

# LARYNGEAL TRANSPLANTATION

*Essay Submitted for the Partial Fulfillment of the Master  
Degree in Otorhinolaryngology, Head and Neck Surgery*

By

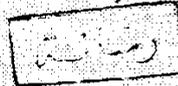
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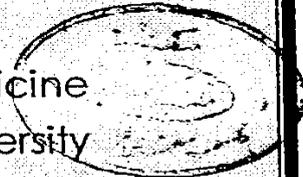
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا،  
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

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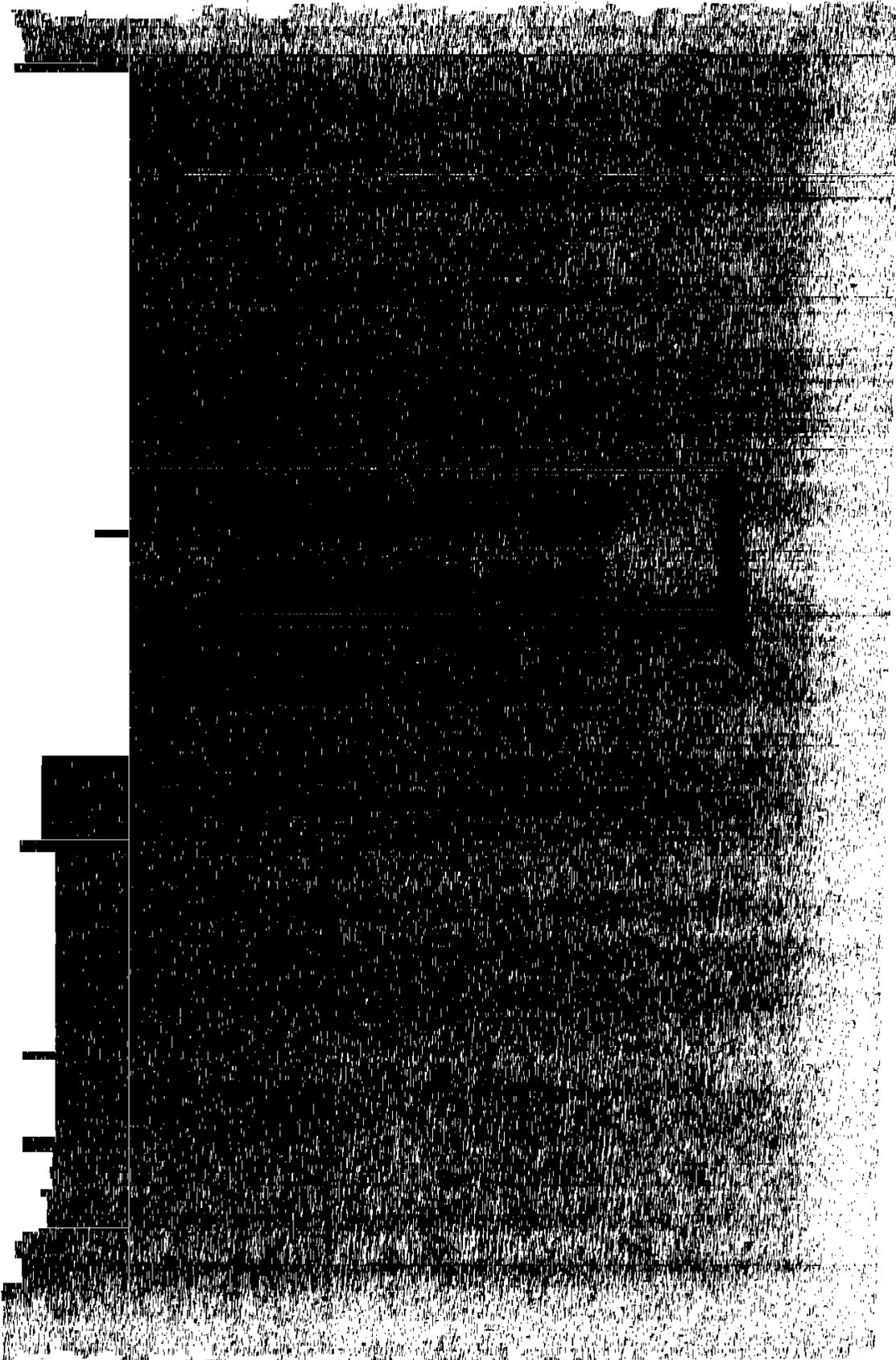
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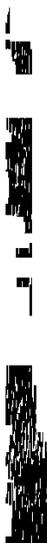


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## INTRODUCTION

Total excision of the larynx is an effective and commonly performed operation for carcinoma of this region. Although the procedure is oncologically and physiologically sound, the rehabilitative, cosmetic and psychological problems are formidable. The ability to replace the larynx following total laryngectomy would afford an inestimable benefit to large numbers of people who must undergo this procedure.

Three different approaches may be considered for laryngeal replacement:

- The first would be the development of an implantable mechanical device which would assume the functions of the larynx.
- The second is the utilization of local tissues for the plastic reconstruction of a larynx like structure (*Lapidot et al., 1965*).
- The third approach is laryngeal transplantation which offers the best potential solution to this problem.

There are four major areas of concern that must be explored before human laryngeal transplantation can be considered feasible in clinical practice, these are: Operative technique of revascularization, reinnervation, preservation of the organ and prevention of host rejection (*Tucker et al., 1974*).

Prior to human laryngeal transplantation, an ideal immunosuppression protocol should provide for suppression of graft rejection and at the same time be of acceptable risk to the patient. The benefits of laryngeal transplantation must outweigh the risk of rejection and the danger of immune suppression in a non-life threatening situation (*Berke et al., 1993*).