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Elements of Healing Spaces in Hospital

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Abstract: ***The research paper emphasises the study of design components for producing healing spaces in healthcare center. Because patients in healthcare centers undergo various treatments that make the surrounding environment strange compared to at home, architectural solutions that include a healing environment in the structure can be added. Health care organisations are beginning to incorporate aspects into hospital building that reduce stress and promote healing, as evidence of the benefits of healing places is being gathered. This paper reveals the relevance of human comfort in creating a therapeutic space, as well as the role of unique design in creating a healing environment. This covers topics such as air quality, colour, texture, light, and sound, among others.***

Keywords: Healing space, Healthcare, Environment, Design Elements, Unique Design, Human comfort

I. INTRODUCTION

The word healing comes from the Anglo-Saxon word haelen, which implies to create perfect. A method is to look at it as a harmony of mind, body, and spirit. An environment — like in our homes, schools, and workspaces—can be designed to support therapeutic effects. Evidence has found that several hospital patients which can enjoy better recovery than those in spaces without healing elements. "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." *(WHO Constitution).* Healthcare facilities are places where patients with health conditions go for treatment, which is provided by specialists and other care professionals. In recent years, we see a growing interest within the role of technology and therefore the built environment as a part of the holistic treatment of patients. Discussions about the importance of the built environment for the patient`s health and well-being and also the provision and support of healthcare extend a minimum of as far back as 400 BC. In hospital buildings where many patients seek treatment and staff provide ongoing support, creating a healing environment is extremely important and appropriate. Treatment suggests adjusting the solutions and establishing a process that results in health. The natural variables obtained by directly touching or simplifying one or more cooling sizes were grouped into six flexible groups - home environment, visual and environmental access, lighting, noise control, uncluttered environment, and room layout. While there's limited research that confirms design solutions for building healing spaces, illuminated search has revealed relationships that provide the premise for an outlined explanation. Healing spaces evoke a way of unity of mind, body and spirit.

II. ELEMENT OF HEALING SPACES

How can we transform hospital into a healing space is what explained in the paper. There are twelve key elements to consider addressing.

A. Air Quality

Managing air quality in hospitals will be challenging thanks to the wide selection of pollutants — like pathogens, chemical compounds and dirt — that HVAC systems must handle. Thermohygrometric parameters of healthcare facilities are defined by specific standards, which have evolved over the last decades. (ASHRAE 170 defines the subsequent values).

1) *Air Change:* It must be able to achieve and maintain the air quality and movement conditions and therefore the specific thermal and hygrometric conditions of the functional units (filtration, heating, cooling, humidification, and dehumidification). The values should be, for outdoor, 2 AC/h (air change rate minimum) and, totally, 6 AC/h, although Geshwiler, ranging from a literature review, suggested values between 3 and 12 AC/h associated with the functional units. *(ASHRAE 170)*
2) The outdoor air flow rates for hospitals, clinics, nursing homes, etc., are $11 \cdot 10{-}3$ m3/s per person, *Ventilation System:* excluding ambulatories and living rooms within which the values are around $8.5 \cdot 10{-}3$ m3/s per person and infectious rooms and operating rooms/birth rooms. *(ASHRAE 170)*
3) *Air Velocity:* Air velocity should vary between 0.05 m/s and 0.25 m/s or no over 0.30 m/s is detected. specifically, the distinct speed for heating and cooling, in regard to the thermohygrometric design, clothing, and physical activities, so on meet the well-being criteria, is substantially identified with a spread between 0.05 m/s and 0.20 m/s for heating and from 0.05 to 0.25 m/s for cooling. *(ASHRAE 170)*

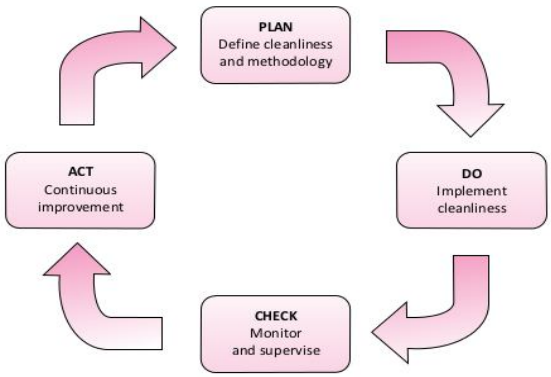
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4) *Air Filtration:* Air filtration is classification in fourteen filter classes, for various kinds of wards and services, these range from a minimum of 6 to a maximum of 12, however, with a filtration efficiency of at least M + A (medium-high). *(ASHRAE 170)*
5) *Pressure:* Pressure typically, the leakage area in a very room is about around 0.03 m2, usually with doors undercut by about 1–1.5 cm; undercutting minimizes resuspension thanks to the door scraping the ground. The minimum pressure difference between rooms and corridors and rooms and toilets is sometimes about 2.5 Pa. *(ASHRAE 170).*

Get some fresh air. it's an age-old suggestion, and one worth following. Unfortunately, indoor air tends to contain more pollutants, at higher concentrations, than outside air. Green design parameters try to remedy this. Getting fresh air is one in every of many benefits of paying longer in natural surroundings.

