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Feature we Need to Know in Dentistry While Taking Photography for Intraoral

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Abstract:- Now a days, there is high risk in oral infections. In dentistry, intraoral photography plays a major role. It provides a patient, a comfort zone. In which it helps the patient to understand about their diagnosis. And intraoral photography is also helps the dentist to identify and diagnosis the disease. It judges the correct status of the patient. In intraoral photography digital cameras plays a major role in it. There are two types of photography, they are intraoral and extraoral photography. Cheek retractor and intraoral mirrors plays a major role in the intraoral photography. The few degree of photographic skills to be learned by the clinicians. For the complete record of the patient, intraoral photography plays a vital role in it. It provides a good diagnosis and treatment planning for the patient. In this article we discuss about the reasons to use dental photography, guidelines, essentials of intraoral photography, accessories, views and conclude with specialist consultation.

Keywords:- *Intra Oral Photography, Cheek retractor, Radiographs.*

I. INTRODUCTION:

Dental photography is vital nowadays because it allows the patient to visualize his or her smile and oral condition with the same acute perspective as the dentist, which helps the patient understand the rationale for recommended treatment. The first photography system was invented to the world by Louis J.M.Daguerre on january7,1839 at the Paris academy of sciences. It is difficult to imagine our life without photography. The advantage of dental photography is that it transferred from flim-based photography to digital imaging[1].

Recently, dental professionals has started to use photography process in diagnostic and treatment planning process. It helps the patients to know about their diagnostic and treatment planning decisions and everything they need to know about dental photography.[2]

The knowledge is necessary from the principles ofphotography,accessories,lighting,setups,postprocessing,purpose of its use.[3]

For some photography is an hobby, and for professionals like us, is an art and science in the daily use.[4]

II. REASONS TO USE DENTAL PHOTOGRAPHY:

Intraoral photography is very much importance in today's dental practice. It provide a static and depth look at the correct status of patient and can be easily compared with the other patients record. To get a valuable suggestive treatment planning of the patient a good quality photography must be taken. There are two types of dental photography they are intraoral photography and extraoral photography. The best way for advertising is to take the before and after photographs of patients.[5]

- *Guidelines:*

It is important to ask permission to the patient before taking the intraoral photographs. Patient should be seated in the position ,slightly leaned back in the chair. Comfort of the patient is important. All standard views should be done in the horizontal frame. A stable position of the photographer is very much important. magnification ratio is to selected correctly to get a good outcome of the image.20cm is a ideal distance to start testing a camera for anterior intraoral photography. [6]

III. ESSENTIALS OF INTRAORAL PHOTOGRAPHY:

- *Histogram:*

In rear of the camera the simple bar chart is seen. this will help us to see whether the image is too bright or dark or neutral[7]

- *Focal Length:*

The magnifying power of the lens can be described using this. The longer the focal length, the greater the magnification[7]

- *F Stop:*

The f number is the ratio of the aperture to its focal length. if the lens is opened in more amount the more amount of the light will be allowed into the camera and the exposure will be lighter. for close ups ,small apertures to be used[7]

➢ *Iso :*

ISO stands for the international organization for standardization rating. Lower ISO is used to reduce the noise and graininess in the final image[7]

IV. ACCESSORIES TO BE USED IN INTRAORAL PHOTOGRAPHY:

➢ *Cheek Retractor:*

Cheek retractor plays a major role in the intraoral photography. Because, it sthe labial mucosa, buccal mucosa and lip. So that, light can enter the oral cavity ,thereby improving visibility. Cheek retractor is available in both single ended and double ended. It is also available in plastic or metal. Plastic retractors are suggested because it is less noticeable in images.

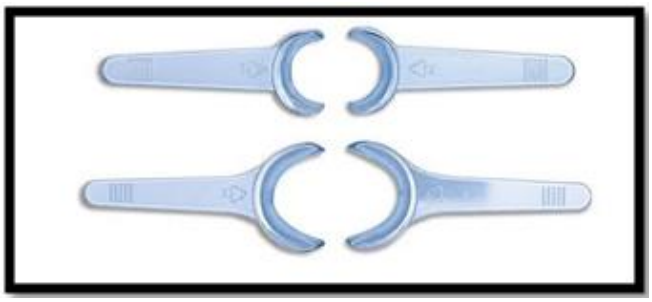

Fig:1:- Cheek Retractor

➢ *Intraoral Mirrors:*

These are available in several sizes and a standard set should include buccal and occlusal mirrors. When there is difficulty in intraoral photography this intraoral mirrors are very useful though it provides a reflected images. Triple-way syringe and water bath is used to clean the mirror and and to prevent mirror fog. To prevents this mirror from damaging it is autoclaved separately.

Fig:2:- Intraoral Mirrors

➢ *Other Accessories For Intraoral Photography:*

1.Gauze strips
2.Dental mirrors
3.Disposable plastic spoons.
4.Plastic spatulas[8]

➢ *Views In Intraoral Photography:*

1.FULL ARCH
2.QUADRANT OCCLUSAL,LINGUAL AND LATERAL
3.MAGNIFICATION IMAGES
4.ORAL MUCOSA
5.ENAMEL TEXTURE,CRACKS AND DENTINE STRATA
6.TRANSLUCENCY
7.SHADE ANALYSIS FOR ARTIFICIAL RESTORATIONS
8.POSTERIOR TEETH

➢ *Full Arch:*

Full arch is done in the frontal view and occlusal view. In frontal view, the patient should bite in the centric occlusion. Take picture in frontal view as how many teeth are viewed try to take photographs till second molar by using cheek retractors. Then, keep canine as the focus point and try to take the pictures. If, the view is not clear ensure anterior or posterior to canine.

