

## **PURPOSE: “DENTISTRY AVAILING TO CLICKS” – A REVIEW**

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### **ABSTRACT**

Overall, dental photography plays a crucial role in modern dentistry by enhancing patient care, facilitating communication and education, supporting treatment planning, and providing documentation for various purposes. Thus, this article reviews different purposes of inculcating and owning importance of photography in dentistry.

### **INTRODUCTION**

“PHOTOGRAPHY is like a found object. A photographer never makes an actual subject; they just steal the image from the world... Photography is a system of saving memories. It’s a time machine, in a way, to preserve the memory, to preserve time.” - Hiroshi Sugimoto.

“Use a picture. It's worth a thousand words” (1) – a phrase that emerged in the United States in early 20th century, clearly expressed of how photographs can lay down information, which the brain couldn’t retain in all its exactness and impossibly forever. Beside snaps are more expressible themselves in silence to all eyes equally than the strings of words could ever express to each ears and not unseeing the fact of their ‘interpretations’- to each their own.

Many scientific disciplines are rapidly adopting photography as an important tool and major centre of medicine use photography as a documentation tool for treatments, diseases and to share cases that cannot be fully described by words(2). Dentistry as a profession can be a source of happiness and joy or a routine practice. One of the greatest methods to enrich and enhance the joy and satisfaction of daily practice is dental photography that makes any routine procedures more interesting(2).

Dental documentation and record keeping, examination, diagnosis, treatment planning, progress and monitoring, treatment outcomes, patient motivation, communication (with colleagues, patients, dental technicians, staff), dentist’s self-check,

academics/education/presentations, portfolios, marketing, legal protections, as forensic tool etc. are the few purposes served by practicing dental photography. Thus, it has become an essential part of modern dentistry.

Dental photographs became a part of dental records similar to Radiographs and CT scans or any other imaging, therefore, it should be respected in the same way(2). Thus according to Wolfgang Bengel, main aim of dental photography is for documentation to supplement treatment.(3)

Documenting the dental photographs, avoids any later possible confusion, related to the case, considering the common tendency of both the patient and the dentist to forget within months the original condition of the case and to keep record of how severe it was. Consequently, without keeping proper dental photographs, it would be hard to judge all improvements of the case(4).

Sharland stated that as a general rule, photographs should be taken before any irreversible and invasive treatment and he mentioned that those photographs will not only serve the patient's medical records but also provide forensic ones as well (5). In many instances, disagreements between dentist and patient can also be avoided in this way. In the field of forensic dentistry, photographic documentation is an essential piece of evidence. Similarly, taking pictures for suspected cases of child abuse is also indispensable proof(2).

Some authors such as Christensen suggests that photographs should also be taken for patients who appear to be suspicious or overly anxious about the treatment they agreed to receive, or the ones who had a history of legal activity with dentists. He related that to the fact that there is a growing number of patients, who are overwhelmed with the high expectations promoted on the internet and television using "makeover" programs(6).

Another aspect of documenting photographs is the development of many powerful data storage that gave the clinical patient's records, a supplemented informative photographs, which can be sorted and saved into the patient's files, and this when supported by the new technical innovations of photography, can set the stage for high-quality results(7).

Images should always be made after trauma. This is not only for the dentist's legal protection, but also for the patient's. Dental photography is also useful during treatment and follow-up examination to check for pathological changes in the mucous membranes. Unusual and fleeting results of an examination can be documented to underpin an initial diagnosis.(3)

Pretreatment photographs play an important role in assessing and diagnosing a patient’s case. It provides the facility for both the dentists and the technician to visualize the dental status at a later date, without the necessity for the patient's presence, thus saving the patient a visit and saving practice time for the practitioner (8). Also a missed or overlooked findings during initial examination can be brought under notice via photographic documentations.(8)

Digital photography compared to cephalometric imaging for the purpose of diagnosing and treatment planning of orthodontic cases, appears to be of a lower cost and less technique sensitive. Furthermore, it serves as a suitable diagnostic tool for patients who are not recommended to be irradiated.(9)

