ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 10, Issue, 05, pp.68989-68991, May, 2018

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

SMILE DESIGNING

***Dr. Raazia Khan, Dr. Praveen Singh Samant, Dr. Ayush Razdan Singh and Dr. Raju Chauhan**

Dept. of Conservative Dentistry and Endodontics, Saraswati Dental College, Lucknow, India

ARTICLE INFO

Article History:
Received 13th February, 2018
Received in revised form
26th March, 2018
Accepted 04th April, 2018
Published online 23rd May, 2018

Key words:
Embrasure, Buccal Corridor, Golden Proportion.

ABSTRACT

Beauty lies in the eyes of the beholder- Margaret Hungerford. A smile has been said to be one of the most important interactive communication skill of person. The ultimate objective of aesthetics in dentistry is to create a beautiful smile, with teeth of pleasing inherent proportion to one another and a pleasing tooth arrangement in harmony with the gingiva, lips and face of the patient. Patients now demand not only a healthy mouth but also a perfect smile. The smile, which represents the most primitive form and the essence of human communicative ability, appears early in life in young children. Smiles and later facial expressions express transient feelings and emotions. Esthetic Dentistry demands attention to the patient's desires and treatment of patients desires and treatment of patient's individual problems. Goldstein states "Esthetic dentistry is the art of dentistry in its purest form". The purpose is not to sacrifice the function but to use it as a foundation of esthetics. Through technological advances, it is now possible to enhance and strengthen the health and function of a patient's appearance and smile conservatively. The true understanding of all aspects of comprehensive esthetic/cosmetic dentistry and the integration of the philosophical triad of "health, function and beauty" will assist the dentist in providing optimal dental care.

Citation: Dr. Raazia khan, Dr. Praveen Singh Samant, Dr. Ayush Razdan Singh and Dr. Raju Chauhan, 2018. "Smile designing", *International Journal of Current Research*, 10, (05), 68989-68991.

INTRODUCTION

A thing of beauty is a joy for ever

This is a common saying but, beauty is that which gives the highest degree of pleasure to the mind and suggests that object of delight approximates to one's conception of an ideal. (Webster, 1988). Ever since primitive people first smeared their faces and bodies with pigments from earth and admired the result, the quest for beauty has been expressed by every human culture. Facial beauty has always been an attraction to human eye. Individuals are often judged by others on the basis of facial attractiveness. A positive feedback from society plays an important role in development of an individual's self-concept and self-confidence. An attractive or pleasing smile clearly enhances the acceptance of an individual in our society by improving the initial impression in interpersonal relationship. A defective smile might be considered properly as a physical handicap. The smile is one of the most important facial expressions and is essential in expressing the friendliness, agreement and appreciation. The character of the smile influences to the great extent the attractiveness and the personality of the individual (Goldstein, 1998). Goldstein states "Esthetic dentistry is the art of dentistry in its purest form".

****Corresponding author:*** **Dr. Raazia khan,**
Dept. of Conservative Dentistry and Endodontics, Saraswati Dental College, Lucknow, India.

The purpose is not to sacrifice the function but to use it as a foundation of esthetics. Through technological advances, it is now possible to enhance and strengthen the health and function of a patient's appearance and smile conservatively. The true understanding of all aspects of comprehensive esthetic/cosme tic dentistry and the integration of the philosophical triad of "health, function and beauty" will assist the dentist in providing optimal dental care.

The two main objectives in dental esthetics are

- To create teeth of pleasing inherent proportion and of pleasing proportion to one another, and
- To create a pleasing tooth arrangement in harmony with the gingiva, lips and face of patient.

The restoration of smile is one of the most appreciated and gratifying service a dentist can render. The positive psychological effect of improving a patient's smile contribute to an improved self-image and enhanced self-esteem. These improvements make conservative esthetic dentistry particularly gratifying for the dentist and represent a new dimension of dental treatment for patients. Before planning treatment, a comprehensive dental examination must be carried out including Dental radiographs, diagnostic cast, photographic records, thorough clinical examination (smile analysis, patient interview, temporomandibular joints, occlusion, existing

restoration if any, periodontal tissues, and other soft tissues of the oral cavity) (Nicholas and Davis, 2007).

Components of Smile

Dental composition: size, shape, position of teeth and their relationship to alveolar bone and gingival tissue.(Nicholas and Davis, 2007). Dentofacial component – lips and smile (Nicholas and Davis, 2007).

Facialcomponent: Interpupillary line and lips (Bhuvaneswaran, 2010). Smile designing is a multidisciplinary approach which include different specialty of dentistry- orthodontics, orthognathic surgery, periodontal therapy, including soft tissue repositioning, and bone recontouring, cosmetic dentistry, and plastic surgery.

