

Clinical Insights

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Types of Voice Prostheses and When to Use Them

There are two basic Blom-Singer® voice prostheses; duckbill and low pressure. The duckbill type is available in 16 Fr. diameter only while the low pressure voice prosthesis is supplied in both 16 Fr. and 20 Fr. diameters as well as 20 Fr. “Indwelling”. Each has particular features that may be more appropriate for some patients than others.

The duckbill voice prosthesis is a first generation device that is economical and durable. It is slightly higher in resistance to airflow through it than the low pressure style. This actually makes it the device of choice for a patient who experiences a problem with “inhaling” air through a low

pressure prosthesis during quiet inhalation resulting in excessive stomach gas.

The low pressure style voice prosthesis is the most frequently used Blom-Singer® prosthesis. It is easily and atraumatically inserted using the “Gel Cap” insertion system. The 16 Fr. diameter is routinely used unless an even greater reduction in effort to produce voice is required and can be demonstrated with the larger 20 Fr. diameter. A simple test for this is to have the user produce voice through an “open puncture” which simulates the effect of a large opening because there is no prosthesis occupying space. If voice is significantly easier to produce, the larger

20 Fr. diameter low pressure prosthesis is indicated.

The most recent Blom-Singer® voice prosthesis is the “Indwelling” type. This device has enhanced retention collar dimensions, i.e., larger and thicker which secure it without the need for a neck strap and tape. The indwelling voice prosthesis is ideal for patients who are unable or unwilling to routinely remove, clean, and reinsert a regular style voice prosthesis. The patient cleans it in situ without removal. Indwelling voice prostheses are only inserted and replaced by a qualified speech pathologist or otolaryngologist, usually on a twice a year schedule.

Initiation of Rehabilitation With A Tracheoesophageal Voice Prosthesis

The timing of initiating rehabilitation with a voice prosthesis is determined by whether the tracheoesophageal puncture (TEP) is “primary” or “secondary”. A primary TEP is one which is placed during the laryngectomy surgery and initially provides the site for a tracheoesophageal feeding tube (rather than through the nose). This tube is removed from the puncture when the patient is sufficiently healed to begin an oral diet. This is generally 6–10 days postoperatively unless deferred by a fistula. The voice prosthesis replaces the feeding tube in the tracheoesophageal puncture. Actual use of the prosthesis to produce voice should be deferred an additional week to avoid potential fistula formation in the neopharynx by phonatory airflow.

A secondary TEP is placed any time from two months to twenty years or longer following total laryngectomy. The customary postoperative interval to voice prosthesis insertion is three days. Initiation of voice is immediate.

Controlling A Sudden Indwelling Voice Prosthesis Leak

Tracheoesophageal speakers who use the Blom-Singer® “Indwelling” type voice prosthesis depend on their speech pathologist or otolaryngologist to remove and replace the prosthesis when it fails. Leakage of liquid through the valve is a primary symptom of failure. Most users have their prosthesis replaced twice each year. Indwelling voice prosthesis users are able to control an unexpected leak through their prostheses with a recently introduced accessory called a “valved insert.” (Fig.

1). This device, attached to a safety neck strap, is a one-way valve that inserts into the open end of the prosthesis (Fig. 2) and can be used with Indwelling sizes 1.8–3.3. It provides a “temporary valve” that can be inserted by the user to eliminate the leak while permitting continued speech until their clinician can replace the voice prosthesis. A 1.4 Indwelling size requires the use of a non-valved “Plug-Insert” (Fig.1) due to the shortness of this prosthesis.

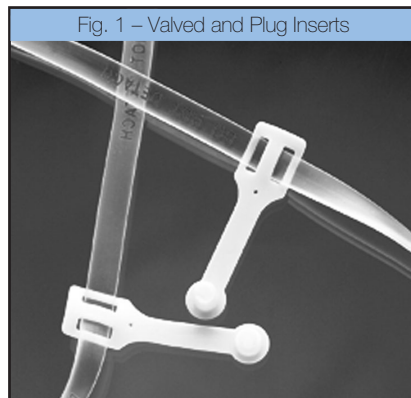


Fig. 1 – Valved and Plug Inserts

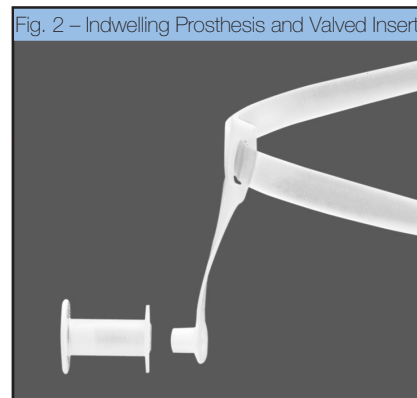


Fig. 2 – Indwelling Prosthesis and Valved Insert