

Preface by the Chief Editor, Dr Kenny Pang

Sleep is a fundamental physiological need that many of us take for granted. We spend 6 to 8 hours per day sleeping, translating to one third day, equivalent to one third of our life we spend sleeping. Sleep is akin to the shadow of the wakeful state, it is inseparable from life, yet an essential need that cannot be grasped and completely understood. One often does not realise the implications of this simple nocturnal event on one's mood, emotion, relationships, marriage, career, success in life, salary and importantly, health.

There have been significant advances in the evaluation, diagnosis and management of sleep disordered breathing over the past several years. The understanding of the pathophysiology of obstructive sleep apnea (OSA) has been clearer and more appreciated. It would be too simplistic to attribute OSA to be a balance between the container (box/facial/jaw skeleton) and the contents (soft tissues/tonsil/tongue/pharyngeal tissue); to treat OSA, one could either remove the soft tissues in the oral cavity or enlarge the container (jaw advancement), in order to widen the airway diameter. Unfortunately, we know that the airway dynamics in the wakeful state differs from that of the asleep state. There is a fine balance between the neuro-physiological feedback mechanisms and the absolute anatomical patency of the airway during sleep. Hence, proper upper airway evaluation is crucial. Drug induced sleep endoscopy provides the sleep surgeon with a clearer understanding and appreciation of the anatomical site/s that are obstructing, in order to better plan the surgical procedures for the patient.

Diagnostic methods for obstructive sleep apnea have also seen a paradigm shift from the cumbersome hospital-based full polysomnogram to the relatively simple portable home-based wrist-worn peripheral arterial tonometry.

The utilization of the Bi-level positive airway pressure device for OSA has slightly improved the perennial issue of non-compliance in auto and manual CPAP uses. This device has been shown

to be overall very effective when the mask is on the face of the patient (in the laboratory setting), but not efficacious in the long term for OSA treatment. Oral appliances have shown to be effective in selected patients with mild to moderate OSA. One must realise that the effectiveness of the mouth appliance for OSA hinges on a patent nasal airway. For an oral device to be effective, the mouth should be closed, hence, the nasal passage should be patent; with an obstructed nasal passage, the jaw will drop, resulting in a translation of the temporo-mandibular joint, and a shift of the tongue with a narrowing of the retro-glossal space.

Surgical algorithms in the management of OSA begin in the nose. Ensuring a patent nasal passage in OSA management is pivotal, but not primary. Simple physics would render that an obstructed nose would require greater negative pressure to inhale air into the lungs, resulting in a higher negative pressure in the hypopharyngeal area and hence, more retro-glossal collapse during sleep. A sleep surgeon is not an uvulectomist. Sleep surgery is not ablative surgery but reconstructive surgery. Reconstructive palatal surgery includes lateral pharyngoplasty, expansion sphincter pharyngoplasty, transpalatal advancement pharyngoplasty, z-pharyngoplasty, etc. Tongue surgery is crucial in the surgical armamentarium of OSA management. Hypopharyngeal obstruction in sleep apneics play a huge part in its pathophysiology.

Management of the OSA patient is not solely surgery; it is the holistic management of the patient's hypertension, obesity, nutrition, cholesterol level, ischemic heart and exercise regime. The sleep apneic has anatomical considerations (thick fat neck, small jaw, large tongue, thick pharyngeal walls, big tonsils), physiological differences (narcotic sensitivities, hypoxic events, hypertensive episodes, lower airway resistance, alveolar hypoventilation, central apnea), and surgical complications (shared airway, airway edema, possible airway bleed, multi-level surgery).

Attempt to attend sleep surgery courses around your region. Take home at least one new surgical technique from each course. Practise and perfect this technique, record your results and share/feedback/critique the method. In this internet age, the world is getting smaller, email your

comments/queries/thoughts to the authors/inventors/experts; alternatively you could email myself.

Read the book, digest and assimilate the facts; enjoy the DVD.

Special thanks to my co-editors, Brian for his great help and reliable prompt work, unending support, encouragement, and friendship; Tucker for his constant intellectual quiz, academic brilliance, candor and encouragement. Thank you guys!

Dr Kenny P. Pang

Ear, Nose and Throat Surgeon

Chief Editor, Advanced Surgical Techniques in Snoring and OSA

drpang@asiasleepcentre.com