

It is an orthodontic technique which uses a series of computer-generated custom plastic aligners to guide the teeth gradually into proper alignment

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Abstract

The concept on which treatment with clear aligners is based has been around since the 1940s. In 1945, H. D. Kesling suggested that a series of tooth positioners be used to produce the types of movements that are needed for orthodontic treatment.

Scanning and Digitalization: The unique combination of computerized virtual treatment planning and the first of its kind use of stereo lithographic rapid prototyping technology for mass custom manufacturing gave Invisalign a commanding leadership role in aligner therapy.

All three-dimensional printers build the object (for orthodontics a model of the teeth) in layers. The height of the model and the thickness of each layer determine how long it takes to print. Objects may be printed out of a variety of substances, depending on the printer and the intended use of the object.

In stereo lithography, liquid resin is held in a build tray and cured layer by layer with an ultraviolet laser light that “draws” a cross-section or outline of each layer in a bottom-up sequence until the model is submerged in the resin bath by the thickness of the build layer for each pass of the laser. Align Technology uses stereo lithography (SLA) models to manufacture Invisalign

“No matter what the type of orthodontic appliance, it must meet certain basic design criteria: it

- (1) Should not interfere with function;
- (2) Should cause No harm to the oral tissues or interfere with the maintenance of Good oral hygiene;
- (3) Should be as light and inconspicuous as Possible, yet sufficiently strong to withstand masticatory forces and a reasonable amount of abuse;
- (4) Must be firmly retained in position;
- (5) Must be capable of exerting an appropriately Controlled force in the correct direction and delivering this force for as long as possible between adjustment visits; and
- (6) Should allow control of anchorage so that tooth movements other than those intended are minimized.”
Simple versus Difficult Movements.

Biography

Prashant Sharma has completed his M.D.S at the age of 28 years from Bharati Vidyapeeth University, Pune and B.D.S from Manav Rachna Dental College. He is a Senior Lecturer at Manav Rachna Dental College. He is associated with Fortis Hospital in Delhi as an associate Orthodontist and owns his private clinic by the name of Smile White Dental in Gurugram.