The stimulation of the upper airway represents an effective treatment option in case of CPAP failure in patients with moderate to severe obstructive sleep apnea. The stimulation with respiratory sensing (Inspire Medical Systems) has shown a high level of evidence in larger cohorts and longer follow-up studies. Whether the results of the stimulation without respiratory sensing (ImThera Medical) can be compared with the therapy with sensing, remains open up to now. Additional data are awaited after the planned phase III study THN#2. To optimize both procedure and to provide long term results, more studies are needed. The workgroup "sleep medicine" of the German Society of Oto-Rhino-Laryngology, Head and Neck Surgery supports theses activities with the help of the newly founded task force "Neurostimulation in Sleep Apnea".