

Tooth Whitening: What We Now Know

[Clifton M. Carey](#), BA, MS, PhD, Professor

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4058574/>

Introduction

The public has been influenced by the portrayal of perfect white smiles in the media. The color quality of television, movies, electronic and print media has raised **self-awareness** of discolored teeth. In the late 1980's several companies introduced both home-based products and professionally applied tooth whitening products into the U.S. marketplace. These have gained popularity with the public who has come **to demand** whiter, more perfect smiles. There are several different methods for whitening teeth, each with their own mechanism of action. The efficacy of these different methods is dependent upon the particular tooth discoloration that is being treated. Causes of tooth discoloration can be categorized into two main groups: intrinsic and extrinsic **staining**. Intrinsic staining, sometimes called internal staining, can be attributed to factors such as genetics, age (from enamel **wear over** time exposing yellower dentin), antibiotics, high levels of fluoride, and developmental disorders and can start before the tooth has erupted. Extrinsic staining, sometimes called external staining, is largely due to environmental factors including smoking, pigments in **beverages** and foods, antibiotics, and metals such as iron or copper. Colored compounds from these sources are adsorbed into acquired dental pellicle or directly onto the surface of the tooth causing a stain to appear.

Completa el mapa conceptual con estos datos del texto.

Extrinsic causes beverages food genetics age
Tooth discoloration Intrinsic causes smoking fluoride

