Introduction
Thyroideectomy is a frequently performed surgical procedure. The head and neck extension during this operation facilitates surgery. Patients may experience postoperative neck pain and range of motion (ROM) limitation due to the surgical position following thyroideectomy. We aimed to investigate the short-term effects of Kinesio taping (KT), applied to the cervical spine, on neck pain, cervical ROM, and disability in patients following thyroideectomy.

Methods
This was a prospective, double blind randomized controlled trial. A total of 80 patients were randomly assigned to applied either KT (Group 1, n=40) or sham taping (Group 2, n=40) using a computer-generated random number list. Six patients from each group dropped out. The participants, the surgeon and the researcher who evaluated the outcomes were all blinded as to group allocations.

All thyroideectomy procedures were performed by same surgeon (VG). Immediately after the surgical procedure, the 5-cm Y-shaped tape (KinesioTex® Gold; Tokyo, Japan) was placed symmetrically over the posterior cervical extensor muscles with a degree of tightness of 25% and placed from the dorsal region (T1-T2) to the upper-cervical region (C1-C2) in patients in the Group 1. Each “tail” of the bandage is attached to the skin so as to provide the cervical spine with contralateral flexion and rotation. The second strip was 5-cm wide and shaped as a capital 'I'. It was applied perpendicular to the Y-strip, over the midcervical region (C3-C6), with the cervical spine in flexion to apply tension to the posterior structures. In the Group 2 (sham group), only a 5-cm wide I-shaped tape was placed over the midcervical region with the cervical spine in flexion to apply tension to the posterior structures. All tape applications were performed by the same researcher (AG). Neck pain, cervical ROM, and neck disability were evaluated with VAS, inclinometer, and Neck Disability Index (NDI) questionnaire, respectively. While VAS was recorded preoperatively and 24 hr after surgery, patients were only allowed to use paracetamol after surgery and the daily dose was recorded.

Results
The mean ages of the Group 1 and Group 2 were 51.6 ± 14.9 and 49.2 ± 16.3 years, respectively. Table 1 shows a comparison of the baseline demographics and clinical characteristics between the two groups. There was no significant differences with respect to age, gender, educational background, body mass index, ASA score, and surgery duration. The improvement in VAS values was more significant in favor of Group 1 (p=0.032) (Figure 1). There was no significant differences with respect to improvement of ROM values of the cervical spine in flexion, extension, right-left flexion, and right-left rotation between groups during the study. The changes between preoperative and postoperative 7th day of the NDI score was 0.6% in Group 1 and 3.1% in Group 2, but this difference was not statistically significant (p= 0.486) (Table 2). However, the mean requirement for the use of analgesics within the first 7 days after the operation was significantly (p=0.011) less in the Group 1 (3.4 ± 3.5 tablets, mean ± SD) than in the Group 2 (5.1 ± 3.2 tablets, mean ± SD).

Conclusion
Thyroideectomy is a common surgical procedure. In the postoperative period, an effective pain management is essential and also the primary target is to improve the postoperative comfort and satisfaction of the patient, to facilitate recovery and functional ability, and to promote rapid discharge from the hospital. KT has a positive effect on pain, prevention and treatment of joint injury and provides a great pain-free ROM in the musculoskeletal system. To date, no published report has previously described the use of KT for decreasing postoperative neck pain in patients undergoing thyroideectomy. To our knowledge, this prospective study is the first to report the use of KT applied to the cervical spine to decrease postoperative neck pain and analgesic consumption after thyroideectomy.

References