UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

Current Report

Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): June 6, 2017

RESPIRERX PHARMACEUTICALS INC.
(Exact name of registrant as specified in its charter)

Delaware	**1-16467**	**33-0303583**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(I.R.S Employer Identification No.)**

126 Valley Road, Suite C **Glen Rock, New Jersey** **(Address of principal executive offices)**	**07452** **(Zip Code)**

Registrant's telephone number, including area code: (201) 444-4947

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

[ ] Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

[ ] Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

[ ] Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

[ ] Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company [ ]

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [ ]

Item 7.01 Regulation FD Disclosure

On June 6, 2017, RespireRx Pharmaceuticals Inc. (the "Company") announced that the Company's Senior Vice President of Research and Development, Richard Purcell, will be presenting a poster session entitled "OPIOIDS AND SLEEP APNEA: ANTAGONISM OF REMIFENTANIL INDUCED RESPIRATORY DEPRESSION BY CX1739 IN TWO CLINICAL MODELS OF OPIOID INDUCED RESPIRATORY DEPRESSION" at the Sleep 2017 conference in Boston, MA on June 6, 2017 from 5:00 to 7:00 p.m. Eastern Time. SLEEP 2017 is the 31st Annual Meeting of the Associated Professional Sleep Societies LLC, a joint venture of the American Academy of Sleep Medicine and the Sleep Research Society.

The content of the poster that Mr. Purcell will be using at the conference is attached as Exhibit 99.1 and is being furnished and not filed pursuant to Item 7.01 of Form 8-K. The press release announcing the Company's participation in the conference is attached as Exhibit 99.2 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

A list of exhibits that are furnished and filed as part of this report is set forth in the Exhibit Index, which is presented elsewhere in this document, and is incorporated herein by reference.

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

RESPIRERX PHARMACEUTICALS INC.

Date: June 6, 2017

By: */s/ Jeff E. Margolis*

Jeff E. Margolis
Vice President, Treasurer and Secretary

EXHIBIT INDEX

Exhibit Number	Exhibit Description
99.1	Poster Content*
99.2	Press Release dated June 6, 2017*

* Furnished herewith.

Phase 2A Clinical Trial of Ampakine CX1739 in the Prevention of Opioid-Induced Respiratory Depression

RespireRx Pharmaceuticals Inc

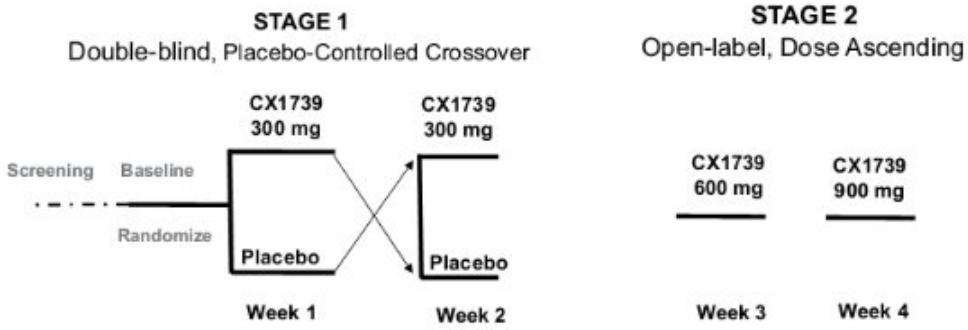
Antagonism of Remifentanil-Induced Respiratory Depression by CX1739 in Two Clinical Models of Opioid Induced Respiratory Depression (OIRD)

Andrew Krystal, MD[1,2], John Greer, PhD[3], Dariusz Nasiek, MD[4], Eva Krusinska, PhD[4], Arnold Lippa, PhD[4], Richard Purcell[4]
[1]Duke University, [2]University of California San Francisco, [3]University of Alberta, [4]RespireRx Pharmaceuticals

Opioid analgesics are now the most commonly prescribed class of medications in the United States, where chronic pain is estimated to affect around 68 million people each year. In 2014 alone, U.S. retail pharmacies dispensed 245 million prescriptions for opioid pain relievers. Opioids are useful and effective analgesics but produce several unwanted side effects, including episodes of life-threatening respiratory depression, which resulted in over 30,000 deaths in 2014. For this reason, an unmet medical need exists for an agent that can antagonize opioid-induced respiratory depression without compromising the analgesic effects of opioids.

