

專任教師

林蕙鈴 教授

Hui-Ling Lin, Ph.D, RRT, RN, FAARC



Education

Ph. D. in Biomedical Engineering and Environmental Science, National Tsing Hua University, Taiwan
M.S. in Cardiopulmonary Sciences, Georgia State University, Atlanta, GA
B.S. in Respiratory Care, Dakota State University, Madison, SD
A.S. in Nursing and Midwifery, Hungkuang University, Taichung, Taiwan

Research Focus

Respiratory care, respiratory pharmacology
Aerosol/humidity therapy
Respiratory care equipment
Innovation and validation of respiratory care equipment

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Experiences

Teaching:

Associate Professor, Respiratory Therapy Program, Chang Gung University
Assistant Professor, Respiratory Therapy Program, Chang Gung University
Assistant Professor, Dakota State University
Teaching assistant, Cardiopulmonary Sciences Department, Georgia State University: 2003/9~2005/5

Clinical:

Rapid City Regional Hospital, Rapid City, SD
Grady Memorial Hospital, Atlanta, GA
Sioux Valley Hospital, Sioux Falls, SD
China Medical University Hospital, Taichung, Taiwan,
Respiratory Therapist, Chang-Gung Hospital, Taipei, Taiwan

License

- *Radiation Protection Personnel Certificate: 05/2015
- *Respiratory Therapist, Taiwan: 3/2010
- *Registered respiratory therapies: 02/2003
- *Certified respiratory therapist: 01/2003
- *Registered nurse: 06/1994
- *Licensed nurse: 12/1992
- *Licensed Midwifery: 12/1993

Awards and appointed position

- **International Education Recognition Committee: 2021/ 03
- **World Health Organization Respiratory Expert Panel: 2020/3 ~2022/02
- **Secretary in General, Respiratory Therapists Society of Republic of China, 2028/12 ~ current
- *"Fellow of the American Association for Respiratory Care" 2012 年 11 月
- *"The Editor's Pen" American Association for Respiratory Care 98 年 12 月
- *Research Award for Monaghan/Trudell Fellowship for aerosol technology development, the American Respiratory Care Foundation, Dec. 2005
- *Dakota State University Academic Presidential Achievement List, Fall Semester 2000 ~ Spring Semester 2003
- *South Dakota Society of Respiratory Care Scholarship, May 2001

Research articles (Selected)

