DURABILITY AND COST-MINIMIZATION OF REPROCESSED SURGICAL DRILLS

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OBJECTIVES

Lifespan testing of surgical drills and cost-minimization analysis for the Brazilian market.

METHODS

This study **investigated** the **performance and economic viability** of four types of **surgical drills subjected to wear tests on ex vivo tissue**, simulating surgical conditions. The drills were analyzed **after seven uses by scanning electron microscopy (SEM). Then**, a **cost-minimization analysis** was performed **(disposable vs reprocessable** drills) **assuming** the s**ame clinical efficacy between both.** The **costs** were **extracted** from **Brasíndice table[1].**

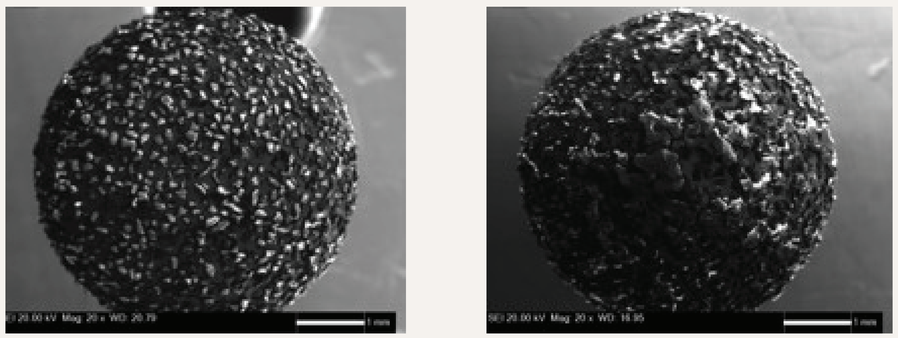
RESULTS

The **results indicate** that the **tools maintained** their **original characteristics, suggesting high durability.** When **comparing** the **costs** of **disposable and reusable** drills, we observed a **significant savings of up to 92%** (R$ 4021 vs R$ 300), which represents a considerable potential to optimize healthcare spending.

Table 1: Costs of Drills (in BRL)

Type of Drill	Unitary Cost	Total Costs (7 units)	Cost per procedure
Single-Use	4,021	28,147	4,021
Reusable	2,106	2,106	300

Figure 1: Micrographs obtained by SEM using secondary electron signal showing the top view of the diamond drills at 50x magnification: (a) new (b) after 7 uses



CONCLUSION

The **findings of this study suggest** that the use of **reprocessed drills**, when **carried out under well-structured cleaning and sterilization protocols**, represents **cost savings** without compromising the quality and safety of **surgical procedures. Stakeholder Perspective: Payer perspective.**

REFERENCES

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