We herein describe the results of a phase IIa clinical trial that evaluated the ability of CX1739 to overcome the respiratory depression induced by the powerful, yet short-acting opioid, remifentanil in two models of opioid use: a. REMI-Bolus evaluated respiratory parameters in an opioid overdose model, using a bolus of remifentanil (1 mcg/kg) to achieve significant respiratory depression; b. REMI-Infusion evaluated respiratory, pain, and pupilometry parameters using an infusion of remifentanil at a steady state blood concentration of 2 ng/ml to achieve approximately 40 - 50% respiratory depression as a model of sub-acute, post-surgical intravenous opioid treatment as well as chronic oral opioid treatment for chronic pain. The results of the REMI-Bolus analysis demonstrate that CX1739 does not prevent the rapid respiratory depression that occurs after intravenous, bolus injection of remifentanil. The results of the REMI-Infusion analysis demonstrate that, compared to placebo, an acute dose of CX1739 (300 mg or 900 mg) significantly reduces OIRD under steady-state opioid concentrations. The remifentanil effects on analgesia, pupilometry and bispectral index were not altered. Administration of CX1739 at an acute dose up to 900 mg was safe and comparable to placebo.

Overall Study Design: CX1739 vs. Placebo in Combination with the Opioid Remifentanil



Randomized, Blinded, Placebo-controlled, Cross-Over with Acute Dose Escalation of CX1739
Study Population 1: Placebo vs. 300 mg CX1739 (n=19; Completed Visits 1 and 2; Blinded)
Study Population 2: Placebo vs. 300 mg, 600 mg, and 900mg CX1739 (n=17; completed 4 visits)

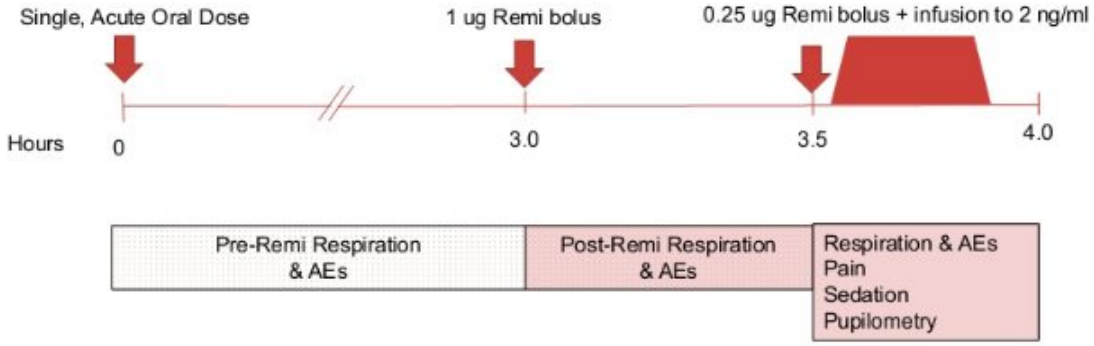
Remifentanil Dosing
4 Weekly visits two protocols for remifentanil administration (REMI Infusion and REMI Bolus)
REMI Infusion – Model of post-surgical pain management and chronic opioid use
REMI Bolus – Model of IV drug overdose prevention and rescue

Weekly Acute Dose Testing of CX1739 vs Remifentanil: Bolus and Infusion Models of Opioid Use

