Smile Design Wheel™: A practical approach to smile design

Dr. Sushil Iwarata

Modern trends in cosmetic dentistry and media coverage of smile makeovers have increased public awareness of dental aesthetics. People now know that smile aesthetics plays a key role in their sense of well-being, social acceptance, success at work and in relationships, and self-confidence. The aesthetic expectations and demands of dental patients have increased substantially. Now, a glowing, healthy and vibrant smile is no longer available only to millionaires and movie stars. Therefore, many dentists are incorporating various smile design protocols in their daily practices to meet the increasing aesthetic demands of their patients.

Smile aesthetics

A smile is a facial expression that is closely related to the emotions and psychological state of a person. A smile is exhibited when a person expresses happiness, pleasure or amusement. ¹ It is the most important of facial expressions and is essential in expressing friendliness, agreeability and appreciation. ² A smile requires the coordination of facial, gingival and dental components that are stimulated voluntarily or involuntarily by various emotions. It is evident that each smile is different and particular to each individual.³ An impaired smile on the other hand, has been associated with high incidences of depression.⁴

Smile design

Smile design has been defined in various ways in the literature; I would like to summarise it as follows: “Smile design is a systematic process governed by the psychology, health, function and rules of natural aesthetics to bring about some changes in soft- and hard-oral tissue within anatomical, physiological and psychological limitations, thereby creating a positive influence on the aesthetics of a person’s face and personality as a whole.”⁵

We all appreciate a beautiful smile when we see it, but it is difficult to explain exactly what makes a smile beautiful. It is evident that a pleasing smile depends on the following features: the quality of the dental and gingival components, their conformity to the rules of structural beauty, the relationship between teeth and lips, and their harmonious integration with the facial components.⁶ Overall facial beauty and smile aesthetics are normally judged by psychological aspects—perception, personality, desire—the state of health, the mathematical ratio of the facial, dento-facial and dento-gingival components. The psychological aspects are highly subjective and fluctuate constantly because of identity, peer and media pressure. Hence, the only objective method of aesthetic analysis is mathematical.

Indeed, mathematics has been considered the only frame of reference for comprehending nature.⁷ Therefore, the cosmetic dentist needs to be familiar with various mathematical and geometric concepts for achieving smile aesthetics and their clinical protocols.

The Smile Design Wheel

For any smile design procedure, the clinician needs to consider the elements of the smile design pyramid—psychology, health, function and aesthetics (PHFA), listed here according to order of importance.⁸ It is necessary to determine the patient’s psychological status, establish a healthy oral environment, restore function and then give attention to enhancing the aesthetic aspect. All four pyramids should be accorded equal importance to achieve a desirable clinical result.

By integrating these PHFA pyramids, I developed the Smile Design Wheel (Fig. 1), in which each pyramid is subdivided into three related zones. The Smile Design Wheel was devised as a simple guide to the most important components of smile design, their clinical significance and sequence to be maintained during the smile design procedure. I believe that the Smile Design Wheel will help clinicians to easily comprehend the ‘complete’ smile design procedures of aesthetic dentistry. In the next section, I briefly explain the Smile Design Wheel protocols with PHFA pyramid assessment and their basic objectives.

Step I: Understand—The pyramid of psychology

According to Prof. Robert A. Baron, psychology is best defined as the science of behaviour and cognitive processes. Behaviour deals with any action or reaction of a living organism that can be observed or measured. Cognitive processes deal with every aspect of our mental life: our thoughts, memories, mental images, reasoning, decision-making and so on, in short, with all aspects of the human mind.

In smile design, we normally try to understand the second part of psychology, i.e. the human mind or rather the minds of our patients. There are three fundamental mental zones we consider in detail for the psychological pyramid assessment: perception, personality and desirability.

Perception

Perception is the process through which a person can select, organise and interpret input from their sensory receptors. A person cannot imagine beauty and aesthetics without some input in advance. The media is the most common source of information at present regarding beauty and aesthetics. A patient usually conceives his or her own perception of smile aesthetics based on his or her own personal beliefs, cultural influences, aesthetic trends within society and information from the media.

Dentists need to communicate with their patients to determine such information during the initial consultation, which helps in understanding the patient’s perception of the treatment result. The

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Fig. 1

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Desire

Desire is a subjective component. Increased public awareness of smile aesthetics through the media has led to a rapid increase in patients’ desires and levels of expectation. Patients are now willing to pay for the enhancement of their smile aesthetics. Therefore, the ethical responsibilities of cosmetic dentists in identifying the need or want-based desires of patients have also increased. The desires and levels of expectation in every patient with a smile are higher than what is clinically achievable, and it is the clinician’s duty to explain and guide patients towards a realistic aesthetic goal.

The psychological assessments of any person is very subjective; however, aspects like perception, personality, expectations or desire are important for the smile design procedure. Patient satisfaction is closely related to these aspects. Hence, understanding the pyramid of psychology is an integral aspect in smile design.

Step III: Restore—The pyramid of function

Function is related to force and movement. Hence, for the pyramid of function assessment, the existing occlusion, contours and phonetics are properly evaluated with the evaluation of para-functional habits, level of comfort during chewing and deglutition, and temporomandibular joint movement. The clarity of normal speech and pronunciation are also examined. The terms comfort and phonetics components of the functional pyramid should be restored and maintained at an acceptable level before starting the treatment of any aesthetic component.

Micro-aesthetics

Micro-aesthetics deals with the overall structure of the face and its relation to the smile. To achieve the macro-aesthetic components of any smile, the micro-aesthetic distance should be more than five feet. However, in clinical practice, the assessment of the macro-aesthetic components is done using various facial photos taken at different angles. The visual micro-aesthetic components are then analyzed during the smile design process.

The Smile Design Wheel presented in this article clearly indicates the most important components (PHFA pyramids) of smile design, their clinical significance and sequence to be maintained during the smile design procedure. I believe that the Smile Design Wheel is a simple and practical protocol in smile design that can help the clinician to easily comprehend the ‘complex’ smile design process.

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