PhotoniCare

Clinical data

PhotoniCare has developed a handheld OCT imager to improve middle ear disease visualization and increase diagnostic accuracy. Below is a list of key clinical publications illustrating the utility of our technology.

1. 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.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. **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.

9. Pande P, **Shelton RL,** Monroy GL, **Nolan RM, Boppart SA.** Low-cost hand-held probe for depth-resolved low-coherence interferometry. *Biomed Opt Express*, 2016.

10. 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.

11. 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.

12. 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.

13. **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.

14. 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.

15. 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.