

KSUM 2026

THE 57TH ANNUAL CONGRESS OF
THE KOREAN SOCIETY OF ULTRASOUND IN MEDICINE

MAY 7 (THU) - 8 (FRI), 2026 | COEX, SEOUL, KOREA



Speaker : Jung Hwan Baek

Affiliation : professor, Asan Medical Center, Radiology

Specialty : Thyroid

Lecture Title : Nerve Injury and Recovery in Thyroid RFA: From Mechanism to Practice

PT_No. : SP03-S2

Nerve Injury and Recovery in Thyroid RFA: From Mechanism to Practice

Radiofrequency ablation (RFA) has emerged as an effective and minimally invasive treatment for benign thyroid nodules, recurrent thyroid cancers, and selected cases of primary thyroid cancers. Owing to its advantages—including preservation of thyroid function, minimal scarring, and rapid recovery—thyroid RFA is increasingly adopted as an alternative or complementary treatment to surgery. However, despite its favorable efficacy and safety profile, nerve injury remains one of the most important potential complications. In particular, injury to the recurrent laryngeal nerve, and other cervical nerves may lead to significant clinical symptoms such as voice change, and nerve-related abnormalities.

This lecture aims to provide a comprehensive overview of nerve injury associated with thermal damage during thyroid RFA, ranging from the underlying mechanisms to practical management in clinical settings. The mechanisms of nerve injury during RFA will be discussed, including thermal spread, mechanical irritation, and indirect effects related to perithyroidal inflammation or edema. In addition, histologic changes observed after thermal injury to neural and perineural tissues will be reviewed to better understand the biological basis of nerve damage and recovery.

Clinical manifestations and patterns of nerve injury will also be presented, with emphasis on early recognition and differential diagnosis during and after the procedure. Particular attention will be given to recovery patterns, as many nerve injuries following RFA are transient and reversible when promptly recognized and appropriately managed. Based on accumulated clinical experience and evidence, this lecture will introduce practical strategies for the prevention, early detection, and timely management of nerve injury. Key procedural techniques—including careful patient selection, detailed pre-procedural imaging evaluation related to nerves, hydrodissection, the moving-shot technique, and real-time monitoring of patient symptoms—will be highlighted to optimize procedural safety. Management strategies such as immediate cold water injection, perineural steroid injection, and short-term oral steroid therapy will also be discussed.

Through these discussions, this lecture aims to provide practical insights that can help clinicians minimize the risk of nerve injury, emphasize the importance of early detection, and implement effective management strategies while maintaining the therapeutic efficacy of RFA in the treatment of thyroid diseases.