

GIVE YOUR PATIENTS A FASTER, LESS PAINFUL RECOVERY WITH COBLATION®



Tonsillectomy with or without adenoidectomy is the second most common childhood surgery in the United States.¹ Despite a range of different techniques, including electrocautery and cold steel dissection, postoperative pain remains the major side effect of the operation. A prolonged period of postoperative recovery lasting up to two weeks is standard and there is always the risk of a postoperative bleed. Coblation® is a low-temperature technique that has been shown to cause less pain and lead to a shorter recovery period than other methods of tonsillectomy.

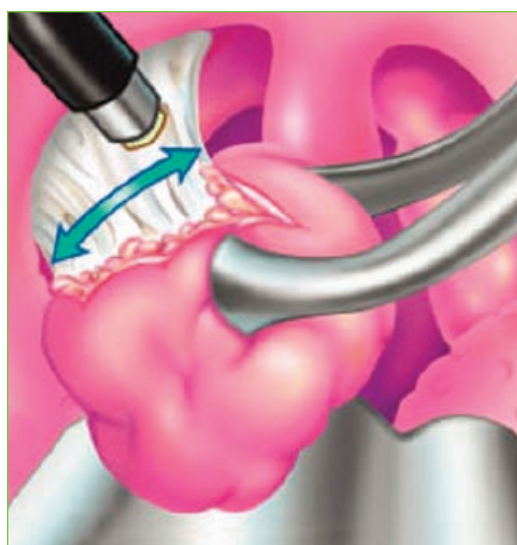
For Children, Postoperative Pain is a Problem

Pain is a universal side effect of tonsillectomy because pharyngeal muscles contain highly sensitive nerves. Removal of tonsil tissue exposes the underlying pharyngeal muscles and nerve fibers, leading to pain. If severe, postoperative pain can lead to poor hydration, or even dehydration, since swallowing is painful. Increased pain often means increased narcotic usage, and a delay in resuming a normal diet and returning to everyday activities.

temperatures of only 40° to 70° Celsius,^{3,4} with minimal collateral thermal tissue damage (Table 1).⁵ According to recent data, today about 38% of all tonsillectomy procedures are performed with Coblation®.⁶

Unlike electrocautery, which burns tissue at temperatures above 400° Celsius, Coblation® applies radiofrequency energy to a conductive medium to vaporize tissue at a temperature of only 40° to 70° Celsius.

Coblation® Uses Lower Temperatures Versus Electrocautery



Today in the United States, the majority of physicians use monopolar electrocautery to remove tonsils.² Electrocautery uses high temperatures (400° to 450° Celsius) that can cause burning and charring of target and surrounding tissue. Coblation® (Figure 1), a low-temperature procedure approved by the US Food and Drug Administration for tonsillectomy in 2001, applies radiofrequency energy to a conductive medium to vaporize tissue at

Postoperative Recovery: Technique Makes the Difference

Evidence from clinical studies shows that compared with other surgical techniques, including electrocautery, Coblation® results in less pain, less postoperative narcotic use, and a quicker recovery.

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Children Experience Less Pain With Coblation®

In one study of 80 children,⁷ Coblation® tonsillectomy reduced severe pain and narcotic intake, and resulted in a more rapid return to normal diet compared with electrocautery (Figure 2). Children who had a Coblation® tonsillectomy were in severe pain for fewer days following surgery (4.33 vs. 6.07), used a narcotic for fewer days after surgery (2.58 vs. 3.33), and resumed a regular diet more quickly (5.36 vs. 6.29) than children who had their tonsils removed with electrocautery.

Table 1. Coblation® Versus Electrocautery

	Coblation®-Based Devices	Conventional Electrocautery Devices
Temperatures	40°C to 70°C	>400°C
Thermal Penetration	Minimal	Deep
Effects on Target Tissue	<ul style="list-style-type: none"> • Gentle removal • Dissolution • Charring • Cutting 	<ul style="list-style-type: none"> • Rapid heating • Burning
Effects on Surrounding Tissue	Minimal dissolution or burning	Inadvertent charring