CX1739/Placebo
0, 300, 600, 900 mg
3-Hr Preadministration
For Cmax

REMI-Bolus
Single, acute bolus injection
Model of acute overdose

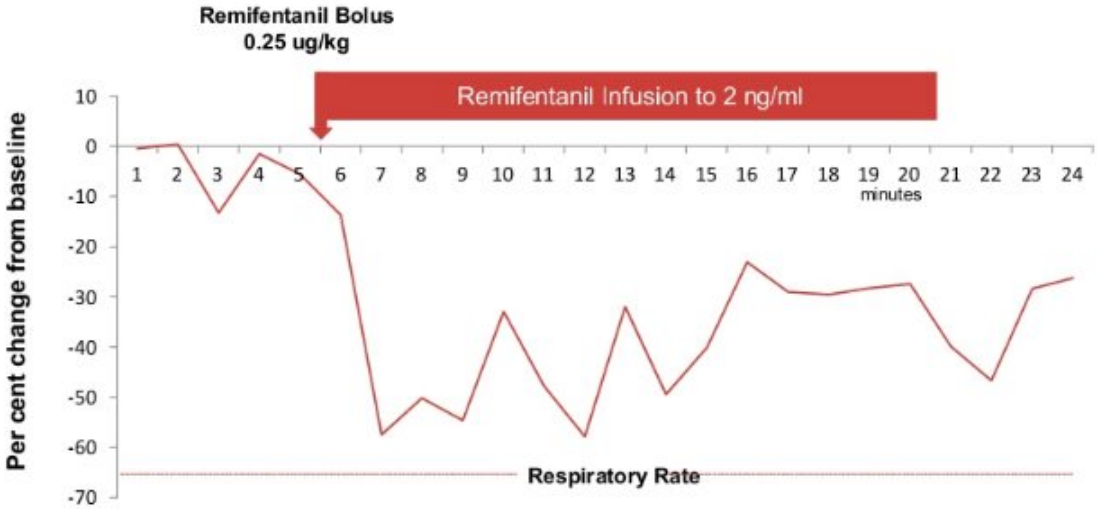
REMI-Infusion
Continuous infusion
Model of chronic use



Endpoint Measures
REMI Bolus: Effect of CX1739 on % change from baseline for RR, TV, and MV & Time to respiratory recovery following remifentanil-induced RD
REMI Infusion: Effect of CX1739 on opioid induced respiratory depression (% change from baseline for RR, TV, and MV) at a steady-state dose of remifentanil (2ng/ml)

REMI-Infusion Protocol: A Model of Chronic Opioid Use for Pain Management

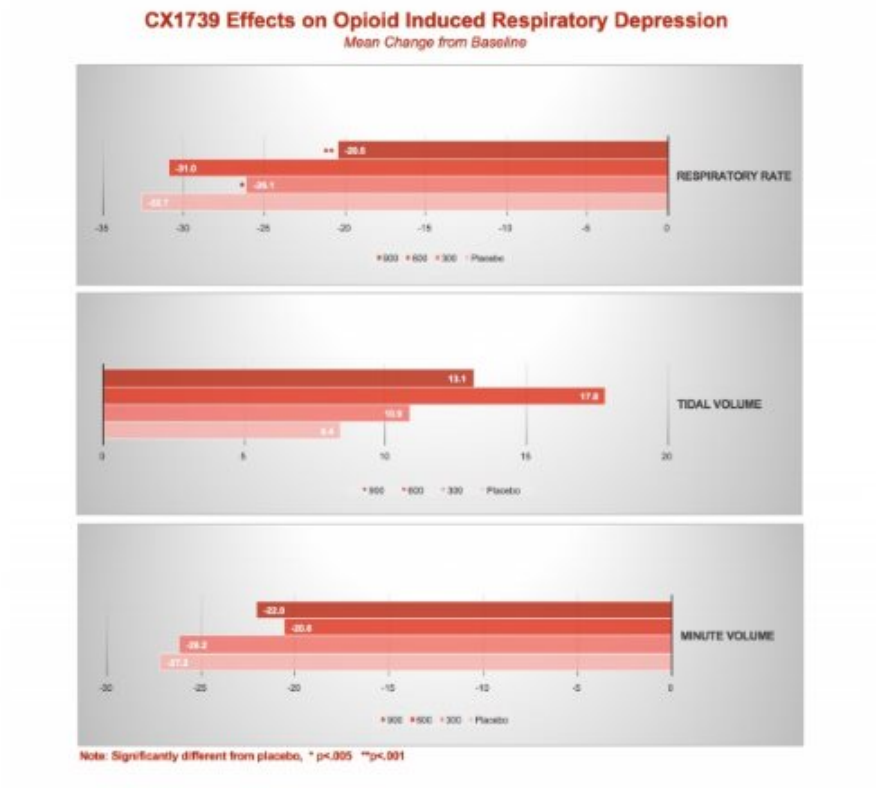
Effects of Remifentanil on Respiratory Rate (RR) in Representative Subject



