

Publications:

1. Smales ET, Edwards BA, Deyoung PN, McSharry DG, Wellman A, Velasquez A, Owens R, **Orr JE**, Malhotra A. Trazodone Effects on Obstructive Sleep Apnea and Non-REM Arousal Threshold. *Annals of the American Thoracic Society*. 2015;12(5):758-64. doi: 10.1513/AnnalsATS.201408-399OC. PubMed PMID: 25719754.
2. **Orr JE**, Auger WR, DeYoung PN, Kim NH, Malhotra A, Owens RL. Usefulness of Low Cardiac Index to Predict Sleep-Disordered Breathing in Chronic Thromboembolic Pulmonary Hypertension. *Am J Cardiol*. 2016 Mar 15;117(6):1001-5. doi: 10.1016/j.amjcard.2015.12.035. Epub 2015 Dec 31. PubMed PMID: 26805659; PubMed Central PMCID: PMC4775368.
3. Li Y, Owens RL, Sands S, **Orr J**, Moraes W, DeYoung P, Smales E, Jen R, Malhotra A. The Effect of Donepezil on Arousal Threshold and Apnea-Hypopnea Index. A Randomized, DoubleBlind, Cross-Over Study. *Ann Am Thorac Soc*. 2016 Nov;13(11):2012-2018. PubMed PMID: 27442715; PubMed Central PMCID: PMC5122481.
4. Li Y, Ye J, Han D, Cao X, Ding X, Zhang Y, Xu W, **Orr J**, Jen R, Sands S, Malhotra A, Owens R. Physiology-Based Modeling May Predict Surgical Treatment Outcome for Obstructive Sleep Apnea. *Journal of clinical sleep medicine: JCSM : official publication of the American Academy of Sleep Medicine* 2017; 13: 1029-1037.
5. **Orr JE**, Smales C, Alexander TH, Stepnowsky C, Pillar G, Malhotra A, Sarmiento KF. Treatment of OSA with CPAP Is Associated with Improvement in PTSD Symptoms among Veterans. *J Clin Sleep Med*. 2017 Jan 15;13(1):57-63. doi: 10.5664/jcsm.6388. PubMed PMID: 27707436; PubMed Central PMCID: PMC5181615.
6. **Orr JE**, Sands SA, Edwards BA, Deyoung PN, Deacon N, Jen R, Li Y, Owens RL, Malhotra A. Measuring Loop Gain via Home Sleep Testing in Patients with Obstructive Sleep Apnea. *Am J Respir Crit Care Med*. 2017. doi: 10.1164/rccm.201707-1357LE. PubMed PMID: 29190428.
7. Orr JE, Heinrich EC, Djokic M, Gilbertson D, Deyoung PN, Anza-Ramirez C, Villafuerte FC, Powell FL, Malhotra A, Simonson T. Adaptive Servoventilation as Treatment for Central Sleep Apnea Due to High-Altitude Periodic Breathing in Nonacclimatized Healthy Individuals. *High Alt Med Biol*. 2018. doi: 10.1089/ham.2017.0147. PubMed PMID: 29641294
8. Li Y, Orr J, Jen R, Sands SA, DeYoung P, Smales E, Edwards B, Owens RL, Malhotra A. Is

there a Threshold that Triggers Cortical Arousals in Obstructive Sleep Apnea. *Sleep*. 2019. Epub 2019/02/23. doi: 10.1093/sleep/zsz047. PubMed PMID: 30794310.

9. Orr JE, Coleman J, Criner GJ, Sundar KM, Tsai SC, Benjafield AV, Crocker ME, Willes L, Malhotra A, Owens RL, Wolfe LF. Automatic EPAP intelligent volume-assured pressure support is effective in patients with chronic respiratory failure: A randomized trial. *Respirology*. 2019 Apr 22;. doi: 10.1111/resp.13546. [Epub ahead of print] PubMed PMID: 31012225.

10. Heinrich EC, Djokic MA, Gilbertson D, DeYoung PN, Bosompra NO, Wu L, Anza-Ramirez C, Orr JE, Powell FL, Malhotra A, Simonson TS. Cognitive function and mood at high altitude following acclimatization and use of supplemental oxygen and adaptive servoventilation sleep treatments. *PLoS One*. 2019;14(6):e0217089. doi: 10.1371/journal.pone.0217089. eCollection 2019. PubMed PMID: 31188839; PubMed Central PMCID: PMC6561544.

