

Ent 2019: Coblation vs Conventional Thyroidectomy - Sunil J - Kerala ENT Research Foundation(KERF)

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Coblation (Controlled ablation) technology was first discovered by Hira V. Thapliyal and Philip E. Eggers. It is based on non heat driven process of soft tissue dissolution which uses bipolar radio frequency energy that is made to flow through a conductive medium like normal saline. When current from radiofrequency probe passes through saline medium it breaks saline into sodium and chloride ions. These highly energized ions form a plasma field strong enough to break organic molecular bonds within soft tissue causing its dissolution within temperatures as low as 40°C–70°C

Coblation is being commonly used for various Nasal, oropharyngeal and laryngeal surgeries today, but is very rarely being used for head and neck cases. Here we compare intra and post operative results of Total thyroidectomy using Coblation technology, and with Conventional electrocautry method. From february 2017 to february 2018, 200 patients were randomly divided into 2 groups for total thyroidectomy. 100 patients were done using Coblation and 100 patients using conventional electrocautry method. Multinodular goiter, Carcinomas of thyroid-papillary, anaplastic, medullary cases were included in both groups. Intraoperative blood loss, postoperative pain, oedema were compared between both the groups.

All 200 patients underwent successful total thyroidectomy with no complications. Intraoperative blood loss was significantly less in coblation thyroidectomy when compared to conventional method. Lesser ligatures, safer dissection of Recurrent laryngeal nerve

was possible with coblation because of lesser heat produced. Easier dissection of infiltrating tumour like anaplastic carcinoma was done with coblation compared to conventional. Post operative pain was more for conventional thyroidectomy than coblation on postop day 1. Patients with coblation thyroidectomy were more satisfied due to lesser oedema and hence recovered faster.

Significantly less intraoperative or postoperative complications and morbidity were noted using Coblation technology in thyroidectomy and improved patient recovery was seen compared to older electrocautry techniques.

Coblation tonsillectomy is a surgery where the patient's tonsils are evacuated by decimating the encompassing tissues that append them to the pharynx. It was first actualized in 2001. The word coblation is short for 'controlled removal', which implies a controlled methodology used to annihilate delicate tissue

This method utilizes low temperature radio recurrence during the activity, which was found to cause less torment for the patient than past innovations utilized for tonsillectomy. Information gathered from coblation tonsillectomy tasks demonstrated that the recuperating of the tonsillar fossa is a lot quicker when this low temperature innovation is utilized rather than a warmth based innovation, for example, electrocautery tonsillectomy.

Since coblation has been acquainted with the clinical field, in excess of 10 million careful activities have

been performed, however starting at 2019, research is as yet continuous to decide the positive and negative impacts of this system.

The gear utilized for coblation tonsillectomy comprises of a radio recurrence (RF) generator, foot pedal control, water system framework, and a tonsil wand. The generator gives radio recurrence, which is fundamental for the strategy, and associates the foot pedal framework to the tonsil wand. The foot pedals are shading coded to forestall disarray: one is yellow and is utilized for controlling the coblation, while the other is blue and utilized for controlling the radio recurrence burning. The wand is associated with the RF generator so it very well may be controlled with the

pedals. The wand comprises of a base cathode and a functioning anode, which have clay and streaming saline between them. The radio recurrence current that is delivered by the generator goes through the saline, breaking the sub-atomic bonds and framing particles. This makes a plasma field around the anodes, which is utilized for evacuating delicate tissue. There ought not be any smoke created while the coblation wand is being utilized during the activity; if this happens, it is an indication that removed tissue has entered the coblation wand's cathode zone. This implies the current can't separate the saline into particles appropriately, so smoke is created. At the point when this occurs, the coblation wand should be wiped out before utilizing it once more.