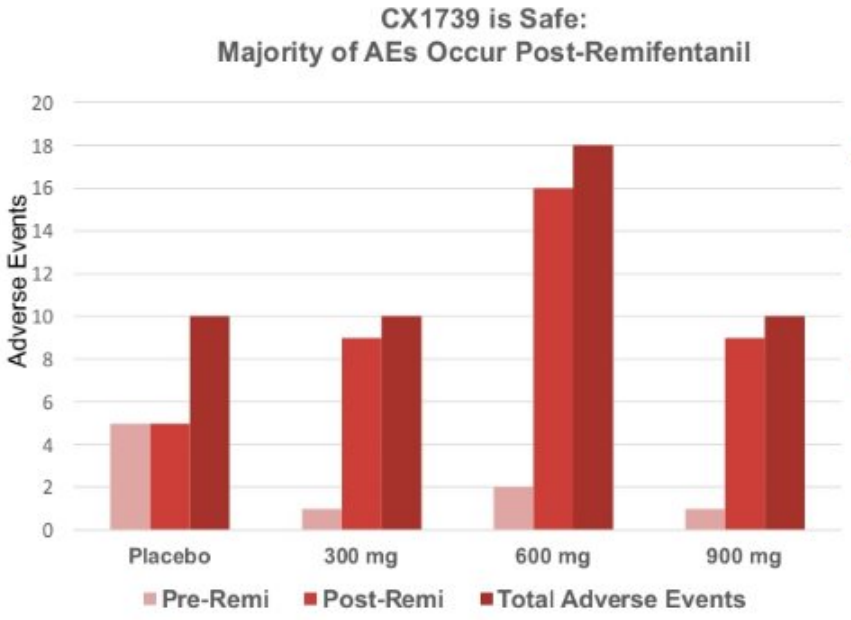
Clinical Outcome Measures:

- Respiration – Expiron Respiratory Motion® (RR, TV, MV)
- Pain – Heat & Electrical Stimulation
- Sedation – BIS Monitoring

CX1739 Antagonizes the Respiratory Depressive Effects of Remifentanil



CX1739 is Safe and Well Tolerated with No SAEs

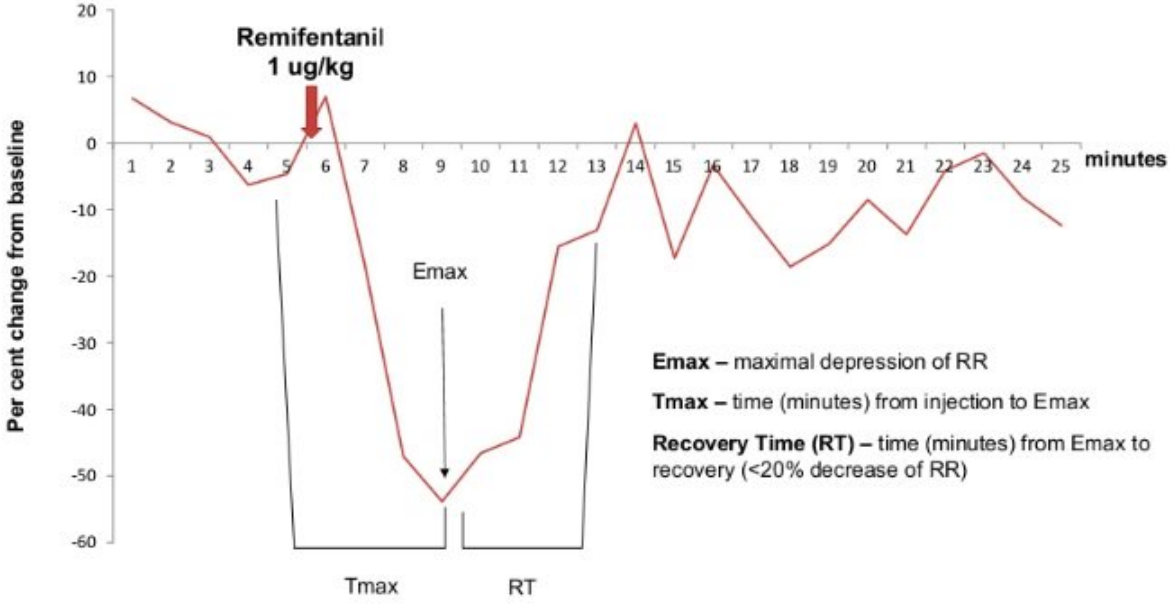


Adverse Events

- 38 of 48 AEs occurred after remifentanil
- Pre-remifentanil Placebo had as many AEs as all doses of CX1739 combined
- Most frequent AEs were nausea, vomiting, headache and dizziness, all of which are common side effects of opioids