Figure 2

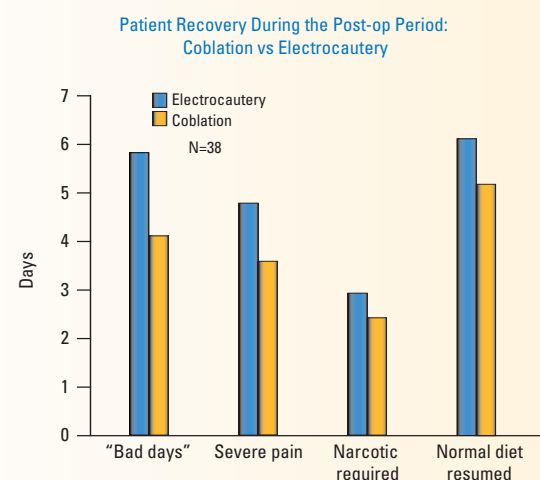


Figure 3

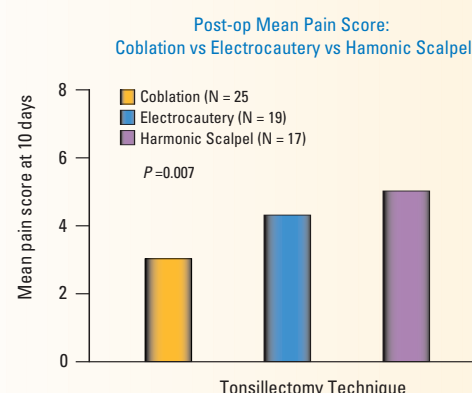


Figure 4

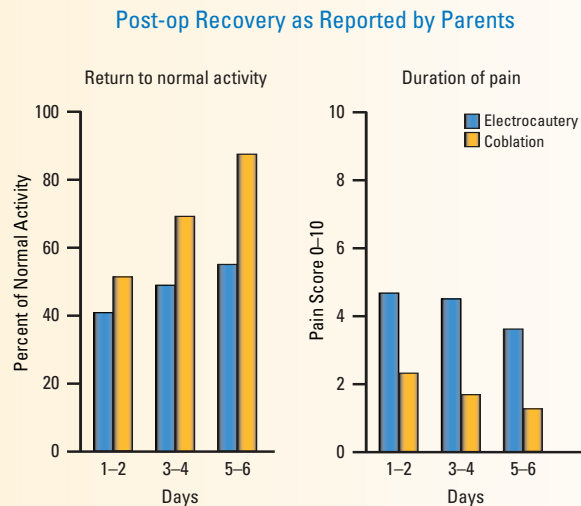


Figure 5

Post-op Complications following Coblation Tonsillectomy and Electrocautery Tonsillectomy (Children > 3 years)

