The eight components of a balanced smile

There are eight components when it comes to the smile:

1. The lip line is the amount of tooth exposure during a smile or the height of the upper lip relative to the maxillary central incisors.
2. The smile arc is a hypothesi-cal curved line drawn along the edges of the four maxillary incisors that has to coincide or run parallel with the curvature of the inner border of the lower lip. Ideally, the clinical crowns of the maxillary incisors are displayed between the upper and lower lips.
3. The upper lip curvature is the curve direction from the central position to the corner of the mouth upon smiling. It is a muscle-driven position and can be upward, straight or downward.
4. The lateral negative space is the area between the buccal outline of the maxillary posterior teeth and the corners of the mouth in wide smiling.
5. Smile symmetry refers to the relative symmetric placement of the corners of the mouth in the vertical plane. It is the coincidence of commissural and pupillary lines for example.
6. The occlusal line is the line running from the tip of one canine to the other. From a distance, the occlusal line is parallel to the commissural line.
7. The dental components of the smile relate to the size, shape, texture and colour of teeth, as well as their alignment, axial inclination, dental midline symmetry and arch form.
8. The gingival components relate to the colour, contour, texture and height of the gingiva.

The variability of tooth or gingival exposure upon smiling depends on lip length (philtrum vs. commissural height), the magnitude of lip elevation (7–8 mm, hyper/hypomobile smile), the vertical maxillary, clinical crown (10 mm) and vertical dental height, as well as crown inclination (incisor). The optimal vertical reference position for the maxillary incisal edge in treatment planning is with relaxed lips. A gingival smile should never be treated to ideal at the expense of under-exposing the incisors in rest position. A mild gingival display upon smiling is within the female norm and can be considered a sign of youth. There is a gradual reduction in the amount of maxillary central incisor exposure with age. Thus, a gummy smile will grow less obvious with time. A short lip is not always associated with a high lip line or gingival smile. There is also a reduction in arch length with time that leads to lower incisor crowding. With age, patients become more concerned with the aesthetics of their lower incisors.

Regenerative endodontics: Exploring new horizons

In the recent past, when biology and biotechnology began to re-place chemistry, health scientists started looking for biological solu-tions to biological problems. The tremendous advances in the field of cellular and molecular bi-ology indicate a paradigm shift from simple mechanical care to biologically based modalities for medical and dental health profes-sionals. The introduction of new technologies and an information explosion in tissue engineering have brightened the hopes of the clinicians.

Although the current tech-niques offer success rates that are relatively high for many condi-tions, an ideal form of therapy may consist of regenerative proce-dures in which diseased or necrotic tissue is removed and re-placed with healthy tissue to revi-talise organs. In the first part of this century, there has been an in-crease in understanding and ex-perimentation with stem cells as a primary tool in the expanding re-genenerative medicine revolution.

Regenerative endodontics is one of the significant develop-ments among these biological approaches that will possibly in-volve a combination of disinfectant and debridement of infected root-canal systems to regenerate apical tissue. Although the chal-lenges of introducing these meth-ods in the endodontic field are sub-stantial, the potential benefits to patients and the profession are equally ground-breaking.

Regenerative endodontics can be defined as biologically based procedures designed to create or deliver tissue to replace diseased, missing or traumatised tissue of the pulp–dentine complex. Two concepts currently exist in regen-erative endodontics: the first is the active pursuit of pulp–dentine re-generation to implant or regrow pulp, and the other is the forma-tion of new living tissue from the stem cells present in the root, al-lowing root development. The ob-jects of both these methods are to in-duce pulp dentine complex like tissue for the physiologic closure of root apex.

This presentation at AEEDC Dubai will provide an overview of potential regenerative endodontic treatment modalities for clinical application.

Prof. Shobha Tandon is Dean, Head of the Department of Pe-dodontics and Preventive Dentistry at the Babu Banarasi Das College of Dental Sciences, BBD University in Lucknow, India. She will be present-ing a paper on regenerative en-dodontics on Tuesday afternoon in Hall D.