

**Comparison of Nonlaser Endoscopic Endonasal Revision Surgery and Diode Laser Transcanalicular Revision Surgery for Failed Dacryocystorhinostomy.**

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**Abstract**

**BACKGROUND:**

Numerous surgical techniques for failed dacryocystorhinostomy (DCR) have been described. The aim of this study was to compare nonlaser endoscopic endonasal DCR revision surgery and diode laser transcanalicular DCR revision surgery. This study described the success rate, merits, and demerits of each surgery, and compared them.

**PATIENTS AND METHODS:**

As retrospective comparative study, 76 patients, who underwent revision DCR between January 2005 and September 2010, were included. The patients were divided into 2 groups. Group 1 consisted of 34 patients (average 59.2 yr), who were treated with nonlaser endoscopic endonasal revision DCR. Group 2 consisted of 42 patients (average 58.7 yr), who were treated with diode laser transcanalicular revision DCR. The visual analog scale (VAS) was used for clinical pain assessment. The mean follow-up period was 12.8 months for group 1 and 12.2 months for group 2.

**RESULTS:**

Success of revision DCR was defined as resolution of epiphora and patency of nasolacrimal drainage system, confirmed by irrigation and endoscopic examination. Moreover, 88.2% of patients (30 of 34 cases) were successful in group 1 and 90.5% (38 of 42 cases) in group 2. This difference was not statistically significant ( $P = 0.519$ ). The operating time in group 2 (25.4 min) was significantly shorter than that of group 1 (43.8 min) ( $P < 0.001$ ). The average VAS score of group 1 was  $3.9 \pm 1.4$ , compared with  $1.9 \pm 1.2$  of group 2 ( $P < 0.001$ ).

**CONCLUSIONS:**

There is no significant difference in success rates of the 2 groups. However, diode laser transcanalicular revision DCR is recommended, as operating time was shorter and showed lower VAS score.

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# **Transcanalicular-endonasal semiconductor diode laser-assisted revision surgery for failed external dacryocystorhinostomy.**

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## **Abstract**

### **PURPOSE:**

To report the results of transcanalicular-endonasal revision dacryocystorhinostomy (DCR) with a semiconductor diode laser in cases of failed external DCR.

### **DESIGN:**

Prospective, nonrandomized, interventional case series.

### **METHODS:**

Fifteen cases in 13 patients with failed external DCR underwent transcanalicular-endonasal DCR with a semiconductor diode laser. A functional successful outcome was defined as a patent nasolacrimal drainage system in nasolacrimal irrigation and a resolution of the symptomatic epiphora and/or mucoid discharge.

### **RESULTS:**

The patients were followed for a mean postoperative period of 27.3 months (range, nine to 54 months). The mean duration of the surgery was 19.6 minutes. After the initial revision transcanalicular-endonasal DCR surgery, patency to irrigation was obtained in 12 cases (80%), and 15 cases (100%) after a second revision treatment. Three cases required repeated revision surgery, and three other cases were considered to be functional failures in spite of a patent lacrimal system after the final revision surgery. The overall functional success rate was 80% (12 cases) at the final examination (mean, 27.3 months after surgery), and there were no intraoperative and postoperative complications. The presence of a canalicular obstruction or granulation tissue was not significantly related to the success rates of the revision surgery. The length of time between the primary and revision surgery, gender, age, the duration of the first revision surgery, and the timing of stent removal were also not significantly related to the failed cases.

### **CONCLUSION:**

Transcanalicular-endonasal DCR is a minimally invasive procedure and is recommended for patients as an alternative procedure for failed external DCR.

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