

Esthetic Dental Clinic Design

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Greater dentist does not just happen; it takes incredible knowledge, skill, attitude, and endless pursuit of excellence; which is generally reflected by his/her workplace. Dental clinic needs to be esthetically designed in order to have an ambience that can attract the clients building up confidence in service delivery and provide amicable and comfortable environment for working doctors and the staffs. As such there is no “perfect” dental clinic layout but the basic principles should be followed when designing a clinic. The dental clinic should be designed functionally that can facilitate maximum efficiency in both clinical and administrative tasks. It should reflect the desired practice image to the target group. Accomplishing a dental clinic design is a dynamic process, which actually continues till the practice progresses.

The esthetic dental clinic design should be elegant, environment-friendly, ergonomic, electronic and economic (5E's). When designing and organizing a dental clinic; dentists and architects should sit together to plan proper utilization of space for placement of cabinet and working tables, proper light setting, proper ventilation, air conditioning, electric lines and sockets, water supply, plumbing, sewage, sanitation, waste disposal etc. The cabinets and working tables should be adequate that could accommodate required instruments, materials and equipment categorically in proper order. And, setting up of the electric and electronic devices like computer and its accessories, communication and information gadgets, television, refrigerator etc should be properly planned. When choosing the location; accessibility, parking space, water source, surrounding environment, and scope for future expansion should be surveyed. Besides; safety, security and power back-up measures such as proper

locking system, CCTV camera, window grills, locker to place belongings of the staffs, emergency exit and generators should be arranged. Placement of safety devices like alarm and fire extinguisher should be installed in obvious location.

Dental clinic should be built to promote a comfortable and relaxing environment while clinical environment for dental practice should be maintained boasting the latest high-tech equipment and materials that enables to provide quality care to the patients. Basic standards of infection control and radiation hazard safety should be followed as per the norms. The clinic can be made mercury-free by replacing it to tooth colored restorative materials. It is better to design the clinic in such a way that all administrative functions take place in one section and clinical in the other. The clinical area may consist of entrance, waiting room, consultation room, treatment/operator room, x-ray room, sterilization room, dental lab, changing room, and utility room for cleaning and janitorial services. The administrative section may consist of business office, manager/secretary's room, record section, computer room, store room, doctor's room, meeting room, library etc. Sign boards should appear in each department to direct the visitors.

Entrance and Reception

The entrance shows the first impression of the clinic from where the patient enters encountering the reception area. Preferably it should be wide and bright. There may be bulletin board situated at the entrance area, posted with updated information and notice to the visitors regarding opening and closing time, available services, clinical tips, post-operative instructions, news cuttings on achievements made by the center and its doctors.

The reception area is generally in vicinity to the entrance, where receptionist sits behind a counter facing the patient. In a typical office setting; patient phone is for appointments, register upon arrival, wait in waiting room, go to consultation or operatory room and wave good bye gesture to the receptionist. The receptionist's work involves arranging and rescheduling patient, appointments on the telephone, answering phone calls, filling case paper charts, collecting money, and ordering supplies etc. The receptionist must have a good view of the waiting room from his/her chair. The reception should comprise of basic communication facilities like telephone with intercom, fax, and computer with e-mail, wifi/internet. The receptionist can facilitate her job with patient record and inventory software; there may be 'paperless' record keeping system in modern day practice. Dental clinics also dispensing health products and pharmaceuticals may set the pharmacy desk along with the reception with proper arrangement of space and human resource. The estimated required size of the reception area is about 100 sq. ft. for 1-4 operatory units and about 120 sq ft for 5-8 operatory units.

Waiting Room

The waiting room is more of a welcoming center where patient and accompanying persons are received to sit in with comfort and privileged to stay till his/her dental appointment. One forms a first impression of the practitioner by the image projected in the waiting room. Certificates, plaques and awards received by the doctor from academic institutions, professional organizations or civic societies may be displayed in the rack or wall. The digital display board or flat screen TV may be used to display the number of certificates to minimize the space. The estimated size of the waiting room should be about 150 sq. ft. for 1-4 operatory units and about 200 sq ft for 5-8 operatory units.

The key to a successful waiting room is the creation of a comfortable atmosphere as a lively space in appealing colors with wall decors and soft lighting furnished with relaxed chairs and side tables, attractive curtains of fine fabrics and textures. There should be magazine stand with plenty of magazines, news-papers and reading materials; with light music or television in low volume. Basic services of drinking water and a restroom adjoining the waiting room should be provided for exclusive use of the visitors. Contemporary clinic waiting rooms may be facilitated with coffee serving machine, cell

phone chargers, and wifi zones. The neglect of the waiting room can result into patient's feeling that the dentist might be neglectful in his care as well.

Consultation Room

Consultation room may be a separate clinic type room with a dental chair or may be a business office type counseling room with comfortable sofa with no dental chair. It is used for initial examination of new patients, patient education with dental health instructions, and individual consultations or parent counseling. The consultation room may be facilitated with dental health education models, brushing model, flip charts, intra-oral camera, patient education videos/software, x-ray viewer etc.

