This is a step-by-step guide to success in periodontics and implant dentistry, helping clinicians to create a natural and esthetically pleasing smile for their patients. Starting with a general discussion of facial esthetics and analyzing the dento-gingival constituents of the smile, the book goes on to consider the impact of these on people’s quality of life, both in terms of health and social engagement. Subsequent chapters focus on specific esthetic treatments such as crown lengthening procedures, gingival recession coverage with connective tissue grafts or periodontal regenerative material, and soft tissue management for natural teeth and implants.

Highly illustrated with an abundance of supporting photographs, Esthetic Soft Tissue Management of Teeth and Implants is an essential companion for periodontists and other dental specialists, as well as advanced general dentists with an interest in esthetic periodontics and implant dentistry.

Key Features
- Provides practical coverage of an important and challenging skill in periodontics and implant dentistry
- Emphasizes the esthetic preservation of the natural dentition as well as implants
- Includes a comprehensive review of literature on these topics
- Contains many high quality full color clinical photographs
- Written by an internationally renowned expert in the field

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Related Titles
Facial Aesthetics: Concepts and Clinical Diagnosis
Patrick B. Naini
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Integrated Clinical Orthodontics
Edited by Vincenzo Kolb and Zvika Davidovitch
Esthetic Soft Tissue Management of Teeth and Implants
Esthetic Soft Tissue Management of Teeth and Implants

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The Value of a Smile

A smile costs nothing, but gives much.

It enriches those who receive, without making poorer those who give.

It takes but a moment, but the memory of it sometimes lasts forever.

None is so rich or mighty that he can get along without it, and none is so poor, but that he can be made rich by it.

A smile creates happiness in the home, fosters good will in business, and is the countersign of friendship.

It brings rest to the weary, cheer to the discouraged, sunshine to the sad, and it is nature’s best antidote for trouble.

Yet it cannot be bought, begged, borrowed, or stolen, for it is something that is of no value to anyone, until it is given away.

Some people are too tired to give you a smile;

Give them one of yours, as none needs a smile so much as he who has no more to give.

Frederick William Faber
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Foreword

This volume addresses an area that should be of concern to the dental profession: the patient’s smile. Dr. André Saadoun has attempted to demonstrate the importance of an esthetic smile to the patient and how this may be influenced by the soft tissue management of teeth and dental implants.

The author has analyzed the constituents of the smile and has addressed the various options that can result in the improvement of an individual’s self-image by producing changes in those tissues. This carefully prepared text contains a thorough review of the literature of the past five decades and has applied those contributions to therapy in treating natural teeth as well as dental implants. It is gratifying to see that an emphasis is placed on the preservation of the natural dentition in health and function, and when the clinician has to replace hopeless teeth, the care necessary to improve the prognosis of implants. The advances in periodontal therapy are cited and described in some detail. This book should be of keen interest to all clinicians who are involved in oral health, which includes treating teeth and implants.

To date, there have been few attempts in the literature to correlate treatment of teeth and dental implants with their impact on the patient’s smile.

The illustrations strengthen the editorial material and are well done. The reader will be stimulated to discuss the patient’s smile with them during the examination phase of treatment. Helping the patient to understand the influence of oral treatment on improving their smile becomes a significant responsibility for the diagnostician and therapist.

This volume should partner with other texts that delve into periodontal and restorative treatment in great detail. Dr. Saadoun brings together the various specialties in dental medicine in a coherent fashion. There are many areas in the oral cavity, such as dental biotypes, that play an important role in decision-making by the dentist as one prepares to establish an esthetic smile. It is also clear that a patient’s gratitude for an improved smile will benefit the therapist who has devoted great effort and time to studying and effecting this esthetic improvement.

The author should be complimented for putting the material into one volume, material that belongs on the shelf of every dentist.

D. Walter Cohen, DDS
Chancellor Emeritus
Drexel University College of Medicine
Philadelphia, PA
A Chinese proverb says: “A teacher becomes a master, when his student becomes a teacher.”

I will never forget all my masters, who have played an important role in my professional life, namely Professor Walter Cohen, Professor Morton Amsterdam, Professor Jay Siebert, Professor Saul Schluger, and Professor Per-Ingvar Brånemark.