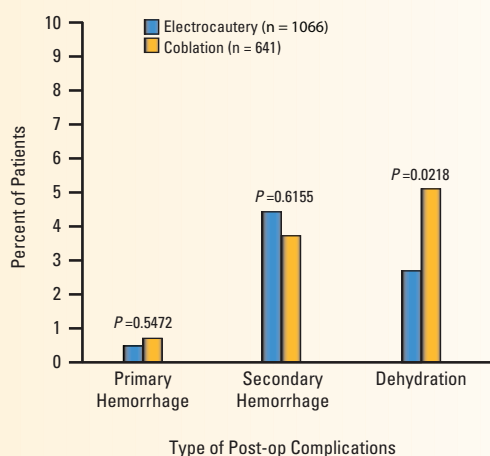


Figure 6

Cumulative Post-op Callbacks to the Physician: Coblation vs Electrocautery

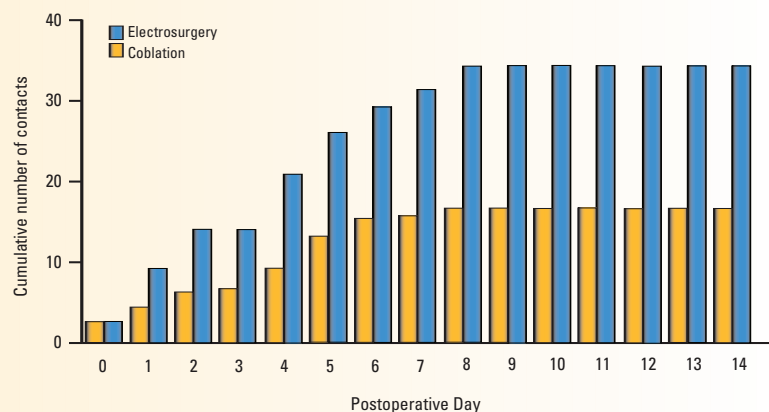
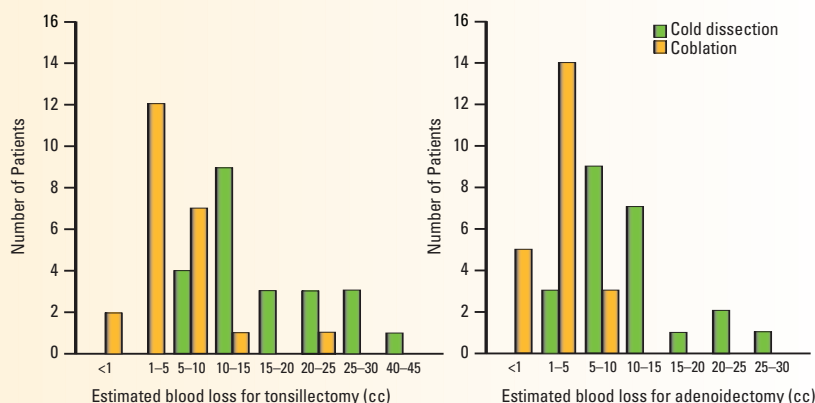


Figure 7

Intraoperative Blood Loss Coblation® versus Cold Dissection®



In another study of 103 children⁸ who were randomly assigned to one of three surgical techniques (Coblation®, electrocautery, or the harmonic scalpel), Coblation® tonsillectomy had the lowest pain scores (Figure 3). Statistically significant differences in pain scores favored Coblation® versus electrocautery ($P = 0.02$) and Coblation® versus the harmonic scalpel ($P = 0.003$), with Coblation® having the lowest pain scores of all three techniques.

Children Recover Faster With Coblation®

In a study of 101 children ages 2 to 16 years,⁹ parents reported reduced pain and a faster return to normal activities for their children who had Coblation® tonsillectomies compared with electrocautery. Coblation® patients had significantly less reported pain ($P < 0.005$) and greater oral intake ($P < 0.005$) at all evaluations. Children who had Coblation® tonsillectomies returned to 70% of their normal activity levels earlier than other patients (Figure 4).

Children Experience Less Dehydration With Coblation®

In a retrospective chart review of 1997 children who had tonsillectomies,¹⁰ when compared with electrocautery, Coblation® had similar rates of primary and secondary hemorrhage but a lower incidence of postoperative dehydration (Figure 5).

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Following Coblation® Parents Make Fewer Postoperative Calls To the Physician

In a clinical study of 89 children between the ages of 3 and 12 years,¹¹ parents of the patients treated with Coblation® made significantly fewer postoperative callbacks to the physician to discuss postoperative complications (33% vs. 54%, $P = 0.081$) (Figure 6). In addition, fewer Coblation® patients experienced associated postoperative nausea (35% vs 62%, $P = 0.013$) and Coblation® patients used fewer postoperative narcotics. More Coblation® patients rated the postoperative experience as ‘better than expected’ (79% v 60%, $P = 0.055$).

Coblation® Reduces Surgical Time and Blood Loss

Coblation® offers intraoperative benefits, as well. In a comparison of cold dissection adenotonsillectomy and Coblation® adenotonsillectomy in 46 children ages 2 to 16 years, 12 Coblation® resulted in significantly shorter surgical times (11.2 minutes vs. 17.0 minutes; $P < 0.001$). Intraoperative blood loss with Coblation® was significantly less for both the adenoidectomy ($P < 0.001$) and tonsillectomy ($P < 0.001$) portions of the procedure (Figure 7).

Coblation® is a safe and effective tonsillectomy technique that has been shown to improve postsurgical outcomes for children. To learn more about the procedure, please visit www.entnet.org or www.tonsilfacts.org.

Visit

http://www.arthrocareent.com/wt/page/info_pediatricians to learn more about Coblation® and to obtain a directory of otolaryngologists with Coblation® expertise.

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