B. Cleanliness

The floors of the various areas of the hospital are kept dry. When the wet mopping is used , appropriate safety measures must be adopted by the hospital like use of signage (Wet Floor). there's availability of appropriate cleaning and disinfection materials and equipment needed for various areas. The hospital uses standard methods of cleaning for various areas. The hospital ensures that monitoring of cleanliness activities is finished at pre-defined intervals and corrective actions are taken when needed. The drainage and sewage are well maintained to avoid any leakage, blockage and straightforward flow through the drain. Vacuum with a HEPA filter. the simplest way for improving the cleanliness at health facilities would be to follow conventional time-tested approach of PDCA cycle - [9]



(Swachhta Abhiyaan Guidelines for Public Health Facilities)

C. Colour

Color makes a difference modify it which is supported your intentions for an area. Warm colors activate the autonomic system of your body; where cool tones calm it down. Here are some general tips from an expert in interior design for using colour in different health care settings. Patient rooms should have a regular field of view like nature. Ceilings are tinted a bit like walls, provided that people tend to be looking from their beds during plenty of their hospital stay. The walls and floors should be soft and not overly reflective. People prefer soft tinges of reds, greens, and blues. Coral, colonial green, rose, peach, and pale gold are good options. Cooler colors are better for chronic patients. Blue and green tones may be combat glare and enhance visual contrast. This aids in the acuity of surgeon's eyes because it complements the red tones of blood and tissue. Waiting rooms and imaging areas may be cool tones to relax patients under high stress. Pearl gray may be a good for supporting color discrimination, so it may be useful in labs.

1) *Colors help Assess the Amount of Care:* When a patient or his companion enters the hospital, the primary thing that they notice is that the larger a part of the space, which is either a wall or the ceiling. in line with Forbes, walls painted with lighter shades have proven to form people feel accepted, while that of medium shades helps create trust. it absolutely was also found that brown is that the color that not only provides sophistication but also a comforting option for potential patients.
2) *Colors Contribute to Patient Health:* According to Color Connections, different colors include a collection of psychological properties that aid in healing. The psychological properties of 5 major colors are as follows:
3) *Colors Help Improve Overall Productivity:* It may be a undeniable fact that colors can influence a person's perception towards the environment. Selection of colours for patients' room is alleged to rely upon how long someone would stay there. A study suggested that appropriate use of colours in an exceedingly edifice also depends on the aim of the area or the world.

4) *Waiting Rooms:* Uplifting and interesting color schemes, with accent colors to spotlight different departments and build modern and temporary environments.
5) *Corridors and Receptions:* Can be divided with strong accent colors so as to help navigation and way-finding, and also to assist identify different departments.
6) *Intensive Care Units:* Restful and claiming, with soft neutral tones.
7) *Consultation Rooms:* Warn neutral colors within the main area with accent colors behind desks.
8) *Operating Theaters:* Usually painted with a cooler, muted palette of green or green/blue in color to neutralize the after image produced by the surgeon`s concentration. Colors have proven to influence human psychology, and are directly associated with a person`s state of mind, be it home, hospital or other space. Colors can accelerate healing, calm nerves and lift spirits. In closed spaces, they can influence human behavior, making the space look bigger and more sophisticated.

Color therapy is one of the easiest ways to treat a disease known as chromotherapy. It is most often used as supportive care along with other natural ways to maintain good health: B. Proper diet, proper rest and relaxation, exercise, yoga asanas, etc. Color therapy is a technique that restores imbalance by shining colored light on the body. Throughout history, it has been the absolutely preferred way to cure illness. Some 2,500 years ago, Pythagoras applied colour light therapeutically and `colour halls` were used for healing in the ancient India, China and Egypt. Sunlight plays a vital role within the recovery from chronic diseases.

D. Artwork

The presence of artwork also affords a chance to focus, a minimum of momentarily, on something apart from one's symptoms or concerns. surgical procedure patients in ICUs had less anxiety, less stress, and fewer need for pain medications after they had views of art portraying landscape scenes. However, abstractionism has the alternative effect. Videos, fireplaces, and aquariums also are helpful. People exposed to art had less pain associated with bronchoscopy. The art can reduce anxiety and depression in specific patient groups. It can even favorably influence clinical and behavioral outcomes, enhance staff morale, reduce vandalism and aggression, and make an environment feel more uplifting. It also ends up in more positive perceptions of the power where it's located.

