

# Adhesive aesthetic restorations: a case report

Simone Grandini<sup>1</sup>, Giulio Pavolucci<sup>2</sup>, Giovanni Franciosi<sup>3</sup>

## Introduction

Resin composite materials have evolved and achieved superior physical and chemical characteristics and better biocompatibility. The silent revolution of dentin bonding agents has allowed practitioners to minimize their preparations: it is now possible to obtain an “invisible” restoration in terms of colour, shape and surface texture. This is due to the “anatomic stratification” procedure, which consists of the use of a specific resin composite for the dentin layer, and another one for the enamel layer.

Many different resin composites are available on the market, and a good aesthetic result can be obtained with each and every one of them. Obviously there are differences between them as some have a better polish, others are easier to apply and some feature a better “chameleon effect” - but no perfect material exists. The best material is the one that works best for the practitioner who is using it. It is imperative to know the different characteristics and the layering of the material in use.

Before starting to restore a frontal tooth it is important to analyze all the different aspects of the patient’s mouth carefully: the mesial and distal teeth, the shape of the teeth and their relation to the patient’s face and, last but not least, the characteristics of the tooth to be restored. This

involves examining the shape, colour, translucency and opalescence as well as surface texture.

Modern materials and the simplified stratification technique allows the practitioner to create invisible restoration on a daily bases, with maximum results and minimum preparation.

## Case Report

A 33-year-old male patient wanted to improve the aesthetics of his central upper incisors. On examination the loss of tooth structure at the incisal third was seen (Figure. 1). The patient affirmed that these teeth had had that structure since their existence. We believe this is due to a trauma to his milky teeth that consequently damaged his permanent teeth.



Figure 1

<sup>1</sup> Department of Endodontics and Restorative Dentistry, Dean of the School for Dental Hygienists, Tuscan School of Dental Medicine, University of Siena, Italy

<sup>2</sup> Department of Dental Sciences, University of Siena, Italy

<sup>3</sup> Department of Dental Sciences, University of Siena, Italy



Figure 2



Figure 3



Fig 4



Figure 5

From the photographs it is apparent that the element 2.1 was the most damaged, having a reduction of thickness in the buccal-palatal direction with a greater translucency (Figures 2 and 3).

After placing the rubber dam (Figure 4) the cavity preparation was performed using fine grain bur under a water cooling jet (Figure 5).

The adhesive system was then applied after which the layering procedure was performed. The first layer of medium translucency was applied on the palatal area (Figure 6), then two opaque layers of decreasing chromatic colouring were applied in order to de-saturate the colour (Figure 7).

The buccal enamel was created using a translucence

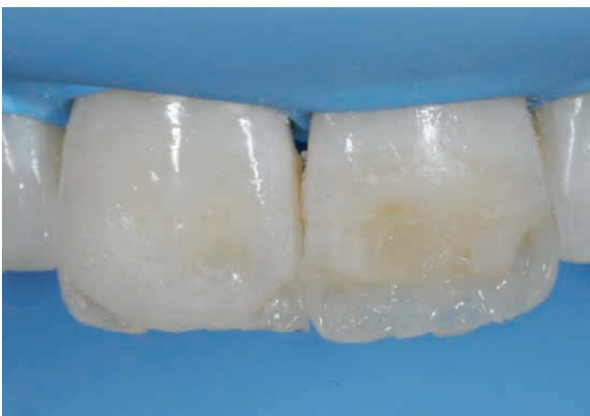


Figure 6

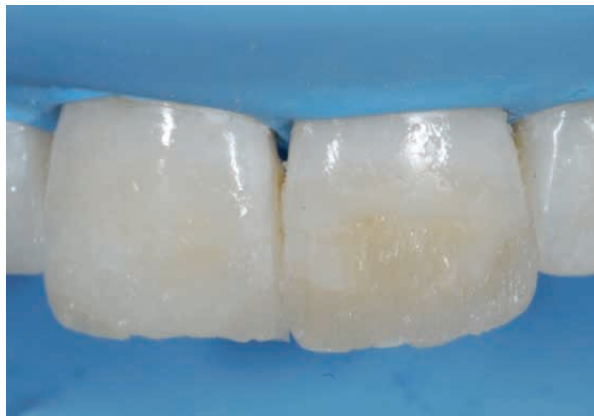


Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13

layer (Figure 8).

The restoration was then refined and polished using diamond burs of decreasing grain size, abrasive discs and silicone rubber burs (Figure 9).

Much importance was given to the polishing, as this is a

very important stage of the process which is often neglected.

Figure 10 shows the immediate result, and Figures 11,, 12 and 13 show the restoration after 1 month.