Classification of smile (solomon e.g.r.) (solomon, 1999)

Depending on the exposure of teeth, gingiva and mucosa during smile

Tooth smile (Low Smile): Exposure of labial surface of the maxillary anterior teeth only.

Gingival smile / Papilla smile (Average Smile): Exposure of labial surface of the teeth and interdental papilla/gingiva.

Mucosa smile (High Smile): Exposure of labial surface of the teeth, interdental papilla, free marginal gingiva and the labial and buccal mucosa.

Depending on the lip component/ Shape of vermillion border of upper lip from the commissures of lips during smile: When smile line is convex or concave it is also referred as smile curve.

Convex smile: Line accentuates the quality of smile and therefore it is a positive smile line. A convex smile line and parallelism of smile line to lower lip are two desirable qualities of smile which gives pleasantness to smile

Concave smile: Gives an unpleasant, harsh, distracted character of smile and therefore a negative smile line.

Straight smile: Line can have a positive or negative effect depending on its harmony to the lip curvature and to the presence or absence of buccal corridor.

Components of smile (Sabri, 2005)

There are eight components of smile

LIP Line: The lip line is the amount of vertical tooth exposure in smiling—in other words, the height of the upper lip relative to the maxillary central incisors. As a general guideline, the lip line is optimal when the upper lip reaches the gingival margin, displaying the total cervico-incisal length of the maxillary central incisors, along with the interproximal gingivae (Hulsey, 1970; Mackley, 1993). The amount of tooth exposure during a smile depends on a variety of factors, such as the degree of contraction of the muscles of expression, soft tissue level, skeletal particularities, and the design of restorative elements, tooth shape, or tooth wear. Dentistry has arbitrarily classified three types of smiles that, relating the height of the upper lip relative to the maxillary anterior central incisors, are referred to as presenting a low lip line, middle lip line, or high lip line (Ernest and Janzen, 1977). Average maxillary incisor display of 1.91mm in men and nearly twice that amount, 3.40mm, in women (Goldstein, 1998).

Smile ARC: The smile arc is the relationship between a hypothetical curve drawn along the edges of the maxillary anterior teeth and the inner contour of the lower lip in the posed smile. The curvature of the incisal edges appears to be more pronounced for women than for men, and tends to flatten with age. The curvature of the lower lip is usually more pronounced in younger smiles. (Sarver, 2001; Frush and Fisher, 1958; Matthews, 1978; Miller, 1989; Mabrito, 1996; Tjan *et al*., 1984; Dong *et al*., 1999).

Upper Lip Curvature: The upper lip curvature is assessed from the central position to the corner of the mouth in smiling. It is upward when the corner of the mouth is higher than the central position, straight when the corner of the mouth and the central position are at the same level, and downward when the corner of the mouth is lower than the central position (Hulsey, 1970; Dong *et al*., 1999; Philips, 1996; Philips, 1999). Upward and straight lip curvatures are considered more esthetic than downward lip curvatures.

Lateral Negative Space: The transverse dimension of the smile is also referred to as "transverse dental projection". Lateral negative space is the buccal corridor between the posterior teeth and the corner of the mouth in smiling (Sarver, 2001; Frush and Fisher, 1958).

Smile Symmetry: Smile symmetry, the relative positioning of the corners of the mouth in the vertical plane, can be assessed by the parallelism of the commissural and pupillary lines. (Hulsey, 1970) Although the commissures move up and laterally in smiling. (Rubin, 1974; Paletz *et al*., 1994; Benson and Laskin, 2001).

Frontal Occlusal Plane: The frontal occlusal plane is represented by a line running from the tip of the right canine to the tip of the left canine (Solomon, 1999).

Dental Components: The first six components of the smile considered the relationship between the teeth and lips and the way the lips and soft tissue frame the smile. A pleasant smile also depends on the quality and beauty of the dental elements it contains and their harmonious integration. Dental components of the smile include the size, shape, color, alignment, and crown angulation (tip) of the teeth; the midline; and arch symmetry (Moskowitz and 1995). The dental midline is an important focal point in an esthetic smile (Lombardi, 1973). A practical and reliable method of locating the facial midline, which normally coincides with the dental midline, is to use two anatomical landmarks: nasion and the base of the philtrum, known as the "cupid's bow", in the center of the upper lip. A line drawn between these two landmarks not only locates the facial midline, but also determines its direction (Morley and Eubank, 2001).

Gingival Components: The gingival components of the smile are the color (pale pink in Caucasian population, pale pink with melanin pigmentation in Indian population), consistency, contour, texture, and height of the gingivae. Inflammation, blunted papillae, open gingival embrasures, and uneven gingival margins detract from the esthetic quality of the smile (Morley and Eubank, 2001).