In a business office type setting; a low coffee table separates the doctor from the patients. The color of the room is generally much more subdued than in other parts of the clinic. Natural beige, light blue or cream wall with chaise lounge create the counseling process more comfortable and non-threatening.

Operatory or Treatment Room

Dental operatory or treatment room may of two types; one is with each operatory as a separate room (enclosed concept) and other having a large room with few or several operatories divided or undivided by modular cabinetry (open bay concept). It is up to the clinic owner's choice or the type of practice that governs the design. Separate room offers privacy to the patient that reduces the noise level in the clinic, which is important when treating young children. Similarly, adult patients also prefer separate private operatory while adolescent patients might like open bay type clinic with lively atmosphere of music and group activity. There should be a separate unit supply area for preparing the dental instruments and materials by the assistant. The required area for each operatory is about 110 sq. ft. with the extension of extra 40 sq ft space for unit supply area serving for up to four operatories.

As far as possible, there should be windows in the operatories to facilitate the selection of tooth color shades in natural light and to provide a pleasant atmosphere of fresh air. East-facing windows are considered best followed by the south-facing. Venting system should be planned so that there is proper air exchange in each room.

The decoration of the treatment room or operatory is of prime importance in dental clinic design as

it is the main functional component. The wall of the room is generally much more subdued with natural colors of light blue, gray, beige, green or cream or as per the operator's choice. There are trends of coloring the walls with bright colors with different walls having different shades. The curtains are generally light matching colored; horizontal or vertical blinds often goes well in dental operator. Larger sized ceramic tile flooring with bright matching color is the most popular and common choice.

The services that are necessary to facilitate the operation of the dental chair unit are electricity, water, compressed air, suction, and sewage. The electrical cables, water and air pipe lines should preferably be concealed however, the trap for the sewage and vacuum system should be easily accessible for cleaning. The cables and pipe lines surfaced through wall could be concealed under the cabinet or boxed in wooden case. Generally each operator should be provided with two sinks. The compressor and suction pump need to be isolated from the clinic due to the noise they make while operating. Adequate overhead lighting should be provided in the operatories to prevent eyestrain. The illuminating bulbs and fixtures should preferably be covered ones. The room should have plenty of electrical power sockets and plugs for computers, various electrical equipments and for future expansion.

Laboratory Room

Many dental clinics opt to have the basic dental laboratory facility of their own. Basically there are two sections in dental lab; a wet lab and a dry lab. The dry lab contains gas burner, wax carving instruments, burn-out furnace, ceramic furnace, centrifugal machine etc. The wet lab contains water sink, model trimmer, vacuum mixer, lathe machine, trimmers etc where lab works with plaster and study model is done. This section is preferably located in a corner or far away from the operator area because of the noise. Like the operator, a functional dental lab requires all basic facilities of electricity, water, sewage, compressed air, vacuum and gas in addition. The dental lab requiring various equipments need table top cabinets, working chair with bright illumination. Fire extinguisher is a must in dental lab. The estimated size of the dental lab room is about 160 sq. ft. for 1-8 operator units.

X-ray room

All dental clinics necessarily have intra oral x-rays; besides, panoramic and cephalometric machines may be present with the clinics catering specialized services. Radiation hazard safety measures should be practiced in every possible level for the safety of the patient and the staffs. A separate dark room should be planned to develop the radiograph which requires the space of about 60 sq feet. Automatic radiograph developer may be installed for quick and easy service. Digital radiograph and Radiovisiography (RVG) are modern practices in dental radiography with high-tech image and minimal radiation exposure. Wall-mounted intra-oral RVG x-ray units are popular in contemporary practice; it saves the extra space of an x-ray room. Low dose wall-mounted DC x-ray units are preferable for radiation safety, besides evacuation of operator room needs to be practiced during every procedure.

Sterilization Room

Prime effort of any clinic should focus on infection control. For which, a separate sterilization room is a must. This room should be near the operator and is separated into two areas; viz clean zone and dirty zone. Used instruments are brought to dirty zone where initial cleaning with antiseptic soap in wash basin is done and then transported to clean zone where further high level sterilization is carried using autoclave or hot air oven. High grade B-class dry auto-clave is recommended for surgical and implant dental practices. Finally, sterilized instruments are stored in wrapped forms within the packet or cassette in clean cabinet or a UV cabinet. The required size of the sterilization room is about 50 sq ft. Generally janitorial closets are in vicinity to dirty zone of the sterilization room.

Conclusion

Healthcare centers should provide professional efficient services with the utmost use of its resources. Using up-to-date technology not only improves overall proficiency of the practice, but also helps patients to receive quality care.

Be an "embracer" and adopt new ideas into your practice so that dental clinic would be elegant, environment-friendly, ergonomic, electronic and economic.