>
</tr>
</tbody>
</table>

(1) Company estimates

(2) In territories where NO is already approved