Because of being highly subjective, aesthetic dentistry is one of the major branches of dentistry that can produce ambivalent results. In these instances, dental photography should be routinely used as accurate and ongoing documentation prerequisite for ensuring that the patient, at the outset, understands the limitations of a particular aesthetic procedure. In addition, if the patient chooses an option with dubious prognosis, or against clinical advice, photographic documentation is a convincing defence in court.(2)

Images also play an important role in patient consultations. The image not only allows the dentist to communicate information to the patient, but gives the patient a far better opportunity to express and articulate his or her wishes and desires.(3)

Self-check: Quality control should be more important to dentists, thus, photography has also gained importance in this context. Even without institutionalized quality control, photography will continue to aid the dentist as a self-check measure.(3)

Finally, images also contribute to enjoyment and furtherance of the profession of dentistry, which becomes increasingly important in an advancing career.(3)

The majority of patients are not dentally knowledgeable, and a verbal demonstration alone can sometimes be complicated for the patient to fully understand what he or she is instructed to do. Furthermore, the inclusion of medical terms in explanations could be confusing for a non- professional (2). Hence, the support of a pictorial visual representation is very effective to educate, instruct, and motivate the patient so that even the most skeptical of patients could made to see and realize their oral health issues and thus need of treatments advised by their dentists with ease in their mind and behavior. Gordon, in his article published in 1995, suggests making a library of images of the most used procedures in the dentist’s practice,

those images will be easily accessible for the purpose of motivating and educating the patient, regarding the treatments he needs to have(10).

In addition to restoring healthy condition and proper function, which are central aims, the elective procedures like cosmetic and aesthetic treatments are highly objective. The outcome of cosmetic dentistry is mostly ambivalent, therefore using dental photography throughout the treatment and especially in achieving the treatment outcome, can avoid potential confusion and ensure that the patient understands the limitation of a certain aesthetic treatment. It can also serve as a convincing witness in court if legal actions were taken (2). Gordon J. Christensen 2005, in his article, considers recording the treatment results of any comprehensive or expensive dentistry, which includes several crowns complex fixed, implant prosthesis, major periodontal or maxillofacial surgery, as a high priority (6).

In a similar vein to patients, effective synergy and communication is also vital between clinician and dental technician. Historically, the most used dentist-laboratory communication method was primarily a one-way handwritten prescription sent from the dentist to the technician, in which he tries to deliver the required shade and shape of the restoration. And that method hinders the technician from effectively evaluating or having input in response to the therapy desired (11). Photographs can be traced, or marked with indelible pens to communicate salient features such as shape, alignment, characterisations, regions of translucency or defining features such as mamelons, banding, calcification, etc. Also, taking pictures at the try-in stage allows the ceramist to visualise the prosthesis in situ in relation to soft tissues and neighbouring teeth, as well as to the lips and face. At this stage, alterations can change the shape, colour, alignment, etc, before fitting the restoration, which obviously avoids the post-operative dissatisfaction that can be embarrassing, frustrating and costly if a remake is the only reparative option. (2)

If referral to a specialist is necessary, either for further treatment or a second opinion, attaching a picture of the lesion or pre-operative status is extremely helpful. This saves time trying to articulate findings of a visual examination and also allows the specialist to prioritise appointments, particularly in cases of suspected pre-cancerous or malignant lesions. (2) A study made by Aslam et al. (12), evaluated whether referral letters with or without photographs can make changes in prioritizing patients, visiting the oral medicine department in Birmingham dental hospital, and he found out that photographs did actually change the appointment priority in 37% of the cases.

Pictures are a very essential educational tool, they enrich the students' understanding of a certain topic. For instance, for making diagnosis, the students can be shown pictures of an oral lesion in all forms and shapes. Furthermore, the student can watch a series of pictures on how a treatment is carried out, where the lecturer can also highlight some small details, and bring the students attention to the smallest important issues in the case workflow.