Gingival Zenith: Most apical point of the gingival tissues along the long axis of the tooth. Golden proportion – First mentioned by Lombardi and later by Levin. It is an ideal mathematical proportion of 1:1.618. Apparent widths of maxillary six anterior teeth from a frontal view.

Buccal Corridor: It is an area between the corner of the mouth and buccal surfaces of the maxillary teeth (particularly bicuspids and molars) forms a space during smile.

Incisal Embrasure: An open space formed between proximal surfaces of incisal edges of anterior teeth from the contact points.

Conclusion

The aim of this article was to briefly describe smile and its components. There is no doubt that the philosophical debate and the research will continue, because our clinical practice should always be based on a sound knowledge of theory. Smile, a person's ability to express a range of emotions with structure and movement of the teeth and lips can often determine how well a person can function in society. A beautiful smile seems to reflect a certain style of living, and the enhancement of facial beauty is one of the primary goals of patients seeking elective dental care. The lower third of the face has a major impact on the perception of the facial esthetics, and the role of a beautiful smile is therefore, undeniable. Hence, a smile design should be esthetically appealing and functionally sound too. It is duty of aesthetic dentist to carefully diagnose, analyse and deliver the best to patients, taking into account all of the factors by analysis and evaluation of the face, lips, gingival tissue and an appreciation of how they appear collectively. Smile designing should be as conservative as possible by least reduction of tooth structure and greater esthetics and durability. A comprehensive approach to diagnosis and treatment planning can help achieve the smile that best enhances the overall facial appearance of the patient along with the additional benefit of enhanced oral health.

REFERENCES

Benson, K.J. and Laskin, D.M. 2001. Upper lip asymmetry in adults during smiling*, J. Oral Maxillofac. Surg*., 59:396-398.

Bhuvaneswaran, M. 2010. Principles of smile design. *Journal of Conservative Dentistry*, 13:225–232.

Dong, J.K., Jin, T.H., Cho, H.W. and Oh, S.C. 1999. The esthetics of the smile: A review of some recent studies, *Int. J. Prosthod.,* 12:9-19,

Ernest, K. and Janzen, 1977. A balanced smile- A most important treatment objective. *Am. J. Orthod.,* 72 (4):359-372.

Frush, J.P. and Fisher, R.D. 1958. The dynesthetic interpretation of the dentogenic concept, *J. Prosth. Dent*., 8:558-581.

Goldstein, RE. 1998. Esthetics in Dentistry.VOL 1. 2nd ed. B.C.Decker. Publishers.

Hulsey, C.M. 1970. An esthetic evaluation of lip-teeth relationships present in the smile, *Am. J. Orthod*., 57:132-144,

Lombardi, R.E. 1973. The principles of visual perception and their clinical application to denture esthetics, J. Prosth. Dent. 29:358-382.

Mabrito, C. 1996. Elements of a beautiful smile, N.M. *Dent. J.,* 47:20-21.

Mackley, R.J. 1993. An evaluation of smiles before and after orthodontic treatment, *Angle Orthod.,* 63:183-190.

Matthews, T.G. 1978. The anatomy of a smile, *J. Prosth. Dent.,* 39:128-134,

Miller, C.J. 1989. The smile line as a guide to anterior esthetics, *Dent. Clin. N. Am*., 33:157-164.

Morley, J. and Eubank, J. 2001. Macro esthetic elements of smile design. *J Am Dent Assoc.,* 132:39-45.

Moskowitz, M.E. and Nayyar, A. 1995. Determinants of dental esthetics: A rationale for smile analysis and treatment, Compend. Cont. Ed. Dent. 16:1164-1166.

Nicholas, C. and Davis, 2007. – Smile design, *Dent Clin N Am.,* 51, 299-318.

Paletz, J.L., Manktelow, R.T. and Chaban, R. 1994. The shape of a normal smile: Implications for facial paralysis reconstruction*, Plast. Reconstr. Surg*., 93:784-789.

Philips, E. 1996. The anatomy of a smile, *Oral Health,* 86:7-13.

Philips, E. 1999. The classification of smile patterns, *J. Can. Dent. Assoc*., 65:252-254.

Rubin, L.R. 1974. The anatomy of a smile: Its importance in the treatment of facial paralysis, *Plast. Reconstr. Surg*., 53:384-387.

Sabri, R. 2005. The Eight components of a balanced smile. *J Clin orthod*., 39(3):155-66.

Sarver, D.M. 2001. The importance of incisor positioning in the esthetic smile:The smile arc, *Am. J. Orthod*., 120:98-111.

Solomon, EGR. 1999. Esthetic consideration of smile; *J Indian Prosthet Society*, 10(3);41-7.

Tjan, A.H.L., Miller, G.D. and The, J.G. 1984. Some esthetic factors in a smile, *J. Prosth. Dent*., 51:24-28,

****