

# Long-term performance of refurbished amalgam restorations: 10-year follow-up

Moncada G.

Fernandez E.

Mena K.

Vildosola P.

Estay J.

de Oliveira O.B.

Martin J.

Mjör I.A.

Gordan V.V.

**Purpose:** This prospective, blinded clinical trial assessed the performance of amalgam restorations that were refurbished, replaced, or not treated. **Materials and Methods:** Twenty-three patients were included, ages 18-80 years, with 63 amalgam restorations that had one or more defects in their clinical features, such as defective anatomic form, roughness and/or luster according to United State Public Health Service (USPHS) criteria. Restorations were randomly assigned to either refurbishment (A: n = 21), replacement (B: n = 21) or untreated (C: n = 21) groups. Two calibrated examiners evaluated the restorations at baseline (Kappa = 0.74) and after 10 years (Kappa = 0.84), according to eight parameters: anatomy, roughness, luster, secondary caries, marginal adaptation, occlusal contact, marginal staining and tooth sensitivity. Wilcoxon tests were performed for within-group comparisons, and Friedman tests were used for multiple within-group comparisons. The Mantel-Cox test was used to compare survival curves. **Results:** After 10 years, 49 restorations (77.8%) were assessed (group A: n = 19; group B: n = 13; group C: n = 17). Over a decade, the three groups showed similar clinical performances for all studied parameters: anatomy (p = 0.410), roughness (p = 0.930), luster (p = 0.984), secondary caries (p = 1.0), marginal adaptation (p = 0.433), occlusal contact (p = 0.33), marginal staining (p = 0.470), and tooth sensitivity (p = 0.784). **Conclusions:** Amalgam restorations that have defective anatomic form, roughness and/or luster

performed similarly for all studied parameters, whether they were refurbished, replaced or left untreated after 10 years in patients with low and intermediate caries risk. Most of the restorations were classified as clinically acceptable after ten years. Restorations in all three groups tended to deteriorate over time. © 2017 Quintessenz.

Amalgam restorations

Clinical trial

Oral health care

Refurbished restorations

Restoration replacement

dental amalgam

adolescent

adult

aged

controlled study

dental restoration

follow up

human

materials testing

middle aged

prospective study

randomized controlled trial

single blind procedure

time factor

very elderly

young adult

Adolescent

Adult

Aged

Aged, 80 and over

Dental Amalgam

Dental Restoration Repair

Dental Restoration, Permanent

Follow-Up Studies

Humans

Materials Testing

Middle Aged

Prospective Studies

Single-Blind Method

Time Factors

Young Adult