

Future of Laryngology

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What does the future hold?

- The future of...
 - Evaluation/Diagnostics
 - Laryngeal Surgery
 - Therapeutics

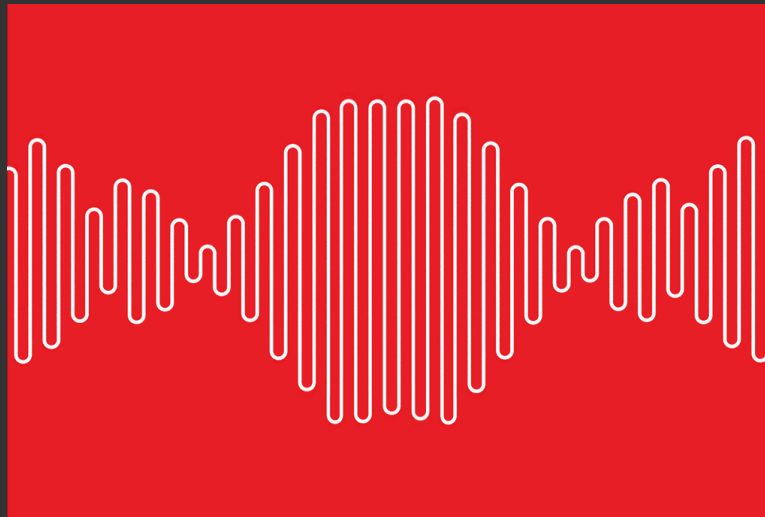


The future of laryngeal evaluation...

- Clinic evaluation
 - High speed video – ready for clinic prime time?
 - Narrow band imaging
 - Surface ultrasound
- Screening
 - Multi-institutional research groups (NoAAC)
 - Proteomics/bioinformatics
 - Pepsin lateral flow testing for LPR
 - AI learning of voice samples for disease states

Do I Sound Sick?

- AI-based vocal “fingerprinting” is evolving quickly
 - Panel on this at COSM 2022, NYT article April 2022
 - Used in research studies to diagnose PTSD, dementia, etc
 - Potential to screen for SD, MTD, ALS, others?
 - Multiple apps in development for home dx of mental illness and other disease states



The future of laryngeal surgery

- Lasers **LASERS LASERS!!!**
 - Blue light laser 448nm vs KTP 532nm
 - Surface ultrasound for surgical planning
- Intracordal surgery
 - Development of smaller endoscopes and laser fibers and instruments allowing ability to operate within the vocal fold
- Flexible endoscopic Zenker surgery?
- Robotic surgery
 - Evolution of surgical robotic technology to facilitate endolaryngeal access
- Transplantation
 - Laryngeal – 14 total laryngeal transplants worldwide to date
 - Tracheal – initial patient series with poor outcomes

The future of laryngeal therapeutics

- Stem cell therapies/gene therapy/tissue engineering
 - Tracheal framework engineering
 - Vocal fold stem cell rx for sulcus, paralysis
 - Gene therapy for vocal cord paralysis
- Reflux treatment
 - Evolution of minimally invasive fundoplication techniques
 - Non-acid reflux therapies (Lexiva/Fosamprenavir trial at MCW)
- “Tunable” vocal cord injectables?
- RRP
 - Systemic therapies (Pembro, Avastin)
 - Declining rates due to HPV vaccination?
- Chronic cough
 - TRPV1-specific inhibitor therapies in final pre-clinical trials