

Clinical data

PhotoniCare has developed the OtoSight™ Middle Ear Scope, a handheld otoscopic imager to improve middle ear disease visualization and diagnostic accuracy. Below is a list of key clinical publications illustrating the utility of our technology.

1. Preciado D, Nolan RM, Joshi R, Krakovsky GM, Zhang A, Pudik NA, Kumar NK, Shelton RL, Boppart SA, Bauman NM. Otitis media middle ear effusion identification and characterization using an optical coherence tomography otoscope. *Otolaryngol Head Neck Surg*, 2020.
2. Gisselsson-Solén M, Tähtinen PA, Ryan AF, Mulay A, Kariya S, Schilder AGM, Valdez TA, Brown S, Nolan RM, Hermansson A, van Ingen G, Marom T. Panel 1: Biotechnology, biomedical engineering and new models of otitis media. *Int J Pediatr Otorhinolaryngol*, 2019.
3. Monroy GL, Won J, Dsouza R, Pande P, Hill MC, Porter RG, Novak MA, Spillman DR, Boppart SA. Automated classification platform for the identification of otitis media using optical coherence tomography. *NPJ Digit Med*, 2019.
4. Dsouza R, Won J, Monroy GL, Spillman DR, Boppart SA. Economical and compact briefcase spectral-domain optical coherence tomography system for primary care and point-of-care applications. *J Biomed Opt*, 2018.
5. Dsouza R, Won J, Monroy GL, Hill MC, Porter RG, Novak MA, Boppart SA. In vivo detection of nanometer-scale structural changes of the human tympanic membrane in otitis media. *Sci Rep*, 2018.
6. Monroy GL, Hong W, Khampang P, Porter RG, Novak MA, Spillman DR, Barkalifa R, Chaney EJ, Kerschner JE, Boppart SA. Direct analysis of pathogenic structures affixed to the tympanic membrane during chronic otitis media. *Otolaryngol Head Neck Surg*, 2018.
7. Park K, Cho NH, Jeon M, Lee SH, Jang JH, Boppart SA, Jung W, Kim J. Optical assessment of the in vivo tympanic membrane status using a handheld optical coherence tomography-based otoscope. *Acta Otolaryngol*, 2018.
8. Won J, Monroy GL, Huang PC, Dsouza R, Hill MC, Novak MA, Porter RG, Chaney EJ, Barkalifa R, Boppart SA. Pneumatic low-coherence interferometry otoscope to quantify tympanic membrane mobility and middle ear pressure. *Biomed Opt Express*, 2018.
9. Monroy GL, Pande P, Nolan RM, Shelton RL, Porter RG, Novak MA, Spillman DR, Chaney EJ, McCormick DT, Boppart SA. Noninvasive in vivo optical coherence tomography tracking of chronic otitis media in pediatric subjects after surgical intervention. *J Biomed Opt*, 2017.
10. Monroy GL, Pande P, Shelton RL, Nolan RM, Spillman DR, Porter RG, Novak MA, Boppart SA. Non-invasive optical assessment of viscosity of middle ear effusions in otitis media. *J Biophotonics*, 2017.
11. Pande P, Shelton RL, Monroy GL, Nolan RM, Boppart SA. Low-cost hand-held probe for depth-resolved low-coherence interferometry. *Biomed Opt Express*, 2017.

12. Park K, Cho NH, Jang JH, Lee SH, Kim P, Jeon M, Boppart SA, Kim J, Jung W. In vivo 3D imaging of the human tympanic membrane using a wide-field diagonal-scanning optical coherence tomography probe. *Appl Opt*, 2017.
13. Shelton RL, Nolan RM, Monroy GL, Pande P, Novak MA, Porter RG, Boppart SA. Quantitative pneumatic otoscopy using a light-based ranging technique. *J Assoc Res Otolaryngol*, 2017.
14. Pande P, Shelton RL, Monroy GL, Nolan RM, Boppart SA. A mosaicking approach for in vivo thickness mapping of the human tympanic membrane using low coherence interferometry. *J Assoc Res Otolaryngol*, 2016.
15. Pande P, Monroy GL, Nolan RM, Shelton RL, Boppart SA. Sensor-based technique for manually scanned hand-held optical coherence tomography imaging. *J Sens*, 2016.
16. Hubler Z, Shemonski ND, Shelton RL, Monroy GL, Nolan RM, Boppart SA. Real-time automated thickness measurement of the in vivo human tympanic membrane using optical coherence tomography. *Quant Imaging Med Surg* (featured cover), 2015.
17. Monroy GL, Shelton RL, Nolan RM, Nguyen CT, Novak MA, Hill MC, McCormick DT, Boppart SA. Noninvasive depth-resolved optical measurements of the tympanic membrane and middle ear for differentiating otitis media. *Laryngoscope*, 2015.
18. Shelton RL, Jung W, Sayegh SI, McCormick DT, Kim J, Boppart SA. Optical coherence tomography for advanced screening in the primary care office. *J Biophotonics* (featured cover), 2014.
19. Nguyen CT, Robinson SR, Jung W, Novak MA, Boppart SA, Allen JB. Investigation of bacterial biofilm in the human middle ear using optical coherence tomography and acoustic measurements. *Hear Res*, 2013.
20. Nguyen CT, Jung W, Kim J, Chaney EJ, Novak MA, Stewart CN, Boppart SA. Noninvasive in vivo optical detection of biofilm in the human middle ear. *Proc Natl Acad Sci USA*, 2012.