Clinical Significance

The dentist must maintain a patient focus throughout the process of designing a denture plan that will fit the needs of the individual. Communication with the patient should clarify the concerns and expectations he or she faces. The correct design is then conveyed to the technician who will formulate the actual appliance. The work between dentist and dental nurse should be focused on ensuring that the correct RPD is placed and the process is experienced with as little disturbance to the patient as is possible.

The nurse will be the one to talk with the patient, often re-explaining what the dentist is doing and serving as a patient advocate if needed. The reinforcement of the explanations and expectations given the patient initially can be reassuring to the patient and clinician alike.

The nurse should check to ensure the laboratory prescription is completed correctly and carries the correct return date. Should an error be found, the nurse will inform the dentist. The nurse should also be alert to detect any impressions that have pulled away from the impression tray and notify the clinician appropriately.

Bhola S, Hellyer PH, Radford DR: The importance of communication in the construction of partial dentures. *Br Dent J* 224:853-856, 2018

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RESTORATIVE DENTISTRY

Survival of composite restorations

BACKGROUND

A database made available to the dental research community by the United Kingdom Data Service reveals some interesting facts about the survival of restorations to re-intervention or extraction. A look at the survival of composite restorations was taken, focusing on adults age 18 years or older and on several parameters.

METHODS

The data were used to investigate the survival of direct-placement composite restorations and the time to extraction of teeth restored with direct-placement composite restorations, as well as factors that influence these outcomes. The data covered 3,504,225 composite restorations placed in 3 million patients during 25 million courses of treatment.

RESULTS

In 1,333,987 restorations, re-intervention was performed, and in 247,962 cases the restored tooth was extracted. The survival rate was about 34% at 15 years, 43% at 10 years, and 59% at 5 years (Figure 1). When time to extraction was considered, about 83% of the restored teeth survived for 15 years. These data were further stratified by tooth factors, dentist factors, and patient factors.

Tooth Factors

Class IV restorations survived less well to re-intervention than class III and class V restorations by about 10 percentage points. When time to extraction was considered, the teeth restored with a restoration having an incisal corner or incisal edge had marginally better survival data. In addition, lower arch teeth had a survival about 7 percentage points better than upper arch teeth. Restorations in central incisor teeth had slightly better survival data than restorations in lateral incisor teeth.

Dentist Factors

Although the dentist's gender had no effect on survival of composite restorations to re-intervention, younger dentists' restorations performed better than those placed by older dentists, with a difference of about 5% at 15 years. When survival to extraction is considered, the inverse correlation between age and survival was accentuated.

Patient Factors

Early on, men and women had similar survival data. However, at 15 years men had worse outcomes than women whether longevity was measured as time to re-intervention or time to extraction.

Restorations in younger patients performed better than those in older patients in respect to both time to re-intervention and time to extraction. The difference in years to extraction between the oldest and youngest age groups was about 30 percentage points in terms of cumulative survival at 15 years. The oldest age groups should expect to lose over 30% of their restored teeth, but the youngest age group will have less than 10% lost.

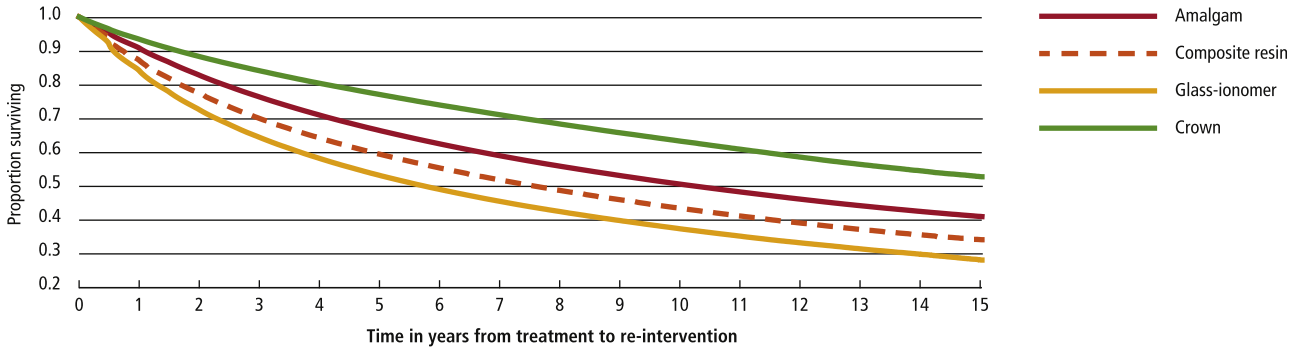

Figure 1. Survival of composite restorations, overall, with respect to time to re-intervention, compared with other restorations. (Courtesy of Burke FJT, Lucarotti PSK: The ultimate guide to restoration longevity in England and Wales. Part 4: Resin composite restorations: Time to next intervention and to extraction of the restored tooth. *Br Dent J* 224:945-956, 2018.)

When patients who paid for treatment were compared to those who did not, those who did not pay had a shorter time to re-intervention and a shorter time to extraction than those who did pay. Patients who had higher average annual treatment need were compared to those with a low annual average treatment need with respect to time to re-intervention. The difference in survival between the 2 groups was more than 30 percentage points. When time to extraction was considered, the difference in cumulative survival at 15 years was 19 percentage points.

DISCUSSION

The results in this study are only considered from the general dental practice environment. About 34% of the composite restorations placed in incisor teeth survived 15 years. The major factors influencing survival included patient age, dentist age, and patient treatment need. The type of composite restoration did not have much effect on how long it lasted.

Clinical Significance

Many factors can contribute to the survival or loss of a composite resin restoration. In this study, after 5 years, just over half of the treated teeth remained, and this rate fell to about 34% after 15 years. Younger dentists are likely working with newer materials and the combination may help to explain why their restorations outlasted those of their older peers. The patient's need for dental treatment also played a role.

Burke FJT, Lucarotti PSK: The ultimate guide to restoration longevity in England and Wales. Part 4: Resin composite restorations: Time to next intervention and to extraction of the restored tooth. *Br Dent J* 224:945-956, 2018

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VISUAL ACUITY

Use of magnifying devices by dental hygienists

BACKGROUND

Magnification devices can be invaluable in medical and dental fields when it's imperative to have a good view of the operative field. Loupes and microscopes have offered dentists and dental hygienists the opportunity to obtain good near visual acuity that they believe impacts treatment outcomes. Visual deficiencies can be compensated for using magnification aids, including the change in acuity accompanying aging. Studies of the near visual performance of dental hygienists are lacking. The visual performance of dental hygienists and students of dental hygiene was assessed in clinical environments and the correlation between self-assessed and objectively measured near visual acuity was analyzed.

METHODS

One hundred ninety-one dental hygienists and dental hygiene students completed a questionnaire and self-assessed their near visual acuity using a visual analogue scale. In addition, they