REMI-Bolus Protocol: A Model of Intravenous Opioid Overdose

Effects of Remifentanil on Respiratory Rate (RRT) in Representative Subject



Similar measurements were made for Tidal Volume (TV) and Minute Volume (MV)

CX1739 Does Not Prevent the Initial Drop in Respiratory Depression In the IV Opioid Overdose Challenge

		CX1739		
	Placebo N = 17	300 mg N = 17	600 mg N = 17	900 mg N = 17
Emax* (%)	-65.1 +/-23.0	-61.9 +/-26.7	-75.8 +/-22.6	-72.6 +/-24.3
Tmax* (minutes)	5.8 +/-5.1	4.5 +/-3.7	3.2 +/-2.6	3.4 +/-3.1
Recovery time* (minutes))	7.6 +/-10.3	5.4 +/-3.9	5.7 +/-3.5	5.9 +/-4.8
	* Mean +/- SD			

Additional research is warranted to explore the effects of CX1739 on Emax and RT

Conclusion: CX1739 Has Potential Clinical Utility for the Treatment of Opioid Induced Respiratory Depression

- CX1739 significantly antagonized remifentanil induced respiratory depression during REMI-Infusion, a model of opioid induced respiratory depression (OIRD).
- CX1739 is safe and well-tolerated, with no serious adverse events reported in the trial.
- Though CX1739 antagonized OIRD, pain control was maintained, as CX1739 did not significantly alter analgesia or sedation produced by remifentanil.
- CX1739 did not antagonize respiratory depression during REMI-Bolus, a model of acute opioid overdose.
- These positive results warrant additional clinical trials of CX1739:
  - Central sleep apnea (CSA) in patients taking chronic oral opioids
  - Post-operative pain management concomitant with opioid IV infusions
  - Prevention of OIRD In patients taking chronic oral opioids for pain management
  - Extension of OIRD recovery after naloxone rescue

Exhibit 99.2

RespireRx Pharmaceuticals Inc. Announces Participation SLEEP 2017 in Boston, MA

Senior Vice President of Research & Development to Present Poster Session on a Phase 2A Clinical Trial of CX1739 for the Prevention of Opioid Induced Respiratory Depression

Glen Rock, N.J., June 6, 2017, 5:00pm/Globe Newswire – RespireRx Pharmaceuticals Inc. (OTC QB: RSPI) ("RespireRx" or the "Company"), a leader in the development of medicines for the treatment neurologically controlled respiratory disorders for which there are no approved pharmaceuticals, announces that the Company's Senior Vice President of Research and Development, Richard Purcell will be presenting a poster ("Poster") session entitled: "OPIOIDS AND SLEEP APNEA: ANTAGONISM OF REMIFENTANIL INDUCED RESPIRATORY DEPRESSION BY CX1739 IN TWO CLINICAL MODELS OF OPIOID INDUCED RESPIRATORY DEPRESSION" at the Sleep 2017 conference in Boston, MA on June 6, 2017 from 5:00 – 7:00pm EDT. "The focus of the Phase IIA clinical trial was to advance the clinical proof of concept that CX1739, one of the Company's low-impact AmpakinesÒ, has clinical utility for the treatment of respiratory depression resulting from high doses of opioids for pain management", said Mr. Purcell. "This research demonstrates not only the safety of the Ampakines, but also target-engagement of CNS neurons that drive respiratory function", he continued. "The data provide a clear clinical development path for CX1739 for treating CNS-driven respiratory disorders like central sleep apnea and spinal cord injury." The contents of the Poster will be submitted to the Securities and Exchange Commission in a Current Report on Form 8-K at the time of the presentation and will also be available in the investors section of the RespireRx website.

SLEEP 2017 is the 31st Annual Meeting of the Associated Professional Sleep Societies LLC ("APSS"), a joint venture of the American Academy of Sleep Medicine and the Sleep Research Society . Among other things, the APSS provides evidence-based education to advance the science and clinical practice of sleep medicine, disseminates research results, and promotes the translation of basic science into clinical practice.