A research study, which was carried out in the faculty of dentistry at the University of British Columbia revealed the usefulness of ePortfolios including pictures, photographs, and multimedia as a learning tool for students, who are studying dentistry. Most 20 of the feedback they got from the students was that the ePortfolio was a positive experience, and they felt it helped them to be better professionally. Additionally, it was reported that they developed a greater ability to integrate their scientific understanding into the practical clinical performance (13). Another study was done at the University of Gothenburg in Sweden, investigating the best method to do an endodontic preclinical and clinical demonstration. They replaced the traditional method with an instructor-led seminar using three cameras, two were providing an overview of the operating room while the third one was attached to a surgical microscope, providing a magnified view of the procedure. The students found the seminar a great method to integrate theoretical and clinical understanding. They also found it to be a more efficient way of a demonstration than the traditional method, especially regarding the limitation of the field of view in the traditional method. The students stated also that the discussion and the interaction during the seminar were more fruitful(14).

In addition, if a clinician desires to publish postgraduate books or articles, either now or in the future, meticulous photographic documentation is a must. Also, local newspaper features are reassuring for existing patients and promote the surgery to potential new clients.(2)

While explanations accompanied by pictures and illustrations from dental journals and books are satisfactory for educating patients, they are not convincing evidence as to whether or not a clinician can deliver what is shown in the textbooks. However, pictures taken of patients at the practice who have been successfully treated carry credence and support claims for performing a specific procedure.

A verbal explanation, of say implants, may be inadequate for patients to fully appreciate the time and effort necessary for achieving successful results. But a visual clinical sequence explains the complexities of advanced treatments, and also helps to justify the expenses

involved. And thus portfolios, either an album prepared with high quality photographic paper prints can be placed in the waiting room for patients to browse through or, using digital option stylish and more elaborate presentations of advancing images from one to next with added text, visual effects and animations, sound or music can be manually advanced for one-to-one sessions, or set to automatic display and placed in a communal area of the practice.(2)

**Marketing:** Before embarking on any form of advertising it is advisable to consult the GDC guidelines, and preferably have items checked by an indemnity organisation to ensure adherence to ethical and professional standards. Many stock images of teeth and dental practise can be obtained from a dental library or as Internet downloads. But as previously mentioned, using clinical pictures of practice patients enhances confidence for those who are ambivalent about which practice to attend. It also elevates the practice reputation by picturing a welcoming dental team, or showing treatment carried out at the practice.(6)

Casagalia in 2015, states that the importance of digital marketing is increasing daily and he considers the internet to be the most effective way today for dentists to advertise their work and target the customers. Furthermore, he pointed out how social media networks are offering an exceptional marketing option for dentists, since patients are dealing with platforms such as, Facebook, Instagram and Twitter, as a part of their daily life and are no longer limited to the youth(15).

## **CONCLUSION**

Epitomizing the summary of above mentioned purposes and uses of dental photography drawn by Dr. Mayur Davda.(16) :-

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Pre Operative	Operative	Post Operative	Others
Diagnosis	Monitoring the progress of treatment by recording steps	Medico-legal proof	Comparing pre and post-operative results
Analysis and treatment planning	Taking a closer look at one’s own work for scope of improvement: self-criticism	Keeping records	Educating dental assistants
Patient education	Shade selection	Research/thesis	Conducting dental courses
Leveraging your practice (business)	Lab communication	Discussions/presentations	Artistic value
Marketing	Smile designing	Publications	Stock photography
Reference point	Interdisciplinary communication, especially in universities	Sharing on social networks	Creating an image bank
Showing treatment options to patients	For aiding the pathology labs to reach a diagnosis (in adjunct to the specimen provided)	Dental insurance	Forensics

As Mr. Naoki Hayashi writes in the preface of his “A Diary – Through the Lens”, “Photograph provides evidence of how much I’ve changed and grown as dental technician with the times. It documents the improvement of my skills, my deeper understanding of the dental technique, and my modest contribution to society.”(17)

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