11. Jen R, Orr JE, Li Y, et al. Accuracy of WatchPAT for the Diagnosis of Obstructive Sleep Apnea in Patients with Chronic Obstructive Pulmonary Disease. *COPD*. 2020;17(1):34-39. doi:10.1080/15412555.2019.1707789

12. Orr JE, Schmickl CN, Edwards BA, et al. Pathogenesis of obstructive sleep apnea in individuals with the COPD + OSA Overlap syndrome versus OSA alone. *Physiol Rep*. 2020;8(3):e14371. doi:10.14814/phy2.14371

13. Schmickl CN, Li Y, Orr JE, et al. Effect of Venlafaxine on Apnea-Hypopnea Index in Patients With Sleep Apnea: A Randomized, Double-Blind Crossover Study [published online ahead of print, 2020 Apr 9]. *Chest*. 2020;S0012-3692(20)30594-8. doi:10.1016/j.chest.2020.02.074

14. Schmickl CN, Owens RL, Orr JE, Edwards BA, Malhotra A. Side effects of acetazolamide: a systematic review and meta-analysis assessing overall risk and dose dependence. *BMJ Open Respir Res*. 2020;7(1):e000557. doi:10.1136/bmjresp-2020-000557

15. Heinrich EC, Orr JE, Gilbertson D, et al. Relationships Between Chemoreflex Responses, Sleep Quality, and Hematocrit in Andean Men and Women. *Front Physiol*. 2020;11:437. Published 2020 May 6. doi:10.3389/fphys.2020.00437

16. Elliott AR, Kizhakke Puliakote AS, Tedjasaputra V, Pazár B, Wagner H, Sá RC, Orr JE, Prisk GK, Wagner PD, Hopkins SR. Ventilation-perfusion heterogeneity measured by the multiple inert gas elimination technique is minimally affected by intermittent breathing of 100% O₂. *Physiol Rep*. 2020 Jul;8(13):e14488. doi: 10.14814/phy2.14488. PubMed PMID: 32638530;

PubMed Central PMCID: PMC7340847.

17. Schmickl CN, Lettieri CJ, Orr JE, DeYoung P, Edwards BA, Owens RL, Malhotra A. The Arousal Threshold as a Drug-Target to Improve CPAP Adherence: Secondary Analysis of a Randomized Trial. *Am J Respir Crit Care Med*. 2020 Jul 16;. doi: 10.1164/rccm.202003-0502LE. [Epub ahead of print] PubMed PMID: 32673496.
18. Jen R, Orr JE, Gilbertson D, Fine J, Li Y, Wong D, Bosompra NO, Hopkins SR, Raisinghani A, Malhotra A. Impact of obstructive sleep apnea on cardiopulmonary performance, endothelial dysfunction, and pulmonary hypertension during exercise. *Respir Physiol Neurobiol*. 2021 Jan;283:103557. doi: 10.1016/j.resp.2020.103557. Epub 2020 Oct 1. PubMed PMID: 33010457; PubMed Central PMCID: PMC7716277.
19. Hurvitz MS, Bhattacharjee R, Lesser DJ, Skalsky AJ, Orr JE. Determinants of usage and nonadherence to noninvasive ventilation in children and adults with Duchenne muscular dystrophy. *J Clin Sleep Med*. 2021 May 4. doi: 10.5664/jcsm.9400. Epub ahead of print. PMID: 33949945.
20. Orr JE, Edwards BA, Schmickl CN, Karris M, DeYoung PN, Darquenne C, Theilmann R, Jain S, Malhotra A, Hicks CB, Owens RL. Pathogenesis of obstructive sleep apnea in people living with HIV. *J Appl Physiol (1985)*. 2021 Dec 1;131(6):1671-1678. doi: 10.1152/jappphysiol.00591.2021. Epub 2021 Oct 21. PubMed PMID: 34672765; PubMed Central PMCID: PMC8714978.
21. Schmickl CN, Bosompra NO, DeYoung PN, Gilbertson D, Orr JE, Malhotra A, Grant I, Ancoli-Israel S, Young MK, Owens RL. Diagnostic performance of screening tools for the detection of obstructive sleep apnea in people living with HIV. *J Clin Sleep Med*. 2022 Apr 7;. doi: 10.5664/jcsm.9964. [Epub ahead of print] PubMed PMID: 35383569.
22. Schmickl CN, Orr JE, Kim P, Nokes B, Sands S, Manoharan S, McGinnis L, Parra G, DeYoung P, Owens RL, Malhotra A. Point-of-care prediction model of loop gain in patients with obstructive sleep apnea: development and validation. *BMC Pulm Med*. 2022 Apr 25;22(1):158. doi: 10.1186/s12890-022-01950-y. PMID: 35468829; PMCID: PMC9036750.
23. Nokes B, Schmickl CN, Brena R, Bosompra NN, Gilbertson D, Sands SA, Bhattacharjee R, Mann DL, Owens RL, Malhotra A, Orr JE. The impact of daytime transoral neuromuscular stimulation on upper airway physiology - A mechanistic clinical investigation. *Physiol Rep*. 2022 Jun;10(12):e15360. doi: 10.14814/phy2.15360. PMID: 35748091; PMCID: PMC9226850.

Grants:

7/2014- 6/2015: NIH/NHLBI T32 HL098062-05 MPI: Malhotra/Powell

Role: Research Fellow

9/2016- 8/2018: NHLBI F32 1F32131306

Role: PI

4/2018-3/2022: NHLBI R01 HL142114

Role: Co-I

7/2021-6/2026: NHLBI K23 HL151880

Role: PI

Awards:

2008 American College of Physicians Book Award in Internal Medicine -Washington University in St. Louis

2010 Commendation in Excellence for Medical Student Teaching - UC Los Angeles

2019 Academy of Clinical Scholars Research Award - UC San Diego