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My final words of gratitude go to my family: my wife, Monique, and my daughters Karine and Catherine, for their patience and support during this long process of creative and challenging work; and to my grandchildren Noa, Emma, Olivia, and Alexandre.

I will always have the greatest appreciation and respect for my beloved parents, who gave me the thirst for knowledge and the passion to share it.
Each one of us has a different response to beauty, to esthetics, and to art. The accepted standard of “beauty” in individuals in any society today is subject to an incredible amount of influence, and to their ethnic, racial, and environmental surroundings. It is necessary to maintain a healthy balance between perfect appearance and a philosophy of life that includes physical and psychological factors (Gürel, 2008a).

These concepts evoke an emotional response that varies on a personal level, affecting us through the filter of our civilization, our society, our own experience, and our individual lives (Touati, 2008).

A recent study shows that two patients out of three declare that they have an esthetic need. It also shows that this demand is greater amongst women than amongst men, and that all socioeconomic strata, even the poorest, are represented (Zlowodzki et al., 2008).

Beauty varies with the criteria of time and fashion. Today’s facial beauty is based more on “make-up” than on natural beauty. However, in our generation, among the facial criteria of beauty, a perfect smile has become a major feature and offers many advantages for the person wearing the smile. The mouth is responsible for 60–70% of the visual perception of the face (Fig. 1.1).

A harmonious smile does not just come from beautiful lips. It cannot be conceived without a perfectly healthy gingival frame and well-aligned, healthy, natural teeth. Since the smile is a vital component of a beautiful face and there is a high patient demand for beauty, demands for smile enhancement with cosmetic restorations (Figs 1.2a–c), periodontal surgery (Figs 1.3a–c), or implant restorations (Figs 1.4a, b) continue to increase. This is why it is more correct to speak today about plastic peri-implant surgery, rather than just peri-implant surgery.

Cosmetics can give an impression of beauty, but it is a fleeting one. However, the creation of a beautiful smile, which cannot be washed off at the end of the day, is a more permanent proposition. The fundamental criteria of dentogingival esthetics are perfectly established and must be a part of the esthetic culture of every clinician. Clinicians in dentistry must, therefore, engage in more than just guesswork. They must adopt a scientific approach when analyzing dentogingival esthetic criteria, to
Figure 1.2 (a) Unpleasant-looking teeth with multiple decays and incisal edge abrasion. (b) A detailed view of four of the laminate veneers on the cast. (c) The laminate veneers 3 months later, with an optimal esthetic result. (Courtesy of Dr. G.C. Pongione, Rome, Italy.)

Figure 1.3 (a) The gingival smile and high lip line of a 35-year-old woman before periodontal surgery. (b) The patient’s new smile, with a change in the size of the teeth after crown lengthening procedure, an elegant contour of the lips, and a limited amount of exposed gingiva. (c) A side view of the patient’s new smile after full mouth periodontal surgery and prosthetic rehabilitation, with a change to the upper lip line. (Courtesy of Dr. P. Pissis, Paris, France.)
establish the main alterations that are needed to their patients’ smiles before proposing orthodontic, surgical, and/or restorative solutions.

The purpose of modern dentistry is to achieve the best possible result with minimal tissue invasion, thus giving the patient a beautiful smile, with a long-term, predictable result and without prejudicing the integrity of the structure of the remaining teeth. When a smile needs to be redesigned, the clinician should have the competence to evaluate and integrate this smile into the harmony of the face.

Although beauty may be the patient’s only goal, and certainly the desired outcome of treatment, the objectives of orthodontics, operative dentistry, periodontal therapy, and restorative dental-implant therapy are more complex. Esthetic orthodontics has recently benefited from far more discreet appliances, such as ceramic brackets, but also by using a mini-implant or a normal implant to move teeth in an ideal relation. Esthetic restorative dentistry, which is benefiting from continual progress in the area of bonding agents, composite materials, and ceramic materials, can now provide very natural direct and indirect restorations to the anterior and posterior teeth – restorations which are indistinguishable from the natural dentition.

Periodontal therapy is leaning more and more toward tissue improvement methods, with the use of osseous, connective tissue grafts and tissue engineering, but is concerned, first and foremost, with maintaining the health of periodontal structures and correcting any gingival disharmony to achieve a balanced and esthetic gingival contour.