E. Connection/Community

Healing facilities support the involvement of its residents internally and internally. Having family and friends present supports treatment. If the waiting rooms and lounges are comfortable, if the hospital rooms and post-surgery facilities have plenty of space for guests, and if there is room for loved ones to sleep at night, this makes a big difference. All told, patients get the best care in the world in a hospital setting if they have private rooms (which also allows the family to be present). Respect, on the part of every single person in the area, from the receptionist and housekeeper, to the phlebotomist doctor, nurse, and members of the counseling team, is very important.

F. Diet

Detox patient diet. Developing food with unnecessary toxic exposure helps our planet while also supporting the life of a food eater Feed your food. A diet full of nutrients that support your natural detox processes, healing, and recovery is helpful.

G. Light

We know that photon levels affect the levels of serotonin and melatonin, affecting both energy levels and mood. Those who suffer from seasonal affective disorder are at greater risk. People in hospitals and nursing homes sleep better at night with better light during the day. Many of the benefits of light have been found in a study, and a 2005 study of postoperative spinal surgery patients found that those placed on the bright side (more of the sun) compared to the smaller side of the hospital had lower pain and cost-lowering and lower stress levels. which produces toxic exposure. Four key elements of a light atmosphere also indicate what is important when a light air is suitable. The four most important components are: "Light", "Space", "Users" and "Time".

It has been proven that light has an impact on the biological time, sleeping quality, seasonal emotional disturbance and, in a very block setting, the standard of daylight has a control on the patients' hospital stay. at once the trend is to adapt the important knowledge from daylight research into artificial light installations, and therefore the lighting design business provides intelligent light systems that support the wellbeing of patients and staff with artificial illumination supported a daylight rhythm. Terms like "intelligent lighting", "daylight illumination", "dynamic light", or "colour effect of lighting" are, therefore, of interest as they're a result of new technologies and, as such, have yet to be defined.

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H. Views of Nature

Whether outdoor windows, indoor or outdoor gardens, aquariums, and art with a natural theme — they are essential. Creating peaceful public spaces is also helpful. Integrating nature through gardening or garden viewing has been shown to reduce stress and improve the mental, physical, and emotional integration. Art and sculpture Natural materials, such as wood, marble, and limestone.
A 2003 study revealed that it is not surprising that patients prefer natural light and window to their hospital rooms. Having those windows improves the satisfaction of nursing care for patients, reduces delirium levels, and is known to improve student and employee performance and job satisfaction. Some studies have shown that hospitalized patients exposed to natural squares, window or painted landscapes, had less anxiety, fewer pain medication applications, and faster recovery after surgery than controls. A small study of 23 patients found that post-cholecystectomy patients had shorter postoperative stay and better relationships with nurses. They also use a few painkillers. Silent video displays unlike the blank screen have increased the pain and tolerance limit for healthy volunteers.

I. Smells

Whether a patient or a visitor, the stench of special cleaning supplies in hospitals and related areas can have a profound effect on a negative experience. Control of fragrances and cleaning products is primarily aimed at hospitals and other related facilities: medical centers, doctor's offices, rehabilitation centers, and long-term residences present ongoing challenges to the healthcare industry. There is always a great deal at stake, as malodors can negatively impact a facility's reputation, customer satisfaction scores, and the number of repeat visits.

J. Sounds

Sound has important health effects. If a person is frightened by a noise, he may show high blood pressure and heartbeat hours later. Noise can increase patients 'sensitivity to pain and the use of painkillers, can contribute to patients' confusion, and inevitably interfere with sleep. There is some evidence that noise can even increase hospital stay. A link was made between noise and fatigue symptoms, as well as headaches for nurses in the cardiac care unit. In noisy settings, people become very busy, invisible, and careless; and they tend to look for simple solutions and are more likely to give up complex tasks that they find oppressive. Many health care settings, especially in very sick areas, have begun to play quiet music in waiting rooms and other locations (excluding examination rooms). Music is known for its many health benefits, such as lowering anxiety levels and lowering heart rate and respiration. A recent Cochrane review found that, in all aspects of natural architecture, music has been an area of excellent research to support its use. Music seems to reduce the pressure of emergency sound on the door. Some hospitals have introduced television channels for patients who play soft music aimed at eliminating certain hospital sounds. The variability of hearing implants is higher than in the way patients relax. Even the simple act of changing pagers and phones to vibrate can make a big difference. Reduce stressful noise. If certain tasks (such as a nurse call center) create a stressful or disturbing noise, then reduce this noise with thoughtful construction. Use sound absorbers (such as roof tiles over busy workplaces or public corridors) Create fun sounds by playing natural sounds or cool music.

