The importance of cementation: A veneers case using a new universal cement

By Kerr

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sthetic options in den-

tistry are the prevailing
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choice of most patients
today. Veneers and bleaching in particular have become buzz-

words in popular culture, and TV sitcoms, film and magazine

advertisements have turned these cosmetic techniques into house-

hold names. As a result, dental teams must accommodate the
demands of their patients, be-

coming highly versed in placing metal-free restorations.

Practitioners can find a multi-
tude of educational articles and courses teaching the science and technology of porcelain, zir-

conia and composite. But while emphasis is frequently placed on the final prosthesis or direct

restoration, often overlooked are the increasingly important auxiliary materials that contrib-

ute equally to the clinical suc-

cess of these new materials and restorations: impression and provisional materials, bonding

agents and cements. Education is imperative because centrala-
tion and bonding are two areas of esthetic dentistry that have evolved through generations of products and techniques.1

These processes are essential in making esthetic restorations both functional and comfortable.

That's why veneering can be an optimal, conservative alternative to crowning teeth, since preser-

vation of tooth structure is im-
portant to dentists and patients alike. The highly esthetic results are due to the fact that commin-
ics have a translucent finished surface texture similar to that of natural enamel. If practitioners, assis-
tants and lab technicians spend vast amounts of time and effort per-
fecing veneered teeth to avoid-

ing fracture through painstaking preparation, material and shade selection, fit and fabrica-

tion. Yet even after such arduous processes, clinical failure and patient dissatisfaction readily oc-

cur with errors in cementa-

tion.

Cementing veneers is a delicate process with a historical litany of potential problems – color instability, insertion difficulty, handling and cleanup issues, unsatisfactory radiopacity, low translucency after curing, mismatch between try-in gels and final cements, and debonding, to name a few. Cement selection in certain applications necessitates knowledge of the chemistry and physical properties of the partic-

ular cement type, and insertion requires an exacting technique for successful clinical results.5

This article outlines a veneers case using NX3 Nexus® Third Generation—a new, universal cement from Kerr. The subject is a long-standing patient-of-re-
cord with a current radiological and medical chart. This focus is on the steps and techniques im-
plemenated at final cementation of the prostheses.

Clinical Case

A female patient in her mid-
fifties presented a chief com-
plaint of being unhappy with her smile. An examination of her hard tissues revealed immediate concerns of multiple fractures, hypocalcification, shortened an-
terior teeth due to wear and an asymmetrical smile line (Fig-

ures 1 and 2).

After proposing a first phase treatment plan to restore all of her compromised upper ante-
rior teeth, the patient consented to restoring only teeth numbers 6-11. The patient ultimately qualified for and accepted ve-

neers as the mode of indirect restorative treatment.

Prior to preparation, the tissue around tooth No. 8 was recont-
ourned. Then, the teeth were prepared for pressed ceramic veneers and provisionalized in the standard manner. Oc-

clusal analysis and adjustments were performed over a period of weeks and the veneers were tried-in. After the requisite steps were completed preceding in-

sertion and the veneers were finalized, the provisional were removed and the teeth were
cleaned (Figure 5). Expasyl® was used for gingi-

val retraction and hemostasis in order to gain cervical access and control bleeding in that area (Figure 4).

The teeth were then etched for 15 seconds with Kerr Gel Elchant, which is composed of 57.5% phosphoric acid (Figure 5), and then rinsed and slightly alkali-plate (Note). While a total-

etch technique was used, NX3 works with both total-etch and self-etch protocols, adding to the distinctiveness of the product.2

Per manufacturer directions, Optibond Solo® Plus (Kerr) was brushed onto the tooth sur-

faces for 15 seconds (Figure 6), air-thinned for 5 seconds, and cured for 10 seconds using the L.E. Demetron II curing light (kerry) (Figures 7 and 8).

After etching and bonding, the veneers were cemented using NX3 light-cure cement in the clear shade (Figure 9). The cement was dispensed directly onto the internal surface of the veneer and was expected to ooze from all margins when the veneers were placed onto the prepared teeth. With the choice of either the single-syringe light-cure veneer cement or the dual-syringe dual-cure resin, the light-cure method was used because the veneers were not inordinately thick. NX3 allows veneers to be cemented all at once (as opposed to cementing centrals first, laterals second, and so on) because of its unique “biocompatible” properties, which enable them to stay where they are placed prior to light-curing. This feature makes adjustments and proper placement easier while decreasing the need to ad-
nex materials—organic compounds containing nitrogen as their key atoms—which were largely blamed for the colour shifts so prevalent with earlier cement formulations. In an earlier use of the product the cement proved to be “fluotropic,” the consis-
tency of non-drip paint, the resto-

rations were seated and adjusted before curing with no dripping or running. Currently, the ease-of-use and cleanup, color match and optimum retention are some of the attributes necessary when choosing a cement—NX3 met all of these expectations.

References

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ence of bonding: from first to

About the Author

Dr. Mitch Couditt, a 1985 gradu-

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