In addition, a podium presentation describing the results, previously announced by the Company, of a Phase 2B study in which oral administration of dronabinol improved the symptoms of obstructive sleep apnea will be made at the same conference on June 6, 2017, from 1:45pm – 2:00pm EDT.

About RespireRx Pharmaceuticals Inc.

RespireRx Pharmaceuticals Inc. is a leader in the development of medicines for neurologically controlled respiratory disorders, with a focus on sleep apneas and drug-induced respiratory depression. The Company owns patents and patent applications, and holds exclusive licenses, for certain families of chemical compounds that claim the chemical structures and their use in the treatment of these and other disorders. Pending additional funding, during 2017, the Company plans to: 1) file an IND and initiate a Phase 2 clinical trial investigating the ability of CX717 or CX1739 to improve breathing in patients with spinal cord injury; 2) meet with the FDA to discuss its Phase 3 clinical trial program to test the safety and efficacy of dronabinol (oral) for the treatment of Obstructive Sleep Apnea; and 3) file an IND and initiate a Phase 2 clinical trial investigating the ability of CX1739 to reduce central sleep apnea in patients taking chronic opioids.

RespireRx's pharmaceutical candidates in development are derived from two platforms, as described below.

RespireRx Pharmaceuticals Inc., 126 Valley Road, Suite C, Glen Rock, NJ 07452
www.RespireRx.com

One platform of medicines being developed by RespireRx is a class of proprietary compounds known as ampakines that act to enhance the actions of the excitatory neurotransmitter glutamate at AMPA glutamate receptor sites in the brain. Several ampakines in both oral and injectable form are being developed by the Company for the treatment of a variety of breathing disorders, one of which is the subject of the poster session described above. Ampakines have also demonstrated that they may have utility to improve breathing in animal models of disorders such as spinal cord injury, Pompé Disease, and perinatal respiratory distress. The Company's compounds belong to a new class of ampakines that do not display the undesirable side effects previously reported for earlier generations of ampakines.

The other platform is the class of compounds known as cannabinoids, including dronabinol. Under a license agreement with the University of Illinois at Chicago, the Company has rights to patents claiming the use of cannabinoids for the treatment of sleep-related breathing disorders. The Phase 2B clinical study, previously described by the Company in filings with the SEC, is the subject of the podium presentation described above.

In an earlier placebo-controlled, dose-ascending Phase 2A clinical study conducted by the Company, dronabinol produced a statistically significant reduction in the AHI, the primary therapeutic end-point, and was observed to be safe and well-tolerated in a group of patients with OSA.

Additional information about the Company and the matters discussed herein can be obtained on the Company's web-site at www.RespireRx.com or in the Company's filings with the U.S. Securities and Exchange Commission on EDGAR at www.sec.gov.

Comments by the Company's President and Chief Executive Officer

Dr. James S. Manuso, commented, "We are pleased to be represented at this prestigious medical meeting and to continue informing the medical and research community of our leading research and clinical development work in the areas of apneas and other respiratory disorders, including apneas/respiratory depression caused by opioids, obstructive sleep apnea, disordered breathing associated with spinal cord injury and other neurologically controlled breathing disorders. I look forward to reporting to you our progress in the months ahead"

Special Note Regarding Forward-Looking Statements *: This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and the Company intends that such forward-looking statements be subject to the safe harbor created thereby. Certain statements included or incorporated by reference in this news release, including information as to the future financial or operating performance of the Company and its drug development programs, constitute forward-looking statements. The words "believe," "expect," "anticipate," "contemplate," "target," "plan," "intend," "continue," "budget," "estimate," "may," "schedule" and similar expressions, both singular and plural, identify forward-looking statements. Forward-looking statements include, among other things, statements regarding future plans, targets, estimates and assumptions. Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Due to these various risks and uncertainties, actual events may differ materially from current expectations. Investors are cautioned that forward-looking statements are not guarantees of future performance and, accordingly, investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Forward-looking statements are made as of the date of this news release and the Company disclaims any intent or obligation to update publicly such forward-looking statements, whether as a result of new information, future events or results, or otherwise.*

Company Contact:

Jeff Margolis
Vice-President, Treasurer and Secretary
Telephone: (917) 834-7206
E-mail: jmargolis@respirerx.com