*SCI

- 1 Yang TM, Chen L, Lin CM, Lin HL, Fang TP, Ge H, Cai H, Hong Y, Zhang Z. Identifying Novel Clusters of Patients With Prolonged Mechanical Ventilation Using Trajectories of Rapid Shallow Breathing Index. *Front Med (Lausanne)*. 2022 Jul 4;9:880896.
 - 2 Wang, Tzu-Pei, Hsin-Hsien Li, and Hui-Ling Lin. 2022. "Positive Airway Pressure at Extubation Minimizes Subglottic Secretion Leak In Vitro" *Journal of Clinical Medicine* 11, no. 2: 307.
 - 3 Shu-Hsin Chen, Hsiu-Chu Chang, Ming-Yi Chien, Jinxiang Xi, Hui-Ling Lin*. Reconciling Oxygen and Aerosol Delivery with a Hood on In Vitro Infant and Paediatric Models. *Pharmaceutics* 2022, 14(1), 91.
 - 4 Tseng HY, Lin HL, Chiang HS. In Vitro Evaluation of Aerosol Delivery by Hand-Held Mesh Nebulizers in an Adult Spontaneous Breathing Lung Model. *J Aerosol Med Pulm Drug Deliv*. 2021 Oct 12.
 - 5 Lin HL, Fink JB, Tsai YH, Wan GH. Managing humidity support to intubated ventilated patients with COVID-19. *Infect Control Hosp Epidemiol* 2021 Sep;42(9):1145-1146.
 - 6 Hui-Ling Lin, Chen-En Chiang, Mei-Chun Lin, Mei-Lan Kau, Yun-Tzu Lin, Chi-Shuo Chen. Aerosolized Hypertonic Saline Hinders Biofilm Formation to Enhance Antibiotic Susceptibility of Multidrug-Resistant *Acinetobacter baumannii*. *Antibiotics* 2021,10, 1115
 - 7 Chen YH, Lai YJ, Huang CY, Lin HL, Huang CC. Effects of positive end-expiratory pressure on the predictability of fluid responsiveness in acute respiratory distress syndrome patients. *Sci Rep*. 2021 May 13;11(1):10186.
 - 8 Lin HL*, James B Fink, Huiqing Ge. Aerosol delivery via invasive ventilation: a
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- narrative review. *Ann Transl Med.* 2021 Apr;9(7):588.
- 9 Jui-Fang Liu, Nai-Ying Kuo, Teng-Pei Fang, Jui-O Chen, Hung-I Lu, Hui-Ling Lin*. A six-week inspiratory muscle training and aerobic exercise improves respiratory muscle strength and exercise capacity in lung cancer patients after video-assisted thoracoscopic surgery: a randomized controlled trial. *Clinical Rehabilitation* December 2020. doi:10.1177/0269215520980138
 - 10 Hui-Ling Lin*, Yu-Chi Lee, Ssu-Hui Wang, Li-Ying Chiang, Jui-Fang Liu. In Vitro Evaluation of Facial Pressure and Air Leak. with a Newly Designed Cushion for Non-Invasive Ventilation Masks. *Healthcare* 2020, 8, 523;
 - 11 Lin HL*, Chi-Shuo Chen, James B. Fink, Guo-Hao Lee, Chun-Wei Huang, Jui-Chi Chen, Zi Yi Chiang. In Vitro Evaluation of a Vibrating-Mesh Nebulizer Repeatedly Use over 28 Days. *PHARMACEUTICS* 2020, 12(10), 971
 - 12 Liu JF, Lee HM, Chen JO, FangTP, ChenYM, Lo CM, Liu SF, Lin HL*. Benefits of Multiple-Intervention Pulmonary Rehabilitation to Older Adults with High-Risk Multimorbidity after Coronary Artery Bypass Grafting. *Healthcare* 2020 Sep 27;8(4):E368.
 - 13 6. Jhunjhunwala M, Lin HL, Li GY, Chen CS. Recognition of respiratory dysfunctions using algorithm-assisted portable airflow sensors. *ECS J. Solid State Sci. Technol* 2020;9,115021
 - 14 Lin HL, Fink JB, Tsai YH, Wan GH. Managing humidity support to intubated ventilated patients with COVID-19. *Infect Control Hosp Epidemiol* 2020 Aug 12;1-7.
 - 15 Fang TP, Chen YJ, Yang TM, Wang SH, Hung MS, Chiu SH, Li HH, Fink JB, Lin HL*. Optimal connection for tiotropium SMI delivery through mechanical ventilation: an in vitro study. *Pharmaceutics* 2020 Mar 24;12(3):291.
 - 16 Fang TP, Chen YH, Hsiao HF, Cho HY, Tsai YH, Huang CC, Hsieh MJ, Wu HP, Lin HL*. Effect of high flow nasal cannula on peripheral muscle oxygenation and hemodynamic during paddling exercise in patients with chronic obstructive pulmonary disease: a randomized controlled trial. *Ann Ttran Med* 8.6 (2020).
 - 17 Lin, HL., Chiu, L., Wan, G. et al. Hypertonic saline enhances the efficacy of aerosolized gentamicin against *Pseudomonas aeruginosa*. *Sci Rep* 10, 4325 (2020).
 - 18 Liu CY, Ko HK, Fink JB, Wan GH, Huang CC, Chen YC, Lin HL*. Size Distribution of Colistin Delivery by Different Type Nebulizers and Concentrations During Mechanical Ventilation. *Pharmaceutics*. 2019 Sep 5;11(9). pii: E459.
 - 19 Zhang Z, Xu P, Fang Q, Ma P, Lin HL, Fink JB, et al. (2019) Practice pattern of aerosol therapy among patients undergoing mechanical ventilation in mainland China: A web-based survey involving 447 hospitals. *PLoS ONE* 14(8): e0221577.
 - 20 Ge HQ, Wang JM, Lin HL, Fink JB, Luo R, Xu P, Ying K. Effect of Nebulizer Location and Spontaneous Breathing on Aerosol Delivery During Airway Pressure Release Ventilation in Bench Testing. *J Aerosol Med Pulm Drug Deliv* 2019 Feb;32(1):34-39.
 - 21 Li YC, Lin HL, Liao FC, Wang SS, Chang HC, Hsu HF, Chen SH, Wan GH. Potential risk for bacterial contamination in conventional reused ventilator
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systems and disposable closed ventilator-suction systems. PLOS One
doi.org/10.1371/journal.pone.0194246