Next, is occlusal view, In this intraoral photographic mirrors are u**FIG:1:CHEEK RETRACTOR**sed. For the maxillary arch the mirror is placed downwards and for mandibular teeth mirror is placed upwards. In this view patient is asked to breath through their nose because by breathing through the mouth it prevent condensation of the mirror. By using this mirror reflected images can be photographed.

➢ *Quadrant Views: Occlusal, Lingual And Buccal:*

Quadrant views include occlusal, lingual and buccal surfaces of teeth. For occlusal view unilateral cheek retractor is used and photography is taken and for lingual and buccal views require narrower photographic mirrors.

➢ *Magnification Views:*

A general rule is applied in the magnification views, That the excess magnification leads to the image quality. This is because most of the macro lenses are incapable of resolving beyond a 1:1 magnification. Magnification views is done in incisors.

Fig: 3:- Magnification View

➢ *Oral Mucosa:*

Photographing the oral mucosa is similar to photographing the teeth. But the extra care should be provided while taking photos of oral mucosa because, the disease is very painful we should be more careful while placing the cheek retractors and mirrors.

➢ *Texture, Dentine Layers And Enamel Cracks:*

Photographs are taken by using two bilateral flashes which is mounted on either side of the camera. It is the ideal way to take photographs for the texture, dentine and enamel cracks. And to visualize the latter, a silver or white card is used to cover one of the bilateral lights, it acts as a reflector to the muted light from the opposite flash with the out specular reflection on to the teeth.

➢ *Translucency:*

Translucency is usually located at the interproximal edges, incisal edges and cusps of the tooth. In this the black card is placed behind the tooth and 1:1 is the contrast to the white teeth. Since by using the camera it will diminish the visibility of the translucency and helps to obtain the correct exposure.

➢ *Shade Analysis:*

For this shade analysis photographed using a standard bilateral flash lighting set-up. Grey card is essential for the oral mucosa. Patient is asked to hold the shade guide so it will be easy be take pictures. In this procedure the teeth should be moist particularly when using the rubber dam. If the shade matching is providing the difficult photographs it should be taken in the different colour temperatures .so, that it will avoid to help mesmerism.

➢ *Posterior Teeth:*

Photographing the posterior teeth is quite challenging way because of restricted mouth opening, excess salivation, poor illumination, and limited access. The best way to photograph posterior teeth is to make patient lie in supine position. To use intraoral mirrors and saliva ejectors. Comparable, to intraoral mirrors rubber dam is the best option to take photography in posterior teeth.[9]

➢ *Specialist Consultation:*

While using a photographs a new dimension is created. meanwhile, radiographs and reports were the only means to present our patients to the other doctors. By viewing the photographs of the patient the operator may access the condition without being physically present in the office. An imperfect radiographs result in a four characteristics such as, nonhomogeneousillumination, variablecolor, fliker and limited brightness. [10]

V. CONCLUSION

Dental intraoral photography has become easy and important way to know about our patient status and it is the easy way to guide patients with their diagnosis and treatment planning. Therefore digital cameras are most easier way to take photographs for intraoral structures. Photographic training should be learned in the curriculum of the dental field. It is easy to show patient about before and the after status. And, this intraoral photography will gives a confidence to the patient.

REFERENCES

[1]. Terry DA, Snow SR, McLaren EA. Contemporary dental photography: selection and application. Compend ContinEduc Dent. 2008;29 (8):432-462.
[2]. Manvendra Singh Gahlot,Digital photography in general and clinical dentistry-technical aspects and accessories,International Dental Journal of Students Research 3, 17-24, 2015[3].Chander NG. Essentials of dental photography. J Indian Prosthodont Soc. 2017;17(2):107-108.
[3]. UdayNandkishorjiSoni, Shyama Dash, DrSagarKausal, Mayuresh Baheti, Nilesh Mote, ShubhangiMani,Orthodontic Photography–A Clinical Aspect
[4]. ALBERT YOO, DDS,10 REASONS WHY DENTAL PHOTOGRAPHY SHOULD BE AN ESSENTIAL PART OF YOUR PRACTICE
[5]. sreesan N. S.et al, Clinical Photography in Orthodontics
[6]. Dental photography, Amit Mani, ShivaniSachdeva, S Anuraga, Prachi Shukla
[7]. Pravara Medical Review 9 (1), 2017
[8]. Fernando J. Haddock, DDS, Barry D. Hammond, DMD and Mario F. Romero, DDS,Guide to Dental Photography, 2018;4(12):22—25
[9]. Ahmad I. Digital dental photography. Part 8: intra-oral set-ups. Br Dent J. 2009 Aug 22;207(4):151-7.
[10]. Desai V, Bumb D. Digital dental photography: a contemporary revolution. Int J Clin Pediatr Dent. 2013 Sep;6(3):193-6. doi: 10.5005/jp-journals-10005-1217. Epub 2013 Oct 14.