Voice problem is one of the major issues after thyroid surgery. The predominant feature of this problem is a weakness and decreased vocal range with easy fatiguability. Preoperative evaluation of voice and vocal fold movement is important but sometimes ignored by many surgeons. Vocal fold palsy (VFP) unrelated with thyroid disease is not uncommon. When recurrent laryngeal nerve is resected or injured during thyroidectomy, vocal function is markedly impaired and various surgical techniques can be helpful for restoration of voice. Injection laryngoplasty can be a temporary rehabilitation method for unilateral VFP and laryngeal framework surgery is an option for permanent unilateral VFP together with arytenoid adduction. However, alterations in vocal quality can also be found in the absence of injuries of the laryngeal nerve. Although both vocal folds are mobile, patients can complain dysphonia after thyroidectomy. The injury of external branch of superior laryngeal nerve (EBSLN) is the most important etiology of post-thyroidectomy dysphonia without VFP and this could be diagnosed by LEMG. But the voice change happens without this kind of nerve injuries in many cases. The incidence of this kind of voice impairments after thyroid surgery has been reported as 41% to 84% of patients. More recently, numerous studies have used acoustical and electromyography (EMG) techniques to analyze these patients without producing a consistent finding to explain these symptoms which is named post-thyroidectomy voice disorder (PTVD). The possible causes are arytenoid trauma, local pain, laryngotracheal fixation of strap muscles, slight modifications of the vascular supply, intraoperative injury of the fine anastomotic branches connecting the RLN and the EBSLN. In many of the cases, the voice return to normal in 6 months but in some cases it is permanent and it is very critical for the professional voice users.

Key words: voice, thyroid surgery