Implantology has revolutionized therapeutic options for every type of edentation, from a single tooth to the replacement of several teeth, and proposes increasingly esthetic solutions not only seeking to achieve good osseointegration, which is very important from a functional point of view, but also to preserve or reconstruct the harmonious peri-implant gingival morphology around the restoration, which is necessary from an esthetic point of view.

With regard to the long-term outcome of implant therapy, osseointegration is no longer the principal concern. The soft tissues and emergence profiles, the shape and shade of the restoration, must now also mirror the adjacent teeth as closely as possible. The stability of the results over time should be without question.

Nowadays, esthetic demands may take precedence over functional outcomes. Demands for “perfection” are constantly on the rise, and the standards to be achieved are getting higher and higher. In most cases, perfect results require extensive intervention, and the durability of such perfection may be unpredictable. To consistently achieve superior clinical esthetic outcomes in a significant number of cases, biology teaches us the painful lesson that patience is a virtue.

The pursuit of perfection requires a commitment on the part of the patient to surgical and prosthetic intervention that is often difficult to predict prior to initiation of care. It would be surprising to think that patients who had attended large numbers of clinical appointments to achieve excellent results had routinely understood, prior to the initiation

**Figure 1.4** (a) A woman’s smile with a missing right central incisor, which was extracted 3 months ago. (b) Esthetic result after the placement of a right central implant restoration and a left incisor laminate veneer. (Courtesy of Dr. A. Pinto, Paris, France.)
of treatment, that this was what was going to be required (Eckert, 2008).

Staging certain cases and watching them develop gives time to evaluate each phase before the next step is carried forward. This in turn gives time for the body's tissues to mature, harmonize, and stabilize. While waiting for maturation of grafted tissues, good provisional restorations can often satisfy the patient during that interim period. This allows the clinician to finish the case not as quickly as possible, but as quickly as nature allows, in order to achieve the most desirable result. As clinicians, it is our duty to appreciate that each case must be approached on its own merits and that we must cater for treatment to each patient individually (Sethi, 2008).

Esthetic dentistry has the ability to change a person's life. Nowadays, a seductive smile is a precious anatomical aid to success in society. The smile is one of the most important means of communication between people. A joyful expression reveals your soul, and sometimes joy is the source of your smile, but your smile can also be the source of your joy. The esthetics and beauty of the smile are not only determined by the lips and the shape, position, and color of the teeth, but also by their existing relations with the gingiva and the overall harmony of the face (Figs 1.5a, b).

The harmony of the smile depends on esthetic criteria based on respect for the horizontal, vertical, and sagittal references. There are hundreds of languages in the world, but a smile speaks them all. According to a Chinese proverb, while laughing is selfish, the smile is a gift to others that costs nothing. A truly beautiful smile is one that lasts.

Figure 1.5  (a) The smile of a 25-year-old woman. (b) The joyful smiles of a bride and her mother. (© A. Saadoun.)
The mouth acts as a mirror for the body. The link between substances in the oral cavity and other vital organs has been well documented worldwide, and oral care can have significant effects on all parts of the body (Ravins, 2008).

The perception of beauty is subject to continual change. With today’s conceptual thinking and treatment planning, it is essential to incorporate an interdisciplinary approach that may include orthodontics, periodontics, operative dentistry, implant dentistry, and restorative dentistry (Gürel, 2008a).

Patients today are educated and just as concerned with feeling well as they are with looking well. Facial appeal (the attraction that a face can provoke) has an impact on health, which is defined by the World Health Organization (2006) as “a state of complete mental, physical, and social well-being and not only constituting the absence of disease or infirmity.”

Esthetically oriented treatment has a significant and proven impact on the psychological balance of our patients and thus on their health (Decharrière-Hamzawi et al., 2007). This esthetic demand is satisfied in various ways, with very different expectations from one patient to another, notably when talking about changes that a patient desires in the lower part of the face. The fact that this esthetic demand, across all socioeconomic strata, is greater amongst women than amongst men has been shown to be statistically significant. However, one does not have to respond to the esthetic demands of every patient, particularly if his or her wants are obviously unreasonable – or even pathological, as in the case of those with body dysmorphia (Złowodzki et al., 2008).