K. Temperature

Temperature in hospital wards should be above 21°C and 24°C. Relative humidity in inpatient rooms, collective rooms and, if possible, in hallways should have a range between 40 and 60%.

L. Touch/Textures

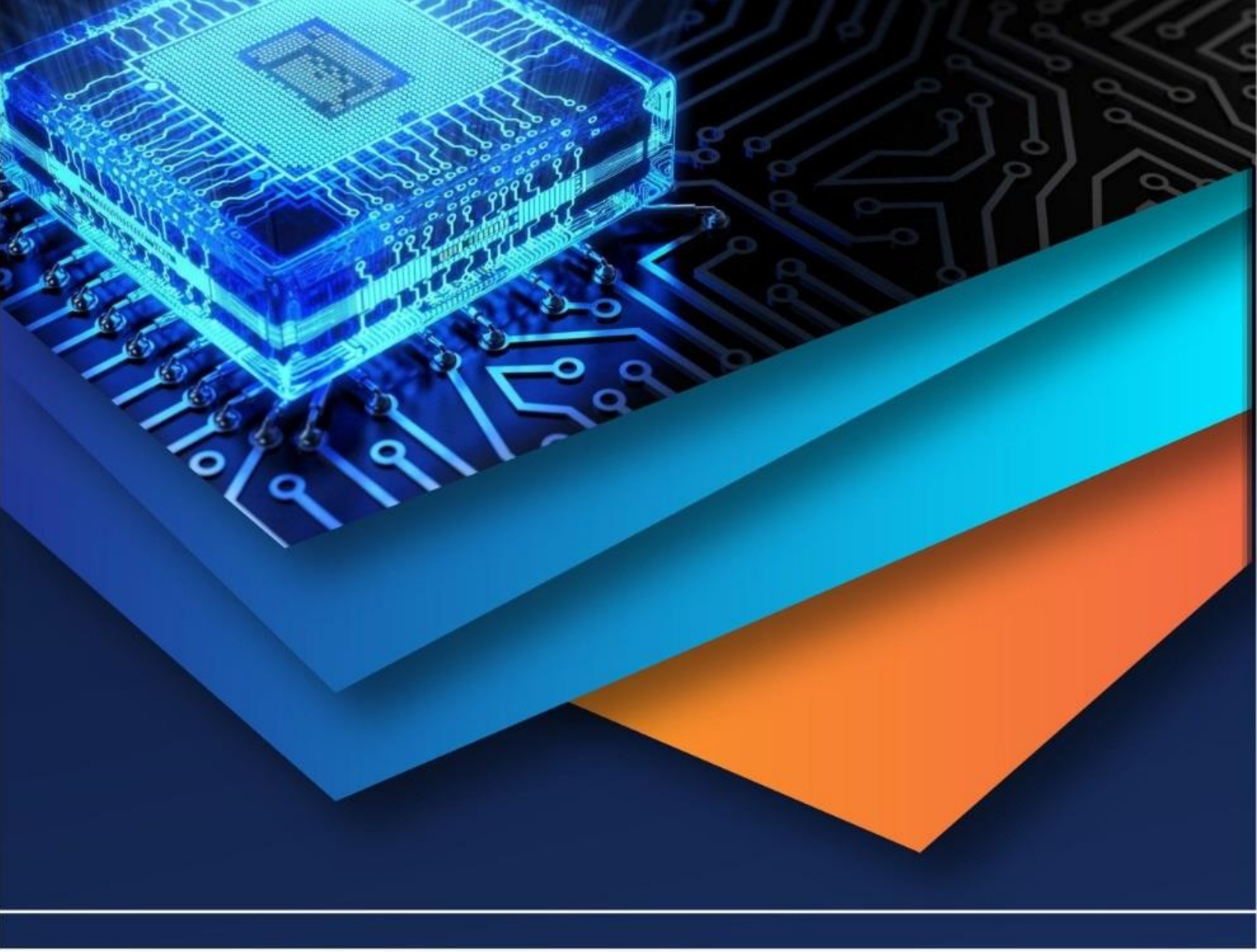
Everything, an object and a place in a place can contribute to the overall success of that space for users. Texture is an important building block that helps to create healing properties. These include applications for furniture, wall coverings and art installations; the most discussed product in this area is flooring. Landscape and selection of objects provide visual and visual cues to help visually impaired people use the structure.

III.CONCLUSIONS

Physical condition has provided cognitive, physical, and spiritual support through visual contact with the home, comforting distractions, comfortable furniture, and space that supports the patient-social relationships of family and hospital staff. Patients provided real-life explanations and an understanding of the concepts of healing and healing areas. The viewing level has a positive effect on the resident's well-being and in the case of hospitals and health facilities this can affect staff performance and patient rehabilitation. Through different element of design, we can create healing space.

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