

Clinical Performance of **STATIS** High-Speed Handpieces Over 18 Months

Introduction: When searching for a high-speed handpiece, dentists have several options: air driven, hybrid, and electric. Choosing a handpiece system requires consideration of various qualities: torque, ergonomics (including weight and balance), fiber optics, reliability and complexity of installation. For example, hybrid and electric handpieces often require additional installation processes.

Although hybrid and electric handpieces offer improved torque, air-driven handpieces continue to offer quality performance with a price-point that is lower than other systems. Within this category, *SciCan* has offered its **STATIS** line, advertising **STATIS** as having optimum torque output with increased ergonomics due to the light-weight design and superior manufacturing, resulting in longevity of turbines and bearings.

Description:

STATIS is a line of air-driven handpieces available in two head sizes. These high-speed handpieces have a 25,000 LUX illumination, an innovative spray system, and a push-button chuck mechanism. The short head sizes enhance access in the oral cavity. These handpieces include a technologically advanced cage material, which houses the ceramic bearings, lowering friction and extending bearing longevity. **STATIS** utilizes the MULTIflex-style Connex quick connect system (available as halogen or LED illumination) to provide greater compatibility by fitting most modern treatment units. **STATIS** handpieces are designed to have easier handling and quieter operation with increased lateral cutting torque. The **STATIS ML** has four jets for optimum cooling of the bur and tooth, and the smaller **STATIS SL** comes with a slotted nozzle to cool the entire treatment region with a fan-shaped spray. **STATIS** handpieces are backed by *SciCan's* 48-hour quick repair service and a two-year warranty.

To date,
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handpieces
have
malfunctioned
or failed.

Clinical Performance:

Twelve **STATIS** handpieces, 10 **STATIS ML** and 2 **STATIS SL**, were evaluated clinically in a nine operator general dental practice by three clinicians.



Figure 1: **STATIS ML** standard handpiece



Figure 2: **STATIS SL** small-head handpiece

The **STATIS ML** standard handpiece has a head size of 12.9 mm (Figure 1). It performed very well in everyday usage, from cavity preparations to crown and bridge preparations. The handpiece is light in weight and reduces fatigue, even during extended (1 hr +) usage. The weight of the handpiece counter-balanced the attached airline very well. Often, lighter handpieces tend to feel heavier at the attachment point. This was not the case with **STATIS**.

The four-port water spray provided excellent cooling and debris removal. Illumination was adequate from the 25,000 LUX fiber optic light source. However, as cordless, loupe-mounted LED lights become more ubiquitous, fiber-optic handpiece lighting becomes increasingly less important.

The **STATIS SL** small-head handpiece (Figure 2) is intended for pediatric patients or adults with limited vertical opening, especially in the posterior region. The head size is 12.8 mm. As with other handpiece systems, smaller head handpieces naturally offer a bit less torque, but in return provide excellent access in limited environments.



Figure 3: Head size of *STATIS SL* compared to *STATIS ML*

Unlike the four-port water spray of the *STATIS ML*, the *STATIS SL* handpiece has a single, slot-shaped port. Although this slot-shaped port provided adequate water spray, it was not as efficient as the *STATIS ML* (Figure 3).

Reliability



Figure 4: Clinical use of *STATIS ML* handpiece

According to *SciCan*, reliability of their handpieces is superior due to technology that lowers wear and increases bearing longevity. Due to this technology, *SciCan* offers a two-year warranty. Each individual handpiece box contains a UPS shipping bag and label for easy return of the handpiece. This bag and label can be used for warranty or post-warranty shipment. *SciCan* promises a 48-hour turn around on all handpiece repairs.

As of April 15, 2012, the *STATIS* handpieces, 12 in total, have been in service for 18 months. The handpieces have been used approximately 4 times a day, 5 days a week, 48 weeks a year, for 18 months. It is estimated that each handpiece has seen over 1400 uses (Figure 4). As per the manufacturer's recommendations, the handpieces were maintained with an automatic handpiece maintenance unit (*SciCan*, *STATMATIC* maintenance unit or similar). These maintenance units clean and lubricate each handpiece with a metered amount of lubricant. ***To date, none of the handpieces have malfunctioned or failed.*** Tracking of usage and performance will be continued in the coming months.

Conclusion

STATIS handpieces are an excellent choice for clinicians providing light-weight, balanced ergonomics, adequate torque and reliable clinical performance during numerous procedures over 18 months.