The clinician must adopt a scientific approach to the creation of the perfect result, employing a methodical and/or experimental strategy. This is the only way to ensure a predictable, acceptable end product.

The impact of esthetics

Our contemporary society emphasizes the importance of appearance and attaches a notion of success and well-being to beauty. Esthetics indeed plays a significant role in the psychosocial aspects that determine the nature of an individual’s existence. Self-esteem remains one of the main indicators of a person’s well-being (Decharrière-Hamzawi et al., 2005). The medical profession must not view esthetic demands with disdain, because all imbalances in self-esteem will cause a change in health, as defined by the World Health Organization (Patzer and Faucher, 1996; Decharrière-Hamzawi et al., 2007).

The impact of esthetics on behavior from infancy to adulthood (Figs 2.1a–d) has been confirmed in several publications (Savard et al., 2007):

- Young babies stare at attractive faces longer than at others. As early as the infant stage, one notices a more sustained attraction to pretty faces (Bruchon-Schweitzer, 1990).
- Teachers show a preference for children who are pleasant to watch.
Given equal ability, pupils seen as attractive earn better grades.

The more attractive a child is, the more he or she will provoke expectations from the teacher; hence the child will benefit from a more favorable learning environment (Decharrière-Hamzawi et al., 2005).

For a good homework assignment, a bonus of 5% has been observed with respect to the average result if the appearance of a set photograph is attractive, and a decrease of 7% if it is unattractive.

Academic failure is observed to be aggravated when a student’s physical appearance is seen as unattractive by his or her peers.

There is a link between the productivity of a business and the physical beauty of its employees.

It seems that our brains are more attracted to people who are seen as beautiful, either in that we expect a reward or that this beauty in itself constitutes a reward (Kawabata and Zeki, 2004).

Esthetics plays an important role in the psycho-social aspects that determine the nature of an individual’s existence and the limits of that person’s well-being and self-esteem.

All imbalances in self-esteem will lead to a decrease in health, with possible repercussions at the biological level.
To Smile or Not to Smile

Dental esthetics

Only one out of two adults is satisfied with his or her smile, so when people say, “I need a beautiful smile,” they really mean “I want a beautiful smile,” and they deserve to look and feel good about themselves. Consequently, turning people’s smiles into their best feature improves their perception of self-worth in life (Mechanic, 2008).

For the majority of patients, a desired change or improvement to their faces is related to their teeth; missing teeth and the whiteness of the teeth are these patients’ main concerns (Figs 2.2a–c).

The majority of people seeking a consultation for esthetic dental reasons do so for social and psychological reasons:

• Changing the smile, and the lower third of the face, has a positive effect on facial features and on self-esteem (Figs 2.3a–e).
• The improvement of physical features through specialized esthetic dental therapy has a positive effect on social relations (Patzer, 1997).

Dentists, laboratory technicians, and patients have differing perceptions of what makes a smile esthetically pleasing, and their diverging opinions confirm the importance of good communication in producing a successful course of treatment. By including esthetics-specific treatments in the context of a complete treatment plan, practitioners show that they are thorough professionals, who are contributing to the improvement of the mental and social well-being, and thus the health, of their patients.

It is important to highlight the fact that such progress in dentistry could not have been made if esthetic results had not become so important to our patients as well as to our colleagues.

The desire to create more esthetically pleasing smiles was surely one of the driving forces which pushed researchers, manufacturers, clinicians, and patients to refine their criteria for what constitutes a clinical success (Miara and Touati, 2011).

The smile-related quality of life

Today, not only is there a considerable demand for esthetic dental work across all socioeconomic strata,
Figure 2.3  (a) The unpleasant right-side profile of a 10-year-old girl, with a short upper lip and a wide overjet. (b) A facial view showing the Class II, division I disharmonious smile, with diastema and overjet affecting the central incisors, at an early stage of orthodontic treatment. (c) The final stage of the esthetic therapy, with the teeth in a perfect occlusal relation on the right side. (d) A beautiful relationship between the teeth and the gingiva, with an excellent white esthetic score (WES) and pink esthetic score (PES) (see Chapter 4), and a perfect occlusal relation on the left side. (e) The same patient’s new profile 8 years later, with a harmonious jaw relation, a symmetrical smile, and a delightful change of attitude. (Courtesy of Dr. J.L. Pruvost, Paris, France.)