- 22 Lin HL*, Fang TP, Cho HS, Wan GH, Hsieh MJ, Fink JB. Aerosol delivery during spontaneous breathing with different types of nebulizers-in vitro/ex vivo models evaluation. Pulm Pharmacol Ther. 2017 Dec 19. pii: S1094-5539(17)30244-4. P
- 23 Yang SH, Yang TM, Lin HL, Tsai YH, Fang TP, Wan GH. Size distribution of salbutamol/ipratropium aerosols produced by different nebulizers in the absence and presence of heat and humidification. Pulm Pharmacol Ther. 2017 Oct 17. pii: S1094-5539(17)30208-0.
- 24 Liu JF, Lu MC, Fang TP, Yu HR, Lin HL*, Fang DL. Burden on Caregivers of Ventilator-Dependent Patients: A Cross-Sectional Study. Medicine (2017) 96:27(e7396)

Non-SCI

1. 林蕙鈴、方瑱珮、施沛妤、吳毓淳、王翰姿、陳立。不同稀釋水劑對小容積噴霧器產生霧氣物理特性及效能之影響。呼吸治療 2022 (1) ; 51-62。
2. 王思惠、林蕙鈴、劉瑞芳、翁靜美、蔣麗靜、曾靜菀。COVID-19 病人使用氣霧治療之臨床策略。呼吸治療 2022(1) ; 31-42。
3. Liu JF, Wang SH, Chen JO, Fang TP, Lin HL*. Gender differences in caregiver burden with ventilator-dependent patients. Thorac Med 2020 (6); 35: 122-131
4. 劉瑞芳、王淑珍、陳瑞娥、方瑱珮、林蕙鈴*. Gender differences in caregiver burden of ventilator-dependent patients. 胸腔醫學雜誌. 2020; 35(3):122-131
5. 劉瑞芳、林蕙鈴、方瑱珮、陳瑞娥、沈連喜、杜美蓮。冠狀動脈繞道手術病人延遲拔管危險因素分析。呼吸治療 ; 18 (1) : P13 - 25
6. 楊偲僕、陳謀聰、林蕙鈴、萬國華。影響霧化治療藥物傳遞效率之影響。長庚科技學刊 2018(12)29 : 1-12
7. 花士怡、方瑱珮、林蕙鈴。小兒高流量鼻套管氧氣治療的臨床應用。長庚科技學刊 2018(12)29 : 13-24
8. 方瑱珮、林蕙鈴、楊立欣、李昕凝、張書語、梁洛瑤。非侵襲性正壓通氣下不同吸氣正壓設定對加熱潮濕效能之影響。呼吸治療 2018 ; 16(1)11-22。

Translated books

1. 林蕙鈴、方瑱珮編譯，初版，呼吸照護手冊-輕鬆掌握肺疾病生理數據及公式，2014年10月，合記圖書出版社，ISBN：9789863680048
2. 龍芳、林蕙鈴編譯。初版，美國呼吸治療技術指引-譯自 AARC Clinical Practice Guideline，台灣呼吸治療學會，ISBN：978986967804

Patent

1. Plasma aerosol inhalation device and method for thinning the sputum
Patent number: US 2020/0268655 A1
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