

# Restoration of Fluorosis Stained Teeth: A Case Study



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## KEYWORDS

• Fluorosis • Golden proportion • Teeth-whitening • Porcelain veneer restorations

## KEY POINTS

- Dental fluorosis manifests itself by too much ingestion of fluoride resulting in disturbances in enamel mineralization.
- The result is an intrinsic discoloration in the maxillary and mandibular teeth with a poor esthetic appearance.
- In challenging cases, an esthetic result may be achieved only by a combination of techniques.

The patient was a 35-year-old African American man originally from Senegal, Africa who presented to New York University College of Dentistry with the chief complaint of discoloration of his anterior teeth and the desire to have white natural-looking and straight teeth (**Figs. 1** and **2**). His chief complaint: “I need cosmetic work.”

## MEDICAL HISTORY

There was no significant medical history.

## DENTAL HISTORY

A full mouth series of radiographs were taken that displayed no carious lesions. Diagnostic casts were made and the American Academy of Cosmetic Dentistry series of photographs were taken. Teeth #14, #19, and #30 were missing. A dental implant was proposed for future placement in the #30 position. The space was too narrow in the other positions. A class I malocclusion with bimaxillary protrusion was present.

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The authors have nothing to disclose.

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**Fig. 1.** Full-face view of severe anterior fluorosis case.

This condition is characterized by protrusive and proclined upper and lower incisors and an increased procumbency of the lips.<sup>1</sup>

A New York University College of Dentistry Smile Evaluation Form was completed. A clinical examination was performed and the basic restorative work subsequently completed. Periodontal examination revealed the need for scaling and root planing to achieve desired gingival health. The periodontal status showed local and generalized recession. Periodontal probing and charting revealed sulcus depth was within normal limits but mild gingivitis was present.

#### **TREATMENT PLAN AND SEQUENCING**

The patient's esthetic problem was caused by fluorosis. Treatment options included bleaching; microabrasion; direct or indirect composite resin; porcelain veneers; and all ceramic crowns, such as e.max (Ivoclar Vivadent, Amherst, NY) with some opacity to mask the discoloration but still allow an esthetic restoration by combining an opaque core with an esthetic veneer of feldspathic porcelain. The conservative treatment of bleaching in conjunction with feldspathic veneers was selected.

#### **PROGNOSIS**

The depth of the staining could not be ascertained. Teeth bleaching was used to reduce the discoloration of the teeth before preparation and therefore the necessity for more opaque veneers. This would allow a more natural appearance of the final veneered teeth and allowing for an excellent prognosis.



**Fig. 2.** Retracted view of severe anterior fluorosis case.

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