Swallowing: How different types of instrumentation can help us understand function and impairment

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The ability to drink a glass of water, enjoy a morning cup of coffee or savour a glass of fine wine is probably something that you take for granted. However, dysphagia (swallowing impairment) is a serious health condition that is estimated to affect as many as 56 million people worldwide. The assessment and management of swallowing function impairment involves questions that are also of interest to scientists in a wide variety of clinical and non-clinical disciplines. What are the boundaries of normal oral and pharyngeal swallowing function? How do the tongue and muscles in the floor of mouth and neck behave during the oral processing and swallowing of foods and liquids of different textures? How important are sensory aspects of foods and liquids for influencing swallowing motor behaviours? What constitutes an ideal, ready-and-easy-to-swallow bolus, and what properties of food and fluid texture make boluses difficult to swallow? And, from a clinical perspective, how can we exploit muscle strength of food and liquid textures to facilitate improved swallowing function, in terms both of safety (airway protection) and efficient oropharyngeal bolus clearance?

In this presentation, Professor Steele will discuss the different instrumental techniques that have been used to study swallowing physiology, summarizing findings that may be of interest both to speech-language pathologists and to individuals with physiology, engineering or food oral processing backgrounds. Techniques to be highlighted include electromyography, videofluoroscopy, ultrasound, 3-D computed tomography, tongue-palate pressure measurement, nasal cannula airflow monitoring, electromagnetic articulography and pellet tracking methods for measuring tongue movement. The limitations and challenges inherent in each of these techniques will be highlighted. The existing literature arising from these techniques regarding variations that occur in swallowing with manipulations of food and liquid texture and taste will be summarized.

This presentation will point to gaps in our collective knowledge that represent exciting opportunities for collaborative research between scientists from different disciplines. Priorities for this research agenda will be highlighted.

The School of Health Sciences

cordially invites you

to a

PUBLIC LECTURE

on
SWALLOWING: HOW DIFFERENT TYPES OF INSTRUMENTATION CAN HELP US UNDERSTAND FUNCTION AND IMPAIRMENT

Date
22 March 2017

Time
14h00-15h30

Venue
K2 Seminar Room
K-RITH Tower Building
Nelson R Mandela School of Medicine Campus

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